

April 24, 2024

Trade and Market Dynamics in Advanced Textiles

By: Seshadri Ramkumar, Texas Tech University, USA

This article appeared today (April 24, 2024) in Advanced Textiles Source of the Advance Textiles Association. As this article deals with statistics on trade in textiles and how the advanced textiles fares in the overall manufacturing sector, it is shared with our TexSnips audience.

<https://textiletechsource.com/2024/04/22/trade-and-market-dynamics-in-advanced-textiles/>



[Trade and market dynamics in advanced textiles](#)

Textile trade in developed economies is imbalanced and it is a deficit one. While this is the trend, compared to the trade in manufactured goods, trade in advanced technologies offers another picture, which is optimistic. In the case of aerospace and warfare systems, the U.S. has a trade surplus. The advanced textiles industry should model ... [Read More](#)
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Lab in a Bag Showcases Sustainability

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, April 19, 2024)—Engaging with customers, community, and next-generation is important to promote sustainability and new values.

On April 17, 2024, as part of the 6th annual Engaged Scholarship Symposium organized by Texas Tech University, sustainability aspects of cotton and advanced applications were showcased using a mobile laboratory, termed as “Lab in a Bag.”

I had an opportunity to present our engaged research with High Plains’ cotton producers, “Engaged Research in National Defense, Human Health, and Environmental Protection,” that focuses on finding new applications for cotton, developing alternatives to plastics, and exploring opportunities for cotton in defense and industrial sectors.



(Photo Courtesy: Brad Thomas, TTU)

The symposium highlighted various aspects of engagement such as using theatre plays to simulate disaster days, pictorial representation of a situation, etc. The power of effective engagement with stakeholders was stressed in the event. Presentations involved researchers from arts, engineering, family science and English all focusing on outreach and engagement.

Our work featured a mobile laboratory using a “Lab in Bag,” that has materials to highlight the earth friendliness of natural materials like cotton. The way the mobile laboratory can be put together with ease attracted the attention of the audience in the meeting. Such a makeshift laboratory can be used by different industries to highlight their uniqueness.

Lab in a Bag set-up consists of a packet of cotton, cotton nonwoven samples, oil absorption set-up, experimental oil, and safety equipment. This set-up can be quickly assembled and can be used to demonstrate new applications of cotton such as oil absorption to school students, consumers, and for promoting the product.

People in the audience such as those belonging to the education sector enquired about sustainability approaches followed in the cotton sector. Practical demonstrations enhance awareness and interest in sustainable products. In the case of oil absorption by raw cotton, “Lab in a Bag,” projects the scientific mechanism to the audience as well as how such products are biodegradable. Show and tell engages well with the audience and can serve as great advertisement tools.

It was clear that people are aware of microplastic pollution, and the industry must involve in aggressive engagement with the society to highlight the positiveness of cotton such as the development of value-added products, biodegradability, and providing livelihood to many farmers in developing nations such as those in Africa.

It is becoming clear that better messaging and reaching out to practitioners in other disciplines such as theater, music, and art can produce positive campaigns to relay facts about cotton and other natural products.

Ramkumar, S

Subject: FW: TexSnips: Lab in a Bag Showcases Sustainability

From:

Sent: Monday, April 22, 2024 12:04 AM

To: Ramkumar, S <S.Ramkumar@ttu.edu>

Subject: Re: TexSnips: Lab in a Bag Showcases Sustainability

This email originated outside TTU. Please [exercise caution!](#)

Hello Sir!

That's a great concept 'Lab in a Bag'

Hope all is well at your end.

Regards,



Dr Shanthi Radhakrishnan

Dean - Costume and Apparel Design
Academic Coordinator

PSGR Krishnammal College for Women

Peelamedu, Coimbatore 641004, Tamil Nadu, INDIA

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On Fri, Apr 19, 2024 at 8:10 PM <TexSnips@ttu.edu> wrote:

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Lab In a Bag Cotton and Oil Absorption

(Photo Courtesy: Brad Thomas, TTU)

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Dr. Seshadri Ramkumar, PhD, CText, FTI (UK), FTA [*Honorary*] (India), TAPPI Fellow (USA)
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(It may be necessary to cut and paste the above URL if the line is broken)

or send a blank email to leave-57892966-31520518.f4a5b75608facfc651cc3ccb9951439d@lyris.ttu.edu



Cotton Demand Needs to Pick Up

By: Seshadri Ramkumar, Professor, Texas Tech University

(Lubbock, USA, April 4, 2024)—Cotton sector is looking for a better year and pickup in demand. Mills are buying cotton but there is a need for an uptick in demand.

On April 2, 2024, about 350 people gathered in Lubbock for the 67th annual meeting of the Plains Cotton Growers (PCG). PCG's President Martin Stoerner opened the meeting stating the last two years have been tough for the producers, but the industry is resilient and hopes for a better 2024.

The recent USDA's Prospective Planting report shows that the U.S. producers are expected to plant 10.7 million acres, which is up from 10.26 million acres planted last year. However, industry leaders expect the planted acreage this year to be in the range of 11 to 11.5 million acres.

“Demand is weak but improving,” stated Jody Campiche, Vice President of Economics and Policy Analysis, National Cotton Council. Global economy and competition from other fibers play an important part in impacting the demand for cotton. There needs to be a significant improvement in GDP to see major change in demand, added Campiche. In addition to the economy, just in time inventory practiced by global mills also impact excessive buying and stockpiling stated a cotton merchant.

Industry is optimistic and is hoping for improved demand by the end of 2024. With the moisture situation better than what it was last year in the High Plains of Texas, it is hoped that production will improve. There will be less abandonment, increasing the chances for improved supply. This will necessitate demand enhancement to yield better prices for the farmers as the cost of production has increased by 30% in recent years.

With slow demand and the left-over stock from the 2023 crop, the current price levels may be due to speculation, which is the sentiment shared by cotton economists whom I interacted with at the meeting. Looking at long term scenario, the slow birth rates in developed economies and stagnant population in China, albeit the relaxation in childbirth policy there, demand for consumer goods like textiles will be impacted.

The cotton industry has competition from synthetics, which are cheaper than cotton. In addition, there is growing competition for markets among leading exporting nations.

What should the industry plan and do? Telling positive stories about sustainability, traceability and engaging not only with brands but also with consumers as being done by the United States-based Cotton Incorporated become important.

Additionally, better advocacy for supportive policies in a collective fashion is much needed. “Advocacy is a team sport,” stated Kody Bessent, CEO of Plains Cotton Growers.

The industry needs to engage in better outreach efforts, find new and industrial applications for cotton and invest in research to come out with new chemistries, and environmentally friendly post-harvest processing technologies.

Efforts to boost the demand and promote sustainability values of cotton will be the collective task of the global cotton sector.

A Giant in the Nonwovens Sector

By: Seshadri Ramkumar, Professor, Texas Tech University

(Lubbock, USA, March 28, 2024)—Global nonwovens sector lost a veteran recently.

Mr. C. K. Wong fondly known as CK to many across the globe in the technical textiles industry died at the age of eighty-six last week.

Mr. Wong with an engineering background, established the U. S. Pacific Nonwovens Industry Limited, which specialized in converting roll goods into consumer, industrial and multi-use products. In addition to his entrepreneurship, he is well known for his service to the global nonwovens and technical textiles sector.

My path crossed with him in the early 2000s at the INTC conference organized by INDA and TAPPI and ever since he has been a friend and supporter. I had the good fortune of meeting him last July in Atlanta at the World of Wipes conference, which was my last meeting with him. While hosting me at lunches, Mr. Wong advised me about the importance of sustainability in the advanced textiles sector. His company has pioneered the development of converted products using PLA.

“Cotton can find new opportunities in the nonwovens sector as the cost will be competitive with bioplastics, advised C. K. Wong in my interview with him last July. The industry has been successful in developing food packaging and medical products using bio-based materials such as PLA,” added C. K. Wong.



Seshadri Ramkumar (Left) and C. K. Wong (Right)

(Meeting with CK at the WOW Conference, Atlanta, July 2023)

Ramkumar, S

Subject: FW: TRIBUTE to Mr. CK Wong

From: Sabrina Wong - USP <@us-pacific.com.hk>

Sent: Thursday, March 28, 2024 8:15 PM

To: Ramkumar, S <S.Ramkumar@ttu.edu>; Priscilla Wong - USP <priscillaw@us-pacific.com.hk>

Cc: Matt O'Sickey <mosickey@inda.org>; Tony Fragnito <tfragnito@inda.org>; Misty Ayers <mayers@inda.org>

Subject: RE: TRIBUTE to Mr. CK Wong

This email originated outside TTU. Please [exercise caution!](#)

Dear Ram,

My appreciation to you is beyond words. CK had a lived a full life and it was his greatest honour to take part in the nonwoven industry he enjoyed tremendously.

Thank you again.

Best Regards,
Sabrina

From: Ramkumar, S [<mailto:S.Ramkumar@ttu.edu>]

Sent: Friday, March 29, 2024 7:15 AM

To: Priscilla Wong - USP <priscillaw@us-pacific.com.hk>; Sabrina Wong - USP <sabrina@us-pacific.com.hk>

Cc: Matt O'Sickey <mosickey@inda.org>; Tony Fragnito <tfragnito@inda.org>; Misty Ayers <mayers@inda.org>

Subject: TRIBUTE to Mr. CK Wong

My tribute on Mr. Wong has appeared in the world's leading cotton magazine, Cotton Grower.

CK's life is well lived. I thank the good Lord for enabling me to know CK. May his soul rest in peace.

Here it is:

<https://www.cottongrower.com/opinion/a-giant-in-the-nonwovens-sector-passes/>



A Giant in the Nonwovens Sector Passes

C.K. Wong, a long-time veteran of the global nonwovens industry, recently passed away at age 86.

www.cottongrower.com

Best,
Ram

Dr. Seshadri Ramkumar, PhD, CText, FTI (UK), FTA [*Honorary*] (India), TAPPI Fellow (USA)
Professor, Nonwovens & Advanced Materials Laboratory
Texas Tech University, Lubbock, TX, USA
E-mail: s.ramkumar@ttu.edu
Website: <https://www.entx.ttu.edu/dr.-s.s.-ramkumar.html>

Mr. Wong took a keen interest in the Indian technical textiles sector and visited India many times. He was an esteemed guest at the Vibrant Gujarat Investors Summit hosted by Hon. Narendra Modi, when he was the Chief Minister of the State of Gujarat, India.

CK collaborated with me closely to take INDA to India and participated in the "Link with India," a major event hosted by INDA in 2007, in Mumbai.

It was destiny that I wrote two articles based on my recent interactions with him, in my TexSnips and Horizons columns. In these columns, it is evident how he was active and always enjoyed interacting with people, particularly with youngsters.

On a personal note, it was so touching that he and Mrs. Sabrina Wong attended my wedding held in Chennai, India, travelling all the way from Hong Kong.

CK was a genuine person, who will be missed by our industry, but his legacy will live on the many cherished friendships he had developed around the world.

Mr. C. K. Wong was a "Karma Yogi," in a true sense, travelling and working well into his eighties.

Seventh Grade Student Highlights Cotton Chemistry

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, January 27, 2024)—Science outreach to school students is essential to spearhead research and innovation.

On January 26, 2024, Ramirez Elementary School in Lubbock, USA organized its annual STEM Night coordinated by its PTA. About 19 booths representing various STEM efforts at Texas Tech University and other organizations were displayed in the event. Amidst wet weather, it was heartening to see many young school age students and parents enthusiastically participated in the event.

Aditya R, a seventh-grade student from Hutchinson Middle School in Lubbock demonstrated value-added applications of cotton. The demonstration attracted good interest among the visitors.

"Wax in natural cotton being nonpolar attracts nonpolar oil," explained Aditya. Recognizing the importance of cotton to the economy of Lubbock and its natural biodegradability, Aditya demonstrated the instantaneous oil absorption by natural cotton nonwoven fabric.

Graduate students Mirza Khyum and Faizur Rahman from the Nonwovens & Advanced Materials Laboratory at Texas Tech University engaged enthusiastically with young students and parents from the region. Our Nonwovens & Advanced Materials Laboratory is active in outreach to school students in promoting sustainability and STEM projects. Recently, Nandhanaa Anand, a 10th grade student at the prestigious Lubbock High School is collaborating with us on a project that focuses on sustainable products for advanced applications.

The highlight of the event was the showcasing of different STEM areas such as robotics, engineering, sustainability, and forensic sciences.

Pre-K to 5th grade students displayed their projects using poster presentations and models.

Such outreach efforts must be conducted to encourage more students to take STEM majors in higher education.

The presentation made by Aditya is available at:

<https://www.youtube.com/watch?v=tuO15bjLDms>

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Ramkumar, S

From: Dupras, Tosha
Sent: Monday, January 29, 2024 9:16 AM
To: Ramkumar, S
Subject: RE: TexSnips: Seventh Grade Student Highlights Cotton Chemistry

Thanks for sharing, Ram. I also appreciate you sharing the outreach summary with Amelia.

Best,
Tosha



Tosha Dupras, Ph.D.

Pronunciation: Taw-shuh Du-pray
Pronouns: she/her/hers
Dean, College of Arts & Sciences
Professor of Anthropology
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Box 41034, Lubbock, Texas 79409-1034
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WE BUILD INNOVATORS

From: Ramkumar, S <S.Ramkumar@ttu.edu>
Sent: Saturday, January 27, 2024 6:39 PM
Subject: TexSnips: Seventh Grade Student Highlights Cotton Chemistry

Seventh Grade Student Highlights Cotton Chemistry

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

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25 Years and Counting On—

By: Seshadri Ramkumar, Professor, Texas Tech University

(Lubbock, USA, January 1, 2024)--Happy New Year-2024 to all in my network.

Today marks a milestone in my professional career. My official start date at Texas Tech was January 1, 1999 and I have completed 25 years of service at Texas Tech University.

I was physically present at the International Textile Center building in the East Loop of Lubbock on January 2nd, 1999, to be greeted by Mrs. Charlotte Anderson, Administrative Associate at TTU, then.

In 2000, my proposal to the U. S. Department of Defense to develop a decontamination wipe was successful that resulted in the commercialization of the multipurpose wipe, which has been taken to market by Amit Kapoor at First Line Technology.

A talented graduate student Thandavamurthy Subbiah discovered self-assembly in nanofibers. Our work with him in electrospinning has remained a highly cited paper.

Along the way, about 2006, we started working with the Association of the Nonwoven Fabrics Industry (INDA), USA to build the technical textiles sector in India. This early effort has built the advanced textile sector in India.

<https://today.ttu.edu/posts/2021/06/Stories/saving-lives-indias-technical-textile-revolution-paved-way-for-covid-19-response>

Our laboratory has tackled topics such as oil pollution during the Gulf of Mexico oil spill. My graduate student Vinitkumar Singh, now in a Senior Position in Glatfelter worked with me to prove the usefulness of raw cotton in absorbing crude oil. One of the first papers was published in this subject in an ACS Journal gained global recognition with news briefs in The Guardian, Economist, and many global news outlets.

As a direct outcome of the International Cotton Advisory Committee meeting in Lubbock in September 2010, after interacting with many world leaders in the global cotton sector, I started global outreach effort by creating the “TexSnips,” newsletter. A unique feature is that this newsletter will carry only one research and/or general information related to fiber, fashion and advanced textiles field and goes to about 2000 people around the world.

Last but not the least, we worked on face masks aspects during COVID-19 and graduate student @James Ayodeji came as a blessing to our laboratory to assist with the work.

Thanks to all the students, colleagues here at Texas Tech and around the world who have helped us to do some useful work.

26th year journey begins and continues--

Cotton Research, Outreach and Entrepreneurship

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, December 28, 2023)—Interest is building among youngsters to find advanced applications for cotton.

Being the holiday break for school and college students, it is such a delight to welcome youngsters to our Nonwovens & Advanced Materials Laboratory at Texas Tech University.

On December 28, 2023, two school students and one college freshman visited the laboratory to have a firsthand look of cotton's ability to absorb oil.

Nandanaa Anand, 10th grade student from Lubbock High School, Aditya R, 7th grade student from Hutchinson Middle School, Lubbock and Kumaren Anand, 1st year student from Rice University, Houston arrived sharply at 9.00 AM to learn about the advanced applications of textiles such as oil absorbent and filters.

The students did hands on experiments with cotton as an oil absorbent. Discussions during the experiments revolved around the sustainability of cotton and its application in environmental protection.



(Students Carrying Out Experiments with Cotton)

Nandanaa Anand who wants to be an entrepreneur stated, "It is important for aspirants who want to build businesses to engage with laboratories that commercialize research."

The students appreciated the fact that laboratories like Nonwovens & Advanced Materials welcome high school students to be part of short-term research. Kumaren Anand said he had to go to Houston to spend 2-months of summer holidays after completing 10th grade to be involved with research in MD Anderson Cancer Center.

PhD research students in our laboratory, Mirza Khyum and Faizur Rahman participated in the research outreach efforts even though it is a holiday break.

The enthusiasm in the students to commercialize research and create start-ups is encouraging for the research ecosystem.

Non-Plastic Advanced Textiles Sector

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Atlanta, USA, July 19, 2023)—There is growing need and interest for plastic free nonwovens and advanced textiles.

On July 18, 2023, World of Wipes international conference organized by Cary-based Association of the Nonwoven Fabrics Industry-INDA began with its largest gathering ever, which is in its 17th edition. About 500 people are attending the three-day event in Atlanta.

Growing regulations on the use of plastic-based products in the EU and in the United States have heightened the need for the nonwovens and advanced textiles sector to look for alternatives to synthetic materials. The first day talks focused heavily on sustainability and the efforts by the global nonwovens sector to become carbon neutral.

There are enormous opportunities for cellulose such as pulp and cotton and other natural fibers such as flax and hemp in developing single use and durable nonwovens.

Given the quantity of nonwovens that come out of high-speed machines that can operate at 1200 m/min, there may not be enough non-plastic materials to meet the need in the immediate future, stated, octogenarian Mr. C. K. Wong, Chairman and CEO of Hong Kong-based U.S. Pacific Nonwovens, who has been in the industry for over 53 years.

Cotton can find new opportunities in the nonwovens sector as the cost will be competitive with bioplastics, added C. K. Wong. The industry has been successful in developing food packaging and medical products using bio-based materials such as PLA. Japan's AsahiKASEI has been leading in the development of spunbond nonwovens using cotton linters, to develop products for wipes and cosmetics industry.

Consumers like green products but expect products with good functionality at similar cost levels as synthetic-based nonwovens, which is a challenge for the industry. "The nonwoven industry is transitioning to less plastic-based raw materials. Consumers are becoming curious about resources, which will drive innovation. Furthermore, growing regulations such as EU Single-Use Plastic Directive will necessitate the immediate need," stated Tom Carlyle, Nonwovens Commercial Manager-Americas at Lenzing Fibers.



Seshadri Ramkumar (Left) and C. K. Wong (Right)

"Spunlace (hydro entangling) technology is employed in China to develop virgin cotton-based nonwovens with 6 or more lines running," stated Oliver Doring, Director of Sales & Marketing at Trutzschler Nonwovens. Two spunlace lines are developing cotton-based spunlace nonwovens in India and an additional line will be online in 6-weeks which can develop cotton-based wipes.

The nonwovens and advanced textiles industry is moving towards an interesting spot to develop sustainable materials at competitive price levels.

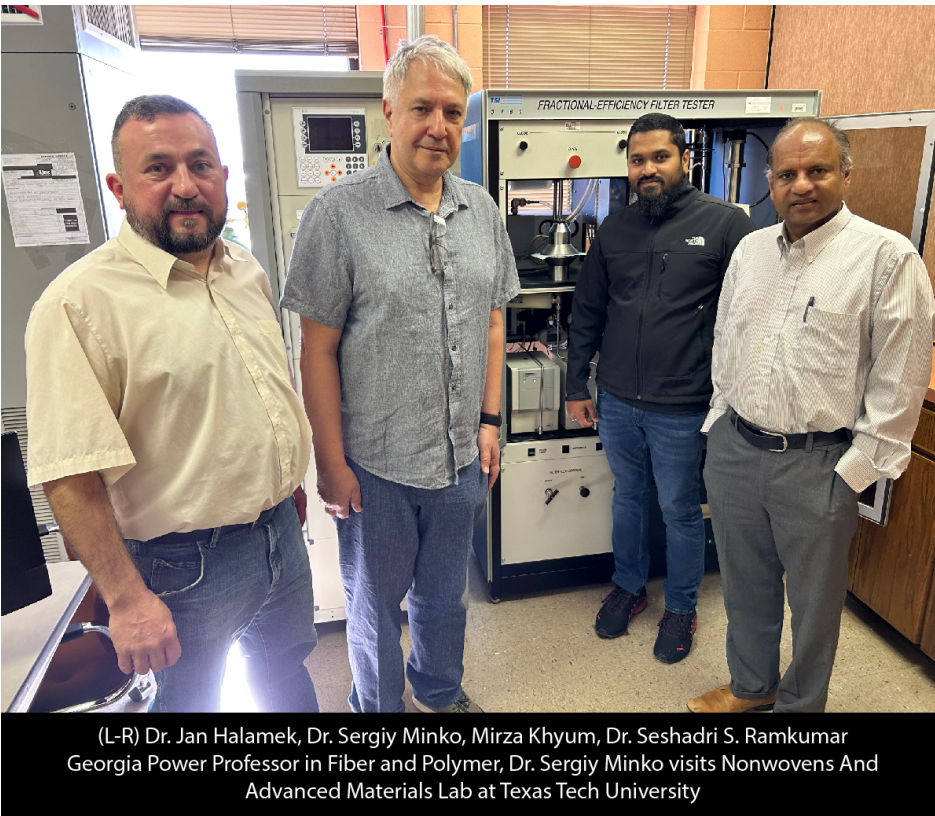
What's Next for the Textiles Sector?

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, April 19, 2023)—Textile sector is not immune to the global uncertainties and the predicted slow global economic growth.

The recent report by IMF titles the economy to have a “Rocky Recovery,” with the global growth pegged at 2.8% this year and expected to grow at 3% in 2024. Textile products are dependent on consumer buying power and their interest and hence the industry must watch the economy while working on fashion products for the next year. As EU zone is an important importer of commodity and fashion products from India, Bangladesh, and Vietnam, the forecast that this year, the economies of EU and the United Kingdom will slow down before rebounding to about 2% in 2024 is not a positive news for the textile sector.

The current tight economic and political situation is providing an opportunity for the textile sector to assess its landscape and strategize plans for its future. The industry needs to work on applicable aspects of sustainability and look for opportunities beyond its comfort zone. These aspects were clear in my discussion with Professor Sergiy Minko, Georgia Power Professor in Fiber and Polymer Science at University of Georgia, USA.



Professor Minko, who originally hails from Lviv in Ukraine, visited Texas Tech University recently to deliver a seminar and initiate collaborations is well suited to analyze the global situation and its impact on the textiles sector. He insisted that the industry should investigate sustainability with a 360-degree approach. “Not only sustainable materials are needed, but the sector also needs to look into sustainable dyeing and finishing,” stated Professor Minko. As nations are investing in funding for economic revival, where R & D investments play their role, the textile industry should seize this opportunity. Professor Minko agrees that investments in research by governments are needed to boost the textiles and soft materials industry.

Textiles have a vital role to play in health care and environment segments, and the industry should focus on these areas, added Professor Minko. It is timely that the industry pushes more into risk taking approach and build the “Start-up Ecosystem.” “Research in companies is expensive, and so start-ups, can serve as a bridge between academic laboratories and the industry,” stated Minko. When proof of concept is established by start-ups, major companies will be willing to buy the start-ups creating opportunities for high paying jobs and liquidity for SMEs to invest in research and new products, added Sergiy Minko.

Agreeing that society must initially pay more for sustainable products, eventually it is worth as we will leave a sustainable world for our future, opined Professor Minko.

The textiles sector should focus on cost-effective sustainable approaches, better outreach and engagement with the consumers and focus on products that save lives and protect the environment.

Combating Opioid Crisis with Nonwoven Wipes

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, April 16, 2023)—FedEx recognizes Synthetic Opioid Safety (SOS) kit, which has nonwoven wipe as its component.

In the past decade, synthetic opioid usage and illicit drug trafficking have become national crisis in the United States. According to United States' CDC, synthetic opioid related deaths have increased by over 50% from 2019 to 2020. Such drug usage and over dosage affect even high school children, causing a national crisis.

Fredericksburg, USA-based First Line Technology (FLT) has been at the forefront of developing products for combating opioid crisis such as Synthetic Opioid Safety kits and countermeasures systems to protect warfighters and first responders.

Recently, FedEx has selected FLT has one of its Top 100 Small Business entries in the Small Business Grant Competition for the development of Synthetic Opioid Safety (SOS) kit. The kit consists of Dahlgren decon formulation and FiberTect decontamination nonwoven wipe. FLT is the only small business entity from the State of Virginia in the United States to receive this recognition.

According to FedEx, the Top 100 companies were chosen from thousands of businesses. SOS kit entry brief is available at:

<https://smallbusinessgrant.fedex.com/entry/bngqz7uP?from=top100>

“Being on FedEx’s Small Business Grant Contest’s Top 100 finalists is an honor. The path to commercialize products like FiberTect and Dahlgren Decon are not always easy as a small business, but with the help and recognition by organizations like FedEx it makes it worth it,” stated Amit Kapoor, President and Founder of First Line Technology.

FiberTect wipe is a patented technology based on research at Texas Tech University and lends itself to use different fibers such as cotton, synthetics and blends. The type of fiber helps with multiple functionalities such as water repellency, toxic chemical absorption, etc.

The nonwoven wipe is part of hybrid decontamination procedure, which is gaining acceptance.

“When we developed our hybrid decon solutions for first responders to combat the opioid epidemic our vision was to ensure that they had the best tools and training to keep themselves and the public safe,” added Amit Kapoor.

“We don’t solve any problem these days by working in silos. Products like SOS kit is a good example of technology commercialization involving multidisciplinary fields such as textile science and chemistry. Such efforts will lead to positive contribution to our society by providing solutions to major problems affecting our society such as opioid crisis and pandemic scenarios,” opined Professor Brendan Kelly at Texas Tech University.

Nonwoven and different textile materials have been at the forefront of fighting global pandemic and public health crisis scenarios with the help of products such as PPEs and SOS kits.

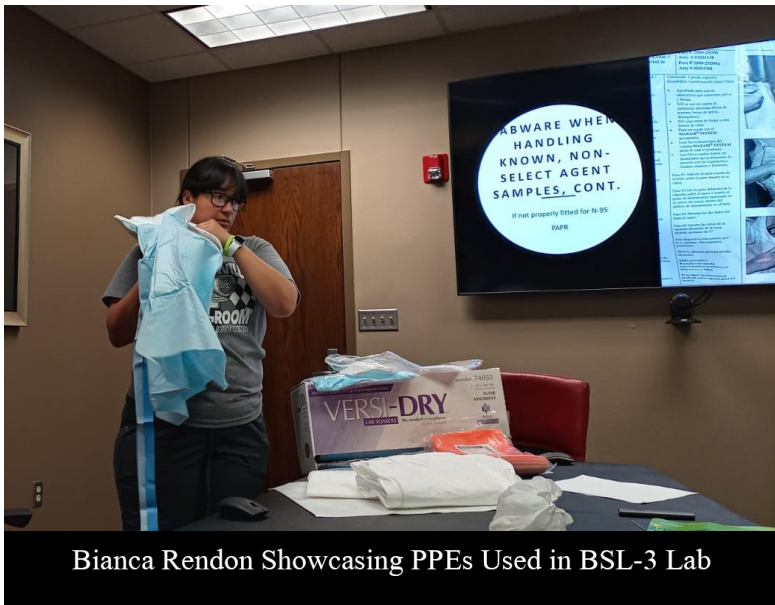
Advanced Textiles Sector Needs to Engage with the End-User Community

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, April 12, 2023)—Advanced textiles sector such as hygiene and medical nonwovens needs to effectively outreach and engage with the end-user community.

Technical textiles use different fibers such as those that have functionality and those that are sustainable such as cellulose based. This technical information needs to be provided to practitioners like doctors, nurses, and laboratory personnel. In addition, disposal aspects, safe practices and sustainability efforts by the PPE industry must be relayed to those who use them daily. The end-user community is broad and hence the industrial and trade associations in the field can help the sector with engagement and outreach. The outreach efforts will help with greater buy-ins for the nonwovens and advanced textile products.

Nonwovens and industrial textiles industry develops many products which are life savers, contribute to environmental protection and provide jobs. The usefulness and details of the products need to be shared with the end-user community such as medical practitioners, nurses, hospital staff, emergency personnel, to name a few.



The outreach efforts will help with greater understanding on the characteristics and functionalities of these value-added products and will result in greater acceptance and buy-ins by the users. This aspect was evident in a presentation done in my graduate class on Fiber Forensics on April 11 by Bianca Rendon, researcher with the Biosafety Response Laboratory at Texas Tech University. This laboratory is a BSL-3 laboratory headed by Professor Steven Presley and was the first laboratory in the State of Texas to undertake the COVID-19 testing, when the pandemic broke out in early 2020 in the United States. The presentation highlighted different nonwoven and cotton-based textiles that are used daily by the personnel in biosafety laboratories.

“PPEs are life savers,” stated Bianca Rendon who uses different types of nonwoven-based PPEs daily when testing select and non-select biological agents.

Products such as PPEs with cotton cuffs, laminated and absorbent wipes, protective shrouds and helmets are a myriad of advanced textile products that are needed in medical and biological safety laboratories. “Practitioners like me will benefit if the industry provides us with information on the structure, finish applied on the products we touch and use on a daily basis,” added Bianca Rendon.

Technical textiles that are used in PPEs use different structures such as woven, nonwovens and laminates. Common fibers used are polypropylene in the case of nonwovens, medical drapes and coats use blends such as cotton, polyester, rayon, etc.

“I understood the different structures and functionalities of fibers after attending the Fiber Forensics class, and hence it will be useful if the industry reaches out to actual users of the products,” emphasized Bianca Rendon.

It was evident from the discussion that the user-community is interested in using safe methods, cost effective single use products and explore sustainable ways and products towards use and disposal.

The technical textiles sector has a lot of opportunities to penetrate different market segments by effective outreach and engagement with the daily user-community.

Is Cotton in Troubled Waters?

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, March 31, 2023)—Cotton sector will be witnessing testing times.

Over 1500 participants are gathering during March 30-31, as part of Texas Cotton Gin show in Lubbock before the beginning of the planting season in May in High Plains of Texas.

While there were mixed opinions due to many uncertainties in the industry, stakeholders are hoping for a better weather to move the cotton industry forward. Economy is playing a significant role resulting in low demand for textile items. Inflation has resulted in rise in input costs slowing down consumption of textiles and other commodity items.

“Cotton sector will have 1-2 years of tough times,” stated Shankar Venkatachalam, President of Bajaj ConeEagle LLC, which has its ginning machinery running in over 20 countries.

Cotton producers, bankers, insurers, and other stakeholders are hoping that there will be timely rains in the High Plains for having a better season this year. “Last season has been brutal for the ginners,” opined Steve Moffett, Senior Vice President at Lubbock Electric. In his over four decades in the industry, Moffett stated that the drought last year coupled with inflationary pressures have put the cotton sector under stress. Many gins did not run at their full capacity indicating less economic activity in the High Plains of Texas.

This season, the industry is hoping for rains soon in the High Plains of Texas. “If the weather does not cooperate, the industry will have different trajectory,” stated Stoney Jackson, President of Lubbock-based Texas Agribusiness Insurance, who has been in the insurance business for 44 years. If the situation persists, lot of small gins may close and we may see more consolidation, added Jackson.

Sales of new clothing is not happening due to economic factors. “In a weak economy, people buy food and not clothes,” stated Stoney Jackson. Insurance and inputs costs are going up, which again adds stress to the sector. In last few years, due to increase in insurance claims, premiums are going up as high as 30-60%, which puts stress on the industry making it unviable in challenging times, added Stoney Jackson. Irrigated acres may permanently switch to food crops such as corn and milo, added Jackson.

The industry is hoping that with timely rains in Texas and good handle on the inflation, there may be a turnaround for the cotton and textiles sector.



Shankar Venkatachalam (Left) with Seshadri Ramkumar (Right)

Where is Cotton Market Heading?

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, March 29, 2023)—Uncertainty is ruling the cotton landscape.

With all eyes on USDA's 2023 prospective planting report to be released on Friday, March 31, 2023, a general sentiment among stakeholders is that cotton producers in the United States are expected to plant less than what was planted in 2022.

In my interactions on March 28, 2023 with producers and economists at the 66th Annual meeting of the Plains Cotton Growers, Inc in Lubbock, Texas, cotton planting decisions will be predominantly determined by rain and the weather during the planting season.

As cotton is based on discretionary spending by consumers, global and regional economies also play their roles in how the landscape will shift.

China remains a dominant player in the cotton and textile marketplace. With not much transparency in the data coming out of China, it is hard to judge the actual situation about spending revival there.

Geopolitical situation, market volatility, weather in Texas, and economy will all have their respective roles to play in the global cotton situation, as pointed out by Martin Stoerner, President of Lubbock-based Plains Cotton Growers, Inc.

With inflation in the United States still lingering at 5%, interest rate hikes may be expected which may tighten spending, influencing retail sales and hence the demand of non-essential commodities.

Economy and weather are key influencers this season and may be visible in the planting intention report to be published this Friday by the United States Department of Agriculture.

Ramkumar, S

Subject: FW: TexSnips: Where is Cotton Market Heading?

From: Ivars Circenis <>
Sent: Wednesday, March 29, 2023 12:59 PM
To: Ramkumar, S <S.Ramkumar@ttu.edu>
Subject: RE: TexSnips: Where is Cotton Market Heading?

This email originated outside TTU. Please [exercise caution!](#)

Dear Dr. Seshadri,

Thank you for the excellent summary. Many unknown variables at this time.

Best regards,

Ivars Circenis
Intermodal Sales Manager

8189 S Central Expressway | Dallas, TX 75241

www.forward-intermodal.com



We have increased our daily chassis rental surcharge to \$45/day, effective 11/15/2022. A full list of our updated [accessorial charges can be found here.](#)

From: TexSnips@ttu.edu <TexSnips@ttu.edu>
Sent: Wednesday, March 29, 2023 12:54 PM
To: Ivars Circenis <ivars.circenis@forwardair.com>
Subject: TexSnips: Where is Cotton Market Heading?

** This mail has been sent from an external source. Treat hyperlinks and attachments in this email with caution**

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Sustainable Textiles Sector Needs Skill Enhancement

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, March 20, 2023)--Textile sector is taking sustainability seriously towards its growth.

On March 17, 2023 at wee hours (2 AM USA-CST), I delivered remarks virtually in the invited panel discussion on the “Skilled Workforce for Sustainable Growth,” organized as part of 3rd Global Textile Conclave conducted by the Confederation of Indian Textile Industry (CITI) in Jaipur, India.

I articulated the need for 3Ps for sustainable growth and skill development. The 3Ps are: 1) People; 2) Planning and 3) Progress. The industry must adopt 4S towards training the next-generation workforce. The 4s are: 1) Sensing the need of the industry; 2) Shaping the field; 2) Shielding and building resources and 4) Sustaining the sector and then growing. As India expects to have a textile market size of US\$350 billion in the next few years, training skilled workforce is critically important.

The talk on 3Ps and 4S is available at: <https://www.youtube.com/watch?v=1ze-zxTQ7VY>

Emphasizing the need for nationally recognized training modules, the training program developed by India’s Textile Sector Skill Council (TSC) will be more valuable to SMEs who may not have inhouse training centers, stated Dr. J. V. Rao, Advisor for the Council.

Private sector needs to take the lead in such skill development initiatives with support from the government. In United States, States have programs such as the Skill Development Fund of Texas that enable industry to take a lead in creating public-private partnerships to tackle skill gaps faced by the industry.

In addition to technical skill gaps, industry and skill councils need to focus on soft skills enhancement, safety, and ethics training. Ms. Bia Cunha of the International Labor Organization emphasized the importance of linkages with the private sector and the need to enhance digital skills in the industry.

Skill councils also have to focus on outreach and awareness activities on critical issues facing the textile value chain such as plastic contamination in cotton, enhancing the yield and quality of cotton in countries like India. Enhancing awareness also involves working with stakeholders to train the workforce in the industry to be aware of pressing issues and finding solutions to problems such as contamination in farms and cotton ginning industry.

“India’s Textile Sector Skill Council is developing standardized educational modules which are recognized by the industry,” stated Dr. Swapna Mishra, Chief Operating Officer of the Council. Since its inception in 2014, over 350,000 people have gone through various training programs, which are well received by the industry, added Dr. Mishra.

Skill enhancement, awareness and outreach initiatives are needed globally for the sustainability side of the fiber-fashion value chain. The industry must take lead in this initiative with help from workforce development organizations to prepare the workforce for the advanced and sustainable textiles sector.

Technical Textiles for Health and Environment

By: Seshadri Ramkumar, Professor, Texas Tech university, USA

(Lubbock, USA, March 14, 2023)---Manufacturing sector is gaining attention worldwide due to the recent economic situation and supply chain issues.

Recently, United States, United Kingdom and Australia formed the AUKUS nuclear submarine partnership, which will boost jobs as well S & T partnerships in the pacific region. India's Air India's proposed procurement of Boeing and Airbus planes will create many manufacturing and R & D jobs in the United States and France. These are some examples of the revival in manufacturing in developed nations. All these projects involve some form of advanced textiles such as soft composites, PPEs, etc.

Technical textiles sector globally is a growth sector with an annual growth rate of above 5 percent. On February 26, 2023, I had an opportunity to present the usefulness of advanced textiles in enhancing human lives, saving the environment, and creating jobs to a global audience at the recently concluded World Textile Conference-3 organized by the world's largest professional association in the field of textiles, Textile Association (India) [TAI].

The talk featured the demonstration of a cotton-based oil absorbent and emphasized the importance of developing value-added textiles to enhance human life and protect the environment. I pitched the concept developed by U.S. Department of Defense that involves 4S for the growth of the industry: Sensing; Shaping; Sustaining and Shielding (Growing). The sector can sense the need of technologies and products, map the requirements, build, and grow. There is a need to involve more sustainable products and processes to combat global warming.

There is more work to do in the technical textiles sector to develop technologies and products in a cost-effective way to include sustainable aspects. Developing economies need marketing help in this sector.

In the audience were Tony Fragnito, President of USA-based INDA, Dr. Bryan Haynes, Chairman of the Board of INDA-USA. Dr. P R. Roy, former Group CEO of Arvind Group, Dr. Jaywant Irkhede, Department of Trade and Industry, Republic of South Africa, the office bearers of Textile Association (India) and many other participants representing all walks of the textile industry from fiber to fashion.

The conference attracted over 800 participants who were from India, USA, Germany, Switzerland, South Africa and Uganda.

The talk can be found at:

<https://www.youtube.com/watch?v=4ulh-gvUGOQ>

Impactful Cotton Research

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, March 06, 2023)---Importance of science and technology is gaining mainstream attention.

The ongoing war in Europe and the supply issues related to semiconductor chips have created an awareness among different governments to increase support for R and D.

Today, March 6, when the United Kingdom unveiled its Science and Technology Framework-2030, it was refreshing to interact with a group of 5th grade students at Roscoe Wilson Elementary School, in Lubbock, USA on the research for saving the planet.

Six 5th grade students under the direction of Ms. Keegan Rodriguez are working on a science exhibition project to showcase the negative impacts of plastic pollution. While researching on the subject, our research on cotton as an alternative to absorb toxic oil caught their attention and wanted to interact with me to gain more information.



The young students have prepared important questions on the need for sustainable materials as substitutes for plastic materials to protect the environment. As part of the 20 minutes interaction, it was heartening to note that the questions focused on the motivation of research, commercialization of technology, etc.

Conall Bates, a 5th grade student whose family farms in Hereford, TX asked to explain how cotton is advantageous compared to synthetic materials in absorbing oil. Such questions clearly point to the fact that the students and the community in the High Plains of Texas are well connected with industries such as cotton, oil, and farming.

It is important that research carried out in academia have translational impact and serve the society and the whole world.

Schools such as those in Lubbock Independent School District are doing their best to cultivate interest in S & T in young children, which is the need of the hour. The students are planning to present their study based on the interview and other research in an exhibition to be organized by the school on May 22, 2023.

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Bio-based materials that can save lives and protect the environment needs support from government funding agencies in addition to industry support.

Research conducted in our laboratory that is gaining attention among elementary school children and the public is indeed a good and impactful outcome.

Science is well and alive in the United States is the take home message I got.

Textile Symphony in Ahmedabad-India

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, February 28, 2023)---Global textile industry stakeholders gathered over the weekend in Ahmedabad for a technology symphony to deliberate on the way forward the sector.

Over 800 delegates representing different countries like India, United States, Germany, Switzerland, South Africa and Uganda participated in the World Textile Conference-3, organized by Textile Association (India) [TAI], that focused on the entire textile value chain from cotton to industrial textiles to marketing. “We have organized this major event to be of service to the global textile sector in this critical time period,” stated Mahendrabhai Patel, Honorary Secretary of TAI.

The conference received the highest attention and was inaugurated by Honorable Bhupendrabhai Patel, Chief Minister of the State of Gujarat in the presence of Honorable Mrs. Darshana Jardosh, Union Minister of State for Textiles & Railways, India. Tony Fragnito, President of the USA-based Association of the Nonwoven Fabrics Industry (INDA) attended the event all the way from Cary, USA.



Photo Caption: Honorable Chief Minister of Gujarat Inaugurating the Event by Lighting the Lamp

As is the case with Beethoven’s 5th Symphony set on four movements with vibrancy, tempo and melody, the conference focused on four notes: 1) Economy and textile sector; 2) Growth and fiber balance (Natural vs. Synthetics); 3) Sustainability and Innovation and 4) Training Next Generation and Research.

“Growth in manufacturing is happening in the APAC region and India is important in this equation,” stated Bryan Haynes, Technical Director Global Nonwovens of Kimberly-Clark, who traveled all the way from the United States for this conference.

“Post COVID-19 era is experiencing the shift in global growth equation, supply chain issues and skilled labor issues. Hence there is a need to re-strategize,” stated Dr. P. R. Roy, Ex-CEO of Arvind Group and the Founder of Ahmedabad-based Diagonal Consulting.

Leaders from leading fiber companies such as Indorama and Reliance discussed the availability of fibers for the Indian industry which will be requiring about 20 million tons in the next 3-4 years. Effective utilization of resources like fibers is critical for the sector. Cotton Council International’s presentation focused on the services provided to better utilize United States’ cotton.

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The need to collaborate more with institutes of research and higher learning has become important to gear-up innovation. "We focused on obtaining more industry participation in this event. 40 different companies ranging from fiber to hygiene products participated in this conference," stated Tulsibhai Patel, Vice President of TAI.

Major themes that occupied most discussions revolved around fiber needs, sustainability, plastic issues, technical textiles, and modernization. "India needs to grow big in technical textiles and plan strategies for Indian companies to penetrate into this burgeoning sector," opined Nirav Shah, Co-founder of Diagonal Consulting.

"Textile sector needs to focus now on modernization such as improving the quality of cotton, aiming at contamination free fibers instead of expansion," stated Velmurugan Shanmugam, General Manager of Aruppukkottai-based Jayalakshmi Textiles.

An important theme that came again and again like repeating motifs in a concert was the need for skilled next-generation workforce and creating more awareness on emerging technologies.

"Indian textile sector needs more information on practical knowledge and project details on technical textiles," stated Gandhiraj Krishnasamy, Honorary Secretary of the South India Unit of TAI.

As is the case with international symphony events, the textile conference was conducted in a massive auditorium Dinesh Hall in Ahmedabad, that can seat over 800 people with a world class audio set-up such as the Musikverein in Austria, Vienna.

International Collaborative Face Mask Research Receives Best Paper Award

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, February 11, 2023)---International collaborations in science particularly in areas that have global impact are gaining attention.

In the recent COVID-19 pandemic situation, personnel protective equipment like surgical gowns, face masks, hospital drapes played important roles in offering necessary and added protection to save lives.

Nonwovens and Advanced Materials laboratory at Lubbock-based Texas Tech University (TTU) has stepped in during the need of the hour and has undertaken projects to highlight the usefulness of face masks in controlling the pandemic. A new concept, "FISOR," evolved out of the latest research.

Chennai, India-based Asthagiri Herbal Research Foundation collaborated with the Nonwovens Laboratory at TTU to highlight the accumulation of microbes on face masks and the need to focus more on hygiene. This collaborative paper was published in the flagship peer-reviewed journal, "TAPPI Journal," published by the Technical Association of Pulp and Paper Industry in January 2022.

On February 10, 2023, the paper "Microbial load and proliferation associated with various face mask types and sources during the COVID-19 pandemic," has been recognized as the co-recipient of Best Paper Award for 2022 published in TAPPI Journal. In addition, this work is also recognized as the recipient of half of Honghi Tran prize.

The paper that appeared as Cover Page article in TAPPI Journal can be accessed at:

<https://imisrise.tappi.org/TAPPI/Products/22/JAN/22JAN23.aspx>

While the work focuses on the importance of face masks, the journal notifies that this is the first ever paper in the nonwovens/textiles field to receive the best paper recognition—credible recognition for the growing area of nonwovens.

The authors of this paper are Narasimhan Srinivasan, Meenakshi Balakrishnan, James Ayodeji and Seshadri Ramkumar.

Dr. Narasimhan Srinivasan, Chairman of the Asthagiri Herbal Research Foundation has been a colleague of Nobel laureate Herbert Brown and has undertaken research at Purdue University on hydroboration developing chemical reagents.

According to Dr. Narasimhan, "international collaboration provides resources that are complimentary including research expertise to solve common and global problems."

New areas such as biobased processes and products should provide new avenues for research in textiles and materials science stated Dr. Narasimhan. His research organization is now working on herbal blends that promote immunity, antimicrobial filters, drugs for novel anticancer leads.

Nonwoven and advanced textiles sector can gain much by multidisciplinary approaches involving organic chemistry, natural products chemistry leading to translational research.

Sustainability and Innovations to Shine in the World Textile Conference

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, January 30, 2023)--- With uncertainty lingering in the globe in terms of political and economic instability in certain regions, there is a need for revival of the manufacturing sector.

Textile manufacturing has received its due spotlight in the COVID-19 times with the development of different PPE materials that can save lives. Textile sector can contribute to the growth of global economy and enable job creation by focusing on diversification, innovations in developing advanced and sustainable products.

A galaxy of international speakers will gather for two days in Ahmedabad during February 25 and 26, 2023 at the World Textile Conference-3 (www.textileassociationindia.org/wtc) organized by world's largest textile related professional organization, Textile Association (India) [TAI].

Keynote on the future of the textiles sector will be presented by Punit Lalbhai, Executive Director of Arvind Industry, a leading textile conglomerate based in Ahmedabad, India.

“With manufacturing sector getting revival in developing nations, countries like India are focusing on advanced textiles. The conference will highlight the need for investments and R and D in value-added textiles. Leading industries like Arvind have diversified into value-added textiles,” stated Mahendrabhai Patel, Hon. Secretary of TAI.

Market outlook and future of nonwovens, including how regulations and innovations are shaping the nonwovens sector will be highlighted by Tony Fragnito, President of USA-based Association of the Nonwoven Fabrics Industry (INDA). Innovation pathways in advanced textiles sector will be presented by Bryan Haynes, Senior Technical Director of Kimberly-Clark Corporation.

Sustainability offers a lot of opportunities as well as challenges for the industry. Professor Seeram Ramakrishna of National University of Singapore will highlight how the industry could adopt circular approaches towards conserving resources and be successful. His talk is highlighting how the textiles have become a leading per capita generator of wastes, which necessitates the need for more commercially viable R & D in this field.

Talks on Cotton Vs. MMF, circularity in the sector, cotton seed developments will be addressed by leading industries such as Reliance, Nuziveedu Seeds, Ltd.

How the textile sector can diversity in the challenging times will be the underlying theme of the global event. Arunkrishna Srinivasan, Director at Jayalakshmi Textiles, India will present how challenges can be met and overcome based on practical approaches such adequate stock maintenance, quality control and new product development.

India will be hosting two major advanced textiles events during this February 22 to 26, with Technotex event sponsored by Government of India and the World Textile Conference organized by the Textile Association (India).

These events are expected to create much needed opportunities and boost confidence in investments in the textile and allied sectors.

Business Alliances are Critical for the Textile Sector

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, December 15, 2022)---Establishing robust business partnerships is important to boost the demand of textile and technical textile products.

Inflation still has the upper hand on the economy at 7.1% in the United States. The Federal Reserve of the United States has hiked the interest rate by 0.5% effective December 15, signaling the need to cool down the economy. With economic slow down still a possibility in 2023, textile and other manufacturing sectors are looking for ways to be sustainable.

“Business-to-business (B2B) and business-to-consumer (B2C) partnerships need to be strengthened and have to be established in sectors where such efforts are weak,” stated Dr. Babu John-Mariadoss, Associate Professor of Marketing at Texas Tech University.

United States’ cotton industry has been the leader in B2B and B2C initiatives, which are proving successful in improving the market share of cotton. Cotton producers contribute to research and marketing programs. Particularly, through Cotton Incorporated, positive attributes of cotton are widely broadcast to domestic and international consumers. In addition to such B2C efforts, programs are aimed at yarn spinners, fabric manufacturers and finishers highlighting the advantages of cotton. Efforts are ongoing to reach out to nonwovens and technical textile sectors to boost the consumption of natural fibers in these sectors.

Global market size of B2B is larger than that of B2C and will reach US \$1.8 trillion in the United States according to Forrester. In these stressful economic conditions, consumers want products at an affordable rate and squeezing price points across the supply chain is of importance. Having robust B2B relationships and a reliable supply chain can translate into cost-competitive products. Cost cutting at manufacturing and distribution channels will be helpful in the current circumstance. “In the United States, distribution channel members such as distributors, wholesalers and retailers collectively earn margins ranging between 30 and 50% of selling price,” stated Babu John-Mariadoss.

Effective marketing has been a bottleneck in the growth of the technical textiles sector in developing economies. Dual-prong approaches involving B2B and B2C tactics are needed to boost this sector. Consumer goods manufacturers like Kimberly-Clark and Proctor & Gamble, which manufacture branded single-use hygiene products, have established robust B2B and B2C initiatives.

Policy schemes in countries that are aiming to boost technical and advanced textile sectors should focus on technical and marketing support. Until the time, the technical textiles industry reaches a critical level, government support should also focus on marketing, such as promotional initiatives modeled after the United States’ cotton sector. There can be public-private partnerships for promotional efforts to create awareness on the use of sustainable fiber-based advanced textiles in hygiene, healthcare, and industrial sectors.

India has been investing in the National Mission on Technical Textiles, which has created awareness among businesses on different sectors of the technical textiles industry. There is an urgent need to reach the consumers and hence B2C efforts should go into high gear.

As the industry starts growing, such efforts will be picked-up by the private sector as is the case in developed economies. In single-use hygiene products, while manufacturers involve in B2C campaigns such as mass advertisement, wholesalers, distributors, and retailers also participate in such efforts. Many different marketing efforts happen through B2B dealings, and supply chain channels also agree to cost sharing arrangements regarding marketing.

“Trustworthy business relationships and marketing campaigns are very crucial for business development and growth,” added Babu John-Mariadoss.

Business alliances involve a variety of negotiations, deal-making, and marketing tactics. Business and consumer partnerships are especially important to deliver cost-competitive products during tight economic situations.

Cotton Proves as a Sustainable Advanced Textiles Product

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, December 09, 2022)---Advanced textiles sector needs to go on high gear in utilizing natural and biodegradable raw materials.

Recent research on “Comparison of Oil Sorption Capacity of Nonwoven Sorbents,” published in the peer-reviewed AATCC Journal of Research has shown that all-cotton absorbent pads with nonwoven cotton core performs relatively better in absorbing oils compared to a few commercially available synthetic based nonwovens. In addition, cotton is naturally biodegradable material, which can reduce the burden on the environment.

Cotton’s functionality in different applications must be explored stated Mr. Suresh Kotak, Chairman of Textile Advisory Group, Government of India in the recent 80th Plenary Meeting of the International Cotton Advisory Committee.

World nations have made a clarion call to reduce Greenhouse Gas Emissions by 43% by 2030, which necessitates the use of earth friendly materials in many different applications. Natural fibers such as cotton, kenaf, banana, hemp are getting due attention by the textiles and advanced textiles sector.

Cotton has a composite economy and provides jobs to many in rural areas in developing and poor nations, highlighted Mr. Kotak. It adds economic value to cotton by finding industrial and non-commodity applications.

United States-based Cotton Incorporated has been supporting research in the Nonwovens & Advanced Materials Laboratory at Texas Tech University in enhancing cotton’s role in industrial textiles landscape. For nearly two decades, I have been advocating the capability of cotton in some industrial applications such as toxic oil absorbent in the oil and gas sector. Raw cotton is penetrating the industrial wipe sector as well.

There are opportunities for the cotton textiles and other natural fibers sector to utilize new developments in physics and chemistry disciplines such as low-pressure plasma, as an alternate functional finishing process, to name a few.

Research organizations such as Coimbatore-based The South India Textile Research Association are looking into environmentally friendly cotton finishing methods to reduce environmental pollution.

Recent COVID-19 has duly highlighted the value of cotton in the medical sector. There is a need to undertake more outreach and engagement activities with stakeholders and the end-user community to promote the values of natural fibers as high-performance fibers, wherever applicable.

Source: Comparison of Oil Sorption Capacity of Nonwoven Sorbents, AATCC Journal of Research (Sage Publications), Published Online, December 04, 2022

Nonwoven Wipe Innovation for Global Security

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, November 21, 2022) --- Recent work by the U. S. Army has shown that FiberTect wipe can decontaminate biological toxin spores as well.

With heightened political tensions in some regions of the world, high-tech sectors like defense, personnel protection and semiconductor are gaining due attention.

Advanced textiles find applications such as decontamination wipes, body armor, medical textiles, wearables, etc.

Investment in science and technology to boost innovation and grow the economy is recognized as a high priority in the United States and United Kingdom amidst dire economic situations. The Chips Act in the United States and the recent Autumn Statement by the United Kingdom's Chancellor of Exchequer are testimonies to the necessity.

Chantilly, USA-based First Line Technology (FLT) has been working to develop multiple applications for the nonwoven wipe, "FiberTect" that can contribute to global security. FiberTect technology evolved out my invention at Texas Tech University. FiberTect is a platform technology based on its universality to wipe away different CBRN agents, as well as with the use of different fibers such as cotton, polyester, and blends as absorbent layers, depending on the application and need.

"FiberTect was one of the first patented technologies out of Texas Tech University, and through industry partnership with First Line Technology and Hobbs Bonded Fibers, it has proven to be one of the most widely commercialized from TTU over the past two decades," stated Cameron Smith, Director of Commercialization at TTU System.

FLT's continued efforts are taking FiberTect to the next level making it a universal wipe for chemical, biological and radiological protection. Recent effort by the U. S. Army has shown that FiberTect is able to efficiently wipe away toxic microbes such as bacterial spores just using the dry FiberTect wipe. This method is advocated for cold weather regions of the world where liquid freezes making wet decontamination methods inefficient, such as Siachen glacier, and other high-altitude regions. This study showed FiberTect dry wipe can decontaminate *Bacillus atrophaeus* var. *globigii* (BG) spores up to 94.93 percent. This research proves the applicability of FiberTect nonwoven wipe against biological toxins in addition to its efficacy against chemical agents like mustard gas and fentanyl particles.

"FiberTect was originally developed for toxic liquid chemicals such as chemical warfare agents, but it has proven equally effective at the physical removal of fine powders like fentanyl and weaponized bio-agents," stated Corey Collings, Director of Research and Development at FLT.

"There is a need to develop functional products that can sense and wipe away opioids and fentanyl products. These products although used in pain treatments are regulated items that need good control and hence there is a need to develop effective decontamination products such as wipes," stated Dr. Vaclav Trojan of the International Clinical Research Center at Brno-based Masaryk University, Czech Republic. Adsorbent and absorbent wipes like FiberTect can pay vital role in wiping away fine particles that contain fentanyl compounds, added Trojan.

The need for such high-tech wipes has been expressed by Dr. Jan Halamek, Director of the Institute for Forensic Science at Texas Tech University. “United States is going through unparalleled opioid crisis, where fentanyl and its analogs represent the deadliest drug threat we have ever encountered. Highly porous and absorbent wipes like FiberTect can be used as a decontamination countermeasure for fentanyl, which gives forensic scientists a tool to detect and decontaminate illicit drugs” stated Halamek.

FLT is advocating “Blot-Apply-Remove,” method that uses dry FiberTect wipe to wipe away bulk toxic agents. Small amount of reactive agent is applied followed by again wiping with FiberTect. “The highly absorptive nature of FiberTect makes it far superior to paper towels or other absorbents in this procedure,” stated Corey Collings.



FLT demonstrating the use of FiberTect to wipe away toxins from the skin of an animal

Translating research from laboratory to marketplace is critical these days for national security, economic growth, and job creation. FiberTect is a good model for such an activity, that showcases public-private partnerships. Initial applied research was supported by the United States’ government and the private sector picked-up the technology after robust evaluation by a United States’ National Laboratory. “Universities are critical to the technology commercialization process, providing not only foundational research but also translational research, directly impacting the commercial market and economy with new technologies,” stated Cameron Smith.

Sources

Jana Kesavan et al., Evaluation of Cold Weather Decontamination Methods, American Journal of Disaster Medicine, Vol. 17 (1), 2022, pp. 13-21.

S. S. Ramkumar, “Process for Making Chemical Protective Wipes and Such Wipes,” U. S. Patent 7,516,525, April 2009.

A Better Method for Self-Decontamination, Lawrence Livermore National laboratory, S & TR, March 2009, pp. 20-22.

Ramkumar, S

Subject: FW: TexSnips: Nonwoven Wipe Innovation for Global Security

From: Dr. PR Roy <>
Sent: Tuesday, November 22, 2022 1:01 AM
To: Ramkumar, S <S.Ramkumar@ttu.edu>
Subject: Re: TexSnips: Nonwoven Wipe Innovation for Global Security

This email originated outside TTU. Please [exercise caution!](#)

Great achievements ! Thanks .

Dr. P. R. Roy
Former Chief Executive
Arvind Group, India

On Mon, Nov 21, 2022 at 9:18 PM <TexSnips@ttu.edu> wrote:

Nonwoven Wipe Innovation for Global Security

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, November 21, 2022) --- *Recent work by the U. S. Army has shown that FiberTect wipe can decontaminate biological toxin spores as well.*

<Ellen.Horn@>

Sent: Tuesday, November 22, 2022 2:08 AM

To: Ramkumar, S <S.Ramkumar@ttu.edu>

Subject: RE: TexSnips: Nonwoven Wipe Innovation for Global Security

Congratulations on getting your invention into development!

My husband served in the Chemical, Nuclear & Biological branch of the US Army reserve for 14 years, and decontamination was something he trained soldiers on for many years. It's exciting to hear of this progress.

All the best to you and your family as we head into the Thanksgiving holiday!

Ellen Horn

Edward Jones | Financial Advisor

Demand Enhancement Critical for the Cotton and Textile Sectors

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, November 15, 2022)---Demand for discretionary products like textiles is low, which needs enhancement.

New cotton harvests are arriving in India and the High Plains of Texas. However, demand is weak compared to last year.

On November 14, 2022, Mumbai-based Cotton Association of India (CAI), released the 2022-23 cotton supply and demand in India. Cotton production in India during 2022-23 (October 2022 to September 2023) is estimated to be 34.4 million bales (170 Kgs/bale), while the total supply will be 38.78 million bales (170 Kgs/bale). The consumption is estimated to be about 30 million bales, which is lower than the previous year's consumption.

This year (Oct. 2022-Sep. 2023), Indian domestic consumption by spinners is expected to be lower by 1.8 million bales compared to the previous cotton year, indicating the squeeze in the demand side. With the beginning of new cotton season in India, cotton stock situation is good stated Velmurugan Shanmugam, General Manager of Jayalakshmi Textiles, India. "Yarn demand is less than what it was during this period last year," added Velmurugan Shanmugam. For five months from June to October 2022, daily cotton yarn production at Jayalakshmi Textiles was only about 60% of normal production indicating weak demand.

Geopolitical and economic scenarios are playing their part in influencing the demand of textile and other non-essential products, stated Mark Brown, Field Services Director of Lubbock-based Plains Cotton Growers, Inc. Similar sentiments have been expressed by industry leaders in India.

"Product demand is pathetic," stated Gnanasekar Thiagarajan, Director of Mumbai-based commodity research firm, Commtrendz Research. "It is interesting that Chinese yarns are available in India at discounted prices, adding pressure to the Indian spinning sector," added Gnanasekar Thiagarajan.

I have been emphasizing the need for enhancing the demand for cotton by exploring new markets and developing value-added products. Cotton being a natural fiber has a good story to tell regarding product sustainability.

Industry is hoping that United States' interest rate hike which is expected to moderate in the coming months will improve the demand for items like textiles. Enquires must be materialized as orders, which depend on lot of factors like energy situation, inflation, political tensions in Europe, U.S.-China relations, etc. Bangladesh textile sector is affected by high energy price as well as availability issues.

All eyes are on India, which is expected to surpass China as the world's most populated country in the next year. It is a dominant player in cotton production and textile manufacturing. Government of India is encouraging its synthetic sector to grow to enhance India's textile offerings and capacity.

Three countries will play dominant role in geopolitics as well as the textile space.

Trifecta to watch is the United States, China, and India.

Ramkumar, S

Subject: Comment from Prof. Michael Galyean

From: Galyean, Michael <@ttu.edu>
Sent: Tuesday, November 22, 2022 10:01 AM
To: Ramkumar, S <S.Ramkumar@ttu.edu>
Subject: RE: Happy Thanksgiving

Ram:

Thank you for the note. I always appreciate your thoughtfulness. Please accept my best wishes to you and your family for a happy and relaxing Thanksgiving holiday.

You had a really nice piece in the paper last week – keep up the good work.

Mike Galyean

Former Provost
Horn Distinguished Professor
Texas Tech University

Indo-United States Collaboration Shows the Usefulness of Face Masks in Curbing the Spread of COVID-19 Wave

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, November 9, 2022)---Face masks play a valuable supportive role in the fight against COVID-19 and air pollution.

Recent collaboration between our team from the Nonwovens & Advanced Materials Laboratory, Texas Tech University and an undergraduate student from Bengaluru, India has shown that mask mandate in India helped with reducing the number of daily COVID-19 cases.

Cotton face coverings, surgical masks and N95 types are being used by public in India.

The work did not isolate the influence of different type of face masks as there were no specific data available on this aspect. Public uses different face masks depending on the availability and choice.

Building on over two-decades of outreach effort to promote the technical textiles sector in India, during this past summer, I enticed, Shreyas Ganesh, a computer science major from PES University, Bengaluru to work on the project to analyze the effect of mask mandates on COVID-19 during January to May 2022.

During the mask mandate period (January 1 to March 31, 2022), usefulness of masks in reducing the spread was visible after some period as expected due to the nature of the virus. During this 3-month period, there was an average decline of about 2920 daily cases. As the mandate was lifted during April 1 to April 23, 2022, cases per day spiked from a period of decline in the previous months. Again, as the mandate was reinstated, data indicated a decline in daily cases, showing the positive effect of masks as a supportive countermeasure.

Vaccination is a proven preventive measure against viral communicable diseases as is the case with COVID-19. As viruses like SARS-CoV-2 can mutate into different variants, additional measures prove useful such as the use of face coverings.

The work has recently appeared as Cover Page article in the peer-reviewed Technical Association of Pulp and Paper Industry's Open Access TAPPI Journal.

<https://imisrise.tappi.org/TAPPI/Products/22/OCT/22OCT521.aspx>



The journal has recognized the collaborative study with Indian flag's tricolor background on the cover of the October 2022 issue.

The work highlights the value of advanced textiles such as filters in enhancing human health as well as the need for multidisciplinary research efforts to grow the global textiles industry.

United States' Department of Defense and Cotton Incorporated, supported by the U.S. cotton growers are funding multiple research projects looking at functional and sustainable advanced textiles. Recently, India's Ministry of Textiles through its National Mission on Technical Textiles is supporting multiple research projects to boost the advanced textiles sector.

China in the Global Economic and Textiles Space

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, October 24, 2022)---Ongoing geopolitical and economic scenarios highlight the growing prominence of China in the world order.

On October 20, as part of celebrating the harvest in the High Plains of Texas, Lubbock Chamber of Commerce hosted Luke Lindberg, Founder and Principal, E. Pluribus Unum, LLC. Mr. Lindberg in his services at EXIM Bank of the United States has had firsthand experience in dealing with China and provided an overview on China's status in the world.

"China is an important market and a competitor for the United States," stated Lindberg. The transition of China from a nation of famine to a feasting one within one to two generations is remarkable and hence it is important to be cognizant of China's aspirations.

President Xi Jinping in his speech at the recent Communist Party of China's National congress has highlighted the importance of development focusing on domestic economy, strengthening education and innovation. The congress highlighted the aspirations of China to strengthen its security, grow domestic economy to gain an upper hand on its growth. The recent GDP numbers show that China has witnessed a growth of about 3.9% in the 3rd Quarter relative to last year, while domestic demand has been weak.

The zero Covid-19 policy has played a role in the slowing of Chinese economy, and this is a setback for China's ambition to be a dominant superpower. A growth of about 3-4% is not sufficient to achieve such a status commented Professor Rashid Al-Hmoud, Department of Economics, Texas Tech University. Lindberg viewed that China aspires to be sole superpower to overtake the United States. To counter competition from China, it is important that countries focus on innovation, build trade alliances, and invest in foreign diplomacy, added Lindberg.

China hopes to be less import dependent, which necessitates exporting nations to explore alternate markets, explore new technologies and develop value-added products. This is clear now with the dire situation of cotton spinning mills in States like Andhra Pradesh in India which are dependent on exports to China.

To my question on the ongoing political crisis in the United Kingdom and its impact on economy, Lindberg opined that it is important for United States to have robust trade deals with countries to enhance trade. "Going on trade missions is important," added Lindberg. Countries like China need agricultural imports from the United States, particularly cotton from the High Plains of Texas. 40% of soybeans from South Dakota end up in China stated Lindberg.

"China continues to be an important market for U.S. cotton and is number 1 or number 2 in terms of cotton imports from the United States," stated Shawn Wade, Director of Policy Analysis and Research at Lubbock-based Plains Cotton Growers, Inc. Texas is expected to produce 3.4 million bales (480 lbs. per bale) this year, and almost all of it will be exported. While China's cotton imports are high, in recent years its yarn imports are slowing down indicating a shift towards growing domestic manufacturing, which is a priority highlighted this past week in the 20th National Congress of the Communist Party of China.

Countries like Brazil and Australia are trying hard to capture the Chinese cotton market, while Chinese favor quality and reliability of the U.S. cotton highlighted Lindberg.

The ongoing global economic crisis, political instability in some regions of the world, aspirations of China and Russia, weakening consumer confidence all necessitate the need for new pathways for the global textiles sector. “It’s critical and important for the United States to invest in research and continue export expansion, which is important for trade advancement and national security,” opined, Murvat Musa, Executive Director of Reese Technology Center, a business and research park in Lubbock, Texas.

Investing in R and D, focusing on innovation, exploring new markets are a few feasible options available for the global textile industry.

Politico-economic Crisis and the Global Cotton-Textiles Sector

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, October 20, 2022)---Politico-economic crisis, war in Europe, dampening demand seem to have an upper hand on the economy.

Crisis gets deeper with today's resignation of Liz Truss, Prime Minister of the United Kingdom making her the shortest serving Prime Minister ever in the United Kingdom.

The political and economic crisis in the U.K will have ripple effects on the global economic situation. The 44-days of high drama in the United Kingdom is highlighting fragile economic and political order in certain parts of the world. With the recession expected around the corner, these unstable situations add pain to the global geo-political and economic situations.

Where is Britain heading now and hence the global order? This loaded question needs serious thinking.

In a discussion last week at Texas Tech University, Dr. Glenn Hubbard, who served as the Chair of the Economic Council of Advisers under President George W. Bush stated, "economy is going to witness substantial pain." In my question on the end game for inflation, Dr. Hubbard stated, with the target to bring down the inflation to 2%, we must expect economic slowdown. Recently, Bloomberg predicted the probability of recession to be 100 percent in the next 12 months.

Consumers have less to spend on non-essentials, with mortgage rate as high as 7% in the United States. The borrowing rate has increased sharply from 3% to 7% within a year, displaying the pains of inflation.

In June 2022, at the Textile Association (India) event in Coimbatore, I articulated the need for the global cotton-textile industry to consider both the supply and demand sides of the equation. This is what has come true, with the demand sliding, while we have tight supply of commodities like cotton.

"Advance booking for yarn is down in this festive season," stated Velmurugan Shanmugam, General Manager of Aruppukkottai, India-based Jayalakshmi Textiles. While domestic demand is there, export market has slowed down added Velmurugan Shanmugam. India's yarn manufacturing is at a saturation level and needs about 40% of its cotton yarn production to be exported to avoid job losses in the sector.

Global politics is currently under the grip of economic woes and the war in Europe, as is evident from the high drama in the United Kingdom.

Textile sector needs good introspection and look forward to opportunities beyond the commodity sector such as health care, make the production and products with competitive advantage and enhance its product basket.

Cotton Sector Needs 3 Vs

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, October 18, 2022)---Recent months have seen high cotton drama regarding price volatility and demand. As cotton is a natural fiber; its availability depends on weather and other uncontrollable situations. However, these aspects have also given room to high volatility and uncertainties that are influencing the entire cotton and textile supply chain. Adding to these expected pains, the ongoing war in Europe has added more volatility to the sector.

While the entire cotton segment is under the grip of uncertainties, the current scenario calls for self-introspection and solid plan ahead.

Need for 3Vs

Prior to inflation reaching 9% in some parts of the world, which is 40-year high, the textile sector focused predominantly on the supply side of the equation, such as the availability of raw materials, labor force and energy issues, etc. Given the finite amount of arable on the amount of arable land, due to the growing need of food grains, with the global population ever rising, land for other cash crops is always stressed. China is a good example for this situation, which necessitates the import of cotton and food grains such soy to satisfy its domestic demand. Textile sector will be under tight supply of cotton, which provides necessary price value for cotton in addition to its inherent technical advantages. Cotton is natural, biodegradable, and comfortable. Cotton is pre-sold on its breathability value, which makes it a preferred fiber despite its relative cost issue with some synthetics.

Availability of arable land, some limitations in the product range, market volatility, competition from synthetics all influence the cotton sector. Given this scenario, our industry should focus on three Vs. 3 Vs are: 1) Value utilization; 2) Value creation and 3) Value addition.

Value Utilization

The cotton sector from farm to fashion should utilize its fullest value. At the farm level, countries like India need to increase the yield/acre, increase the efficiency with the use of fertilizer, pesticides, and water to maximize return of investment. India has largest land area dedicated to cotton crop compared to other major cotton producing countries, but with least yield. Yield enhancement should be a public-private partnership initiative in India, which can deliver cost effective next generation value-added seed to farmers. Knowledge creation and dissemination about best farm practices such as fact-based agronomic approaches, selection of seeds, farming and irrigation techniques must be widely transmitted to the practitioners such as farmers, researchers, and policy makers. Active involvement at grassroot levels during the growing season is vital for the growth of agriculture. Lubbock, USA-based Plains Cotton Growers, Inc. is highly active in such efforts.

Value Creation

While value utilization focuses on using the existing resources to improve the sector, value creation is aimed at creating new opportunities. Cotton is predominantly used as apparel textiles, a way to increase its demand is to find new opportunities in the farm to fashion sectors and beyond such as industrial textiles.

As is evident from the ongoing inflationary cycle, demand for goods, particularly nonpriority items have come down. Cotton is subjected to such stressful situations and is also sensitive to price pressures from competing synthetic and regenerative fibers. In the mid to long term, it is important to enhance the demand for cotton in non-traditional areas. Recently, cotton industry is focused on finding applications in industrial, medical, automotive and defense sectors. Cary, United States-based Cotton Incorporated is conducting projects in nonwovens to enhance demand for cotton. INDO-United States collaboration between Texas Tech ...Continued

From: Dr. PR Roy <~~prroy1974@gmail.com~~>
Sent: Wednesday, October 19, 2022 7:05 AM
To: Ramkumar, S
Subject: Re: TexSnips: Cotton Sector Needs 3 Vs

This email originated outside TTU. Please [exercise caution!](#)

Well noted . Thanks.

On Wed, Oct 19, 2022 at 12:32 AM <TexSnips@ttu.edu> wrote:



Dr. P. R. Roy
Former Group Chief Executive
Arvind Group
Ahmedabad, India.

Cotton Sector Needs 3 Vs

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, October 18, 2022)---Recent months have seen high cotton drama regarding price volatility and demand. As cotton is a natural fiber; its availability depends on weather and other uncontrollable situations. However, these aspects have also given room to high volatility and uncertainties that are influencing the entire cotton and textile supply chain. Adding to these expected pains, the ongoing war in Europe has added more volatility to the sector.

While the entire cotton segment is under the grip of uncertainties, the current scenario calls for self-introspection and solid plan ahead.

Need for 3Vs

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From: Rakesh Rao / ASAPP Info Global Group <~~rakesh.rao~~@asappinfoflobal.com>
Sent: Tuesday, October 18, 2022 10:23 PM
To: Ramkumar, S
Subject: Re: Article Filing: Cotton Sector Needs 3 Vs

This email originated outside TTU. Please [exercise caution!](#)

Nice article Prof Ram. Will host it on ITJ website today
Regards,
Rakesh

Mr. Rakesh Rao
Executive Editor, The Indian Textile J
Mumbai, India

On Wed, 19 Oct, 2022, 12:33 AM Ramkumar, S, <S.Ramkumar@ttu.edu> wrote:

Cotton Sector Needs 3 Vs

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, October 18, 2022)---Recent months have seen high cotton drama regarding price volatility and demand. As cotton is a natural fiber; its availability depends on weather and other uncontrollable situations. However, these aspects have also given room to high volatility and uncertainties that are influencing the entire cotton and textile supply chain. Adding to these expected pains, the ongoing war in Europe has added more volatility to the sector.

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University and Aruppukkottai-based Jayalakshmi Textiles has resulted in a sustainable cotton-based oil absorbent material. This product has been evaluated at ONGC facilities in Thiruvarur and Rajahmundry areas in India.

Value Addition

The downstream processes in the textile sector can help with value addition to find new markets and opportunities. Salt less dyeing and waterless finishing technologies can be utilized to generate sustainable and high-end products. Leading brands are looking for opportunities to come-up with products that have consumer appeal and can be marketed as “green,” products. New finishing technologies like atmospheric plasma can help with selective surface characteristics with less or no water usage. Cotton being biodegradable provides opportunities for brands to develop value-added products.

While the present economic situation put enormous stress on the textile sector, it provides a valuable lesson that we should focus both on the supply and demand sides of the textile equation.

(Note: A longer version of this article appeared in the Souvenir of Cotton Association of India’s Centenary Celebrations, Inaugural Event, October 18, 2022).

Economic Tsunami and the Global Cotton-Textiles Sector
By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, October 12, 2022)—Textiles and other manufacturing sectors are looking for strategies to ride out the economic storm.

Financial support provided by many governments during COVID-19 created aggregate demand for many commodities such as textiles, electronic items, which led to price hikes and hence volatility in the market. Following this runaway demand scenario, due to inflation, monetary interventions are being imposed by national banks, which may lead to recession in 2023. IMF predicts slow growth in 2023, with negative growth in developed economies like Germany and Italy.

The economic tailspin and monetary interventions are dampening the demand, which is affecting many sectors particularly, textile sector. Cotton price has come down steeply since this Summer and spinning mills are operating at a loss in India and other countries. Mills in the State of Andhra Pradesh, India have announced temporary closures, while mills in Tamil Nadu are running at about 70% capacity. “Our normal production capacity is 13 tons/day of cotton yarn, but due to weak demand, we are running at 7 tons/day,” stated Velmurugan Shanmugam, General Manager of Aruppukkottai, India-based Jayalakshmi Textiles.

With adversity comes opportunity. Textile sector should analyze the current situation and explore new strategies that can shield them from such future scenarios. I have articulated “4S principle,” proposed by the United States’ Department of Defense say: Sense; Shape, Shield and Sustain. How apt this strategy is for the textile industry now! The industry needs to sense the situation, plan (shape), and put forward growth plan (shield and sustain).

Companies must have “Disaster Management Plans” stated Dallas-based Mr. Ranga Rajan Sampath, an accounting professional with experience in manufacturing, trading, and IT sector in many countries such as Maldives, India, The Netherlands, and the United States. The plan should involve: 1) Disaster Recovery and 2) Business Continuity (when the business runs smoothly). According to Mr. Sampath, companies should identify risks (some may not be known such as the COVID-19 pandemic), identify resources, strengths, and weaknesses, such as financial and personnel to handle demanding situations. Such a planning will come handy to manage unforeseen situations as there is a structure in place. More importantly, effective, candid, and timely communication is essential, added Sampath. This has become clear during the ongoing pandemic and the current economic crisis. The way United Kingdom handled the mini-budget proposal recently without effective communication shows how good intentions can lead to negative results due to lack of reasoning and clear communication.

Learning and skill enhancement need to be an ongoing education process in the industry. Relying on his own experience in the IT sector, Mr. Sampath emphasized that every day is a learning process. Management should support personnel development by providing opportunities for skill enhancement that can cater to short- and long-term needs. Management should enable interaction among production, finance, personnel, and marketing units, which will help with holistic personnel development and tackling crisis.

“When we are in crisis, efforts are needed to plan and act differently,” stated Velmurugan Shanmugam. In India, where the spinning industry is at its maximum capacity, we should plan for modernization to cut the cost, enhance quality, and develop new products, added Velmurugan Shanmugam.

As a case in point, in India more interaction with the government is needed to diversify the sector and look for vertical integration. This needs resource planning and allocation, effective communication with stakeholders, particularly with the public, and investments in R & D. As these growth plans involve infrastructure development such as new industrial zones, pollution control, etc., public must be engaged to garner broad-based support.

Textile industry needs rethinking, retooling and skill enhancement. The past two years have been a challenge, but the lessons learnt will be valuable.

We have all undergone harsh dry runs of handling demanding situations socially and economically. “Dry runs should come in handy to manage future stressful scenarios,” stated Ranga Sampath.

Strategizing for the Global Textile and Materials Sector

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, October 4, 2022)—Strategies to move the global textile and materials forward to guard against volatilities are needed.

The world's largest professional body of the textile industry, The Textile Association (India) [TAI], which has about 25,000 members is doing its part to provide a global platform for deliberating the needs and future of the industry.

TAI will be organizing a global event in Ahmedabad, India during February 25-26, 2023, which will attract leaders and practitioners in the field of fiber to fashion, advanced textiles to nonwovens to discuss and chart out the plans for the sector. The event is aimed at realigning the sector with the future needs and supply and demand scenario. Speaking about the event, Dr. P. R. Roy, former group Chief Executive of Arvind Group, India stated, "An event of major significance for the textile industry that will deliberate key challenges and opportunities and endeavor to chart out a growth plan."

How should the industry handle price volatility, develop new products which are in need, invest in R & D, and focus on sustainability are some of the themes, which will receive due attention.

Tony Fragnito, President of USA-based Association of the Nonwoven Fabrics Industry (INDA) will travel to India to interact with industry professionals and discuss about the status of the nonwovens sector. Views on the status of the textile sector will be highlighted by representatives from The Southern India Mills' Association and key companies such as Indorama Ventures. The importance of research as a way forward will be highlighted by Bryan Haynes, Chairperson of the Board of Directors of INDA, who is traveling all the way from the United States to India for strengthening much needed global collaboration.

"India's textile industry provides both direct and indirect jobs to millions and is looking towards next phase. The Textile Association (India) will be providing a platform for international players to discuss technical and market aspects of the industry such as R and D to enhance its strength. We are excited to put forward a major international congress to address timely issues and very pleased that key people from all over the world are attending," stated Mahendrabhai Patel, Honorary Secretary of the world's largest professional association in the field of textiles.

The congress is making efforts to attract young entrepreneurs and business leaders to share their experience in dealing with the ongoing COVID-19 and economic crisis. Arunkrishna Srinivasan, Director of India-based Jayalakshmi Textiles will highlight the challenges for the cotton textiles industry and actions needed to go on a high gear.

Timing is critical, as the world is witnessing a slump in the demand of commodity products. The conference will endeavor to brainstorm feasible options for growth such as the development of cost-effective advanced textile products for non-commodity markets, recycle and reuse and sustainability.

Given that India is a major player in the field of textiles, an event of such a magnitude with global participation will enable growth opportunities by way of global collaborations and interactions.

Inflation Import Vs. Textile Imports

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, September 28, 2022)— Textile importing, and manufacturing countries are importing inflation.

As the inflation reached near double digits recently reaching a 40-year high, national banks like the United States' Federal Reserve and the Bank of England are implementing restrictive monetary policies. While tight monetary policies are being practiced now to bring down the inflation, fiscal policies like tax cuts and infrastructure investments are unleashed to enhance the economic growth. Fruits of growth-related policies would be enjoyed in the months to come; hope is that tight monetary policies should pay off within short duration.

United Kingdom's Chancellor of Exchequer announced on September 23, 2002, a set of tax cuts, which is aimed at boosting the demand, which did not get favorable response from financial markets. As the tax cuts are supported by debt financing, borrowing will be from international markets. This financial scenario has brought the British Pound to its record low, trading at 1.03 US dollar on Monday, September 26, 2022.

Inflation and other financial policies are lowering the value of currencies like Pound sterling and Turkish Lira, which are important for the global textile sector. Importing of textiles and cotton by these countries may cost more as these commodities are traded in US dollar. Weakening of other currencies against US dollar will impact the buying of commodity products by consumers in Europe, United Kingdom, and other nations, which are importing textiles.

Ongoing stressful economic situation is affecting the demand of commodity products, which is reflected in the decline of price of cotton. Indian cotton was priced at about Rupees 1,05,000 per candy (356 Kgs) in June 2022. Recently, the cotton price has sharply declined, and it is traded at Rupees 64,000 per candy for November delivery. This fall is primarily due to the softening of global demand and ongoing stressful economic scenario.

"In June 2020, one load of cotton (100 Indian bales) would cost us about Rupees 20 lakhs, but during the Summer 2022, we have to pay Rupees 60 lakhs for one load," stated a cotton purchaser from a cotton spinning mill in South India. "With the arrivals picking up during the peak season of November to January timeframe, we are hoping to see a further decline in price," added the cotton purchaser. Of course, demand will have its role to play.

Price stability is in the minds of national bankers, which will support additional rounds of monetary tightening that may lead to increase in unemployment. Although the effect will be lagging, all these factors point towards recession, which will influence the demand.

Countries which normally import textiles are currently importing inflation with the weakening of their currencies, thereby making import of textiles relatively expensive.

Inflation control and debt financing are interesting mix in the economic equation. There is going to be an interesting tug-of-war between inflation control and growth.

Textile industry should be in a watchful mode and analyze the arrival of new cotton in India, and the demand pickup in the festive season ahead.

Global macro-economic situation should be in the radar for the textile industry, as currency fluctuations, price stability and demand enhancement, all have their respective roles to play.

Cotton and Textile Sectors Under Economic Uncertainty

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, September 22, 2022)—Economic uncertainty has direct influence on the demand of cotton and textiles.

Inflation which has reached a 40-year high level is getting due attention by national banks in many countries. On September 21, United States' Federal Reserve increased the interest rate for the third straight time in recent months signaling the need for restrictive monetary policy to gain an upper hand on inflation.

Among other factors, the ongoing war in Europe is enabling the inflation. The war is dragging the world into recession and global food crisis stated the representative of European Union in today's U.N. Security Council meeting.

How bad is the inflation? Consumers experience the increase in price for common items in their daily lives in multiple ways. I used to pay US\$1.25 for 5-gallons of Glacier water in a retail outlet in Lubbock. Just recently, the price has shot up to US\$2.5. Prices of commodity items and groceries have climbed up affecting consumers' purchasing power.

Swiss National Bank has raised the interest rate ending its years of negative rate regime and the Bank of England has also raised the interest rate signaling the need to moderate demand.

Price stability is needed to control inflation according to Jerome Powell, Chair of the United States' Federal Reserve, who stated on September 21 after the Federal Reserve raised the interest rate that restrictive policy is needed to bring down inflation to 2% level.

The raise in interest rate will increase the rate of borrowing by companies, which will affect employment and subsequently may lead to recession. This situation will have direct effect on the global textile sector and the results will be witnessed in months to come.

As textiles fall under the category of non-high priority items, high price for goods will lead consumers to prioritize on essentials such as food, energy, mortgage payments, etc. In general, high interest rate will lead to demand softening.

“Yarn enquiry is dull even though we are entering into Diwali festive season in India and Christmas times in the West,” stated Velmurugan Shanmugam, General Manager of Aruppukkottai, India-based cotton spinning mill, Jayalakshmi Textiles. Mills in India are selling yarns at a loss of about 30-40 Rupees/Kg. “Our mill has cut down the capacity utilization from 98% to 85% and is exploring other options like weekly closures for a day or two,” stated Velmurugan Shanmugam.

While national banks are focused on bringing down the inflation by raising the borrowing cost, uncontrolled inflation and restrictive policies have their effect on increasing unemployment, which may lead to economic slowdown. United States is expected to have increased unemployment in 2023 at about 4.4 percent.

Demand will be a great influencer in the coming months for the global textile sector. Mills must anticipate for lesser demand and plan accordingly.

Mills in India such as Jayalakshmi Textiles have reduced consumption of cotton by about 30% signaling demand weakening.

Anticipation is that United States' Federal Reserve may raise the interest rate again in November as controlling prices is its priority. Actions by the United States' Federal reserve will have ripple effects around the world, which will affect all sections of the society.

While we hope for a soft landing without recession, raising interest rates will lead to slowdown affecting the demand of products.

Demand side of the economy needs careful watch. The textile industry will be better served if they plan for careful stocking and manage production without excessive inventory. Careful planning of stocks with help with price gains, when the economy rebounds, provided there is no recession in 2023.

Prediction is a game, but careful planning is the best way forward.

Demand Will Drive the Cotton and Textiles Sector

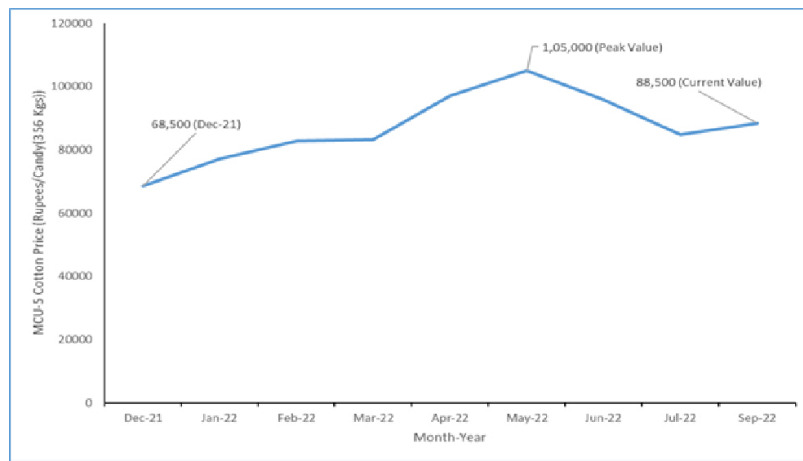
By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, September 14, 2022)---Given the ongoing inflation around the world, consumer is the king, and the demand will drive the cotton and textile sectors.

Cotton will be in tight supply due to drought in West Texas, unexpected floods in Pakistan and other factors. Textile sector has focused heavily on the supply side of the equation. However, it is the demand of end products by consumers, which will drive the textiles industry.

The ongoing inflation with high consumer price index values in textile importing countries like USA, EU, and the United Kingdom indicate the importance of demand as a determinant.

This year has seen high volatility in cotton price predominantly due to tight supply situation.



The above graph shows the volatility in the price of MCU-5 cotton per candy (356 Kgs) from December 2021 to September 2022. While the price peaked in May-22, it has started moderating, which is due to inflation fueled by Russian invasion of Ukraine, higher fuel price and slowing in consumption of non-essentials.

I have used the price situation of MCU-5 cotton, which is spun into fine counts used in home textiles, as these textiles were in demand during the COVID-19 timeframe when the demand aggregate was peaking. Cotton price situation since May 2022 shows that the demand for textiles is moderating, due to high prices for essential products like groceries.

Yesterday's Consumer Price Index number released by the United States' Bureau of Labor Statistics showed an increase of 8.3% over last year, indicating that inflation is still high. This fact will in a way force the Federal Reserve Bank in the United States to raise the interest rate to bring inflation under control. Higher interest rates will strengthen US dollar, which will in turn affect the cost of imported goods traded in dollar. Inflation is high at 9.9% in the United Kingdom, which will determine the buying choices of consumers.

Macroeconomic situation and the ongoing war between Russia and Ukraine will dampen global consumer confidence and hence will influence the purchase of non-essential items.

“Normally during the present times with the arrival of festive season in India, we see high demand for yarns. But the demand is not there,” stated Velmurugan Shanmugam, General Manager of Aruppukkottai-based Jayalakshmi Textiles.

On June 25th in a meeting hosted by the Textile Association-South India Unit in Coimbatore, attended by about 720 people of the textile sector, I articulated the importance of analyzing the holistic picture of supply and demand, macroeconomic and geo-political scenarios in planning ahead for the textile sector.

“If we see demand moderation, there is a potential for cotton market to move down despite tight supply,” stated Shawn Wade, Director of Policy Analysis and Research of Lubbock-based Plains Cotton Growers, Inc.

Given the high inflationary situation we are facing now, stressful situations in EU and the United Kingdom due to high energy price, ongoing war between Ukraine and Russia, it will be in the best interest of the textile sector to plan for moderated demand in the next few months.

Demand of textiles will determine the price situation of raw materials, while we have tight supply of cotton. Planning by the industry should take into consideration the demand as well as the availability of resources. Caveat Emptor et Venditor!

Global Textile Sector Under the Grip of Geopolitical and Economic Situations

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, September 6, 2022)---Inflation induced economic stress and energy crisis are affecting the global textile sector.

There has been a change of guard in the United Kingdom with The Rt. Hon. Ms. Liz Truss, becoming the Prime Minister; direct impact of economic woes there, which resulted in the change in the party leadership.

Soaring energy and consumer products' costs coupled with reduction in the disposable incomes in the United Kingdom and EU will impact the global textile industry. Additionally, strengthening of U.S. dollar will increase the price of gasoline paid by importing nations, and will put pressure on the debt repayment by developing countries like Sri Lanka and Pakistan, which are major textile manufacturing countries.

Rising cost of living, energy crisis, inflationary pressures, ongoing Russia-Ukraine war, mounting tensions between China and Taiwan are all contributing towards the slowing of the textile sector.

“Yarn enquiry is not there,” stated Mr. Velmurugan Shanmugam, General Manager of Aruppukkottai, India-based Jayalakshmi Textiles, a cotton spinning mill which has 72,000 ring spindles. Mills are forcing additional weekly holidays or reducing production in states like Gujarat, Andhra Pradesh and even in Tamil Nadu. “Our production has come down from 12 tons/day to 8 tons per day,” added Velmurugan Shanmugam.

While the issue surrounding high cotton and raw materials' costs has occupied the textile industry for few months now, it is important to focus on the demand aspects. Demand of textile products has slowed down due to global geopolitical and economic situations. This is evident from the ongoing crisis conditions in the United Kingdom and Sri Lanka.

As stated today by Ms. Liz Truss, the Prime Minister of the United Kingdom, priority is to tackle energy crisis so that cost of living raises can be controlled. Policies in near short term must tackle energy costs and allied issues to have control on the economy. If uncontrolled, analysts predict that inflation may spiral up to 13.3% by Spring in the United Kingdom. Such dire economic situation may affect the sales of textile and other commodity items.

“Economic scenarios in Europe and elsewhere are affecting the textile industry in India. Even at Rupees 430/Kg for 60s Ne compact cotton yarns, there are not many takers. Mills incur a loss of Rupees 30-40/Kg at such prices,” agonized Velmurugan Shanmugam.

Textile and manufacturing sectors must adopt a new management paradigm, “Caveat Emptor et Venditor.” This indicates that both buyers and sellers must pay attention to global scenarios to have the situation under control. Industry should be cautious in their planning in terms of modernization and non-essential capital expenditure. In my opinion, it is worthwhile to postpone such activities for a period of at least 18-months.

Burden rests in the hands of policy makers and central bankers of nations to have a good grip on their economy to avoid recession. Recessionary pressures along with higher input costs will have dire consequences for the industry.

Care needs to be exercised by the stakeholders of the textile industry. Fall-2022 will be an interesting one to watch, which will set the course for the global textile and manufacturing industry for next few years to come.

Ramkumar, S

From: Jim Steadman <~~JSteadman~~@meistermedia.com>
Sent: Wednesday, September 7, 2022 10:16 AM
To: Ramkumar, S
Subject: Re: Time Sensitive Article Filing: Global Textile Sector Under the Grip of Geopolitical Situation

This email originated outside TTU. Please [exercise caution!](#)

Good article. Here's the link:

<https://www.cottongrower.com/opinion/global-textile-sector-struggling-with-geopolitical-and-economic-situations/>

By Jim Steadman, Editor
Cotton Grower Magazine

Global Textile Sector Struggling with Geopolitical and Economic Situations

Inflation-induced economic stress and an energy crisis are impacting the global textile sector.

www.cottongrower.com



From: Ramkumar, S <S.Ramkumar@ttu.edu>
Sent: Tuesday, September 6, 2022 7:51 PM
To: Jim Steadman <~~JSteadman~~@meistermedia.com>
Subject: Time Sensitive Article Filing: Global Textile Sector Under the Grip of Geopolitical Situation

Global Textile Sector Under the Grip of Geopolitical and Economic Situations

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

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There has been a change of guard in the United Kingdom with The Rt. Hon. Ms. Liz Truss, becoming the Prime Minister; direct impact of economic woes there, which resulted in the change in the party leadership.

From: Rakesh Rao / ASAPP Info Global Group <rakesh.rao@asappinfo.com>
Sent: Tuesday, September 6, 2022 9:59 PM
To: Ramkumar, S
Subject: Re: Time Sensitive Article Filing: Global Textile Sector Under the Grip of Geopolitical Situations

This email originated outside TTU. Please [exercise caution!](#)

Dear Prof Ram,
Really a thought provoking article. Will put it up on ITJ website today.
Regards,
Rakesh

*Mr. Rakesh Rao, Editor
The Indian Textile Journal
a over 150 year old publication.*

On Wed, 7 Sep, 2022, 6:24 AM Ramkumar, S, <S.Ramkumar@ttu.edu> wrote:

Global Textile Sector Under the Grip of Geopolitical and Economic Situations

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

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Rising cost of living, energy crisis, inflationary pressures, ongoing Russia-Ukraine war, mounting tensions between China and Taiwan are all contributing towards the slowing of the textile sector.

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While the issue surrounding high cotton and raw materials' costs has occupied the textile industry for few months now, it is important to focus on the demand aspects. Demand of textile products has slowed down due to global geopolitical and economic situations. This is evident from the ongoing crisis conditions in the United Kingdom and Sri Lanka.

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TexSnips: Outreach to Cotton and Textile Sectors

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, September 3, 2022)---Outreach to the entire spectrum of the fiber to fashion supply chain and advanced textiles sector is essential.

This month marks a milestone in the annals of the publication of the outreach newsletter, “TexSnips,” from the Nonwovens & Advanced Materials Laboratory at Texas Tech University. I started writing the TexSnips column just as a hobby to put thoughts to pen in the research areas I work. “Why not I provide visibility on what others in the field are doing and write snippets on interesting happenings in the field, so that global readers would benefit?” Answer to this thought resulted in the arrival of TexSnips.

In September 2010, TexSnips newsletter came into being and today it has about 3500 subscribers. TexSnips articles are archived at:

<https://www.entx.ttu.edu/sramkumar/textsnips.html>

The need to connect students, researchers, and industry people in the field of fiber to fashion, advanced materials and even broader fields arose after the International Cotton Advisory Committee’s Plenary meeting in Lubbock in September 2010. Industry veterans from India in the likes of Mr. Suresh Kotak, Mr. Dhiren Sheth, and others while visiting Lubbock visited my laboratory which is 10 miles away from the main campus. A thought to inform readers in India and elsewhere on timely information on cotton and textile matters from the epicenter of cotton production, Lubbock sparked the initiation of TexSnips.

Over the 12-year period, cotton scenario, views of Nobel laureate and colleagues such as Dr. Srinivasan Narasimhan of Asthagiri Herbal Foundation on concepts such as functional finishes, importance of fiber quality, timely developments and advancements in textiles have been reported.

United States’ cotton industry leaders such as Dr. Kater Hake of Cotton Incorporated, leaders of Lubbock-based Plains Cotton Growers have presented their views on different cotton situations. Indian textile industry people representing the ginning sector, spinning such as Jayalakshmi Textiles, and machinery such as Lakshmi Card Clothing have opined on matters of importance.

The outreach newsletter over the years has grown attracting students from India, Bangladesh, etc. and leaders of multinational corporations representing cotton fiber, nonwovens, and advanced textiles.

This September the subscription is about 3500 people and still growing. Subscription ranges from Australia to Canada, Bangladesh to South Africa, spanning the entire world.

The aim of this newsletter is to connect the global audience in fiber to advanced textile sectors as a way of advancing the industry and knowledge base.

Interested people can contact the publisher Seshadri Ramkumar (s.ramkumar@ttu.edu) to join the TexSnips distribution list, which is free of cost and is undertaken as a service to the textiles and materials fraternity.

Ramkumar, S

From: Presley, Steve
Sent: Friday, September 9, 2022 6:45 AM
To: Ramkumar, S
Subject: RE: Nonwovens and Advanced Materials Laboratory's Outreach Activities Gets Recognition

Congratulations Ram. Your dedication and professionalism have brought great credit to TTU.

Sincerely,
Steve

By: Dr. Steve Presley
Immediate Past Chair, ENTOX Dept
Div., TIEHH, TTU

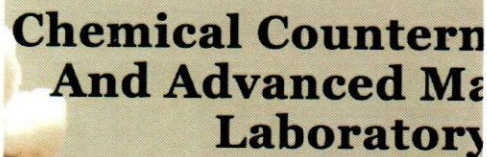
From: Ramkumar, S <~~S.Ramkumar@ttu.edu~~>
Sent: Friday, September 9, 2022 6:22 AM
Subject: Nonwovens and Advanced Materials Laboratory's Outreach Activities Gets Recognition

Greenville, SC-based eTextileCommunications came out of the established Southern Textile News.

Industry leaders in the United States like Milliken, Parkdale Mills, etc., read this weekly publication.

In its September 9th edition, the note about TexSnips' outreach and information exchange has appeared.

https://www.etextilecommunications.com/news/texas-tech-professor-s-texsnips-reaches-10-year-milestone/article_e8f9ea6a-2fa4-11ed-bdc6-a70eb9680f9e.html



**Chemical Countermeasures
And Advanced Materials
Laboratory**

Texas Tech professor's TexSnips reaches 10-year milestone

This month marks a milestone in the annals of the publication of the outreach newsletter, "TexSnips," from the Nonwovens & Advanced Materials Laboratory at Texas Tech University.

www.etextilecommunications.com

eTextileCommunications has several thousand subscribers and faculty/staff from leading Universities like NC State, Clemson, Fashion Institute of Technology read eagerly this publication on Friday weekly.

As the editor/publisher, I thank the Editor of eTextileCommunications to carry information on our TexSnips Newsletter.

Dr. Seshadri Ramkumar, PhD, CText, FTI (UK), FTA [*Honorary*] (India), TAPPI Fellow (USA)

Professor, Nonwovens & Advanced Materials Laboratory

Ramkumar, S

From: Wilkinson, Andy
Sent: Tuesday, September 6, 2022 7:41 AM
To: Melinda Harvey
Subject: Weaving knowledge and its application

Fellow Commoners!

I'm forwarding a note from our Commoner Colleague Seshadri Ramkumar that's a nice summary of an important and interesting newsletter he created a dozen years ago to connect people across various disciplines and endeavors but with the common thread — sorry, but I couldn't stop myself — of fiber. The missives — and the work itself — make a fine testament to both the theoretical and practical sides of transdisciplinarity.

As another connection and a celebration of fiber work, give this beautiful film a look!

https://aeon.co/videos/sublime-colours-brought-back-from-oblivion-the-exquisite-effects-of-natural-dyes?utm_source=Aeon+Newsletter&utm_campaign=9f4d53697e-EMAIL_CAMPAIGN_2021_09_27_04_36&utm_medium=email&utm_term=0_411a82e59d-9f4d53697e-68741001

The Omicron variant vaccines are available now, so my kindly suggestion is that you get yours. We need all you Commoners in order to make an exceptional world!

Andy

Andy Wilkinson
Director, Special Projects
Texas Tech University
~~806-777-7801 cell~~
~~andy.wilkinson@ttu.edu~~

TTU Commoner Newsletter

----- Forwarded message -----

From: Ramkumar, S <S.Ramkumar@ttu.edu>
Date: Sep 3, 2022, 10:48 AM -0500
To: Galyean, Michael <Michael.Galyean@ttu.edu>
Cc: Wilkinson, Andy <Andy.Wilkinson@ttu.edu>
Subject: TexSnips: Outreach to Cotton and Textile Sectors

Outreach to Cotton and Textile Sectors

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, September 3, 2022)---Outreach to the entire spectrum of the fiber to fashion supply chain and advanced textiles sector is essential.

This month marks a milestone in the annals of the publication of the outreach newsletter, "*TexSnips*," from the Nonwovens & Advanced Materials Laboratory at Texas Tech University. I started writing the TexSnips column just as a hobby to put thoughts to pen in the research areas I work. "*Why not I provide visibility on*

From: Schovanec, Lawrence
Sent: Sunday, September 4, 2022 2:29 PM
To: Ramkumar, S
Subject: Re: TexSnips: Outreach to Cotton and Textile Sectors

Ram

I appreciate your sharing this information regarding the history and reach of the newsletter. As you state this does advance the textile industry, but also the work done at TTU.

Thank you and best wishes
Lawrence

Sent from my iPhone

Lawrence Schovanec, Ph.D
President
Texas Tech University, USA

On Sep 3, 2022, at 10:16 AM, Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

Outreach to Cotton and Textile Sectors

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

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Ramkumar, S

From: Kanti Jasani <kantijas1@yahoo.com>
Sent: Saturday, September 3, 2022 11:04 AM
To: Ramkumar, S
Subject: Thank you for a very informative newsletter!

This email originated outside TTU. Please exercise caution<<https://askit.ttu.edu/phishing>>!

Hello Ram,

I want you to know how I view the "TexSnip":

Ram, this is one of the finest and most informative newsletter I enjoy reading as it gives me perspective on not only cotton, the total textile industry progress. Thank you for starting and keeping it going. And, the fruits of it are quite obvious as the growth of subscribers and the far reaches of the world that enjoy it. Congratulations! Keep it going!

Best regards,
Kanti A Jasani, President
Performance & Technical Textile Consulting Harrisburg, PA
717-503-1394

Sent from my iPhone

Life Skills Education to Benefit the Cotton Textile Sector

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, August 31, 2022)---Ongoing global situations like inflation, price volatilities and the pandemic is putting stress across many sectors affecting the price and demand of textiles.

Managing difficult situations demand important life skills like confidence, diplomacy, planning, long term analysis of situations, and utilizing interdisciplinary talents.

It has become clear that industries like textiles, cotton production and manufacturing need to interact with academia, policy makers and brands for its mid to long term planning. While it has become a widespread practice to seek management expertise, COVID-19 has emphasized the need to get support for enhancing life skills that focus on human centric attributes like empathy, counseling, managing difficult scenarios, etc.

Recently, I had an opportunity to present the importance of life skills as part of creating innovative ideas in an event jointly organized by the Indian Association of Life Skills Education (IALSE) and Kalinga Institute of Social Sciences, India. The event attracted students, faculty, and members of IALSE.

How can one innovate was the question posed as the theme of the meeting. I placed the argument that everyone is an innovator in their own way and by watching the society around us we become innovators. Listening and paying attention to what happens in the society are important life skills that are needed for development.

“Life skills promote the enhancement of key psycho-social skills such as communication, interpersonal relationship, managing our emotions, stress, and cognitive skills such as critical thinking, problem solving and decision making,” stated Ms. Sunitha Ranjan, President of Indian Association of Life Skills Education.

How can life skill education support cotton, textile, and manufacturing sector, was the question posed by Dr. Ram Asrey Lal, Chairperson of the North India Section of The Textile Institute, who participated in the event. In answering this question, I emphasized the need for better communication among stakeholders in the cotton sector about weather, agronomic and marketing practices. By adopting scientific approaches in sourcing cotton, analyzing data on the supply and demand from reliable sources like USDA, observing global economic patterns and being better informed using reliable data are some ways one can manage risks in the textile sector.

Lubbock-based Plains Cotton Growers, Inc. meets regularly during the cotton growing season, where crop situation, insect and weed pressures, marketing details are discussed. Interesting aspect of these meetings is the participation of stakeholders that involve cotton farmers, bankers, seed companies, academics, researchers, and representatives of elected politicians. The platform involves active participation of different groups of the sector, where topical matters are discussed—this is indeed practicing of life skills for advancing the cause.

“Life skills help in developing relationship and resiliency. It helps to connect well with people of different work and cultural backgrounds,” stated Dr. Radhakrishnan Nair, Founder President of Indian Association of Life Skills Education.

Global cotton sector can benefit a lot from life skill education. Given the current global textile situation, the industry should involve life skill educators to impart timely skills to people in the textile sector.

Cotton Fiber Sector Development is Urgently Needed

By: Seshadri Ramkumar Professor Texas Tech University, USA

(July 26, 2022, Aruppukottai, India)-Cotton fiber is gaining attention globally and in the mainstream media in India in recent times due to high volatility in the market.

Spinning sector in India and globally are witnessing severe price squeeze due to high price and less demand. Within a year since July 2021, cotton price has shot up by 50 percent. For example, last year about this time, MCU-5 cotton was selling at Rupees 59,000/Candy, while the price is about Rupees 89,000/Candy. One candy is about 355.62 Kgs.

Today, I had the opportunity to visit Jayalakshmi Textiles in Aruppukottai to witness firsthand the situation in a spinning industry.

In a candid discussion with Mr. Shanmugam Velmurugan, General Manager of the 70,000-spindle mill, it became evident that the cotton sector from the farm level must gear up to meet the challenges faced by the spinning industry.

Firstly, yield improvement must be immediately enhanced stated Velmurugan. India although having largest acreage dedicated to cotton, it has the lowest productivity/hectare, about 462 Kgs/hectare as against the United States at 1000 Kgs/hectare. This necessitates seed improvements with latest biotechnology traits to counter issues from drought and pests.

Second aspect is focusing on the variability within the region in terms of fiber quality. Seed companies, state and national level agricultural agencies, and industry must collaborate with farmers in planting uniform variety to have better control on fiber variabilities. Velmurugan states that when doing bulk purchase of cotton by mills, variation in varieties from field to field causes issues regarding quality. Farmers have to be better engaged so that some control on regional variations can be achieved.

Third aspect is focusing on contamination at farm and gin levels. In addition to machine clearing at blowrooms in spinning mills, the industry has to have manual inspection and cleaning to have better contamination control. Normally 4 to 5 people are employed per shift for this operation. Contamination arises due to packaging materials made using plastic and jute, food packings and other materials due to manual handling of fiber. Awareness creation is needed to counter these issues in addition to machine level interventions.

Another aspect for the development is to focus on enhancing fiber quality. Indian industry has so far focused on length, micronaire, strength and color. Jayalakshmi Textiles has recently started focusing on other properties such as elongation. This necessitates the importance of HVI testing of fiber at mills. Mills in India normally do 20% testing of bales using HVI. Jayalakshmi Textiles consumes 40,000 bales and so, only about 8,000 bales are evaluated using high volume instruments using HVI and AFIS.

Cont. Next page...

“Since we started purchasing cotton from the United States, we pay attention to fiber elongation,” stated Velmurugan. Fiber elongation is important for fiber performance in spinning and weaving with reduced breaks. Even a 2% increase in fiber elongation matters, adds Velmurugan. Cotton breeding should focus on fiber quality and not only on yield.

During my recent trip to India, I have been promoting the use of quality testing and the availability of reliable and timely data. Stakeholders must first create the awareness on the importance of timely and reliable data involving production and quality. State and national agencies should interact regularly with farmers and the end-users during the planting season to have better handle on the data, weather, and agronomical aspects.

Cotton revolution in India should begin at farm level with input from stakeholders such as end-users, say apparel makers and brands. The current high volatility situation opens-up opportunity to focus on long-term planning for the cotton sector from fiber to fashion supply chain.



Executives of Jayalakshmi Textiles and Dr. Seshadri Ramkumar with Imported Cotton Bale from the United States

Cotton Innovation Shines in Southern India

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(July 23, 2022, Dindigul, India)- Innovation is needed in developing sustainable advanced products from cotton.

In a function to inaugurate “Innovation & Entrepreneurship Development Cell,” at Dindigul, India-based RVS College of Engineering, the importance of translating ideas to reality was emphasized.

Dindigul region is an important cotton spinning region in the State of Tamil Nadu with about 800 cotton spinning mills.

I had the opportunity to lecture to about 100 people in the audience, the need to work on ideas that will help the society, such as using sustainable materials.

Speaking at the event, Dr. Binod Badhri Advisor, RVS Group of Institutions emphasized the importance of innovation pipeline in higher education institutions. Researchers from the institution exhibited products that came out of their research such as cotton-bamboo sanitary napkins, cotton oil seed crusher, method to automatically inflate tires, etc.

“Entrepreneurship education should be part of curriculum in higher education institutes, which will help many to be job creators,” stated Dr. Vaidyanathan Krishnakumar, Director, RVS Group of Institutions.

My lecture promoted the value-added applications of cotton such as cotton-layered face masks and oil absorbents using mini demonstrations. Natural fibers like cotton, bamboo, and their blends can be used to develop advanced products like conveyor belts, medical pads, toxic chemical absorbents, etc., which was evident from many products displayed at the exhibition at the institute.

Engineering institutes are focusing on entrepreneurship development, which is a welcoming sign.



Cotton-bamboo Sanitary Napkin Displayed

Cotton Sector Needs to Enhance its Competitiveness

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Coimbatore, India, July 10, 2022)-Price volatility, tight supply, and moderation of demand for textiles pushes the cotton textile chain to be competitive.

During my recent trip to India, amidst stormy cotton situation, I have been fortunate to discuss with stakeholders in the entire cotton value chain to enhance the competitiveness of the sector.

Apart from market dynamics, factors such as farm productivity and getting a handle on cotton contamination needs priority attention. Plastic bale wrap is a major issue facing the global cotton sector.

Indian textile spinners are having good control of plastic, vegetable matter and metal contaminants at the spinning level due to cotton contamination detection systems.

Coimbatore-based Nestling Technologies has been a market leader in delivering cotton cleaning technologies at spinning mill level.

Normally, this technology is employed in the blowroom stage in spinning, where white and colored plastic contaminants can be traced and ejected. I have been discussing with textile industry people to focus attention on plastic contamination at gin and farm levels.

Chandrasekaran Somasundaram, Managing Director of Nestling Technologies agrees with the need for contamination cleaning at gin level and insists that stakeholders like farmers, ginners, mills, and machinery makers must come on a single platform to manage this critical issue. Machinery makers have technology that can be quickly adapted at gin level to have control on plastic and other contaminants, added Chandrasekaran Somasundaram.

Today, a discussion with Velmurugan Shanmugam, General Manager of Aruppukkottai-based Jayalakshmi Textiles, which is a fine count spinning mill underscores the importance of having cotton devoid of plastic contaminants at the entry level. “Mills will be interested in paying a premium of Rupees 1500 to 2000 per candy (356 Kgs) for contamination free cotton. Leaving a small porting of plastic in cotton in the early processing stages in a mill can be corrected only at autoconer stage, which is a costly affair for the industry. By having plastic free cotton can enhance the productivity of autoconer by 5%, which will be a blessing for the industry,” added Velmurugan.

With cotton prices riding high, industry must look for cost savings and quality enhancements. Plastic free cotton and better methods to catch plastics at gin level should receive due attention.



Pictured: Nestling Technologies Executives Showing Plastic Contaminants in Cotton

Lab to Land Should be the Way Forward

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Chennai, India, July 7, 2022)-Research results need to be translated into reality.

Lab to land and land to lab should be the way forward for research stated, Honorable Narendra Modi, Prime Minister of India in a major education summit today at Varanasi, India.

Experience gained in life and field need to be brought back to students and academia expressed Honorable Modi. In addition to publication of results in international magazines, they must be used in the field, added Honorable Prime Minister. Students can gain a lot by interacting with actual practitioners in the field.

Many universities are hiring Professors of Practice who have vast experience in production and managing industries, to teach students and engage in research in universities. Particularly, fields of engineering, business and journalism have streamlined this practice.

Textile sector, which depends on many different fields such as science, engineering and business economics can benefit a lot by proactive interactions with industry and experienced people in multiple fields.

Prime Minister Modi highlighted the importance of data to back results and encouraged to work on circularity.

Textile industry must focus on circularity and sustainable processes to advance to next level.

Academia in India involved in textile materials research are collaborating increasingly these days with international universities and interact with international experts.

Virtual interaction platforms have become a boom after COVID-19, to advance teaching and research in textile and other disciplines.

Cotton Plantings Seeing a Rise

by: Professor Seshadri Ramkumar, Texas Tech University, USA

(July 5, 2022, Chennai, India): Two regions in the world need to be watched carefully to have better grip on cotton production, this new season starting October 1, 2022.

According to the latest USDA estimates, United States' cotton producers planted 12.3 million acres of upland cotton, a 11% increase from last year. Interesting figure is the steep increase in planting in Texas. Texas acreage has increased by 750,000 acres. While drought is on going, how much yield will come depends on the weather.

Similarly, State of Gujarat in India will see an increase in acreage by 15 to 20%, as farmers are excited by high price for cotton, they received this year. Maharashtra may see a rise of about 12% increase in plantings. If weather progresses well, Gujarat may get about 90 lakh bales. If all things go well, Indian crop may range between 350 to 360 lakh bales (170 kgs/bale).

All eyes on the drought in Texas and monsoon and insect pressures in India.

Sustainability in Textiles Sector is the Need of the Hour

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Chennai, India, July 3, 2022)- Economic and material sustainability is the way forward for the textile industry.

Inflationary and raw material price pressures are forcing the textile sector to investigate the use of recycled fibers, cotton blends and cost cutting measures.

In this setting, Coimbatore-based Kumaraguru College of Technology recently organized a two-day hybrid international conference on “Sustainable Materials, Management, and Innovative Technologies.”

Paris accord on climate change made recommendation to limit global warming to 1.5 degree C, which necessitates textiles and manufacturing sectors to contribute to reduction in green house gas emissions.

Professor Seeram Ramakrishna of the National University of Singapore in his inaugural address highlighted the social cost associated with excessive material usage, pollution effects and finite nature of materials. These are key drivers to look towards green economy and manufacturing.

Academia should focus on research on various aspects of sustainability stated Professor Govindan Ramakrishnan of Kumaraguru College of Technology. Interesting projects can develop advanced textiles using blends of cotton, bamboo, banana fibers, etc, added Professor Ramakrishnan.

“Today’s students are going to be future leaders, policy makers, researchers, and scientists, who need to be environmentally literate in addition to having domain expertise. This calls for holistic multidisciplinary approach in higher education, better engagement of students with societal needs,” stated Professor D. Saravanan, Principal of Kumaraguru College of Technology.

Paris accord’s global warming target can be achieved only by exploring circularity approaches, opined Professor Ramakrishna.

Next phase of the textile industry is to exploit sustainable fibers, green manufacturing technologies, curbing pollution and adopting to cost effecting manufacturing processes.

In my opinion, sustainability is built on 3Es: 1) Economic sustainability; 2) Energy sustainability and 3) Environmental sustainability.

Seventy Years of Fiber Research Experience Speaks

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Chennai, India, July 1, 2022)-Industry and academia needs to collaborate to deliver useful products.

Last week, I had the distinct pleasure of visiting with two senior professors with collective teaching and research experience of over 70 years in the field of textiles and materials science, spending much of their career at Coimbatore-based PSG College of Technology.

As the textile sector is going through a tailspin, it was an opportune time to have tête-à-tête in Coimbatore with such experienced people to seek inputs to grow research in the field of textile materials.

Professor Thangavelu Ramachandran advised to have better handle on raw material situation. Stating that Tamil Nadu state has the largest number of spinning mills in India, it has to depend on other states for cotton and hence the industry has to work with farm level agencies to increase yield and quality. Government can look at supporting infrastructure facilities such as energy enabling cost savings and explore alternate energy usage.

Meaningful research that can help the industry with process improvements and product developments should be the next phase of academic research stated Professor Arunachalam Venkatachalam. Reminiscing how research was not given high priority in academia in 1976, when he joined the profession, he was pleased that research has become important part of academia these days. Now, research should be undertaken to ignite minds to develop ideas that will be of service to the society added Venkatachalam.

Emerging areas such as sustainability should get top attention by the industry according to the professors. Higher education institutions in the STEM field should have entrepreneurial development cells to cultivate “start-up,” mindset among students.

Growth will depend on next generation scholars who can generate jobs rather than depending on jobs. Textile sector needs to focus on innovations that can lend itself to high-tech start-ups.

In addition to focusing on research, students should be equipped with soft skills such as communication and have mindsets to face challenges opined Drs. Ramachandran and Venkatachalam.

Given the current situation in the textile industry, mission-linked research such as alternate fibers, value-added textiles, etc, to take the textile industry to the next phase is the need of the hour.



(Left to Right) Professors Venkatachalam, Seshadri Ramkumar and Thangavelu Ramachandran

India Needs to Explore Cotton Reserves Stockpiling

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Chennai, India, June 29, 2022)-COVID-19 era consumption fueled by available discretionary wealth helped with demand for products and commodities.

Housing market and home textiles market heated up enabling enhanced need for household products, cotton, and other fibers. Hoping to have the growth trajectory in spending, without expecting inflation, mills were hungry for cotton; not looking to get a handle on the price. While textile mills were caught in the demand driven market, inflationary pressures started creeping-up since January 2022, with United States hitting the four-decade high mark of about 8.6 percent.

Cotton price shot up above US\$1.30/lbs. this season and is witnessing fall in recent days rising expectations for steep decline in the new season. Such a sharp rise and fall is not good for the market and will result in high volatility in case of any supply alterations due to climate, production issues and of course slowing demand influenced by economic situations such as inflation.

Is there any viable solution to control such a volatility? India should explore the possibility of stockpiling cotton as reserve, which is routinely undertaken by China. India's state-owned Cotton Corporation of India [CCI] can lead this charge, stated, well respected commodity analyst Gnanasekar Thiagarajan, Director, Commtrendz Research, Mumbai.

CCI manages the MSP procurement process and when market prices are above MSP, it ceases major purchases as is the case this year. However, if the mandate of CCI could be altered to help with India's cotton reserves, steep volatilities can be better controlled. Such an initiative will create confidence in the textile pipeline with farmers and end-users having some safety net. Farmers will have confidence regarding predictable buyer all through, and mills will be assured of minimum stock in case of adverse weather scenarios and market fluctuations due to multiple factors. This necessitates improved farm infrastructure such as efficient warehousing and quality evaluation.

How much reserve needs to be held and how to disburse cotton are all the issues that must be discussed with stakeholders. India has recently started having petroleum reserves and such a model can be looked at, added Gnanasekar Thiagarajan.

Cotton production and demand data needs to be more dependable, and all stakeholders must come together in this initiative to have good handle on the data at the farm, gin, and end-user levels. Instead of having good guesses relying on multiple sources, more robust and scientific estimation methods must be implemented. Government can again lead this initiative as is undertaken by United States' Department of Agriculture at a global level. The data must be relayed to end-users in a timely manner at fixed intervals during the cotton season. This will also alleviate unnecessary anxiety in the market and increase confidence in the sector.

Better control of supply, reliable cotton data collection and dissemination are priority tasks for the cotton supply chain.

Cotton Expected to Moderate in the New Season

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Coimbatore, India, June 26, 2022)- Cotton price will soften in the new season beginning October 1, 2022.

Yesterday (June 25, 2022) in an event organized by Textile Association India, South India Unit in Jenny's Residency, Coimbatore about 700 technical experts in the textile industry from all parts of India gathered to analyze the cotton situation.

I had the privilege to address the standing room only audience of technical people for 90 minutes on cotton situation providing detailed analysis.

The analysis centered on the drivers of the sector: 1) demand and supply; 2) climate; 3) economy and inflation; 4) geopolitical scenario; 5) market influences.

By interacting with international stakeholders in the cotton sector in the United States and India and based on the planted acres, economic situation, inflation, etc., my prediction is that there will be tight supply situation, but the price will moderate in the new season.

Cotton is expected to range between Rupees 60,000 to mid-50,000 range per candy (356 Kgs). As the season progresses, based on satisfactory climate with no delayed rains in Gujarat and weather situation in Texas, the price may further soften to lower Rupees 50,000 level. As the cotton pipeline is basically empty now, price may begin at slightly elevated level in the new season and as the arrival picks up, with steady pipeline, price will soften and hence the above range is expected.

This situation may be comfortable to farmers, textile sector and consumers.

We must be cognizant that consumer will be the key player. Interest rates, income levels all influenced by inflation will drive the demand for nonessential commodities.

Cotton is here to stay and its inherent attribute, "comfort," is a much-preferred attribute.

Cotton Sector Needs Value Addition

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Bengaluru, India, June 17, 2022)- Cotton price has more than doubled since 2020 creating an unsettling situation in the global textiles sector.

On June 16, 2022, I had an opportunity to visit with a 30-year industry veteran, Mr. Ganesh Srinivasan, CEO of Bengaluru-based Resil Chemicals Pvt. Ltd., which specializes in silicone finishes for cotton and textile industries. The discussion centered around the cotton situation and on ways functional finishes can enable new opportunities for cotton textiles.



Photo Caption: Ganesh Srinivasan (Left) with Professor Seshadri Ramkumar (Right)

Greater penetration of cotton into active and sportswear markets is the need of the hour. Improvements in silicone chemistry may give a boost to cotton textiles in finding value-added applications. Traditional silicone finishes are hydrophobic in nature, hence inhibiting sweat absorption. Hydrophilic silicone finishes on cotton can provide better handle, superior wicking and enhanced water holding, which can create new opportunities in sportswear segments.

Sustainability in cotton processing should be the focus. Process improvements such as spray finishing with reduced water consumption should be explored stated Ganesh Srinivasan. “These days process developments are driving product innovations,” added Ganesh Srinivasan. Functional finish developments should focus on reduced water usage to make the industry green.

Resil Chemicals has released new generation silicone finishes such as Aquasil and Silkoist to provide new properties to cotton and blends. Aquasil on cotton provides instant absorption, enhanced water retaining capability and improved horizontal and vertical wicking. This keeps the skin dry and finds new opportunities for cotton in activewear segments. Fifth generation Silkoist treatment helps with good re-dyeability of woven and knitted fabrics. Leading companies such as Welspun, Maral Overseas Ltd. and Erode-based India Dyeing Mills are using the new generation of silicones for imparting added value to their products.

While agreeing that it is not possible to offset the price increases of cotton by solely other means, as raw material cost is the principal component of product costs, Ganesh Srinivasan stated, finding value-added applications will provide improved margins for the industry.

Cotton is here to stay, and the industry should focus of new process and product developments. Functional finishing is an important part of the growth equation. Measures such as enhancing farm productivity, quality improvements, cost-effective green processing, reduction in energy consumption and creating more awareness on cotton products must be carefully investigated to move forward the cotton industry.

Priority Issues for the Cotton Sector

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, April 26, 2022)- Supply-demand situation, soaring prices, quality, contamination aspects, penetration into value-added sectors are priorities that need the attention of stakeholders of the cotton sector.

Yesterday (April 25, 2022), a team of key people from Bajaj Coneagle, LLC and its parent company, Nagpur, India-based Bajaj Steel Industries, Ltd., which is a leading manufacturer of cotton ginning machinery visited Lubbock to explore the current cotton sector's situation and interact with industry people. As part of the visit, I had the opportunity to interact with them to gain information about current cotton situation.

With cotton prices at higher levels, discussions focused on what's next for the industry. With the current drought conditions in the High Plains of Texas, if this situation persists, it is expected that cotton yields may suffer in the world's leading cotton producing region, affecting the supply and demand situation, noted Lav Bajaj, Business Director of Bajaj Steel Industries, Ltd., with a sales turnover of about US\$60 million related to gin machinery business.

Given such a tight supply situation, competition from synthetics will be high, which necessitates concerted efforts from all stakeholders in the industry. Recently, clarion calls made by the Indian textile industry has made the Government of India suspend import duty on cotton for a specified period.

United States' cotton sector has established a global name as a producer of consistent quality, which is due to several factors such as machine harvesting, mass scale production, educated producers and the use of technology. This may not be feasible in other regions say India and Africa as farmlands owned by single family farmers range from half an acre to ten acres, which influences the quality. The visiting team from Bajaj Steel Industries, Ltd., agreed and suggested that Indian cotton sector should utilize existing resources such as grassroot level education, effective utilization of farm Apps to follow good agronomy practices and marketing.

Efforts must focus on quality grades and seed variety selection stated Shankar Venkatachalam, President of Bajaj Coneagle, LLC. It is time for India to look into saw gin revolution, added Shankar Venkatachalam. This will enhance quality and hence yarn realization in spinning mills.

-Continued On Next Page



Lav Bajaj (Left), Seshadri Ramkumar (Center)
and Shankar Venkatachalam (Right)

Agreeing with the current tight supply situation, mills will expect high quality cotton at reasonable price, stated Velmurugan Shanmugam, General Manager of Aruppukkottai, India-based Jayalakshmi Textiles, which annually consumes about 7000 tons of cotton and produces 4800 tons of fine count cotton yarns. In countries like India, it is important that government, textile, and cotton industry aim towards individual bale classification to achieve quality consistency and reliability, added Velmurugan Shanmugam.

In India, cotton is traded at the farm level based on length and mills while purchasing conduct thorough quality evaluation using HVI instrumentation depending on the size and requirement of individual mills. Quality evaluation at single bale level is needed which was expressed by the Bajaj team as well as textile mill representatives like Velmurugan Shanmugam.

Contamination at gin level such as plastics, quality consistency and effective utilization of technology and creating more awareness at farm level should receive priority attention. More importantly, effective management decisions by the stakeholders, given the tight supply of cotton will be the need of the hour, say cotton purchasing and stocking decisions.

Ramkumar, S

From: [redacted]@q-lab.com
Sent: Tuesday, April 26, 2022 10:37 AM
To: Ramkumar, S
Subject: RE: TexSnips: Priority Issues for the Cotton Sector

This email originated outside TTU. Please [exercise caution!](#)

Nice write up.

Thanks for sending me.

Regards, Smrithi



Smrithi Kumar

Global Customer Education Specialist
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APR Part Three: Light Stability Testing

From: Ramkumar, S [mailto:S.Ramkumar@ttu.edu]
Sent: Tuesday, April 26, 2022 11:26 AM
Subject: TexSnips: Priority Issues for the Cotton Sector

Priority Issues for the Cotton Sector

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, April 26, 2022)- Supply-demand situation, soaring prices, quality, contamination aspects, penetration into value-added sectors are priorities that need the attention of stakeholders of the cotton sector.

Yesterday (April 25, 2022), a team of key people from Bajaj Coneagle, LLC and its parent company, Nagpur, India-based Bajaj Steel Industries, Ltd., which is a leading manufacturer of cotton ginning machinery visited

India Slashes Import Duty on Cotton

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, April 13, 2022)-Government of India has slashed the import duty of cotton for a specific period effective tomorrow, April 14, 2022.

Indian textile industry has been making clarion calls to the Government to allow duty free import of cotton to stay competitive against other low-cost textile manufacturing countries.

Today, Ministry of Finance of India has announced that there will be no import duty on cotton for the period April 14, 2022, till September 30, 2022.

This news is welcomed by the Indian industry. In speaking with this scribe, Mr. Gandhiraj Krishnasamy, general manager of Coimbatore-based Lakshmi Card Clothing stated that this news is a welcoming one. He added that, this support from the government will exert influence on domestic cotton market to offer cotton at competitive price.

Already mills have been paying attention to cotton from High Plains of Texas and Australia and this concession from the Government will help the textile industry to stay competitive.

Adding to this sentiment, Mr. Velmurugan Shanmugam, General Manager of Aruppukkottai-based Jayalakshmi Textiles cotton spinning mill with 72,000 spindles stated that 11% import duty has been making the industry less competitive and mills would benefit with a waiver. Jayalakshmi Textiles will be receiving a consignment of three hundred tons of United States' cotton this May. This exemption shall benefit the entire textile chain and will provide relief to consumers stated Gandhiraj Krishnasamy.

This news will serve as a timely gift by the Indian Government for the Tamil New Year celebration tomorrow in the State of Tamilnadu, which has the highest number of spinning mills in India.

Geopolitical Situation, Cotton, and Textiles Sector

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, April 11, 2022)-Ongoing political crisis in Europe, Sri Lanka and Pakistan are influencing the global cotton and textiles sector, manufacturing, and global economy.

Rise in prices, inflation, and political crisis in some parts of the world are having direct effect on the recent Presidential election in France. Worries on the increase in energy cost due to probable embargo on Russian gas and oil by EU countries is genuine among consumers, while making buying decisions on non-essential items.

Ripple effects from COVID-19 are seen in different sections of the society, which is more evident in Sri Lanka. With the decrease in foreign tourism, the economy of Sri Lanka has taken a severe hit, which has been in decline due to mismanagement for over a decade and due to heavy foreign debts. In addition to economic fallouts, political crisis in Pakistan and Europe due to Russian invasion of Ukraine is adding to the pain as well.

All these instabilities are showing its impacts on the global cotton and textile sectors. This is immediately felt in a major textile producing country, say India. The economic and political crisis in some parts of the world should result in favorable conditions for textile manufacturing in India, but this is not the case. Steady increase in cotton price is creating a havoc in the Indian textiles sector resulting in decreased production and reducing work week by a day in textile mills in India.

Sri Lanka is a leading garment producer supplying to global brands. Lack of power and the ongoing political crisis is affecting many sectors of the country. “While orders from Sri Lanka are getting diverted to Tiruppur in India, steep cotton price in India is not helping the situation,” stated Mr. Velmurugan Shanmugam, a 30-year industry veteran and the general manager of Aruppukkottai-based Jayalakshmi Textiles.

In many mills, production has been slashed by 20 percent resulting in losses. Higher cotton prices are not absorbed by upstream products like yarns. “Weavers are not willing to pay higher prices,” added Velmurugan Shanmugam.

Cotton prices have doubled in a year and the present situation is worse than 2011 when cotton price was steep. Textile mills in India are demanding Indian government to slash 11% import duty on cotton, which will create a level playing field with competing countries like Bangladesh, Vietnam, and Indonesia.

Cautious stock maintenance, negotiating with the government for adequate support, efficient workflow management and watching the global situations carefully are a few near term solutions for the global textiles sector.

Ramkumar, S

Subject: FW: TexSnips: Geopolitical Situation, Cotton, and Textiles Sector

-----Original Message-----

From: tapan sengupta <sengupta_tk@ >

Sent: Tuesday, April 12, 2022 1:45 AM

To: Ramkumar, S <S.Ramkumar@ttu.edu>

Subject: Re: TexSnips: Geopolitical Situation, Cotton, and Textiles Sector

Excellent presentation and very informative. Please keep it up. God bless you.

Thanks.

T. K. Sengupta

Ex National President, The Textile Association (India)

Consultant

Mumbai

Research Collaborations in Advanced Textiles and Global Harmony

By: Seshadri Ramkumar, Professor, Texas Tech University

(March 7, 2022, Lubbock, USA)--Unity and harmony are in much need as we witness distress in some parts of the world.

Research and graduate education are international, and it celebrates global unity and understanding. On March 5, the Nonwovens and Advanced Materials Laboratory at Texas Tech University, USA, to show solidarity among many nationals, and as a mark of celebrating James Ayodeji's successful defense of Ph.D. on "Face Coverings as a Countermeasure to COVID-19," hosted a dinner involving students of a few nations. James is from Nigeria. Such small acts of showcasing unity and understanding of different culture is valuable in times of stress.

Since the initiation of research in advanced cotton products, nonwovens and technical textiles in the Advanced Materials Laboratory at Texas Tech, students, and visitors from many parts of the world like Germany, China, Japan, Nigeria, United States, Bangladesh, and India have visited and collaborated in many efforts. Ongoing collaborations with many Institutes in India for over 20-years have strengthened India's technical textiles sector. This effort has enabled India to be self-sufficient in the manufacture of PPE during COVID-19 times. A high point has been the collaboration between USA-based Association of the Nonwoven Fabrics Industry (INDA) and Texas Tech University in hosting a major nonwovens training workshop and "Link with India," business conclave in the mid-2000s in Mumbai, India.



Notable visitors to the laboratory's events include United States' Congressmen, U.S. Department of Defense scientists, Ministry of Textiles-Government of India's senior officials, delegation of officers from the Cotton Corporation of India, business leaders, scientists, to name a few. In the early 2000, a member of the trade delegation representing the textile sector under the leadership of former Prime Minister of India, Honorable Atal Bihari Vajpayee ji visited the laboratory and Lubbock to know firsthand about the High Plains' cotton sector and the technical textiles research at Texas Tech University. Leading cotton industry leaders from India say, Mr. Suresh Kotak of Kotak group of companies and the former R & D head of the leading textile machinery manufacturer, Coimbatore-based Lakshmi Machine Works, Ltd., have extended their visits to the laboratory.

Ongoing collaboration with Amit Kapoor, President of Chantilly-based First Line Technology, LLC is leading to new applications for the nonwoven decontamination wipe, "FiberTect." FiberTect's commercial success showcases the importance of industry-academia collaboration. In a similar vein, collaboration with South India-based Jayalakshmi Textiles, a leading cotton spinning industry has resulted in cotton-based sustainable oil absorbent to contain oil spill issues.

Research in the laboratory focuses on advanced textiles to protect the environment and save human lives, finding new and industrial applications for cotton, nanofibers, and sustainable textile-finishing technologies to name a few. Let peace prevail in the world.

Ramkumar, S

From: Prof. Dr. Engr. Ayub Nabi Khan <~~provc@buft.edu.bd~~>
Sent: Monday, March 7, 2022 11:37 AM
To: Ramkumar, S
Cc: MS Kamrun; afroza akther; Sajibul Haque
Subject: Re: TexSnips: Research Collaborations in Advanced Textiles and Global Harmony

This email originated outside TTU. Please [exercise caution!](#)

Congratulations.

Regards.

Prof. Dr. Engr. Ayub Nabi Khan
Pro VC BUFT

Pro-Vice Charellor, Bangladesh University BUFT



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On Mon, Mar 7, 2022 at 9:21 PM Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

Research Collaborations in Advanced Textiles and Global Harmony

By: Seshadri Ramkumar, Professor, Texas Tech University

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Elementary School Student Demonstrates Cotton's Sustainable Industrial Application

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, February 28, 2022)- Sustainability requirements, and the need for sustainable advanced products for enhancing human health and protecting environment is an encouragement for the fiber to fashion supply chain to work towards sustainability goals.

The Nonwovens & Advanced Materials Laboratory at Texas Tech University for the past two decades has been focusing on research, education and outreach related to cotton-based technical textile products.

As part of outreach effort, demonstration of cotton's sustainable industrial application was carried out this past Friday evening (February 25, 2022) in the STEM Night event organized by Ramirez Elementary School's PTA, which was attended by many elementary school children and their parents in Lubbock, Texas.

Aditya Ritvik, a 5th grade student at Roscoe Wilson Elementary School in Lubbock, USA enthusiastically carried out the demonstration and witnessed the unique capability of raw cotton absorbing oil.

Demonstration by 5th grade student can be viewed at:

<https://www.youtube.com/watch?v=jECKHsXcjsI>

Mirza Khyum and Faizur Rahman, graduate students in the Nonwovens & Advanced Materials Laboratory, Texas Tech University showcased the industrial applications of cotton such as oil soaking abilities to the audience.

Research has so far resulted in commercial products such as FiberTect, a nonwoven decontamination wipe, which could absorb toxic chemicals such as sulfur mustard, cotton-based oil absorbent and novel face mask concept, "FISOR." FISOR concept advocates the use of cotton face cover and nonwoven surgical mask as a combo mask with good fit to provide improved filtration and comfort.

It was enthralling to see many different groups such as wind energy, robotics, geosciences, forensics, museum studies, etc., showcasing science and technology in the STEM Night event.

Certainly, there was enthusiasm among youngsters to see science in action.

Ramkumar, S

Subject: FW: TexSnips: Elementary School Student Demonstrates Cotton's Sustainable Industrial Application

From: techtex**Sent:** Tuesday, March 1, 2022 1:05 AM

To: Ramkumar, S <S.Ramkumar@ttu.edu>

Subject: RE: TexSnips: Elementary School Student Demonstrates Cotton's Sustainable Industrial Application

This email originated outside TTU. Please [exercise caution!](#)

Congrats on this good work on promoting cotton-based products. MY best wishes to you and your team.

Regards

Ravishankar

Technical Textiles Consultant

Baroda, India

From: Ramkumar, S <S.Ramkumar@ttu.edu>

Sent: Monday, February 28, 2022 11:02 PM

Subject: TexSnips: Elementary School Student Demonstrates Cotton's Sustainable Industrial Application

Elementary School Student Demonstrates Cotton's Sustainable Industrial Application

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, February 28, 2022)- Sustainability requirements, and the need for sustainable advanced products for enhancing human health and protecting environment is an encouragement for the fiber to fashion supply chain to work towards sustainability goals.

The Nonwovens & Advanced Materials Laboratory at Texas Tech University for the past two decades has been focusing on research, education and outreach related to cotton-based technical textile products.

As part of outreach effort, demonstration of cotton's sustainable industrial application was carried out this past Friday evening (February 25, 2022) in the STEM Night event organized by Ramirez Elementary School's PTA, which was attended by many elementary school children and their parents in Lubbock, Texas.

Aditya Ritvik, a 5th grade student at Roscoe Wilson Elementary School in Lubbock, USA enthusiastically carried out the demonstration and witnessed the unique capability of raw cotton absorbing oil.

Demonstration by 5th grade student can be viewed at:

<https://www.youtube.com/watch?v=jECKHsXcjsI>

Ukraine Crisis, Cotton and Textiles Sector

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, February 24, 2022)-Today's invasion of Ukraine by Russia is creating a tailspin in the global markets, particularly in the energy sector.

Crude oil price is trading about US\$104 per barrel, which will certainly affect stock markets, commodity, and metal prices. Gas prices are as high as \$3.15 a gallon for regular gas at some gas stations in Lubbock, Texas. More importantly, it will have impact on consumer psychology and their buying power, which is important for the global textiles sector.

Immediate reactions by the United State, EU, and UK have been by imposing economic sanctions against Russia, which is only going to harden. This will impact crude oil and natural gas prices as Russia is a major exporter of these commodities to EU nations like Germany. One may also swiftly see the strengthening of dollar, which will at least for the immediate future see higher prices for imports from the United States.

Cotton market which is experiencing a tight supply will see uncertainty and added volatility due to uncertain demand and ripple effects from higher energy prices. More importantly, as many EU countries depend on wheat and energy products from Russia, and Ukraine being the breadbasket for Europe, increase in prices of these commodities will influence the overall markets and consumer confidence.

“The market will be more volatile,” stated Velmurugan Shanmugam, General Manager of Aruppukottai, India-based Jayalakshmi Textiles. Jayalakshmi Textiles is a 100% cotton spinning mill with 72,000 spindles spinning fine count cotton yarns catering to home textiles market. India exports cotton home textiles to EU countries like Germany and crisis in that part of world will have impact on textile exports and consumption.

Cotton prices have been seeing an upward trend in recent months. In recent weeks, the expected invasion by Russia has been playing its part on commodity markets. In the past 20 days, mill delivered price for MCU-5 cotton has climbed from Rupees 78,000 per candy (356 Kgs) to its current level at 83,000 per candy (356 Kgs). With the current global situation, uncertainty will increase, added Velmurugan Shanmugam. As gas prices are expected to go up, consumers will take a hard look at the prices of textiles and may postpone buying non-essential items, which may have an impact on textile trade, added Velmurugan Shanmugam.

Textiles' demand and prices not only depend on cotton and raw materials' prices. Other factors such as regional peace and security influence consumers' interest in buying items such as textiles which are heavily dependent on discretionary spending.

Textile industry people while expecting high volatility in markets must carefully plan in stocking raw materials and work out transportation and operational costs.

With tighter economic sanctions on Russia expected soon, it is important to watch how the commodity and financial sectors will react and their impact on manufacturing and textile sectors.

Face Masks Enabled Returning to Normalcy

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, February 16, 2022)- With the COVID-19 wave waning and many States in the United States easing their face mask recommendations, it is important to understand the role played by face coverings offering varied levels of protection during the pandemic.

For nearly two years, face masks have been a much-debated product, while they have played important role in curtailing the spread of variants of SARS-CoV-2.

Since March 2020, when the pandemic was recognized and vaccinations were just beginning to happen, face masks have played critical role in saving lives. Face masks are one of the critical tools in the toolbox to fight infections caused by airborne microbes.

The use of different versions of face coverings has genuinely spotlighted the use of cotton and its blends. While in public domain, technical details may not have been much discussed, certainly, among stakeholders, from producers to fashion designers, technical advantages of cellulose-based materials for medical and personnel protection has gained support and interest.

HariPriya Ramesh, doctoral student in the Department of Environmental Toxicology, Texas Tech University, who wears face coverings in indoor public settings such as classrooms stated that cotton-based face coverings are comfortable and makes her safe and comfortable in wearing.

As the Omicron wave was peaking in late Fall 2021, medical community emphasized the need for high quality face masks such as N95s. N95s and other filtering facepiece respirators offer highest level of protection, which are needed where higher level of transmissions is experienced.

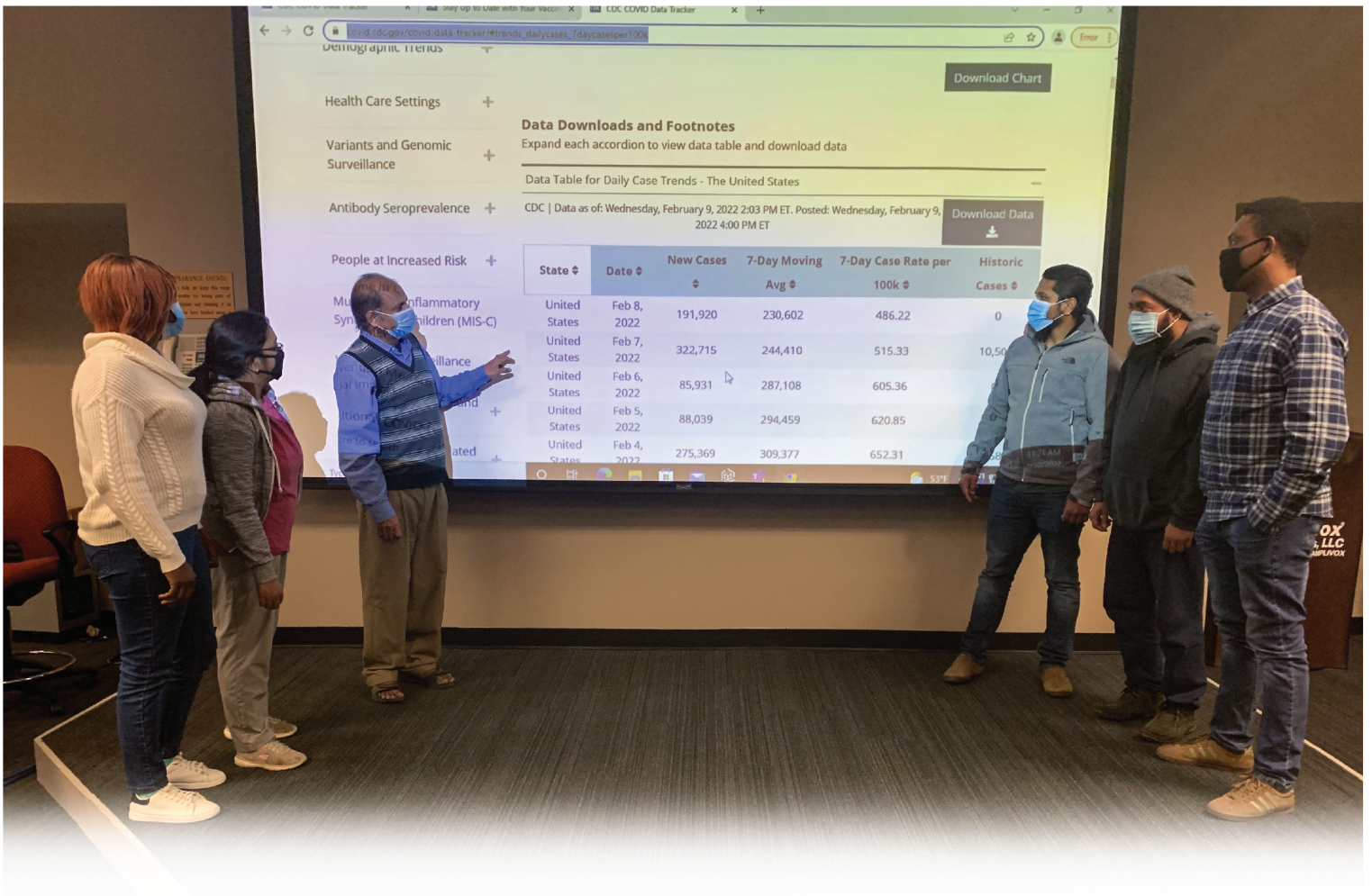
In communities other than highly vulnerable settings such as hospitals, health care facilities, etc., other making strategies that involve nonwoven face masks in combination with multilayered cotton-based face coverings may be helpful. In all these scenarios, fit is important. The use of cotton-based face coverings as a combo may provide next-to skin comfort, provided the combo structure provides good fit.

This alternate masking strategy considers, filtration, fit and comfort into consideration and has evolved out of two years of class discussions and research in the Nonwovens & Advanced Materials Laboratory at Texas Tech University. Cotton-based multilayered face coverings with more than two layers are needed when used in combination with 3-ply nonwoven surgical masks to offer good protection.

Graduate students involve both in research on PPE and analyzing the infection and vaccination rates as part of “Countermeasures to Toxins,” graduate level course at Texas Tech University. It has become evident that courses that deal with ongoing crisis result in timely and valuable deliverables. Such activities also strengthen the course information based on relevance and ongoing research, adding value to courses.

COVID-19 has strengthened our understanding that textile materials, which have functional capabilities play vital roles in medical, hygiene and personnel protection applications.

Stakeholders in the textile and material sectors must focus on non-commodity applications and provide support for much needed R & D in the advanced materials sector.



L-R: Racheal Afolabi, Haripriya Ramesh, Dr. Seshadri Ramkumar, Mirza Khyum, Md Faizur Rahman, & Kenneth Kikanme

(Figure Caption: Graduate students at Texas Tech University analyzing COVID-19 data as part of class and research on countermeasures to infections and toxins)

American Cotton Gets a Favorable Look by South Indian Textile Spinners

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, January 17, 2022)—High Plains of Texas cotton is getting attention in South India.

Cotton price situation is creating a lot of anxiety in the global textile sector. Particularly in India, which is a largest textile producing country, high cotton prices are being carefully watched, as it is having ripple effects across economy and employment.

In an interesting twist to the cotton story, cotton from the High Plains of Texas is getting a favorable consideration by South Indian textile spinners.

Spinning industry is heavily concentrated in the southern state of Tamil Nadu and the textile industry is situated in Coimbatore, Erode and Thiruppur regions. Additionally, mills are situated in cotton growing areas in Virudhunagar districts.

High prices coupled with lack of consistent quality have made spinning industries to look for alternatives to Indian cotton. Indian spinning associations have been pleading the government to waiver the import duty of 10% on cotton.

A telephone call this morning with Mr. Velmurugan Shanmugam, General Manager of Jayalakshmi Textiles, based in Aruppukkottai in South India revealed that they are seriously looking at cotton from High Plains of Texas in their raw material mix. It is my understanding that another large mill has also booked an order of about 1000 tons of U.S. cotton, again showing interest in imported cotton.

According to Velmurugan, Jayalakshmi Textiles have booked 300 tons of High Plains cotton and the consignment is expected to arrive in Tuticorin port, which is near to their mills in 3-4 months. He hopes that by that time, government will make a favorable decision on the import duty on cotton.

Many textile spinners are also exploring imported cotton. Indian spinners like Jayalakshmi Textiles have been using small quantity of Giza cotton for high quality yarns of 100-120s Ne. Jayalakshmi Textiles spins fine count yarns catering to sheeting and saree materials.

While landed price including tax of imported may be slightly higher than the price of domestic cotton, mills in India are also paying attention to quality and its consistency.

Indian cotton sector should pay attention to quality and delivery consistency and enable farmers to achieve high quality standards.

From: Prof. Dr. Engr. Ayub Nabi Khan <provc@buft.edu.bd>
Sent: Monday, January 17, 2022 9:42 PM
To: Ramkumar, S
Cc: MS Kamrun; Sajibul Haque; afroza akther
Subject: Re: TexSnips: American Cotton Gets a Favorable Look by South Indian Textile Spinners

This email originated outside TTU. Please [exercise caution!](#)

Very interesting and important information for Bangladeshi Spinners also.

One proposal to you, i.e I would like to organise a online seminar on Nonwoven Textile and its prospects in the world in the context of Asia.

Appreciate if you can give your kind consent.

Looking forward to hearing from you.

Best Regards

Prof. Dr. Engr. Ayub Nabi Khan
Pro VC, BUFT, *Bangladesh*

On Mon, Jan 17, 2022, 22:20 Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

TexSnips: American Cotton Gets a Favorable Look by South Indian Textile Spinners

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

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Opportunities for Textiles Sector in 2022 and Beyond

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, December 29, 2021)—Enhancing product basket, creating new applications and value-addition will prove beneficial for the global textiles sector.

Today, albeit 6.30AM U.S. CST for me, it was such a relish to join for a discussion on the status of the textiles industry hosted by Coimbatore-based Indian Texpreneurs Federation (ITF).

As the cotton price is trending around US\$1.10, obviously discussion centered around the price of raw materials. Having asked to talk about what is on the horizon for the sector, I placed my views on mid to long-term understanding of the textiles landscape.

In planning ahead for any sector, it is important to focus on “4S” which is the concept adopted by U.S. Department of Defense: 1) Sense; 2) Shape; 3) Shield and 4) Sustain (and Grow). This planning pyramid fits well for the textiles sector, as we plan on stocking raw materials and focus on growth.

Good planning on stocking raw materials is the key. Exploring different blend options will help with cost balancing as well as finding new applications. Indian textiles sector should look for product enhancement stated Mr. Dinakaran, noted textile industrialist and former Chairman of Coimbatore-based The Southern India Mills' Association (SIMA). He explained how China utilized new fibers such as Modal, etc., and offered new blends to the world market.

While sustainability is keenly looked at by the world markets, incremental developments such as the use of recycled materials will be a step in the right direction.

Countries like India, which once used to enjoy labor cost advantages must go for lean manufacturing and value-addition as the competitive advantage is eroding.

Although there is no crystal ball answer on what's on the horizon, I feel, one should look at the sector as a four-legged table and all the four legs should be balanced to put the table to use. These are: 1) Technology; 2) Cost; 3) Marketing and 4) Messaging.

Looking at 50 or so industrial leaders who participated in the 2-hour discussion coordinated by ITF, it is pleasing to report enthusiasm is high to take the industry forward with innovation 360 degrees in 2022 and beyond.

From: Anuradha Koteswar <anuradha@ >
Sent: Monday, January 3, 2022 10:49 AM
To: Ramkumar, S <S.Ramkumar@ttu.edu>
Subject: Re: TexSnips: Opportunities for Textiles Sector in 2020 and Beyond

This email originated outside TTU. Please [exercise caution!](#)

Dear Sir,

Wishing you a very happy new year

Thanks a lot for such informative mails . You really work hard and put so many impressive points forward. Textile sector is something new to me, but it's so interesting.

Thanking you

Anuradha Koteswar, India

Value-added Textiles will be Growth Engine

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, December 29, 2021)--Value-addition in textiles will be the driver.

Coimbatore, India-based The South India Textile Research Association (SITRA) today is conducting its 33rd Technological Conference after a hiatus of two years in hybrid mode. The need to grow the textile industry beyond its established strengths such as spinning and knitting is being discussed.

Dr. Sanjay Jayavarthanavelu, noted industrialist and the Chairman of Council of Administration of SITRA made a clarion call to the industry to actively participate in the research institute's project. Noting that capacity addition is happening not only in spinning, but also in other areas such as home textiles, made-up garments, collaborative efforts are needed, added Dr. Jayavarthanavelu.

SITRA has been playing a vital role in helping the Indian textile sector enhance its knowledge base and manufacturing capability in medical textiles.

Excellence in cotton R & D has to be translated into value-added textiles, stated Dr. S. K. Sundararaman, Vice-Chair of The Southern India Mills' Association.

Dr. Prakash Vasudevan, Director of SITRA in his welcome address made a call for greater interaction of industry personnel with other institutes to translate technologies to commercial scale.

Industry-academia participation is vital in moving the textiles sector to the next level. In this aspect, a collaboration between this scribe and Aruppukottai-based Jayalakshmi Textiles, 73,000 spindles cotton spinning mill has resulted in a sustainable industrial textile product. Texas Tech University has been collaborating with this textile mill in developing value-added cotton products that have applications beyond the regular fiber to fashion supply chain.

Translation of research to reality is need of the hour. Such technological conferences provide much needed support to grow the industry.

What is Sustainable Cotton?

By Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, December 17, 2021)—Sustainable products are the focus these days and industries must do a better job in research and communication with customers.

The 79th plenary meeting of the International Cotton Advisory Committee dedicated good amount of time in discussing this important topic.

A recent discussion with Dr. Kater Hake, Vice President for Agricultural and Environmental research at Cary-based Cotton Incorporated provided good insights on sustainability.

To a question on “What is Sustainable Cotton,” Dr. Hake aptly answered, any sustainable product has to meet the needs of human globally without sacrificing the wants of the future generation.” Cotton sector from fiber to fashion supply chain is working hard towards this goal.

Cotton is tolerant to drought and salts and is grown in rainfall deficient regions like West Texas and Africa. Growers are adopting many sustainable practices such as no or reduce till, reduced fertilizer inputs, while aligning sustainability with profitability stated Dr. Hake.

I have articulated sustainability as a System with 3Es: 1) Environmental; 2) Energy and 3) Economical in an article, ”Sustainability in the industry: where do we go next?,” [<https://advancedtextilesource.com/2018/12/10/sustainability-in-the-industry-where-do-we-go-next/>].

Cotton crop provides job for many farmers in countries like India where a farmer may own one hectare or less. This helps with social sustainability giving opportunities for farmers in developing regions of the world.

While there is no doubt that sustainable products come with cost, but over a period and life cycle of the products, the cost gets absorbed. As the cotton prices are riding above one dollar per pound now, with inflation high in four decades in the United States, how such increased cost would be received by consumers is interesting to observe.

One solution to tackle this price issue with natural fibers is to increase global production to reduce the price, stated Cairo-based Professor Mohamed Negm, Chairman of International Cotton Researchers’ Association. Perhaps, the global cotton production should increase to 35 million metric tons/year from the current level of about 25 million tons/year, added Professor Negm.

While technical textiles sector is dominated by synthetics, there is growing interest and push to go plastic free. “Sustainability can mean different things to different people, so there are a wide variety of sustainability claims made to get on this bandwagon, using terms like “natural” and “free from” and adding small percentages cotton, hemp, wood-based fibers and others. There is a push for a “plastic-free” wipes substrate by 2025, and a lot of material science activity to achieve this,” stated Dave Rouse, President of Cary-based Association of the Nonwoven Fabrics Industry (INDA).

Climate change issue has heightened the need to go sustainable in all sectors. Immediate need is to engage in dialogue with all stakeholders, particularly with consumers by improved communication strategy.

More importantly, immediate research investments need to be made by both private and public entities. Benefits to such investments are huge, stated Dr. Hake by highlighting few developments that have happened in the cotton sector like increased fiber strength, which has led to reduction in the weight of cotton garments and the amount of fiber needed to make durable products.

Plastic pollution in small water systems and large marine environments is attracting due attention, which drives the sustainable development of biodegradable products.

Cotton Price May Remain at Current Level

By Seshadri Ramkumar, Texas Tech University

(Lubbock, USA, December 6, 2021)—Strong cotton demand is driving the price.

The 79th plenary session, “Fortifying the Cotton Supply Chain: New Approaches to New Challenges,” of the International Cotton Advisory Committee (ICAC) began today.

Cotton prices at the current level may last during the 2021/22 season, but chances of going beyond the current higher levels are not there, stated Mr. Matthew Looney, Data Scientist, ICAC.

With production higher in the United States and Brazil, going into the 2021/22, stocks are available to satisfy the demand.

With holiday season ahead, there will be demand enhancement for cotton and textile products. But factors such as supply chain bottlenecks, the emergence of Omicron variant, may affect consumer buying.

“If we have demand increase, stocks will be there,” added Mr. Looney. In talking recently to a veteran cotton purchaser for a major textile mill in India, mills are expecting leveling of cotton price. Mills are cautiously buying cotton say for 10-day production needs and hoping that new arrivals will bring down the price in India.

“Prices cannot remain high,” stated Lorena Ruiz, Economist at ICAC. When prices crossed 90 cents range in previous seasons, prices came down in the following seasons added Ruiz.

Countries like Vietnam, Bangladesh have increased textile manufacturing and hence demand for cotton.

While demand is still driving the price, given the stock levels, price levels may remain at current level but hoping for higher level may not be feasible. However, it is not precisely possible to predict how prices may trend given the supply-demand situation.

Cotton Production vis-à-vis Price

By Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, November 17, 2021)—Demand, speculation and consumer awareness on natural fibers are all driving the cotton price, while new crop situation is healthy.

Recently, India's largest textile mills federation, The Confederation of Indian Textile Industry (CITI) has made clarion call to bring stability to cotton and yarn prices, by avoiding panic buying and having minimal stock. Mr. T. Rajkumar, Chairman of CITI in communication to members has brought attention to the fact that there has been record crop in India and the new season has started with an opening stock of 7.5 million bales (170 Kgs/bale).

According to United States Department of Agriculture, global production, and consumption in 2021/22 will be higher with ending stocks lower than the previous year. This is indeed a positive news for the cotton textile sector in terms of demand for cotton products.

Global textile industry is hoping that with healthy cotton crops in India and United States this year, the market will cool down by the beginning of December. Textile industry leaders are advising against stockpiling, as expressed by Mr. Velmurugan Shanmugam, General Manager of 70,000 spindles cotton yarn mill in Arruppukkottai, India, a few days ago.

United States' production this marketing year (2021/22) is expected to be 18.2 million bales (480 lbs. each) and the export is projected to be 15.50 million bales. Cotton exports from the United States is strong with good demand from Pakistan, Vietnam, and Turkey. China is still the number one importer of U. S. cotton.

High Plains of Texas is having good crop this year. 3.5 million bales (480 lbs. per bale) are expected in the area serviced by Lubbock Classing Office, which is substantially higher than last year's production. "It is a big crop and the quality is good," stated Danny Martinez, Area Director, USDA Cotton Classing Office, Lubbock. With the data available from Lubbock Classing Office, based on 700,000 bales classed so far this season, average strength has been around 30.53 g/tex, staple length of about 36.18 mm, with 48% of micronaire in the premium range.

In India, while production is slightly higher than domestic consumption, supply is expected to be tight with exports pegged at 5.80 million bales. According to USDA, India's domestic consumption will be about 25.8 million bales (480 lbs. each), showing strong demand.

Arrivals have been picking up in India and spinning mills' associations are encouraging cautious handling of the situation so that unwarranted hike in prices can be softened. As is slowly happening and expected by end-users, prices will soften by December, which is eagerly awaited by manufactures and consumers.

Recent happenings in the cotton textile supply chain have shown that the demand for cotton products is real and growing—encouraging trend for farmers and the manufacturing sector. Having just come out of the United Nations' COP 26 Summit, the need for sustainable products will be growing, which is a positive sign towards sustainable world and hence the consumption of natural products.

Textile Sector on a Roller Coaster Ride

By Seshadri Ramkumar, Professor, Texas Tech University

(Lubbock, USA, November 08, 2021)—Natural calamities and manmade actions are having negative impact on the textile sector.

With cotton prices trading high probably due to speculation, downstream textile processing units are under stress.

Raw materials cost, supply chain issues, power situation in India, pandemic effect are all contributing to the current roller coaster situation.

“There is no need to go into panic mood and stockpile cotton,” stated Mr. Velmurugan Shanmugam, General Manager of Aruppukkottai, India-based Jayalakshmi Textiles. Jayalakshmi Textiles is a leading cotton spinning mill with 70,000 ring spindles with an average yarn count of 75s Ne. Mills in India start buying the new crop during November and January months. Mills are waiting and watching and opting for short term stocking cotton. “Right now, we are stocking 10 days’ worth of cotton need only,” added Velmurugan Shanmugam.

Globally, there is demand for cotton due to tight supply and lack of last year’s crop of good quality. As the world is moving away from severe COVID-19 situation, stimulus monies provided by governments like the United States is helping with consumer demand.

The price hike is not limited to cotton alone, polyester prices are increasing. “Polyester price has increased by about 35%, due to hike in crude’s price and supply chain issues,” stated Mr. Krishnasamy Pothiraj, Coimbatore, India-based textile consultant. The power shortage in India, especially coal shortage is affecting manufacturing sector such as cotton ginning. Petroleum based products are having price increases, resulting in price enhancements in fertilizers, etc. All these factors are having compounding effect on raw materials’ price.

With the major “Diwali,” festival season nearly over in India, how will consumer react to price increases is interesting to watch.

Textile industry must carefully watch the market and pay attention to consumer sentiments before going for stockpiling of raw materials.

While the raw material price increase is being absorbed currently by the downstream processors, it may not be sustainable. Going on panic buying will lead to a situation as witnessed in 2011, which will not work, agrees Velmurugan Shanmugam.

Industry is under watch and wait situation—a right plan at the present scenario.

Nobel Economics and the Textiles Sector

By Seshadri Ramkumar, Professor, Texas Tech University

(Lubbock, USA, October 12, 2021)—Big data plays important role in making interventions and policy decisions.

Yesterday (October 11), the Royal Swedish Academy of Sciences while announcing the Economic Prize in Memory of Alfred Nobel recognized the power of real-world data.

Professors David Card, Joshua Angrist and Guido Imbens were awarded the economics prize for their work related to natural experiments involving empirical data in analyzing markets such as labor.

Natural experiments are those that happen due to policy interventions such as those by imposing minimum wage, tariffs, etc. and can serve as useful alternatives to randomized trials to analyze cause and effects such as the growth of industrial sectors. This field came to prominence in the early 1990s due to the efforts of economists Alan Krueger and David Card.

Sectors like textiles, agriculture, food service, domestic service, which are labor intensive can benefit from empirical and behavioral economics. Analyzing empirical data rather than theoretical modeling will be more ideal in suggesting changes to grow the sectors, as was the case of the Nobel winning work of this year's laureates.

Textile sector is dependent on the discretionary spending power, socio-economic conditions and cultural preferences. Therefore, analysis of big data on the spending pattern will help the industry to plan its growth. Particularly now when raw material prices are high and the growing power crisis in China and India, which are major textile manufacturing hubs, planning based on big data will be helpful.

In recent years, the use of data and empirical modeling have been helpful in predicting the growth of the Indian technical textiles sector. In 2008, I predicted the growth of this industry to be in double digits based on GDF growth rate and per capita income in India comparing with the United States. The work resulted in the report, "India Rising: Opportunities in Nonwovens and Technical Textiles," [<https://today.ttu.edu/posts/2021/06/Images/IndiaRising.pdf>]. The empirical modeling as advocated by this year's Nobel work showcased the growth pattern of India's technical textiles sector, which was later validated by actual data for the following years.

Interestingly, this year's Nobel prizes in Medicine, Physics and Economics provide ample clues for the textile and allied sectors in terms of planning and developing new products such as sustainable and green textiles.

Textiles sector will benefit from the gathering of reliable data and undertaking credible analysis such as price, consumer trends, manufacturing costs with and without policy interventions to chart its next course.

Nobel in economics underscores the necessity of empirical and behavioral analysis.

Ramkumar, S

Subject: FW: TexSnips: Nobel Economics and the Textiles Sector

From: Ketan Jariwala <>

Sent: Wednesday, October 13, 2021 10:17 AM

To: Ramkumar, S <S.Ramkumar@ttu.edu>

Subject: Re: TexSnips: Nobel Economics and the Textiles Sector

This email originated outside TTU. Please [exercise caution!](#)

Good information, something different

Mr. Ketan Jariwala

Textile Industrialist, Surat, India

On Wednesday, October 13, 2021, 6:35 PM, Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

Nobel Economics and the Textiles Sector

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Indian Cotton Production to Enhance this Decade

By Seshadri Ramkumar, Texas Tech University

(Lubbock, USA, October 7, 2021)—India's cotton production might reach 43 million bales (170 Kgs each) by 2030.

The Confederation of Indian Textile Industry, as part of Global Cotton Day celebration organized an informative virtual event on Indian cotton sector, today.

Productivity, quality and contamination issues occupied the center stage of discussion.

Indian cotton production is expected to be about 42-43 million bales (170 Kgs/bale) by the end of this decade, stated Mr. G. Chandrasekar, senior journalist who has been covering the Indian cotton sector for many decades. Indian consumption may reach 40 million bales and the demand may see increase, added Chandrasekar.

Stakeholders emphasized the importance of quality both in terms of contamination as well as adulteration. Awareness of contamination has been increasing at farm level and the issue at gin level needs addressing, stated Atul Ganatra, President of Cotton Association of India.

The event was graced by Mr. Piyush Goyal, Honorable Union Minister of Textiles, Government of India, who emphasized the importance of enhancing the yield and paying attention to quality. He highlighted the importance of research translation, "lab to farm," and nudged the stakeholders to work on the "culture of quality."

The minister encouraged the Indian textile sector to be a global player pointing out to the yield per hectare issue in India, which is at 457 Kg/hectare that is far behind the global average of 757 Kg/hectare.

While yield and quality issues are getting the right focus, there is a timely need to enhance the market for cotton both in terms of geographical outreach and products. In this regard, possibility of collaborations to enable cotton as a sustainable candidate in the technical textiles sector has to be given serious discussion.

An ongoing collaboration between Texas Tech University, USA and Aruppukkotai, India-based Jayalakshmi Textiles has resulted in cotton-based oil absorbent. Jayalakshmi Textiles has been a leading cotton spinner and its efforts to venture into technical textiles products is a positive direction towards diversification.

Ramkumar, S

From: Prof. Dr. Engr. Ayub Nabi Khan <provc@buft.edu.bd>
Sent: Thursday, October 7, 2021 11:04 AM
To: Ramkumar, S
Subject: Re: TexSnips: Indian Cotton Production to Enhance this Decade

This email originated outside TTU. Please [exercise caution!](#)

Thanks dear Prof. Ramkumar for sharing the interesting and valuable information. Pl note Bangladesh Spinning Industries are using very significant amount of cotton for producing medium count yarns.

May I request you to have a talk with you about some collaborative works. I feel happy to know that one of Bangladeshi student is studying in your University. His name is Mr. Mirza.

Hope to hear from you soon

Regards

Prof. Dr. Engr. Ayub Nabi Khan
C.Text FTI
Pro VC, BUFT

On Thu, Oct 7, 2021, 20:17 Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

Indian Cotton Production to Enhance this Decade

By Seshadri Ramkumar, Texas Tech University

(Lubbock, USA, October 7, 2021)—India's cotton production might reach 43 million bales (170 Kgs each) by 2030.

The Confederation of Indian Textile Industry, as part of Global Cotton Day celebration organized an informative virtual event on Indian cotton sector, today.

Productivity, quality and contamination issues occupied the center stage of discussion.

Indian cotton production is expected to be about 42-43 million bales (170 Kgs/bale) by the end of this decade, stated Mr. G. Chandrasekar, senior journalist who has been covering the Indian cotton sector for many decades. Indian consumption may reach 40 million bales and the demand may see increase, added Chandrasekar.

Stakeholders emphasized the importance of quality both in terms of contamination as well as adulteration. Awareness of contamination has been increasing at farm level and the issue at gin level needs addressing, stated Atul Ganatra, President of Cotton Association of India.

The event was graced by Mr. Piyush Goyal, Honorable Union Minister of Textiles, Government of India, who emphasized the importance of enhancing the yield and paying attention to quality. He highlighted the

Nobel Prize, Touch and Textiles

By Seshadri Ramkumar, Texas Tech University

(Lubbock, USA, October 4, 2021)— 2021 Nobel Prize in Medicine reveals interesting connection with textiles.

Today, Stockholm-based The Nobel Assembly at Karolinska Institute announced the coveted prize for the discoveries on receptors related to touch and temperature.

Dr. David Julius of the University of California, San Francisco, and Dr. Ardem Patapoutian of the Howard Hughes Medical Institute, Scripps Research, La Jolla, USA have been jointly awarded the Nobel prize.

Responses to stimuli such as warmth or cold, friction and outside pressure play important role in the consumer acceptance of textile and other products. The basic work undertaken by the Nobel laureates will give us a better understanding on the sensory perception at molecular level.

This year's recognition has a personal touch with this scribe as I am involved with the understanding of the touch of fabrics and undertook doctoral dissertation research on the hand of fabrics at the University of Leeds, U.K during 1994-1998.

Cotton is presold based on its comfort and its next to skin friendliness and wool is preferred for its thermal comfort, which depend on the neural responses based on external stimuli such as smooth or rough, hot or cold, etc. In fact, the hot chemical compound in capsicum chili played its part in this year's Nobel.

Textile scientists for decades have worked to better simulate the feel or touch of fabrics. A major field known as "Hand," evolved during the 1970s due to the pioneering efforts of Japanese scientists Professor Suetō Kawabata, Professor Niwa and Dr. Matsuo, that led to a standardized evaluation method.

My research interest on the touch or feel of fabrics was kindled due to the research efforts of Professor Venkatraman Subramaniam of Chennai-based A. C. Tech., Anna University. In the 1980s and 90s, Professor Subramaniam, supported many doctoral research in India and the field of hand evaluation blossomed there.

The field of touch or haptics is multidisciplinary in nature involving tribology, mechanics, materials science, neuroscience, etc. The work at Leeds during 1994-98 led to the development of artificial human finger to evaluate the feel of fabrics using polymethyl siloxane to mimic human finger.

With more emphasis on sustainable materials, how these materials appeal to consumers matter and hence both basic and applied level research is needed in the textile sector on the feel of fabrics.

This year's Nobel prize reiterates the importance of sensory science in textiles and allied fields.



Artificial Finger to Evaluate Touch of Fabric
(Source: S. S. Ramkumar, Ph.D. Work, 1998, University of Leeds, UK)

Ramkumar, S

From: Narasimhan Srinivasan <~~s.srinivasan@ttu.edu~~>
Sent: Monday, October 4, 2021 9:23 PM
To: Ramkumar, S
Subject: Re: TexSnips: Nobel Prize, Touch and Textiles
Attachments: image001.jpg

This email originated outside TTU. Please [exercise caution!](#)

Thanks for sharing this.

Interestingly, we just completed our project on purifying capsaicin. Indeed, it defied any type of gloves to produce hot itching sensation.

Regards
NARASIMHAN

*Dr. Navasimhan
Founder, Ashtagiri Herbal Research Foundation*

On Mon, 4 Oct 2021, 22:48 Ramkumar, S, <S.Ramkumar@ttu.edu> wrote:

*[worked under
Nobel Laureate
Prof. Herbert Brown,
Purdue University]*

Nobel Prize, Touch and Textiles

By Seshadri Ramkumar, Texas Tech University

(Lubbock, USA, October 4, 2021)— 2021 Nobel Prize in Medicine reveals interesting connection with textiles.

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Ramkumar, S

From: Dr. PR Roy <prroy1@ttu.edu>
Sent: Tuesday, October 5, 2021 1:42 AM
To: Ramkumar, S
Subject: Re: TexSnips: Nobel Prize, Touch and Textiles

This email originated outside TTU. Please [exercise caution!](#)

Congratulations! Dr. Ramkumar . " In search of Excellence " has always been a part of your Research Topics . Keep it up . All the best .

Regards ,

Dr. Roy

*Dr. P. R. Roy
Former Group Chief Executive
Arvind Mills, Ltd, Considered as the
Father of Indian Denim
Industry*

On Mon, Oct 4, 2021 at 10:50 PM Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

Nobel Prize, Touch and Textiles

By Seshadri Ramkumar, Texas Tech University

(Lubbock, USA, October 4, 2021)— 2021 Nobel Prize in Medicine reveals interesting connection with textiles.

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Ramkumar, S

From: Prof. Dr. Engr. Ayub Nabi Khan <~~prof.dr.enr.ayubnabi@buft.edu.bd~~>
Sent: Tuesday, October 5, 2021 5:18 AM
To: Ramkumar, S
Subject: Re: TexSnips: Nobel Prize, Touch and Textiles
Attachments: image001.jpg

This email originated outside TTU. Please [exercise caution!](#)

Very happy to hear from you and excellent news.

Regards

Prof. Dr. Engr. Ayub Nabi Khan
Pro VC, BUFT, *Bangladesh*

On Mon, Oct 4, 2021, 23:18 Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

Nobel Prize, Touch and Textiles

By Seshadri Ramkumar, Texas Tech University

(Lubbock, USA, October 4, 2021)— 2021 Nobel Prize in Medicine reveals interesting connection with textiles.

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Ramkumar, S

From: Ravi@texprocil <ravi@te[REDACTED]>
Sent: Monday, October 4, 2021 8:03 PM
To: Ramkumar, S
Subject: Re: TexSnips: Nobel Prize, Touch and Textiles
Attachments: image001.jpg

This email originated outside TTU. Please [exercise caution!](#)

Dear Dr Ramkumar,

Well written.

Nice to see acknowledging work of Dr Subramaniam of AC Tech.

I am proud to say I was also one of the students of Dr Subramaniam (1980-84 batch).

Wishing you all the best.

Regards,
N. Ravindranathan
Director
TEXPROCIL
Mumbai-India

sent from Ravi's One+7Pro 9892502873

On Mon, Oct 4, 2021, 10:50 PM Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

Nobel Prize, Touch and Textiles

By Seshadri Ramkumar, Texas Tech University

(Lubbock, USA, October 4, 2021)— 2021 Nobel Prize in Medicine reveals interesting connection with textiles.

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Ramkumar, S

From: Anuradha Koteswar <anuradha.koteswar@ttu.edu>
Sent: Tuesday, October 5, 2021 1:54 AM
To: Ramkumar, S
Subject: Re: TexSnips: Nobel Prize, Touch and Textiles

This email originated outside TTU. Please [exercise caution!](#)

Very Interesting article .Very good going .

Thanks and Regards
Anuradha Koteswar
Nagpur

On 04-Oct-2021, at 10:51 PM, Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

Nobel Prize, Touch and Textiles

By Seshadri Ramkumar, Texas Tech University

(Lubbock, USA, October 4, 2021)— 2021 Nobel Prize in Medicine reveals interesting connection with textiles.

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<image001.jpg>

Ramkumar, S

From: S V NATARAJAN <natarajan@ttu.edu>
Sent: Tuesday, October 5, 2021 2:57 AM
To: Ramkumar, S
Subject: Re: TexSnips: Nobel Prize, Touch and Textiles

This email originated outside TTU. Please [exercise caution!](#)

Great to note your comments on the sensory science where Textiles play a major part. Also glad to note that you and Prof Subramaniam have done extensive research on feel of textile fabrics. Proud to be A.C.Tech Alumni!

Do keep our flag flying and kudos!

Natarajan of 1974 A.C.Tech Textiles batch.

On Mon, 4 Oct 2021 at 22:50, Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

Nobel Prize, Touch and Textiles

By Seshadri Ramkumar, Texas Tech University

(Lubbock, USA, October 4, 2021)— 2021 Nobel Prize in Medicine reveals interesting connection with textiles.

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Face Masks for Kids

By Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, August 25, 2021)—With the new academic year just started in the United States, what type of face masks are needed?

There is debate and discussion going on regarding the use of face masks for school children who cannot be vaccinated yet and the necessity of these masks as an important countermeasure.

Ongoing research in our laboratory has shown that layered masks are better compared to single layer masks. As comfort is a factor, in addition to filtration, next-to-skin comfort can be provided using a cotton layer and additional layers can be used to enhance filtration. While N95 masks are the gold standard, 3-ply face masks can provide filtration of small particles with a filtration efficiency in the range of 80-90 percent, proving multilayered masks are needed.

Dr. Harvinder Gill, a vaccine researcher and professor of chemical engineering at Texas Tech University stated, “PPEs are the first line of safety for researchers working for treatments and cures against infectious diseases and for the frontline responder working during times of crisis to help the affected people.” He added, “While vaccination can protect people, the virus can still infect the vaccinated folks, and without them even knowing could be the carriers of virus in the community. By wearing face masks, this vicious cycle of transmission can be stopped, and the pandemic can see its end.”

Since July, there is rise of COVID-19 cases due to the emergent Delta variant, which has genuinely heightened the need for vaccinations and other protective measures. On July 27th, United States’ Centers for Disease Control and Prevention has recommended the use of face masks in indoor public settings, as this variant has been found to be more contagious.

Face masks have shown to reduce the transmission and with the unavailability of vaccines for kids under the age of 12, with schools resuming in person teaching after a one full year, parents are genuinely concerned about safety. Even with the full approval of one COVID-19 vaccine on August 23rd, it is unlikely that vaccines will be available for kids below the age of 12 by the end of this year. This view was expressed by Dr. Francis Collins, Directed of the United States’ National Institutes of Health in a recent radio interview.

Dr. Srinivasan Narasimhan, Managing Director of Chennai-based Asthagiri Herbal Research Foundation, who carried out research under Nobel laureate Herbert Brown stated, “In countries where vaccines are not yet available for large population, and in those regions where population density is high, other countermeasures such as face masks are needed.” He added, “With schools resuming in person tutoring from this Fall, it is important to consider safety measures like wearing face masks and practicing hygiene.” His organization is working on natural herbs based antimicrobial formulations for impregnating cotton and other materials.

Face masks that have multiple layers are needed, which will serve as barrier to the transmission of microbes. Commercially available masks have two to four layers made using knitted and woven fabric structures. Further research is needed to determine the material type, construction details of masks and comfort factors that will lead to greater acceptability of PPEs in the future.

Ramkumar, S

Subject: FW: TexSnips: Face Masks for Kids

From: Haldenby <>
Sent: Thursday, August 26, 2021 12:12 AM
To: Ramkumar, S <S.Ramkumar@ttu.edu>
Subject: Re: TexSnips: Face Masks for Kids

This email originated outside TTU. Please exercise caution!

Hello Ram

I am happy to read about the valuable work you continue to do. Thank you!

Keep up the good work, my friend

Roger

Sent from my iPhone - Gửi từ iPhone của tôi

Roger Haldenby, Consultant - Tư vấn
Ho Chi Minh City, Vietnam - Thành phố Hồ Chí Minh, Việt Nam
Email: ~~XXXXXXXXXX~~
Phone - Điện thoại: +~~XXXXXXXXXX~~

(Note: Mr. Roger Haldenby served as Vice President of Lubbock-based Plains Cotton Growers, Inc).

On Aug 26, 2021, at 1:08 AM, Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

Face Masks for Kids

By Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, August 25, 2021)—With the new academic year just started in the United States, what type of face masks are needed?

There is debate and discussion going on regarding the use of face masks for school children who cannot be vaccinated yet and the necessity of these masks as an important countermeasure.

Skill Sets for the Textile Sector

By Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, August 7, 2021)—Skill set enhancement, product enhancements and new ideas are the way forward for the textile sector.

Today, as a way of celebrating National Handloom Day in India, stakeholders gathered via virtual platform in an event organized by Coimbatore-based Kumaraguru College of Technology (KCT) in collaboration with Textile Sector Skill Council (TSSC).

Enhancing manpower skills and developing new products were suggested as necessities for the textile sector. Supporting skilled handloom and other technical associates of the textile industry to grow the industry is important, as we come out of COVID-19 pandemic.

Mr. T. Rajkumar, Chairman of India's TSSC, highlighting how the handloom sector is flexible in handling different fibers and designs, emphasized the need to develop new and sustainable textile products. He highlighted that continuous skill development will enhance the industry's sustainability as is evident with development of new textile products from exotic fibers such as kenaf, organic cotton, etc.

While it was 4.30AM (US CST) for me, it was such a relish to attend the virtual event as I have just recently articulated the importance of professional, practical and soft skill enhancements in an article, "Surviving Skills in a Complex World," Pallikkutam Magazine, August 2021.

Professor J. V. Rao, CEO of TSSC, while briefing about skill councils, emphasized the importance of training modules developed and taught by professional and practitioners of the trade. Training needs to be imparted not only on the technical aspects but also on marketing and trading added, Professor Rao. With over 5 decades of contribution to the textile sector, Professor Rao stated institutes can collaborate with industry and industry bodies like skill development councils to bridge skill gaps. Such continuous training is not only necessary for technical personnel but also for non-production floor personnel. Schemes such as Recognition of Prior Learning give credit to the skills acquired through nonformal routes, which will serve as motivation for youngsters to enter the industry such as the handloom sector as well as utilize opportunities to improve their career through formal routes.

It is my view that in addition to technical and professional skill development, soft skills like flexibility, adaptability, managing critical situations, cost controlling, etc., aspects need to be imparted on a regular basis.

Need to focus on heritage (specialty) and common products as a way of growing the industry was stressed by Dr. P. Thennarasu, Director of Indian Institute of Handloom Technology, Varanasi, India.

The need to utilize online tools such as e-commerce platform was urged by Professor G Ramakrishnan, Department of Fashion Technology, KCT. To effectively utilize e-commerce, the industry needs to focus on enhancing the product basket and practice collective approach by enlisting support from Government agencies, stated Dr. Thennarasu.

As is a mandatory requirement in the medical profession, having continuous professional development programs, such as those provided by skill development councils and other educational institutions will be beneficial to those employed in textile and manufacturing sectors.

While efforts are ongoing on imparting training in various fields within the textile industry, concerted effort is needed to disseminate both academic and practical knowledge in the technical textile sector. The need has heightened with the current pandemic situation where face masks and other personnel protective equipment are life savers.

Ramkumar, S

Subject: FW: TexSnips: Skill Sets for the Textile Sector

From: Dr. PR Roy <pr----@gmail.com>
Sent: Tuesday, August 10, 2021 3:14 AM
To: Ramkumar, S <S.Ramkumar@ttu.edu>
Subject: Re: TexSnips: Skill Sets for the Textile Sector

This email originated outside TTU. Please [exercise caution!](#)

Dear Dr.Ramkumar ,

Thanks . The topic is of utmost importance . However , the availability of Hand-spun yarns both in terms of Count range and the Volumes are not normally discussed / published . This will be important as one needs to plan in advance . Hand-spun yarns and its applications for various end uses , of course are of significance.

Regards ,

Dr.Roy
Former Group Chief Executive
Arvind Group, India

On Mon, Aug 9, 2021 at 10:23 PM Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

Skill Sets for the Textile Sector

Changing Virus War and Face Masks

By Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, August 3, 2021)—Delta variant has shifted the war on the viral pandemic reopening the use and debate on face masks. On July 30th, United States saw a single day infection increase of 103,366 cases, highest daily increase since February 2021, which is attributed to the high transmissible Delta variant.

Recent information from the United States' Centers for Disease Control and Prevention (CDC) indicates that in rare situations, fully vaccinated people get infected with Delta variant, which may not be severe to the infected. However, because of the amount of viral loads in infected people in nasal pharynx and throat, they can be carriers and can infect others—particularly unvaccinated people.

It is clear from the recent findings that the coronavirus is airborne and hence apart from vaccines, non-medical countermeasures like face masks are life savers.

On July 27, 2021, CDC has recommended the use of face masks in indoor public spaces where Delta variant surge is high and breakthrough infections are emerging. CDC has also recommended the use of face masks in schools in the United States as the new school season begins soon.

Face masks that have filtering ability, provide tight fit and give good form or comfort will find applications as barrier materials to counter infections.

Ongoing research on cotton and blends-based face coverings in the Nonwovens & Advanced Materials Laboratory at Texas Tech University has found that surgical 3-ply surgical face masks can have 60-80 % filtration capability of fine particles ranging from 30 nm to 150 nm, which is normally the size range of corona virus.

<https://today.ttu.edu/posts/2021/07/Stories/professor-researches-effectiveness-offace-masks-against-particles-similar-in-size-to-coronavirus>

While N95 filters are the gold standard, continuous usage of them may not be possible due to comfort issue. In speaking to this scribe, an internal medicine expert from Toronto, Canada stated that N95 masks can be worn continuously for a period up to 60 minutes. In isolation wards where acute COVID-19 patients are treated, such N95 masks, medical gowns and other precautions are necessary.

Surgical masks and enhanced face covers can provide some barrier efficiency against virus and are highly recommended in areas where there are high and substantial infections due to Delta variant.

Public must be informed about different face masks and their filtration and protection capabilities to make informed judgement.

Face masks are life savers and will find its place until the whole world is vaccinated.



Ramkumar, S

Subject: TexSnips: Changing Virus War and Face Masks

From: Barker MD, Craig <@xxxxxxx.com>
Sent: Wednesday, August 4, 2021 1:09 PM
To: Ramkumar, S <S.Ramkumar@ttu.edu>
Subject: RE: TexSnips: Changing Virus War and Face Masks

Nice article.

The recent finding that vaccinated people can have similar cycle threshold values as those of unvaccinated is very frustrating. I don't know if that study will be repeated as it included only about 500 people, but the news was unexpected. We believe that the CT value is predictive of viral load so the masks may well be in use again soon. Here is a link to the study that I hope is an outlier and not the new normal.

<https://www.cdc.gov/mmwr/volumes/70/wr/mm7031e2.htm>

Craig Barker, MD
Corporate Medical Director, UMC Physicians



From: Ramkumar, S <S.Ramkumar@ttu.edu>
Sent: Tuesday, August 3, 2021 3:24 PM
To: Barker MD, Craig <Craig.Barker.MD@umchealthsystem.com>
Subject: TexSnips: Changing Virus War and Face Masks

STOP, LOOK, THINK! THIS IS AN EXTERNAL EMAIL - Caution opening attachments, clicking links or replying. If it looks suspicious, delete it. Need help deciding if legitimate, forward to phishing@umchealthsystem.com

Changing Virus War and Face Masks

By Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, August 3, 2021)—Delta variant has shifted the war on the viral pandemic reopening the use and debate on face masks.

On July 30th, United States saw a single day infection increase of 103,366 cases, highest daily increase since February 2021, which is attributed to the high transmissible Delta variant.

Ramkumar, S

Subject: FW: TexSnips: Changing Virus War and Face Masks

From: Rajendrakumar <@yahoo.co.in>
Sent: Friday, August 6, 2021 2:48 AM
To: Ramkumar, S <S.Ramkumar@ttu.edu>
Subject: Re: TexSnips: Changing Virus War and Face Masks

Well written, informative, need of the hour.
Rajendrakumar
Prof. Textile tech, Park college of engg & tech, Coimbatore

On Wed, 4 Aug 2021 at 12:49 am, Ramkumar, S
<S.Ramkumar@ttu.edu> wrote:

Changing Virus War and Face Masks

By Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, August 3, 2021)—Delta variant has shifted the war on the viral pandemic reopening the use and debate on face masks.

Ramkumar, S

Subject: FW: TexSnips: Changing Virus War and Face Masks

From: Rana Kundu <xxxx@gmail.com>
Sent: Wednesday, August 4, 2021 10:19 AM
To: Ramkumar, S <S.Ramkumar@ttu.edu>
Subject: Re: TexSnips: Changing Virus War and Face Masks

Dear Sir,

Thank you very much for sharing the e-mail with me.
This information was very helpful for the ongoing pandemic situation in my country.
I would like to request you to write and share more content like this to update our knowledge.
Hope you have a nice day.

Best regards
Rana
Sr. Merchandiser at Mahmud Group
Bangladesh

On Wed, Aug 4, 2021 at 1:19 AM Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

Changing Virus War and Face Masks

By Seshadri Ramkumar, Professor, Texas Tech University, USA

Frontier Materials Research: Way Forward

By Seshadri Ramkumar, Professor, Texas Tech University

(Lubbock, USA, July 23, 2021)— With the inauguration of Olympic games today in Tokyo amidst new normalcy, material scientists are enjoying their own virtual Olympiad for three days, starting today.

Coimbatore, India-based Kumaraguru College of Technology is organizing a major virtual conference, “International Conference on Materials Research in Science and Engineering,” from July 23-25, 2021. The conference has attracted participants from six countries such as India, United States, Finland, UK, Malaysia, and Singapore. About 275 papers are being presented over three days, which is a celebration of science and engineering.



Cotton Field in Lubbock, TX

“The conference focuses on computational and experimental research on different subfields in materials science discipline such as textiles, composites, coatings, which find applications in varied sectors such as defense, aerospace, etc.,” stated Professor K. Sundararaj, Convenor of the congress. Cotton quality characteristics like fiber elongation play an important role in the spinning performance and the quality of yarns, stated, world’s leading cotton fiber quality expert, Professor Eric Hequet of Texas Tech University, USA, in a keynote lecture today.

In the COVID-19 era, the importance of materials in countering the infection using face masks is highly felt important by people. Today, in the inaugural function of the conference, this scribe highlighted the importance of materials science in making countries self-reliant, citing the example of how personnel protective equipment saved lives. He highlighted that this decade would see a revival in manufacturing and materials development as was the case in the later part of the 18th century with the beginning of the industrial revolution. It is interesting to note that about every twenty-five years, a new revolution happens, for example, the medical revolution with the discovery of double helix structure of DNA in 1953, followed by PCR in 1985. The eighties and early nineties saw the beginning of IT revolution that metamorphosed into communication and digital revolution. This decade will see the growth in sustainable products from new and novel fibers and developments in advanced manufacturing. The conference is timely and addresses important themes such as nanotechnology, soft and hard composites, protective textiles, cotton, hybrid materials, etc.

“Research is important not only to solve existing problems, but also to foresee what is needed and what is on the horizon,” stated, Professor Sib Krishna Ghoshal of Universiti Teknologi, Malaysia. Research on hybrid materials involving organic and inorganic materials to understand the interaction of these materials and develop advanced products that find applications enabling sustainability and improving health care was emphasized by Professor Ghoshal. Developments in nanofibers in the past two decades was presented by Professor Seeram Ramakrishna of the National University of Singapore.

Materials science will be a key research area and new materials that help with building energy harvesters, health care products and infrastructure will boost the economies of nation. Agreeing to the importance of advanced and agile manufacturing, Professor D. Saravanan, Principal of Kumaraguru College of Technology stated, “Quest for new materials has been there since stone ages.”

Who would thought that an unassuming material, “face mask,” would come to prominence and save so many lives?

Countries now realize the importance of manufacturing and developing new and sustainable materials.

Address delivered by this scribe is available at this YT link:

<https://www.youtube.com/watch?v=YI9-I-UtgpM>

COVID-19 Era and Material Advancements

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, July 13, 2021)-Functional and advanced materials are shining in the wake of COVID-19, as they are recognized as important live saving materials.

As COVID-19 starts to slowly fade away with full vaccination, economic activities will rise with enhanced consumer spending. Awareness has risen on the need and use of earth friendly materials like cotton and the need for advanced materials to cater to needs of citizens for all walks of life from medicine to infrastructure.

Coimbatore, India-based Kumaraguru College of Technology (KCT) has realized the timely need to disseminate information on ongoing research in materials science to wider audience. KCT is organizing a three-day virtual event, "International Conference on Materials Research in Science and Engineering," (July 23-25, 2021). Leading experts representing academia, industry, and research organizations such as India's Defense Research and Development Organization are participating in the event. In speaking about the conference, Dr. D. Saravanan, Principal of the college stated, "It is an opportunity during this pandemic to exchange thoughts and research ideas for a safe and healthy world. Carefully selected themes such as sustainable materials, PPE and functional materials will help the researchers to collaborate and propose novel solutions to the problems".

Professor Eric Hequet, a leading expert in cotton quality who is the Associate Vice President for Research at Texas Tech University will provide a keynote on the importance of cotton fiber quality. With the textile industry's growing interest in sustainable materials, it is important that good quality cotton fibers are used by the industry. "Sustainability is essential to the long-term success of the textile industry. We need to reduce the environmental impact of our industry from the fiber production to consumer, including the final disposal of textile products. In addition, the economic and social impacts must be considered," opined Professor Hequet.

Professor Gang Sun of University of California, Davis will address a timely topic on the development of antiviral and antibacterial masks. "It is evident from the ongoing pandemic that the current PPEs for protecting both professionals and publics may not be perfect. Development of functional textiles that can meet new challenges are urgently needed. Antiviral and antibacterial functions on textiles could eliminate pathogens deposited on external surfaces, and reduce potential transmissions of pathogens caused by improper use of face masks," stated Professor Sun.

Professor Seeram Ramakrishna, who heads the Center for Nanofibers and Nanotechnology at the National University of Singapore will present results from his two decades of research in nanofibers.

Addressing a topical issue, this scribe will talk about, "Advances in Personnel Protective Equipment (PPE)." Ongoing research in the Nonwovens and Advanced Materials Laboratory, Texas Tech University has shown the importance of face masks in curtailing the spread of COVID-19. PPE is important to fight the current and future pandemics.

In addition to these talks, leading experts from India, United States, United Kingdom, Malaysia, Singapore, and Finland are participating to discuss broad based subjects within the domain of advanced and novel materials.

July being a plastic free month, it is no wonder that the virtual event is pitching topics such as cotton, sustainable chemistry, and materials.

"International leading speakers with rich experience in the domains of materials, engineering and technology, are expected to enrich every session with new ideas, enabling the event to be a platform for international collaboration and networking," stated Saravanan.

Face Mask Necessity Amidst Delta Variant Surges

By Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, June 29, 2021)—Delta variant is a mutant of concern.

Double vaccination is shown to have efficacy against multiple variants, but in the case of unvaccinated people, countermeasures such as wearing face masks, hand hygiene are important.

In a recent press conference, Dr. Tedros Adhanom Ghebreyesus, Director General of World Health Organization (WHO) stated, “Delta is the most transmissible of the variants identified so far. It has been identified in at least 85 countries and is spreading rapidly among unvaccinated populations.”

This Delta variant is recognized as the cause of recent surge in COVID-19 cases in Sydney- Australia, Bangladesh, and South Africa. Starting on July 1, Bangladesh will be in a strict lockdown under the watchful eyes of its military. Bangladesh just recorded over 8000 cases in a single day making it a record since the pandemic started last year. Sydney is under two-week lockdown to stop the spread of this variant.

While vaccination is the solution, until countries such as South Africa, Bangladesh, and India to name a few have enough vaccines to immunize the population, COVID-19 restrictions such as face covers, physical distancing are needed. In densely populated areas, it may not be perfectly feasible to maintain physical distancing, but for the complete stay at home orders. In such cases, face masks are an important protective measure. A street scene in Uttara area in Dhaka, Bangladesh reinforces the need for face covers. Due to the increasing number of cases, Israel last Friday reinstated mask mandate in indoor settings and in large outdoor gatherings.

As the Delta variant is known to be highly contagious and is airborne, for unvaccinated people following COVID-19 safety protocols can save lives. Ongoing research in the Nonwovens and Advanced Materials Laboratory at Texas Tech University has shown that multilayered nonwoven mats with layers made from cotton and sorbent fibers are able to exhibit over 90% filtration efficiency in trapping 30 nm sized aerosols. Corona virus particle normally range between 100-150 nm in diameter and hence nonwoven materials will be able to trap them and can destabilize them depending on the material of the filters. Reports show that cellulosic materials can quickly destabilize Corona virus compared to hard materials such as steel or plastic.

On June 25th, an official from WHO stated, “Vaccine alone won’t stop the community transmission. People need to continue to use masks consistently, be in ventilated spaces, hand hygiene, respiratory etiquette, the physical distance, avoid crowding.”

Masks are important tools in the tool kit to protect people, importantly for those who are unvaccinated and who are immunocompromised.

May, 2021

Ramkumar, S

From: Byers-Angle, Jane - AMS <~~Jane.Byers-Angle@usda.gov~~>
Sent: Wednesday, June 30, 2021 7:39 AM
To: Ramkumar, S
Subject: RE: TexSnips: Face Mask Necessity Amidst Delta Variant Surges

Ram,

Nice article.

I hope you are doing well.

Jane

*Jane Byers-Angle, Cotton Market Reporter
USDA, Cotton & Tobacco Program
Lubbock, TX, USA*

From: Ramkumar, S <S.Ramkumar@ttu.edu>
Sent: Tuesday, June 29, 2021 2:41 PM
Subject: TexSnips: Face Mask Necessity Amidst Delta Variant Surges

Face Mask Necessity Amidst Delta Variant Surges

By Seshadri Ramkumar, Professor, Texas Tech University, USA

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Infectious Successes-Lessons for Textile Industry and Beyond

By Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, June 19, 2021)—As the COVID-19 pandemic ravages India, this infectious disease situation will lead to infectious successes.

In an event organized by the Textile Association (India)-South India Unit, today, on a summer Saturday afternoon, textile industry's stakeholders gathered via Zoom to listen to a speech on how the lessons from the pandemic could lead us to positive opportunities socially, morally and economically. Textile industry veteran from Coimbatore, Mr. Iakoka N Subramaniam provided pearls of wisdom to about a hundred textile industry professional.

Textile products that save lives such as medical textiles have been elevated to important status and have become items, which the general public can understand. This will lead to new opportunities for the sector, according to Mr. Subramaniam. Collective support and contribution to uplift an industry and a society have become necessities, which will lead to growth opportunities for varied industries, added Mr. Subramaniam. Tracing the recent history in the past few decades on how the rural area surrounding Dindigul in South India has become a spinning hub, due to a spark from one industry leading to multiple investments and successes, he emphasized the infectious nature of success stories.

COVID-19 has brought out social commitments and entrepreneurial spirits in people, which should be continued, and the chain should not be broken.

In a question from this scribe on how the industry should use lessons from the pandemic towards translating research into useful products and enhancing risk taking attitude among industry people, Mr. Subramaniam, pointed out how Coimbatore, the industrial town in South India has been a pioneer in building machinery and textile industry. He added that there needs to be supporting mechanisms from the Government to enable risk aversion, which is practiced in developed nations such as the United States.

The talk was timely as it provided motivation for the industry and the public in general.

VSF-A Necessary Toolbox to Combat COVID-19

By Seshadri Ramkumar, Texas Tech University

(Lubbock, USA, June 9, 2021)—Vaccines, social distancing, and face masks (VSF) are important tools in the toolkit to wage the war against COVID-19.

Face masks are indeed one of the best precursors to nation-wide vaccination programs.

In the United States, while the vaccination program was progressing, until reaching a manageable number of daily COVID-19 cases, mask mandates and other restrictions were in place in different States. According to the United States' CDC, 140.4 million people have been fully vaccinated. As 53% of population aged 18 and above have been fully vaccinated in the United States, States have been relaxing restrictions. However, in countries, where vaccination levels are low and new variants are emerging, COVID-19 protocols are needed. Localized restrictions are proving to be effective in lowering the daily increase in cases.

As India is facing a severe second wave of COVID-19, while vaccines are panacea, until huge populace is vaccinated, protective measures are needed. On June 7th, Indian Prime Minister Honorable Narendra Modi addressed the nation highlighting the steps towards vaccination, while advising people to wear masks and follow the protocols. Indian government will be handling the vaccination program centrally and would distribute vaccines to States for immunizing people aged 18 years and above, free of cost. Such central procurement and distribution by local authorities have worked well in the United States.

In regions where population density is high, use of face masks and other protocols help until vaccination level reaches about 60-70 percent. Reaching such a threshold will enable the risk to be manageable, stated Dr. Craig Barker, MD., Corporate Medical Director, UMC Physicians, Lubbock, USA.

As there are reports of the emergence of the delta variant in India, which is known to be more contagious, use of face masks, physical distancing and avoiding gatherings will limit the spread. Using face masks and practicing hygiene will help with borrowing time to gear-up vaccination.

India's PPE sector is well positioned to develop necessary protective equipment as this Industry has been building its base in the past two decades (<https://today.ttu.edu/posts/2021/06/Stories/saving-lives-indias-technical-textile-revolution-paved-way-for-covid-19-response>).

Particularly regarding India, as major cities like Mumbai and New Delhi are opening-up their economy, until there is wide availability of vaccines, countermeasures such as face masks are important. Face masks limit the number of microbes leaving the body and help with preventing the spread, stated Dr. Barker.

Our recent research has shown that countermeasures like using face masks reduced the number of COVID-19 cases (<https://today.ttu.edu/posts/2021/04/Stories/mask-mandates-reduced-covid19-in-states>).

Following hygiene protocols will limit the spread of the corona virus and will play a major role in saving lives.

Ramkumar, S

From: Splendour MT (SR) <~~splendourmedicare@gmail.com~~>
Sent: Wednesday, June 9, 2021 11:41 AM
To: Ramkumar, S
Subject: Re: TexSnips: VSF-A Necessary Toolbox to Combat COVID-19

Excellent,

if i may add:

Vaccinations are long term solutions and create no barrier to the present conditions. However, they ensure low mortality rate. The Facemasks is the only way to retard the aggression of the pandemic. Choosing the right kind is important for people to wear them and provide the comfort. New developments are needed to suffice the need the right protective wear for the population which were never wearing the mask. The mask produced with the enhanced capacity after the break out of the pandemic is much shorter than univereal population.

To ensure enviroinment is protected with not so huge dumps of disposable facemask and to produce the right protection; the scientific world is poised to do developments that can support short and long term. Lets not forget when swine flu, ebola or niba had broken, the disease area was quarantined. Despite that quarantine we found deaths in many ICUs or wards with the Hospital Acquired Infection (HAI/ Nacacomical Disease). They were alarming then too. Now, we are quarantined and this pandemic is there to stay for a much longer period than we may wish. So instead, we prepare with proper shields, protection and Facemasks with social distancing and avoiding cluttered population is the key as you mentioned.

Nice to rread this article as you always do ellure.

Thanks for being there to guide many.

Regards
R.Sudarsan
~~9442614445~~

Propreitor, Splendour Medical Textiles
Coimbatore, India

On Wed, Jun 9, 2021 at 8:48 PM Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

VSF-A Necessary Toolbox to Combat COVID-19

By Seshadri Ramkumar, Texas Tech University

(Lubbock, USA, June 9, 2021)—Vaccines, social distancing, and face masks (VSF) are important tools in the toolkit to wage the war against COVID-19.

Ramkumar, S

From: Barker MD, Craig <~~Craig.Barker.MD@umchealthsystem.com~~>
Sent: Wednesday, June 9, 2021 1:03 PM
To: Ramkumar, S
Subject: RE: Hello from Ram-Your Views

That looks nice. Thanks for letting me know. I'm impressed.

Craig Barker, MD
Corporate Medical Director, UMC Physicians
806.749.2263
806.749.2264 fax

~~Craig.Barker.MD@umchealthsystem.com~~



UMC
PHYSICIANS



From: Ramkumar, S <S.Ramkumar@ttu.edu>
Sent: Wednesday, June 9, 2021 10:53 AM
To: Barker MD, Craig <Craig.Barker.MD@umchealthsystem.com>
Subject: Hello from Ram-Your Views

STOP, LOOK, THINK! THIS IS AN EXTERNAL EMAIL - Caution opening attachments, clicking links or replying. If it looks suspicious, delete it. Need help deciding if legitimate, forward to phishing@umchealthsystem.com

Dear Craig,

I have used your views in one of my international columns. I will be using it in others.

Today, internationally well know Cotton Magazine, Cotton Grower," more close to our community has carried the piece.

Sharing it FYI:

[VSF: Necessary Tools to Combat COVID-19 Globally - Cotton Grower](#)

Kindly,
Ram

Dr. Seshadri Ramkumar, PhD, CText, FTI (UK), FTA (*Honorary*)

Professor, Nonwovens & Advanced Materials Laboratory

Texas Tech University, Lubbock, TX, USA

E-mail: s.ramkumar@ttu.edu

Website: <http://www.tiehh.ttu.edu/sramkumar>

Agility is the Way Forward for the Textile Industry

By Seshadri Ramkumar, Professor, Texas Tech University

(Lubbock, USA, May 24, 2021)-Being nimble and technology adoption are timely needs for the global textile industry.

Today, as a mark of celebrating the 33rd foundation day of the North India Section of The Textile Institute (UK), industry stakeholders joined via Zoom to discuss the way forward for the textile industry and in particular, the Indian sector.


Mr. T. Rajkumar, Chairman of the Confederation of Indian Textile Industry provided detailed account on the Indian industry and outlined schemes for the growth. Value-addition and skill development across the value-chain are needed. Technical textiles is a sunrise sector and emphasized the need for some mandatory usage of products such as airbags, quality enhancements and standardization. Highlighting how the Indian textile sector geared-up during the current COVID-19 pandemic to make India self-reliant on PPE, he stated the growth of the sector is about 13 percent.

India's technical textiles sector offers opportunities for growth in double digits. This scribe predicted the growth of this sector, based on empirical modeling using GDP numbers in 2008. The report, "India Rising: Opportunities in Nonwovens and Technical Textiles," [https://www.researchgate.net/publication/228470939_India_Rising_opportunities_in_nonwovens_and_technical_textiles] estimated the growth till the year 2050, with an annual growth around 13 percent. Today's statement by Mr. Rajkumar proves the growth numbers predicted in the 2008 report. Government of India has to be greatly acknowledged for seeing the potential of this field, with investments such as National Mission on Technical Textiles and the establishment of Centers of Excellence in different fields of the technical textiles sector all over the country. The current Indian government is investing about US\$211.7 million for a period of four years till 2024 for this important mission.

Mr. Shirshir Jaipuria, Chairman and Managing Director of Ginni Filaments emphasized the need for agility, speed, and technology in the textile industry. He highlighted four trends, which will impact the Indian sector: 1) Technology; 2) Development of sustainable products; 3) Marketing strategy and 4) Understanding of consumers. Industry should be data driven and should focus on open and better exchange of ideas, added Mr. Jaipuria. Stating how the IT sector is agile in coming-up with new products, Mr. Jaipuria encouraged the industry to be nimble and adapt to the requirements.

Professor Vijay Kothari emphasized the need for better coordination among academia, research organization and industry. He added, working in silos need to be overcome and integrated approach is needed.

In my view, cost effective new products which consumers need and focusing on products that cater to health care, environment and industrial applications are needed. Having said that efficiencies must be achieved in the commodity fiber-to-fashion supply chain as this sector is an important bread winner.

From: Rana Kundu 
Sent: Tuesday, May 25, 2021 2:10 AM
To: Ramkumar, S
Subject: Re: TEXSNIPS: Agility is the Way Forward for the Textile Industry

Dear Sir,

Thank you for sharing this email and give me the opportunity to learn and update my knowledge. I also agree, with your point of view in this regard. This is time to empathize on fiber to fashion supply chain for the mentioned sectors.

Best Regards
Rana Kundu *Senior Merchandiser, Mahmud Group
Bangladesh*

On Mon, May 24, 2021 at 10:59 PM Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

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By Seshadri Ramkumar, Professor, Texas Tech University

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Face Masks Critical till Herd Immunity

By Seshadri Ramkumar, Professor, Texas Tech University

(Lubbock, USA, April 27, 2021)—Vaccinations and other countermeasures such as face masks, physical distancing, etc., are critical to conquer the pandemic.

A second pandemic wave is ravaging India with a recent single day rise of 352,991 cases, making it a global record since the beginning of the pandemic. As it is a global crisis and affects the entire world, it is a noble responsibility for countries to support India in its war against the pandemic.

Global infectious disease experts emphasize the importance of swift vaccination and mass vaccination of about 70-80% to reach herd immunity. While it may take a few months to achieve this level of vaccination, it is important that people use face masks and practice maximum safety. “Right now, virus is still winning and hence public health measures such as hygiene, face coverings are important,” stated Dr. Manickavasagam Sundaram, MD, PhD, Department of Medicine, Lakeridge Health, Oshawa, Canada. Even with the availability of vaccines in some nations, there is an issue with vaccine hesitancy, emergence of new variants, that emphasize the importance of safety precautions, added Dr. Sundaram.

Recently, research carried out in the Nonwovens and Advanced Materials Laboratory at Texas Tech University showed that face masks helped to curtail the COVID-19 spread in the United States, when face mask mandate was in effect in different states. Results showed that 63% of the states saw a decrease in daily and cumulative cases 21 days after the mandates began, and 66% saw a reduction after 28 days. “I believe proper wearing of face coverings, in addition to other mitigation measures, can help reduce the spread of SARS-CoV-2. Additionally, the fit of the face coverings is important,” stated James Ayodeji, researcher involved in the face mask project.


Fiber scientists and textile chemists have a greater role to play in developing highly efficient personnel protective equipment. Much research is needed to understand the effect of fibers such as cotton and blends as well as the structure of masks on viral barrier and protection capabilities.

“It is incumbent upon every individual to conduct themselves in a responsible way with appropriate behavior such as the use of face coverings and practicing physical distancing,” stated Pune-based Amarashish Phanse, a COVID-19 survivor, who lost his wife due to COVID complications.

It is clear from those who have been victims of the pandemic that responsibility rests with the public to get properly vaccinated and to avoid transmission. Recent safety lax in India has been widely recognized as the reason for the surge. “Given the large population to be vaccinated in India, social distancing and correct use of masks need to be strictly enforced. This will help while the nation is gearing up the vaccination,” stated Mumbai-based Dilip Raghavan, Editor of Colourage. As a person who is in the epicenter of the pandemic in India, Raghavan added a sense of complacency kicked in between the end of the first surge and the beginning of the current one, whose results are being witnessed now. “A protection strategy would be to distribute reusable face masks and other hygiene products instead of spending huge amounts on hospital infrastructure,” stated Kochi-based Sreekumar Raghavan, Editor, Pallikkutam, The Education Observer.

We have a collective responsibility to conquer the virus by following recommended safety measures, and with mass vaccination.

Ramkumar, S

From: W. Curtis White 
Sent: Tuesday, April 27, 2021 1:54 PM
To: Ramkumar, S
Subject: Re: Face Masks Critical till Herd Immunity

Thanks Ram:

All good reminders and part of the holistic-hygiene practices that must be adhered to. Masks as traps and surfaces that act as vectors must have safe handling practices that include hand washing and disinfection practices or effective and safe antimicrobial/antiviral treatments.

From a Public Health point of view, the best hygiene advice is building citizen habits and practices that will pay dividends in terms of morbidity and mortality when the next epidemic or pandemic occurs. Masking and improved materials and designs for masks will be an important part of the habits and practices of the population and help create a higher degree of social concern about the role all of us play in public health.

Of course we also have to find a way that the politicians stay out of the “expert” role and that the press educates rather than sensationalizes the risks associated with these health events.

I saw a good one yesterday from the CDC press office about risk of SARS CoV 2 transfer from surfaces. The science parts of the release had all of the qualifiers used in reporting risks but the press release said that SARS CoV 2 transfer from surfaces **only** added a 1 in 10,000 chance of giving rise to infection. So for simplicity, the USA population of 300,000,000 will only have 30,000 added case from surfaces as vectors for transmission and infection. Not so trivial!

The education of the public about risks and prevention and still needs to be the priority.

Best Regards
Curt
W. Curtis White, PhD
White IEQ Consulting

On Tue, Apr 27, 2021 at 9:28 AM Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

Face Masks Critical till Herd Immunity

By Seshadri Ramkumar, Professor, Texas Tech University

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Ramkumar, S

From: Gang Sun ~~g.sun@ucdavis.edu~~
Sent: Tuesday, April 27, 2021 5:44 PM
To: Ramkumar, S
Subject: Re: Face Masks Critical till Herd Immunity

Ram,

good point!

Gang

Professor Gang Sun
University of California, Davis
Editor-in-Chief, AATCC Journal of Research

From: Ramkumar, S <S.Ramkumar@ttu.edu>
Sent: Tuesday, April 27, 2021 7:02 AM
Subject: Face Masks Critical till Herd Immunity

Face Masks Critical till Herd Immunity

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Nonwoven Innovations to Shine

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, March 31, 2021)-COVID-19 has highlighted the importance and need of life saving soft materials.

Nonwoven textiles are integral components of surgical masks, N95 face masks and different PPEs, which have saved lives. The state of the nonwovens sector during the current pandemic, innovations in this sector and its contributions to counter future pandemics will be discussed in a forthcoming virtual conference.

As part of TAPPICON 2021 event of the Technical Association of Pulp and Paper Association (TAPPI), a nonwovens conference will be held virtually between May 4-5, 2021. The event will kick start with a keynote presentation on the industry's response to COVID-19 by Dave Rouse, President, Association of the Nonwoven Fabrics Industry Association (INDA). The highlight of the program is a power packed panel session on "Preparing for Future Pandemics and PPE." Panel involves key leaders in the industry including Karen Bitz-McIntyre, Editor Nonwovens Industry magazine.

The event will bring leading organizations such as TAPPI and INDA to discuss the state of the sector and innovations in nonwovens and technical textiles. Speaking about the nonwovens field, Larry Montague, TAPPI President & CEO stated, "While the pandemic has taught us many things over the last year, one of the most significant has been the sizeable role nonwovens played in 'stopping the spread,' both in the healthcare community and beyond. Whether we're talking about face masks, filters, various Personal Protective Equipment (PPE), or wipes, the industry was, and still is, on the frontline of this fight providing lifesaving protection."

Dave Rouse, President of INDA, stated, "The nonwovens industry really stepped up in a responsible way to rapidly fill the need for facemasks, disinfectant wipes, flushable wipes, and medical gowns, booties and nets needed to push back against COVID-19. We are now essentially self-sufficient in these areas after being reliant on imports as the pandemic started, with much new capacity added that will serve these needs as well as emerging needs in indoor air quality."

For newcomers to the field and due to the need to create more awareness on nonwovens, a session will be dedicated as a mini tutorial on technical textiles and nonwovens. A few key themes of the conference include medical applications of nonwovens, novel materials for PPE, functionalization of nonwovens and textiles, etc.

The conference features presentations from leading industry and academic leaders. A timely presentation on the recent advances in spunmelt nonwovens will be delivered by an industry expert. Novel solutions to microbial problems will be dealt in a presentation by ViaClean Technologies. International speakers from India, United Kingdom, Turkey, and United States will deal with topics like design aspects of coveralls, nanofiber filters, to name a few.

In talking about the importance of creating more awareness on nonwovens in fight against infectious diseases, Gaurav Pranami, Chairman of the Nonwovens Division of TAPPI stated, "Other than social distancing, perhaps the single most important precaution one could take to protect themselves and others was to wear a mask. However, it's the masks made from nonwovens that provide meaningful protection because of their high filtration efficiency. With the experience of COVID-19, the nonwovens industry must innovate to make more comfortable, effective and easily accessible masks for future preparedness."

New developments from the cotton industry such as cellulosic films and day light induced antiviral coatings will be discussed. The event will end with a presentation on state of the wipes sector from Euromonitor.

Virtual event details can be found at:

<https://tappicon.org/virtual-program/virtual-program-tracks/nonwovens/>

Ramkumar, S

From: Splendour MT (SR) <~~ramkumar@ttu.edu~~>
Sent: Thursday, April 1, 2021 12:44 PM
To: Ramkumar, S
Subject: Re: TexSnips: Nonwoven Innovations to Shine

Dear Sir,

Rightly said, the nonwoven has a big role to play. A single use is a challenge to environment. I think people who are at your levels can influence the operations by innovation and a circular economy. I have dedicated my life into Nonwovens but as a typical first timer in this space without much local market development i took a plunge with no source to procure and no source to sell. As a technical person, i could appreciate its scope and have been using it. I started my own converter unit because the big cats with big money will love to sell the rolled goods but to reach a customer, a converter has to emerge who does the bulk braking and distribution of the nonwoven through product manufacturing and innovations. I realised after all such grand events; we drink a glass of water and everything quells well. To stay on fire, i despite my contradictions with this converter business, i do my manufacturing of making what is a simple usage of a non-woven and how we can scale it up so that my sale makes a higher demand of the Nonwovens. The converters are restricted to borrow the machines which are not for their specific use. Eg. i make gown but i borrow the stitching machine from a garment industry. We adopt it with all its limitations. To make machines of my requirement, there are lesser Indian suppliers, Chinese don't last the paybacks while Europeans go beyond the payback period.

The dilemma is obvious but i think when idea is strong - men and money follows. I hope the journey to suffice my mission with the vision to make honourable jobs for all; and all honourable jobs are with scientific work is the motto. I could be a great success in other countries but doing it in India may never give me my due but i guess i am building what no one can fathom my joy of contributing to this industry. A process that complies to the norms with innovations in machine, process flow and therefore someday capable to make India a consumer and that would be best indicated when an entrepreneur like me can buy jumbo rolls from nonwoven manufacturers within my business domain.

Centralised objective- Make global and universal compliant products

Decentralised operation - Make jobs decentralised to reach the last mile of the geography with Honourable jobs at home and all honourable jobs are scientific..

This will mean = Sustainable operations.

★ I wish i could always sit under your charan to learn more. I did express the above bcos somewhere in my past you made a shift to make the lift.

Regards

R.Sudarsan

*Owner, Splendour Medicare
Coimbatore, India*

On Wed, Mar 31, 2021 at 9:33 PM Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

Nonwoven Innovations to Shine

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

India to Impose Duty on Cotton Imports

By Seshadri Ramkumar, Texas Tech University

(Lubbock, USA, February 2, 2021)—Indian government to impose custom duty on raw cotton imports.

On February 1, Honorable Mrs. Nirmala Sitharaman, Union Finance Minister of India introduced the Indian budget for the financial year 2021-22.

The budget is built on six pillars that focus on: 1) Health and Wellbeing; 2) Physical & Financial Capital, and Infrastructure; 3) Inclusive Development for Aspirational India; 4) Reinventing Human Capital; 5) Innovation and R&D and 6) Minimum Government and Maximum Governance.

As a move to support farmers, Government will impose a 10% custom duty on cotton imports, which has been nil at present. While the budget has received positive feedback from the textile sector, spinning sector is feeling the pinch due to the duty on imported cotton.

The budget supports boosting the textile sector and enhancing its global competitiveness with investments for Mega Investment Textile Parks. Seven textile parks will be established within three years. To enhance the manmade fiber sector, import duties on raw materials like nylon fiber and yarns, nylon chips and caprolactam have been reduced from 7.5% to 5 percent. This duty structure is similar to polyester and other manmade fibers. Duty on raw silk and silk yarns will be increased from 10 to 15 percent.

India's textile sector for fine count spinning has been importing cotton from countries like Egypt and imposing duty may affect the competitiveness of the spinning sector. Countries like Vietnam and Bangladesh have been doing well in garments exports to United States and Europe, and this duty may negatively impact the Indian spinning sector and the value chain.

“Overall, the budget has positive aspects but for the custom duty on cotton imports,” stated, Gandhiraj Krishnasamy, General Manager of Coimbatore-based Lakshmi Card Clothing, 40 years veteran in the textile sector. “Indian industry needs scale to compete against other countries,” added Gandhiraj Krishnasamy.

Jayalakshmi Textiles, which has about 70,000 ring spindles and spinning fine count yarns has started recently importing Egyptian Giza cotton as its price was competitive against Indian DCH-32. In fine count yarns, customers are demanding the use of imported cotton and hence this industry has recently purchased about 500 tons of Giza cotton. “Custom duty on cotton may add pressure to the Indian spinning sector,” stated Velmurugan Shanmugam, General Manager of Aruppukkottai-based spinning mill, whose average yarn count is about 70s Ne.

The budget is in the right tract with enhancing the domestic sector in terms of value-addition, agriculture, and innovation. The custom structure on cotton puts emphasis on the Indian cotton sector to focus on research, quality enhancement, contamination reduction and build the overall infrastructure.

Manufacturing Revival and Economic Recovery

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, January 15, 2021)-Manufacturing boost will play a vital role in the building of global economy.

Yesterday, United States' President-elect Joseph R. Biden, Jr., unveiled Rescue and Recovery plan to counter the pandemic and grow the economy. The stimulus plan of US\$ 1.9 trillion focuses on priority items such as vaccines, COVID-19 testing, economic plans such as direct payments and unemployment support, to name a few.

The rescue plan is a prelude to a broader growth agenda, where emphasis is placed on manufacturing among other items such as infrastructure investment, etc. In the speech, President-elect Biden stated, "We will buy American products and support millions of American manufacturing jobs." The plan also calls for investments in research and development enabling innovation and creating new opportunities.

PPEs such as masks have come to prominence as life savers due to the nature of the transmission of the corona virus. World governments will pay attention to boosting their respective advanced manufacturing sectors such as technical textiles, sustainable production, logistics and distribution, as is evident from President-elect Biden's speech.

The need to have manufacturing resources and supplies such as PPEs within their borders will strengthen manufacturing and allied sectors of nations. Initiatives such as Made in America and India's Atmanirbhar Bharat (Self-reliant India) will shine new light on manufacturing. Other fields that have direct and indirect influence on manufacturing such as technical education, R & D will also play vital roles towards recovery and growth.

India's Prime Minister Narendra Modi in last month's Mann Ki Batt (Speech from Heart) talk to the nation emphasized the importance of curiosity for personal growth and highlighted the need for innovation and start-ups to grow the economy. Again, a clear indication that sectors such as manufacturing, and research are attracting high level attentions.

There needs to be a focused attention on developing manufacturing and allied fields, which needs cooperative efforts among stakeholders such as the industry, government, and academia. In this regard, it is good to highlight the efforts, India has been doing for over two decades in promoting the technical textiles sectors. I was personally involved in the effort creating awareness on the nonwovens field, which has enabled India to be self-reliant in PPEs as a countermeasure in the COVID-19 times.

In a recent interview with National Public Radio, United States' Vice President-elect Kamala Harris highlighted the need to boost the supply of PPEs and the availability of Defense Production Act to gear up resources if necessary. PPE manufacturing, which is a technical textiles sector is garnering attention at the highest levels of governments.

Developed economies will surely take steps in growing high-end manufacturing--a positive revival indeed!

Ramkumar, S

From: Jacobs Carmen <~~carmen.jacobs@ttu.edu~~>
Sent: Monday, January 18, 2021 12:36 PM
To: Ramkumar, S
Subject: Re: TexSnips: Manufacturing Revival and Economic Recovery

Dear Dr. Ramkumar.

May 2021 keep us healthy and Covid safe.

Thank you once again for providing TexSnips. Those of us who receive it are so very grateful. I find your comments on manufacturing and nonwovens most interesting, and would very much like to be able to confer with you on the subject at your convenience. Please let me know which way is better for you; i.e. phone, whatsapp, skype, or some other virtual means. Stay well, and I will be in touch with you.

Best regards,

Carmen

~~+1 255 1134 5732 mobile~~

~~+1 254 958 4118 home~~

~~+1 254 958 4118 office~~

*Ms. Carmen Jacobs, Mexico
Ms. Jacobs visited my laboratory a
few years back.*

From: Ramkumar, S <S.Ramkumar@ttu.edu>
Sent: Friday, January 15, 2021 1:08 PM
Subject: TexSnips: Manufacturing Revival and Economic Recovery

Manufacturing Revival and Economic Recovery

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, January 15, 2021)-Manufacturing boost will play a vital role in the building of global economy.

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Cotton Aides with the Start-up Culture

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, January 5, 2021)- New Year is providing an optimistic picture for cotton and textiles sectors.

“Yarn prices have hiked about 30-40% in 3-months,” stated Velmurugan Shanmugam, general manager of Aruppukottai, India-based Jayalakshmi Textiles. Yarn demand is high due to lack of fabric stocks and hence processors are in urgent need of yarns, added Velmurugan Shanmugam.

While cotton and textiles sectors are witnessing growing demand, it is also important to focus on new developments. “In the mid to long term basis, development of value-added products is important,” stated Velmurugan Shanmugam.

Cotton and textile sectors have an opportunity to create start-ups to enhance demand and create jobs. The importance of entrepreneurship and the need to infuse start-up culture was stressed by India’s Prime Minister, Honorable Narendra Modi in his December 2020 “Maa Ki Baat, [Speech from the Heart]” address to the nation.

Jayalakshmi Textiles, with 70,000 ring spindles produces cotton yarns ranging from 60s Ne to 140s Ne, with an average count of 67s Ne. Recently, I had the opportunity to collaborate with Jayalakshmi Textiles to develop cotton based nonwoven filters and oil absorbent wipes. The collaboration has led to the translation of my idea to useful cotton-based value-added products.

An international collaboration involving this scribe has resulted in the creation of a start-up, WellGro United in Chennai, India to market cotton industrial products. Cotton processing expertise of Jayalakshmi Textiles has played a crucial role in transferring idea to marketplace.

WellGro United has been marketing products that enhance human lives and protect the environment. Recently, India’s oil exploration company, Oil and Natural Gas Corporation, Ltd., has been using cotton-based oil absorbent to counter oil spills in its Rajahmundry site on the banks of India’s second largest river, Godavari.

Jayalakshmi Textiles, which is a major cotton yarn spinner is taking little steps to develop novel cotton products which have found inroads in the oil sector. Cotton-based mats are being exported to Nigeria and Poland for evaluation by industrial sectors.

With the increasing trend in demand and prices for cotton and textile products, there is optimism among cotton textile sectors to look for opportunities beyond commodity products.

Demand enhancement by developing functional and industrial products will be the next phase of the cotton textiles sector.

TexSnips’ publisher wishes a healthy, safe and prosperous 2021!

Ramkumar, S

From: Bobby Hines <Bobby.Hines@trade.gov>
Sent: Wednesday, January 13, 2021 6:36 PM
To: Ramkumar, S
Subject: RE: TexSnips: Cotton Aides with the Start-up Culture

Thank you for this report, please keep them coming in this format.

Bobby

Bobby Hines, International Trade Specialist

bobby.hines@trade.gov ~~213-276-3675~~

THE WORLD IS OPEN FOR U.S BUSINESSES: <https://www.trade.gov/ecommerce>

What is Prosper Africa? <https://www.trade.gov/prosperafrica>

State Trade Export Program – Grants - Financing Export Services <https://californiaexport.org/register/>

Made In The USA Textile/Apparel Database: <https://otexa.trade.gov/growamerica/madeinusa.htm>

Ramkumar, S

From: Curt White <~~cwhite@viacleantechnologies.com~~>
Sent: Tuesday, January 5, 2021 3:15 PM
To: Ramkumar, S
Subject: Cotton Info

Ram:

Happy New Year and my best wishes to you and your family.

In your most recent newsletter there is reference to the efforts to use "cotton" as an absorbent for oil. Your work in this area is probably on a scale of work done at Cotton Inc. or other research or company efforts.

What we did was altering the surface energies with silane coupling agents and various co-polymers. Getting to the favorable associative energy to favor cuts of petroleum products was easy but bulk efficacy was still subject to the adhesive and cohesive interfaces of the petroleum product. What this drove us to was choosing cotton that had more surface area and more cross-over points. Besides lab preps, using recycled cotton with silination gave us the best petroleum hydrocarbon adsorption.

I also did a lot of work with silk linters and super fine denier drawn from silk-viscose with colleagues at the University of Milan. A bit expensive but not by much.

I'm guessing that you did even better.

Food for thought.

Best Regards,
Curt

--

W. Curtis White, PhD
Chief Technology Officer
ViaClean Technologies
o: 877.447.5956

~~cwhite@viacleantechnologies.com~~
www.viacleantechnologies.com

Year End Update on Cotton

By Seshadri Ramkumar, Professor, Texas Tech University

(Lubbock, USA, December 22, 2020)-COVID-19 has impacted the normal life and economy. How have the cotton and textile sectors fared?

The year was supposed to end with a positive news that two vaccines have been approved for mass inoculation. But the new variant of SARS-CoV-2 which has shown up recently in the United Kingdom is causing genuine concern. With two major holidays around the corner, how will the developing situation impact the global economy and the cotton-textiles sector will be carefully watched.

Reduction in crop production estimate in the United States and interest in cotton products bring out optimism among stakeholders. "Increase in yarn prices in India has boosted confidence in the sector," stated Velmurugan Shanmugam, general manager of Aruppukottai, India-based Jayalakshmi Textiles.

"Global demand looks much better than a few months ago. Recent surveys of textile manufacturers conducted by the ITMF have described continual improvement since April, observed," Jon Devine, senior economist at Cary-based Cotton Incorporated.

Significant decrease in this years' production in the High Plains of Texas, which is the world's largest contiguous patch is helping with the rebound in prices. This area will produce about 2.3 to 2.5 million bales (480 lbs. each) this year as against last years' production of 3.051 million bales (480 lbs. each). "The 2020 crop on the Texas High Plains has been severely impacted by dry conditions throughout the growing season," said Shawn Wade, director of policy analysis and research at Plains Cotton Growers, Inc.

Harvest is almost complete and 90% of ginning is completed in the High Plains area. "Yields are disappointing but overall quality is good," stated Mark Brown, field services director at Plains Cotton Growers, Inc. Average micronaire has been lower in the High Plains compared to last year due to cold weather in September. "Overall quality is good with strength averaging at 30.5 g/tex and length little bit better than last year," stated Danny Martinez, area director of USDA's Lubbock Cotton Classing Office.

Ginning season was impacted by COVID-19, but ginner worked hard to carry on ginning to finish. Year is ending with optimism for the cotton and textile sectors with interest in cotton and rebound in cotton and yarn prices. Again, how the emerging Corona variant will impact is yet to be known.

Happy holidays and safe New Year 2021!

Ramkumar, S

From: NHOUSER@tad.com
Sent: Tuesday, December 22, 2020 4:00 PM
To: Ramkumar, S
Subject: RE: TexSnips: Year End Update on Cotton

Ram - To a Gentleman and a Scholar, and a good friend, all the best to you and your family during the holidays. I have appreciated your informative TexSnips and look forward to receiving them. Let's be optimistic to a new and better year in 2021.

Stay well and safe - Nelson

Mr. Nelson Houser
(former) President of American Association
of Textile Chemists & Colorists, USA

From: "Ramkumar, S"
To:
Cc:
Sent: Tuesday December 22 2020 1:43:35PM
Subject: TexSnips: Year End Update on Cotton

Year End Update on Cotton

By Seshadri Ramkumar, Professor, Texas Tech University

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Textiles for Survivability and Sustainability in COVID-19 Times

By Seshadri Ramkumar, Professor, Texas Tech University

(Lubbock, USA, November 10, 2020)—No other time in history has the spotlight shined so much on textiles for its role in saving lives than at the present times.

Textile materials' capability to filter and destabilize SARS-CoV-2 is attracting a lot of attention, as well as sustainable fibers like cotton for many advanced applications.

Coimbatore, India-based Bharathiar University is organizing a seven-day international virtual conference to highlight the functional and environmental impacts of textiles. About 300 people have registered for the event, which has speakers from Hong Kong, Finland, United States, India and Ireland.

It was such a pleasure for me to offer a few words of special address on textiles as life savers this morning albeit being wee hours (4 AM CST). Professor P. Kaliraj, Vice-Chancellor of Bharathiar University, while inaugurating the event emphasized the importance of textiles to developing nations and also its environmental and societal impacts.

Today, I introduced 4Es towards textile sustainability taking into consideration the current coronavirus situation. In my opinion sustainability has to take into account: 1) Environment; 2) Energy; 3) Economy and 4) Employment. Textile sector has to forge ahead looking at interdisciplinary approaches to develop value-added sustainable products such as viral barrier, medical filters, etc.

Professor Venkatachalam Arunachalam, a highly respected academic with 42 years of research and teaching experience in the Coimbatore area, who participated in the event stated, "Materials sector should look into cotton and other fibers to develop cost effective advanced products that can save lives and protect the environment."

The conference will feature topics such as, life-saving cotton products, fashion in circular economy, consumer preferences for ecofriendly products, life cycle analysis, to name a few.

It is certain that even with a vaccine for the SARS-CoV-2, masks are going to play an important role. And, as such the textile sector has a useful role to play both in the current pandemic as well in the future towards the safety of human beings and the planet.

Ramkumar, S

From: Curt White <~~white@whiteconsulting.com~~>
Sent: Tuesday, November 10, 2020 3:38 PM
To: Ramkumar, S
Cc: Curt White
Subject: Re: TexSnips: Textiles for Survivability and Sustainability in COVID-19 Times

Ram:

The seminars I gave a Coimbatore years ago cover the benefits of right-choice antimicrobials on medical and even everyday garments for prevention of sources and transfer routes of deadly and product destroying microbes.

Your contribution then and now are right on point bringing forward the values of modified fibers, yarns, roll-goods, and finished goods through their life-cycle. My colleagues and I continue to invent and innovate around these healthcare and lifestyle important topics.

Please take care and stay SAFE!!!

Best Personal Regards
Curt
W. Curtis White, PhD
White IEQ Consulting
~~989-208-4610~~

On Tue, Nov 10, 2020 at 11:22 AM Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

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Graduate Class Discusses Cotton as a COVID-19 Countermeasure

By Seshadri Ramkumar, Professor, Texas Tech University

(Lubbock, USA, November 2, 2020)—Face masks are front and center in the Tuesday's U.S. Presidential election.

Face masks are indeed becoming a part of gift baskets this holiday season. With wintry weather on the horizon, cases are expected to rise, as is evident in the recent surge in Europe and United States. Given these circumstances, knowledge dissemination on biomedical and nonmedical countermeasures are the need of the hour.

I have been handling graduate level courses in Spring and the current Fall semester to discuss *state-of-the-art* in personnel protection against infectious diseases and toxic chemicals. A highlight of the current class is the engaged discussions on the usefulness of PPEs and particularly cotton as a countermeasure material.



Signage in Front of Petroleum Engineering Building-TTU

James Ayodeji, a Ph.D. student from Nigeria presented results from a recent work that appeared in Virology Journal. The work focused on the effect of temperature on the stability of SARS-CoV-2 on common materials. Results from this study and a few others showed that the virus persists for shorter time on cotton than other materials, Interestingly, at higher temperature of 40OC, no virus was recoverable from cotton within 24 hours. Even at a lower temperature of 20 OC, amount of virus isolated from contaminated cotton cloth was far less than from other materials investigated.

Face masks work as a barrier medium and the class recognized this aspect based on the data available. Face masks have played a major role in curtailing the spread of the virus according to Tian Shuangmei, a graduate student from Heze city, China. Using reports from Chinese outlets, Shuangmei made a presentation how the virus impacted Wuhan and other places in China. “China, being densely populated, strictly enforcing social distancing may be difficult. Strict rules regarding masks has helped the country to get control on the virus,” stated Shuangmei.

Jonayo Farquharson from British Virgin Islands handled information on how China successfully kept the situation under control. Important take away has been that managing strict countermeasures in China has been less challenging, when compared to western countries due to the centralized epidemic response system, again emphasizing the need for PPEs.

Tracy Musgrove, a former science teacher for 23 years and a graduate student who has lost close relatives to COVID-19, emphasized the importance of masks in controlling the spread.

Over the course of this semester, students engaged actively in discussions on the COVID-19 situation by looking at the cases, deaths and recovery, all the way focusing on countermeasures. Haripriya Ramesh, originally from India presented information on the structure and shape of face masks, which impact its utility and filtration.

Jeremiah Leach, a US veteran who has served in South Korea, Iraq and Afghanistan, and a graduate student stated while nonmedical countermeasures like masks and social distancing may not alone be able to end the pandemic, they are necessary to slow down the progression.

(cont. next Page)

Ramkumar, S

From: Cindy Garcia ~~<c.garcia@inda.org>~~
Sent: Thursday, November 5, 2020 2:33 PM
To: Ramkumar, S
Subject: RE: TexSnips: Graduate Class Discusses Cotton as a COVID-19 Countermeasure

Hi Ram,
I read this and I was very impressed, thank you for all you do my friend. You definitely make the world a better place. Cindy

Ms. Cindy Garcia
Research Analyst
Association of Nonwoven Fabrics Industry
INDA, USA

From: Ramkumar, S <S.Ramkumar@ttu.edu>
Sent: Monday, November 2, 2020 12:38 PM
Subject: TexSnips: Graduate Class Discusses Cotton as a COVID-19 Countermeasure

Graduate Class Discusses Cotton as a COVID-19 Countermeasure

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Ramkumar, S

From: Shashikanth Parcha <psk@nanowings.co.in>
Sent: Sunday, November 8, 2020 1:37 PM
To: Ramkumar, S
Subject: Graphene coated cotton face masks

Dear Prof. Ramkumar
Greetings.

While I was googling around for literature in the cotton related area, I found your doc "texsnips-chronological". I have never come across any such document or effort so far. Good on you.

During the lock-down time, we have made graphene coated cotton based face mask, which can be exposed to natural or artificial light for a certain period of time in order to thermally inactivate the micro organisms and viruses.

The (thermal) performance is analysed with the help of a thermal imaging camera. The link is given below for your reference.

<https://www.youtube.com/channel/UCKiSu5R3tYZC5prPTf2IR4Q>

The link also contains few other videos on super hydrophobic coated cotton and cotton-polyester blends.

I was wondering whether you could help us in connecting to anyone who would be interested in our materials.

Look forward to hearing from you.

Best regards

Shashi

Parcha Bhargava Shashikanth

Founder & MD

Nano Wings Pvt Ltd

R&D Lab and Registered Office

10-1-96,

Mamillaguda

Khammam - 507001

Telangana

INDIA

08742-232794 (Land line)

08008488535 (Mobile)

<https://nanowings.co.in>



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“Since being a part of the *PPE and Infectious Diseases like COVID-19* seminar, I have gained a plethora of new knowledge about the virus and its countermeasures such as masks, but ultimately masks should possess proper fit, formability and filtration,” stated Terrell Hilliard.

In my 22 years of teaching at Texas Tech University, while it is clear that I have not witnessed a situation like the current one, a great lesson learnt has been that courses should focus on the needs of the society and should be flexible to tackle sudden challenges. It is such a relish to observe how the students participated in discussions about a stressful situation—a way of knowledge sharing and developing innovative ideas.

Results from some latest studies are shining due spotlight on the advantages of cotton as a viral barrier material, but further studies are needed to understand the reasons behind those outcomes.

The course has created moments and more importantly has developed students to be citizen scholars who look forward to serving our society.

Ramkumar, S

From: Wong, Aliza
Sent: Monday, November 2, 2020 11:37 AM
To: Ramkumar, S
Subject: Re: Graduate Class Focusing on COVID-19

Ram,

Thank you so much for all you do and for how you are mentor our students to understanding we are all important members of a global community. Your research and efforts into keeping us all safe, into bettering the world inspire me every day.

Yours,
Aliza

Aliza Wong, Ph.D.

she/her/hers

Interim Dean, Honors College
Minnie Stevens Piper Foundation Professor
Professor, Honors College and History

806.834.3051

aliza.wong@ttu.edu



TEXAS TECH UNIVERSITY

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Box 41017 | Lubbock, TX 79409

honors.ttu.edu | #IamHonors



From: Ramkumar, S
<S.Ramkumar@ttu.edu>
Sent: Monday, November 2, 2020 11:17 AM
Subject: Graduate Class Focusing on COVID-19

Cotton is Superior in Destabilizing Coronavirus

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, October 11, 2020)-Porous cotton substrates are better in destabilizing the SARS-CoV-2 virus.

With global COVID-19 cases over 37 million and deaths crossing one million, medical and nonmedical countermeasures such as masks are critically needed.

Recent study by Australian scientists show that material characteristics and temperature play important roles in the survival of the coronavirus. The work focused on the survival rate of SARS-CoV-2 virus on surfaces like paper notes, stainless steel, glass, vinyl material and cotton cloth. The viral studies were performed in high containment (Biosafety Level 4) at the Australian Center for Disease Preparedness.

At 20 deg. C, for nonporous materials like stainless steel, glass, the virus persisted beyond 28 days post infection. In the case of cotton, virus was not recovered past 14 days after inoculation. As the temperature was raised, recovery of the virus was reduced. At 40 deg. C, SARS-CoV-2 was not recoverable after 24 hours for cotton, while virus was not recovered beyond 48 hours for nonporous surfaces studied. In addition, humidity also influences the survival rate of the virus.

“It has been known for some time that the infectious virus could survive on inanimate objects for some time depending on its structure and characteristics,” stated Dr. Manickavasagam Sundaram, Lakeridge Health, Oshawa, Canada. As a practicing physician, Dr. Sundaram emphasized the importance of face coverings, social distancing, hand hygiene and disinfecting frequently used surfaces.

The latest study supports the use of face coverings made using cotton. Also, it indicates the influence of structural characteristics such as porosity. Nonwoven fabrics have higher surface area, which may be helpful in developing face coverings with filters. I have advocated the use of filter enhanced cotton face coverings, “FISORS,” which may be an efficient viral barrier.

Results of the Australian study have appeared recently in the Virology Journal.

Ramkumar, S

From: V Subramaniam <subram@hotmail.com>
Sent: Tuesday, October 13, 2020 6:27 AM
To: Ramkumar, S
Subject: Re: TexSnips: Cotton is Superior in Destabilizing Coronavirus

My dear Ram,
Very well written and very informative.
Kind regards,
V.S

*Senior Professor in Textiles Field in India
Served as Chair of Dept of Textile Technology, A.C. Tech, Anna Univ, India. Prof. V.S.
served as my master's thesis advisor*

Sent from my iPad

On Oct 12, 2020, at 1:37 AM, "Ramkumar, S" <S.Ramkumar@ttu.edu> wrote:

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Life Saving Technical Textiles

By Seshadri Ramkumar, Professor, Texas Tech University

(Lubbock, USA, September 29, 2020)—Face masks and vaccine are going to be indispensable in the fight against COVID-19.

As the transmittal of the Corona virus occurs by infected persons even without symptoms, face coverings play a vital role in containing the spread.

Recently, there has been a flurry of research activities on the type of face coverings, materials, design, etc. While there is no one perfect model or type of face coverings, it is important that we use them based on the guidelines established by agencies such as the United States' Centers for Disease Control and Prevention (CDC).

“As a survivor of the deadly Corona virus infection along with my son, I request all to wear mask and maintain at least 6 feet distance in public places to avoid the virus infection,” stated Mr. Amarashish Phanse of Ahmedabad, India.

I have had the first acquaintance with Mr. Phanse in one of my technical textiles awareness events in India over a decade ago and has maintained close connection with him to develop the field. Mr. Phanse has been in the technical textiles sector, and has been a great support in my research and outreach efforts in the nonwovens and technical textiles field. It is heartening that Mr. Phanse took time to convey the importance of safety measures in fight against the virus, amidst his recovery.

It is becoming clear that even with availability of vaccine, good public health measures such as the use of face coverings may be needed. “There is increasing evidence that masks help prevent people who have COVID-19, including those without symptoms, from spreading SARS-CoV-2 to others,” stated Dr. Robert Redfield, Director of CDC in a recent testimony to a United States' Senate panel.

Speaking from his own grueling experience in the fight against the virus, Phanse stated, “Having worked with textiles and technical textiles industry closely for over a decade, I can now realize the immense contribution made by its fiber to fashion value chain in coming up with user friendly and functional protective textiles.”

Advanced textiles sector has a renewed purpose now to develop life-saving products at a competitive price. Developed economies such as the United States has to revamp its R & D and manufacturing sectors that will focus on human health and environmental aspects. Research into comfortable face masks with enhanced protection is a tall order and well worth investing. Similarly, cost effective sustainable products that find applications in household items to space crafts will be needed. Indian government has created a National Mission on Technical Textiles to grow the field.

I have been articulating the use of natural fibers like cotton and coarse wool in advanced products for more than two decades. In close association with people like Mr. Phanse, developed collaborative programs between India and the United States in the nonwovens and technical textiles sectors that have led to awareness creation and business tie-ups. The current COVID-19 crisis has shined a genuine spotlight on the positive aspects of cotton as a life saver may open-up pathways towards exploring new materials for value-added applications. It has become clear that apart from functionalities, cost of products play a very vital role in the market acceptance of products. So, examining the economic aspects of new products and market surveys to analyze the need have to be undertaken simultaneously while conducting R & D. Next phase of R & D should involve scientists, economists and marketing professionals, towards new product development such as PPE.

Let us practice safety and wish the speedy recovery of all those who have been afflicted by the virus. Mask on and stay positive!

Ramkumar, S

From: Greg Cybulski <greg.cybulski@rousselet-robotel.us>
Sent: Tuesday, September 29, 2020 2:42 PM
To: Ramkumar, S
Subject: Re: TexSnips: Life Saving Technical Textiles

Thanks Ramkumar. These are very positive articles!

Kind regards,
Greg CYBULSKI



ROBATEL INC
ROUSSELET CENTRIFUGATION GROUP

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On Tue, Sep 29, 2020 at 3:39 PM Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

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The Year 2020 and Cotton Textiles Sector

By Seshadri Ramkumar, Texas Tech University

(Lubbock, USA, September 23, 2020)—Year 2020 keeps on giving and the cotton textiles sector is not immune to multiple pressures.

With the arrival of Autumn, harvest is on the horizon in the High Plains of Texas and the beginning of a new cotton season in India from 1st October.

2020 started with lingering trade tensions between two leading producers of cotton, China and United States. Tensions still continue at a bigger level between these two countries that are enhanced by the current pandemic. Factors as varied as political, trade and economy have caught up, that have implications for the cotton and textile sectors in general. With mandatory lockdowns for 6-weeks in countries, including India, during the peak of the pandemic, industries are slowly gearing back to speed, reaching 70-80% capacity utilization.

Consumers are king, the old adage holds true and more importantly at the present times. With over 30 million people on some form of unemployment benefits in the United States, consumer confidence and spending will determine the near term fate of the global textile industry. With the U. S. Presidential election near the corner, COVID-19 and economy are the two leading deciding factors among other ideological issues. These factors clearly influence the global textile and manufacturing sectors.

Cost competitiveness, good quality and value-added products are the way forward for the industry. United States and Europe are still leading consumers and the economy in these regions will determine the speedy recovery of the global textile industry.

Interestingly, the current global crisis is reshaping the global textile sector's space with more eyes on East Africa, Vietnam and Bangladesh. While China is the 600 pound gorilla, continuing trade tensions, COVID-19 impacts, and Xinjiang issue are watched carefully by competing countries like India to capture the market share. Cotton exporting countries like USA and Australia value China as a major player because of its buying power and need, however attention needs to be paid on recent geopolitical conditions.

Cotton textile manufacturing giants like India are seriously expanding their product basket so that weak links, such as finishing, garmenting and synthetic fiber sector, can enhance their strength against China. Given the strength of Bangladesh in its garment sector due to relative low cost labor and beneficial trade agreements that exist for Vietnam and Bangladesh, developing value-added products and enhancing the product basket are viable options for India.

COVID-19 has clearly highlighted the need for technical textiles that go into making PPEs. More importantly, lack of continued investing in this sector even in the United States has exposed its vulnerability in critical lifesaving products.

From my personal efforts for over 20 years both in the United States and India in nonwovens and advanced textiles, it is clear that the technical textiles sector has gained momentum, which has to branch out into R & D investments and new products development using cost-effective sustainable materials and processes. It also highlights the fact that developments do not come over night and need years of efforts in terms of both intellectual and capital investments. Again, as a person involved with the development of the Indian technical textile sector since 1999, I could visualize how the industry came together to develop PPE products in this COVID-19 situation. This did not happen overnight, but with sustained Government push for this sector since the early 2000s.

Market diversification and product enhancements have to be paid serious attention—a take home message from the current COVID-19 for the textile sector. Indeed, mask is the new face of the world!

Ramkumar, S

From: Ashish Phanse <~~ashish.phanse@gmail.com~~>
Sent: Wednesday, September 23, 2020 11:17 PM
To: Ramkumar, S
Subject: Re: TexSnips: The Year 2020 and Cotton Textiles Sector

Nice one, Ram!!

Mask is the new face of Textiles!!

*Mr. Amarashish Phanse
former Journalist - Ahmedabad.
COVID-19 Survivor, residing in
Pune, India*

On Wed, 23 Sep, 2020, 9:21 PM Ramkumar, S, <S.Ramkumar@ttu.edu> wrote:

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Growing the Cotton Sector

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, September 3, 2020)-Cotton supply chain is a vital job-creating sector, from agriculture to fashion industry.

With the COVID-19 creating a dent in the economy with about 30 million people on unemployment benefits in the United States, how to grow the economy is a serious challenge. Growing the manufacturing sector such as the textiles should be seriously looked into. Textile industry should develop near to long-term strategies to diversify and grow. In India, over 45 million people are employed directly in the textile sector that contributes about 2% to the GDP, highlighting the importance of this sector in employment and economy. More importantly, cotton sector cuts across two major areas of the economy: 1) agriculture and 2) manufacturing.

A discussion with preeminent people whose experience spans the fields of cotton economics, genetics, cotton spinning and communication provided valuable information.

Innovation surfaced prominently, highlighting the need for both basic and applied research in the textile and allied sectors. “Managing the cost of production and developing innovative uses are vital,” stated Kater Hake, vice president of agriculture & environmental research at USA-based Cotton Incorporated. COVID-19 has brought much attention to advanced textiles products, particularly PPE. Research reports shine light on the value of cellulosic materials towards virus destabilization, breathability and comfort. “These positive aspects should spill over to traditional markets where the bale volume is higher,” pointed Jon Devine, an economist at Cotton Incorporated. Although masks may not move the bar much with regard to consumption, new applications particularly in the medical field brings due attention to the fibers, which will influence the consumption and support for natural fibers. “Non-traditional products may not consume large quantity of cotton but they allow cotton to reach new and untapped markets,” agreed Eric Hequet, a cotton geneticist and associate vice president for research at Texas Tech University.

While mission linked research, lower cost of production are valuable tools, proper messaging about the advantages of cotton plays a critical role. Cotton is not a medicine, but it is an important fiber that goes into inner wears. Improving the production efficiencies by carefully planning cotton procurement, reducing wastes, the overall cost could be controlled. This is important to compete against low cost synthetics. “Given the current situation with damped consumer confidence, getting a breakeven is a positive aspect for a spinning mill,” stated Shanmugam Velmurugan, general manager of South India-based Jayalakshmi Textiles, which produces fine count cotton yarns. “With proper government intervention that takes care of the interests of farmers and manufacturers, the industry can look forward to diversifications,” stated Velmurugan.

Cotton sector has positive messages that have to be relayed to the stakeholders, say biodegradability, microplastic issues, etc. “Microplastic issue is a once in a hundred years opportunity for the sector,” stated Kater Hake.

Again, the pandemic has brought timely and genuine interest in natural fibers. “Pandemic has reminded everyone that we live in a giant ecosystem, which is connected and we need to pay more attention to the planet,” stated Jon Devine. Such renewed enthusiasm will help with the consumption of environmentally friendly products.

“Communication is essential for everything else to succeed,” pointed out David Perlmutter, dean of Texas Tech’s College of Media & Communication. “We should not be shy about advertising the advantages of natural fibers,” added Eric Hequet.

Seizing the opportunity at hand, supporting innovative ecosystem, looking towards cost savings and more importantly timely messaging are the tools in the toolbox for the cotton sector. Cotton industry should innovate, look for new markets and enhance the use-value of fibers say industrial applications.

Cotton Demand Needs Enhancement

By Seshadri Ramkumar, Texas Tech University

(Lubbock, USA, August 18, 2020)—Indian current year's cotton production will be more than the last month's estimate.

India's crop for the current season (October 1, 2019-September 30, 2020) is estimated to be 35.45 million bales (170 Kgs each). On August 17, Mumbai, India-based Cotton Association of India has revised its last month's estimate upward by 1.9 million bales (170 Kgs each).

While the Indian production is expected to increase, total domestic consumption is projected to decrease by 3 million bales from the earlier estimate and is pegged at 25 million bales. The total supply will be about 40.25 million bales. Total domestic consumption last year (2018-19) was about 31.15 million bales (170 Kgs). This trend highlights the need to enhance consumption by exploring new and value-added applications for cotton.

An hour-long discussion with a Mumbai-based commodity analyst with over 25 years in the commodity field provided firsthand information on Indian market. COVID-19 has certainly played a major role in the decline in demand, but the COVID-19 scenario offers opportunities for the cotton supply chain to take stock of the situation. It is time to think about unexplored markets and industrial applications such as medical textiles.

Indian cotton prices are trading at lower level compared to international value—in spite of this situation, demand is not high. "Creating demand for cotton will help the entire supply chain such as farmers and end-users," stated the trade analyst.

Complete lockdown in April and May has negatively influenced manufacturing and hence lack of demand. Even during the lockdown period, cotton has been arriving to markets and the Cotton Corporation of India (CCI) has been purchasing. After the lockdown was lifted in June, CCI has been procuring aggressively. To boost the demand, CCI has been offering bulk discount to mills to procure cotton. As the spinning mills are working at about 75% capacity, demand has not yet picked-up speed.

Kharif season's cotton may start arriving in late September/early October. Cotton supply chain eagerly awaits the demand increase, hoping for improved consumer spending in the forthcoming festival period. Next year's cotton crop may be higher than this year as the sowing has increased by 3.20 percent. Until August 14, cotton sowing has been at 125.48 lakh hectares, which was 121.58 lakh hectares around this time, last year. With increase in acreage, it adds pressure to find new opportunities. End-users are endeavoring their best to push the products to consumers. "Readymade goods (RMG) demand in Europe, Middle East and United States needs to pick-up," stated Mumbai-based commodity expert. "Wholesale trades in markets like Surat are selling shirts at 50% value. Shirts normally selling at Rupees 500 are being sold at Rupees 200 in some Indian markets," added the expert.

While COVID-19 has put a bolt on manufacturing and consumer spending, it is time to look for nontraditional applications for cotton. Public mood is behind enhanced manufacturing such as sustainable and additive manufacturing. Surely, cotton will fit well in the new manufacturing equation. New product development and effective communication are valuable in these testing times. Programs like "Cotton & Coffee," being organized by the United States' Cotton Board are the need of the hour to engage with producers, end-users and consumers.

Ramkumar, S

From: [REDACTED]
Sent: Tuesday, August 18, 2020 7:47 PM
To: Ramkumar, S
Subject: Re: TexSnips: Cotton Demand Needs Enhancement

Dear Ramkumar

One variable for demand is US China trade issues that will result in shift of cotton demand to India / Indonesia / Bangladesh / Pakistan. China mainly exports cotton based textiles to USA that can shift to India

Best Regards

Uday Gill

CEO Fibers

Indorama Ventures Limited

Our vision: To be a world-class chemical company making great products for society.

From: "Ramkumar, S" <S.Ramkumar@ttu.edu>
Date: Wednesday, 19 August 2020 01:51
Subject: TexSnips: Cotton Demand Needs Enhancement

[External Email]

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By Seshadri Ramkumar, Texas Tech University

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While the Indian production is expected to increase, total domestic consumption is projected to decrease by 3 million bales from the earlier estimate and is pegged at 25 million bales. The total supply will be about 40.25 million bales. Total domestic consumption last year (2018-19) was about 31.15 million bales (170 Kgs). This trend highlights the need to enhance consumption by exploring new and value-added applications for cotton.

An hour-long discussion with a Mumbai-based commodity analyst with over 25 years in the commodity field provided firsthand information on Indian market. COVID-19 has certainly played a major role in

Ramkumar, S

From: J Thulasidharan <[REDACTED]>
Sent: Tuesday, August 18, 2020 9:23 PM
To: Ramkumar, S
Subject: Re: TexSnips: Cotton Demand Needs Enhancement

Dear Dr Ramkumar

Greetings from ICF. Polyester & Viscose fibre prices have fallen & remain much below cotton in clean cotton cost. Further improvements & innovation in fibre quality has improved comfort, breathability, high spinning productivity etc. These factors apart economic situation has made a good impact on cotton dependability & 100% cotton is becoming more a luxury where even bed linen is out of 100% cotton.

With best rgds
Thulasidharan / *Indian Cotton Federation
Coimbatore, India*

On 19-Aug-2020, at 12:22 AM, Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

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Indian cotton prices are trading at lower level compared to international value—in spite of this situation, demand is not high. "Creating demand for cotton will help the entire supply chain such as farmers and end-users," stated the trade analyst.

What's Happening in India's Cotton and Textile Sectors?

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, July 28, 2020)-Textile sector is under stress in India.

Yesterday, Mumbai-based Cotton Association of India (CAI) estimated that this year's Indian crop (October 1, 2019-September 30, 2020) to be 33.55 million bales (170 Kgs each) as against its previous estimate of 33 million bales (170 Kgs each). This is about 550,000 bales higher than the previous estimate.

With cotton prices significantly lower than its price in January-February timeframe, lack of full capacity utilization in spinning mills will add to cotton stocks, which may lower the price further according to a few Indian spinning mill executives. CAI predicts the carryover stock to be 5.55 million bales.

"COVID-19 has reduced the consumer purchasing activity, which is the main reason for lack of uptick in the spinning sector," stated Velmurugan Shanmugam, general manager of Jayalakshmi Textiles, based in Aruppukottai, India. This mill has 72,000 ring spindles and produces finer counts catering to sheeting materials and men's wear fabrics. As mills normally keep four months stock, mills in India procured cotton in February when the 30-mm cotton was priced around Rupees 40,000 per candy (356 Kgs). Currently, spot price of this cotton has gone down creating stressful situation in the spinning sector.

Spinning and other textile segments due to lack of buyers are feeling the pinch in paying interest against working capital, adding uncertainty and stress stated Velmurugan Shanmugam who has been in the spinning industry for 30 years.

Velmurugan Shanmugam agreed with this scribe that India's textile sector should use this COVID-19 scenario as an awakening and work towards enhancing its mass production capabilities, enhance its product basket, which has been the case in China. This scribe has been advocating for value-addition to the sector and look for new industrial applications for cotton.

All eyes are on cotton and yarn prices and in fact, it all depends on the consumers in the next few weeks.

Cotton and Crisis Management

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, July 20, 2020)-Technical applications of cotton are finding applications in crisis management scenarios.

Recently, India's largest oil and gas company, ONGC uses cotton-based absorbent mats for absorbing oil spills. Cotton-based filters are finding applications in face covers during the COVID-19 pandemic.

COVID-19 situation has revealed that cotton influences the stability of viruses, which is important in developing countermeasures products like masks from cellulosic materials. Research efforts have highlighted cotton destabilizes virus relatively quickly than plastics.

Cotton is an established fiber in fiber to fashion supply chain and genuine interest is emerging to explore new applications for cotton in health and environmental sectors.

Slowly, cotton products are penetrating into crisis management situations in health care and environmental sectors. For 21 years, the Nonwovens and Advanced Materials Laboratory at Texas Tech University managed by this scribe has been researching on advanced applications of cotton. Recently, the research activities are getting commercial acceptance.

One recent recognition has been international, with the acceptance of the cotton-based mat as an oil absorbent by India's leading oil exploration public sector entity, Oil and Natural Gas Corporation, Ltd. (ONGC). Recently, during July 10-12, cotton-based absorbent pads have been effectively used by ONGC at its Godavari river delta oil well sites in Rajahmundry.

ONGC is India's largest crude and natural gas company and is ranked 18th among global players in oil and gas operations with over 30,000 employees. Penetration of cotton-based absorbent technology into this premier Indian company is a milestone with regard to the acceptance of cotton as a high performance fiber. Cotton-based nonwoven mats have moved along from the testing phase to commercial use phase, according to Nambi Srinivasan, vice president of Chennai, India-based WellGro United.

This scribe has been collaborating with WellGro United and its partners to translate ideas to market place. Speaking about the acceptance of the product by ONGC, Nambi Srinivasan stated, "It was a much awaited and prestigious order for us. With the recent positive field results of cotton-based pads, at an ONGC site, we are confident that the ONGC's order opens-up new opportunities globally."

In a similar vein, cotton-based nonwoven mats are finding applications as filters in face covers. Lubbock-based Scarborough Specialties has released face covers with cotton nonwoven filters, which evolved out of research in our Nonwovens Laboratory.

International Collaboration Evolves into Face Mask Development

By Seshadri Ramkumar, Texas Tech University

(Lubbock, USA, May 14, 2020)—A unique international collaboration between a shoe industry, textile sector and academia results in functional and fashionable face masks.

As in India and other economies, industries are slowly commencing their manufacturing activities, social distancing and strict hygiene practices have become a new normal. This has enhanced the need for hand sanitizers, gloves and face masks. Industries are looking for innovative ways to survive by repurposing their capacities that can cater to the need of COVID-19 situation.

Interestingly, collaborations are evolving between different sectors such as shoe manufacturing, textiles and cotton sector.

Ranipet, India-based Arrow Brogues, Pvt. Ltd., a shoe manufacturer is collaborating with this scribe's Nonwovens and Advanced Laboratory at Texas Tech University and Chennai-based WellGro United to develop filtering and fashionable face masks.

Arrow Brogues, Pvt. Ltd., has been in shoe manufacturing for 20 years catering to Indian and foreign markets such as Italy, Germany and United Kingdom. Masks are released under brand name H.F. Journey, which has nonwoven cotton as core filter substrate. The design expertise of Arrow Brogues has been valuable in the development of H.F. Journey masks. WellGro United supplies the core filter substrate for the masks.

“We understand the need for protection technologies and hence sought the collaboration with Texas Tech University in developing masks that have functionality and fashion sense,” stated Velayutham Pandey, managing director of Arrow Brogues, Pvt. Ltd.

The project showcases timely innovation as it has repurposed the cotton nonwoven technology to develop filter substrate. “This is a milestone for WellGro United as it has created a new vertical in our line of products which find timely use,” stated Nambi Srinivasan, vice president marketing of WellGro United.

It is pleasing to report cotton is finding new applications in the current COVID-19 scenario, enabling a few timely innovations.



Face Masks Necessity and Developments

By Seshadri Ramkumar, Texas Tech University

(Lubbock, USA, April 30, 2020)—COVID-19 has revealed the critical need for face masks, which has resulted in the evolution of various kinds of masks.

Face masks have become one of the highly visible products in the past few months. Entrepreneurship and ingenuity in humans have come to surface in these testing times.

Face masks are life savers and are important barriers for the transmission of SARS-CoV-2. As the mode of transmission is through respiratory droplets, covering face is critical. The intensity of transmission depends on the size of the virus and the load. Filters that can trap finer particles of submicron size are needed. It is well accepted that to counter finer particles that easily diffuse through substrates, Filtering Facepiece Respirator (FFR) is needed. These are commonly referred to as N95 masks.

N95 masks are generally used in scenarios where aerosols are generated. In hospital settings, these are used in isolation wards and where intubation is encountered. The efficiency of masks depends on 3Fs: 1) filtration capability; 2) fit and 3) form or comfort. In situations where aerosols are not an issue, multiply face masks commonly referred to surgical masks are used. Surgical masks serve as a barrier to bodily fluids and exhalations.

Prior to COVID-19, medical and first responder community widely used N95 and surgical masks. However, due to the severity of transmission and to support social distancing, face covers made from fabrics have evolved. However, depending on the structure and the material makeup, its ability to filter may vary. There is need to improve the filtration capability of common face covers.

FISORS Development

Face covers with enhanced filtration capability can be classified as “FISORS.” This classification has been derived by this scribe and will focus on enhanced face covers to protect the face (nose and mouth). Therefore, face masks can be classified into four broad categories: 1) Filtering Facepiece Respirators; 2) Surgical Masks; 3) FISORS and 4) Face Covers.

Fisors can have multiple types of filter substrates depending on the need. However, studies have shown that copper and cellulose such as cotton do a better job in destabilizing virus compared to plastics. Additionally, it is known that structures that provide a tortuous flow to air, may serve as better filter. Nonwovens due to random arrangement of fibers have been used as filters. Fisors can have nonwovens from materials like cotton to enhance filtration. Recently, a three-way collaboration between Nonwovens and Advanced Materials Laboratory at Texas Tech University, Lubbock-based businesses, Scarborough Specialties, Inc. and E Innovate, LLC have resulted in the development of face cover with cotton nonwoven as filter substrate. “In the time of stress, it is necessary to collaborate and find right partners to develop tools to race against COVID-19,” stated Ronald Kendall, Jr., founder and president of the year-old startup E Innovate, LLC.

Cotton is finding new and industrial applications, which shows the need for investments in research. COVID-19 has shown that innovations will play an important role in waging war against diseases as well as enhancing manufacturing activities.

Textile Dynamics in the Wake of COVID-19

By Seshadri Ramkumar, Professor, Texas Tech University

(Lubbock, USA, April 20, 2020)—Supply chain changes, interruptions and the need for innovation have become reality with the COVID-19 pandemic.

About 3 billion people in lockdown globally, world will face a new normal. Many governments are working hard to counter the pandemic. Non-medical countermeasures such as masks, PPEs, wipes have become life-saving essentials.

Recent economic forecast by the International Monetary Fund (IMF) indicates that the global economy will squeeze by 3% this year and the effect of this pandemic will wipe US\$ 9 trillion out of the global economy in two years.

This global phenomenon has exposed the vulnerability of nations that depend on a single country for consumer items, pharmaceuticals and other essentials. It has also exposed the weaknesses of the industrial sector that do not have long term planning, rather focus on short term efficiencies and profits.

While the world will have a new normal, it will entail manufacturing and other sectors to have a contingency plan and a mid to long term vision. This scenario is of importance for the textile sector that focuses on commodity and consumer items.

Textile sector needs to seriously focus on hygiene and healthcare related products. Particularly, focusing on “functional textiles,” raw materials, machinery and processing aspects for advanced textiles will provide new opportunities. Currently, according to Morgan Stanley, China dominates the world in surgical masks with over 80% global share. This situation has put stress on the supply of such health-related products during the current pandemic, which will result in market shifts.

Dependence on a single country as a major supplier may not be highly efficient in future, which will provide opportunities for countries like India, Bangladesh, Vietnam, Russia, Indonesia to start diversifying into value-added textiles. Why is this important? Given that the Chinese economy has shrunk this quarter by 6.8%, high gear activities by other countries will prove worthy shortly.

Serious gaps in the technologies and the availability of raw materials for advanced textiles must be identified. In the case of India, its research base in spunmelt technology and its converting sector must be enhanced. I have been articulating the need for developing the converting sector in India for more than a decade (See: Tips for Growing Technical Textiles, Indian Textile Journal, October 2011).

The need to bring a shift in the supply chain scenario is emphasized by Professor Gajanan Bhat of the Department of Textiles, Merchandising and Interiors, University of Georgia, Athens, USA. “At current situation, where the supply chain must shift back to US, there is need for more mask production lines and meltblown nonwoven fabric production in the US. Whereas, it takes time to increase meltblown fabric production in the US to meet increasing demand, mask production machinery can be installed much sooner, and current capacities in nonwoven production may have to be diverted for the short term to increase domestic production of meltblown nonwovens,” stated Bhat.

Industry associations can play a vital role in kick starting the innovation engine. Inventions may be hard to come by in a short time span, but innovations which involve the combination of ideas, technologies, raw materials, etc., to meet the requirements are relatively easy to put together. Small and medium scale enterprises (SMEs) which are the backbone of the economy these days need to be supported with good research and development subsidies and support network. Many innovations have been happening in the SMEs such the Chennai-based WellGro United, which has successfully repurposed its nonwoven technology to develop filter substrates. “Marketing support is critical to develop innovative products,” stated Nambi Srinivasan, vice president of marketing for WellGro United.

Cotton and Face Covers

By Seshadri Ramkumar, Texas Tech University

(Lubbock, USA, April 3, 2020)—Face covers will be the face of the world in the fight against COVID-19.

With confirmed cases globally over one million and deaths over 50,000, the need for prevention and containment technologies are growing exponentially.

As the viral transmission is through air droplets that contain the microbe, social distancing has been rightly mandated. Countries and local municipalities are administering social distancing by varied means. India has a national lockdown for 21-days and several regions around the globe are advocating shelter in place.

As a way of enhancing the needed social distancing, face covers are being considered and recommended. While cloth-based face covers may not be efficient in protecting from fine aerosolized particles, it will help with containing the unwanted spread and help with psychological immunity. The nature and the type of face covers matter.

Cotton offers promise as a potential candidate for face covers.

Research carried out by researchers at United States' Department of Agriculture in the late 1960s reveal that cotton can contain virus spread. Although not carried out on corona strain, vaccinia virus study showed that they only persist for shorter time on cotton compared to another material studied. The virus did not persist on cotton cloth beyond 72 hours. Our laboratory is currently working with multiple collaborators in coming up with improved masks and have some preliminary result showing mask with cotton-based material as the core absorbent material may offer some benefits.

A recent study by a team of United States' researchers from government laboratories and academia on SARS-CoV-1 virus' stability on different surfaces showed copper and cardboard seem to be better candidates in containing virus spread as against plastic and stainless steel. No SARS-CoV-1 virus was measurable on copper and cardboard beyond eight hours.

General inference from these studies show that viruses do not persist longer on cellulosic materials. Additionally, moisture regain of cellulosic materials will be advantageous as humidity affect the persistence.

Based on over two decades of cotton research in our laboratory, it is becoming clear that cotton can find advanced applications such as toxic chemical decontamination wipe, oil absorbent and currently in war against COVID-19.

Ramkumar, S

From: Work Gmail <sanjiv.malkan@hunterdouglas.com>
Sent: Saturday, April 4, 2020 1:55 PM
To: Ramkumar, S
Subject: Re: TexSnips: Cotton and Face Covers

Thanks for a wonderful write-up.
You really write well.

You still have not answered what is FTA ((Honorary).

Thanks. Stay safe.

Sanjiv

Sent from my iPhone

*Dr. Sanjiv Malkam
One of the early PhD in
meltblown nonwovens/UTK*

On Apr 4, 2020, at 11:53 AM, Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

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Cotton offers promise as a potential candidate for face covers.

Virus War and the Textiles Sector

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, March 24, 2020)- Advanced textiles to apparel manufacturers are turning to their own creative ways to support the fight against the invisible enemy.

As the coronavirus is a novel strain, vaccines and medications are not yet readily available to treat the infected, good hygiene practices will play a greater part in preventing its transmission.

Textiles sector has received greater attention from governments to work on a wartime footing and deliver important items such as face masks, nose shields, personnel protective equipment and wipes.

Major manufacturers like Nike, Apple to small business entities like Chantilly-based First Line Technology, LLC have geared up their efforts to deliver preventive countermeasures.

Creativity has become the name of the game. Apparel industries are repurposing their regular lines to create masks. Hanes Company has come-up with a 3-ply cotton structure that can be used as masks. 3M Company has doubled its global production of N-95 respirators to 1.1 billion, with a monthly production of 100 million.

Covid-19, the disease due to the new coronavirus is highly transmittable and is spread by air droplets and through bodily fluids containing the virus. However, porous structures like textiles seem to be better to contain than hard surface. Experts say the virus can stay on surface like textiles for 24-72 hours, but they get absorbed into the structure, which is important for containment. So single use-wipes and protective materials will be ideal, however there is an acute shortage of these critical needs.

Dry and wet wipes could help to decontaminate the surfaces. Dry wipes like FiberTect™ can play its part as a countermeasures tool. “It is widely used as the primary dry decontamination method in hospitals and ambulances,” said Corey Collins, a training specialist for First Line Technology, which markets FiberTect™. “Hospitals use it in bulk and in rolls, and ambulances use it in a kit called the FastGrab to do immediate decontamination of patients contaminated with a wide variety of substances.”

University laboratories are also contributing to the great cause and are using their 3-D printing capabilities and machine tool laboratories to develop face masks and face shields. Additionally, they are providing available supplies from their laboratories such as gloves and face masks to the front line defenders. “For those who have PPE in laboratory, specifically disposable gloves and N-95 face masks, we want to make an appeal for you to donate these materials to a campus-wide repository we can use to help resupply healthcare providers,” stated Joseph Heppert, Texas Tech University’s vice president for research and innovation in an e-mail to TTU campus community.

Textile sector needs to be collaborative at this critical juncture and use its ingenuity in coming up with supplies that are needed to save lives.

Texsnips’ editor wishes safety and good health to all, as we collectively work to find immediate solutions to counter the virus pandemic. Our heart-felt thanks to all those who are at the front lines in saving lives.

Ramkumar, S

From: Peggy Pickett <pickettp@aatcc.org>
Sent: Tuesday, March 24, 2020 12:23 PM
To: Ramkumar, S
Subject: RE: TexSnips: Virus War and the Textiles Sector

Great article, thanks for sharing it!

Stay healthy and well!
Peggy

Peggy J. Pickett
Education Director
AATCC

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[Facebook](#) | [Instagram](#) | [LinkedIn](#) | [Twitter](#) |

C Retiring in 2020 after 40 years with AATCC.



From: Ramkumar, S <S.Ramkumar@ttu.edu>
Sent: Tuesday, March 24, 2020 1:15 PM
Subject: TexSnips: Virus War and the Textiles Sector

Virus War and the Textiles Sector

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, March 24, 2020)- Advanced textiles to apparel manufacturers are turning to their own creative ways to support the fight against the invisible enemy.

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Ramkumar, S

From: Dr. PR Roy <prroy44@gmail.com>
Sent: Thursday, March 26, 2020 2:24 AM
To: Ramkumar, S
Subject: Re: TexSnips: Virus War and the Textiles Sector

Many thanks for the informative communication.

Sent from my iPhone

On 24-Mar-2020, at 10:44 PM, Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

*DR. P. R. Roy - former Group CEO
Arvind Mills
Industry Veteran, India*

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Ramkumar, S

From: Sarah Elaine Lewis <~~sarah.lewis@sustainabilityconsortium.org~~>
Sent: Tuesday, March 24, 2020 8:27 PM
To: Ramkumar, S
Subject: Re: TexSnips: Virus War and the Textiles Sector

Thank you for this. Very interesting. I hope you're doing well!

Sarah E. Lewis, Ph.D., ISSP-SA
Senior Director, Innovation
Mobile ~~(817) 252-2087~~
Twitter [@SarahELewis1](#) | [LinkedIn](#) [View Profile](#)
Email ~~sarah.lewis@sustainabilityconsortium.org~~

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Sustainable Products for a Sustainable Planet
www.sustainabilityconsortium.org
[Twitter](#) | [LinkedIn](#) | [Facebook](#)

From: Ramkumar, S <S.Ramkumar@ttu.edu>
Sent: Tuesday, March 24, 2020 12:13 PM
Subject: TexSnips: Virus War and the Textiles Sector

Virus War and the Textiles Sector

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, March 24, 2020)- Advanced textiles to apparel manufacturers are turning to their own creative ways to support the fight against the invisible enemy.

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Aspirational India and Advanced Textiles

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, February 03, 2020)-India is now fifth largest economy worth US\$2.9 trillion.

On February 1, India's Finance Minister, Mrs. Nirmala Sitharaman, presented Honorable Prime Minister Modi government's budget in the Indian parliament for the 2020-21 fiscal year. The speech was longest since independence and lasted 2 hours and 41 minutes.

The budget focuses on five priority aspects: 1) Health care; 2) Respecting wealth creators; 3) Agriculture growth; 4) Happy living and 5) national defense.

The budget presented 16 points to enhance agriculture aimed at doubling farmers' income by 2022.

Textiles industry has something to cherish in the budget with the prioritization of technical textiles (advanced textiles) sector. A four-year national technical textiles mission is proposed with an outlay of Indian Rupees 1480 crores. As this sector is currently import intensive, this initiative will boost its growth and domestic development.

Government of India has been promoting this sector by creating awareness, which this scribe has collaborated by bringing international associations such as the USA-based Association of Nonwoven Fabrics Industry (INDA), Technical Association of Pulp and Paper Industry and American Association of Textile Chemists and Colorists (AATCC). In fact, in 2006, AATCC collaborated with this scribe in an international event on, "Advances in Fibrous Materials, Nonwoven and Technical Textiles," in Coimbatore, with the first ever participation by INDA's representative presenting global market statistics on nonwovens.

Another aspect that has received favorable response from textile mills is the abolition of antidumping duty on purified terephthalic acid (PTA) imports, an important input for polyester fibers. "This gesture is of help to the synthetic fibers industry as India imports it from Thailand and South Korea in addition to having domestic source," stated Krishnasamy Pothiraj, consultant with Coimbatore-based Shubhalakshmi Polyesters, Ltd. "As approximately 0.85 Kg of PTA is required for 1 Kg of polyester fiber manufacturing, availability and competitive price will help the textile industry," added Pothiraj. His company consumes daily about 700 tons of PTA for the manufacture of fibers and filaments.

"Emphasis on infrastructure with the building of over 100 airports, skill development programs and cold storage facilities in railways will support industrial growth," stated Sridhar Narayanan, FICCI, Tamil Nadu State Convener, Education Sector. He added that the hosting of G-20 presidency in 2022 is a confidence booster. Supporting MSME and start-ups will enable in-house employment generation, which is the need of the hour. Start-ups such Chennai-based WellGro United (www.wellgrounited.com), need to utilize initiatives such as "Make in India," and develop value-added textiles.

Textile sector should utilize the national mission on technical textiles proposed in the new budget to diversify, stated Shanmugam Velmurugan, general manager of Aruppukottai-based Jayalakshmi Textiles, a 72,000 spindle cotton mill. Availability of quality cotton all throughout the year at competitive price is critical for cotton spinners, added Velmurugan.

On a personal note, it is pleasing to report the continuing support for growing the advanced textiles sector with the national mission initiative proposed in the budget, as I have been in this journey since my initial awareness effort in India on research in advanced textiles way back in the Fall of 1999 in Coimbatore.

Nonwoven Products at the Forefront of Coronavirus Infection Containment

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, January 31, 2020)-It has been a month since the information about the new strain of coronavirus became public.

Front pages of broadsheet newspapers and television screens have glaring images of facemasks worn by people in China. These single-use facemasks have spunmelt and carded filter substrates and have been in demand in China since the outbreak.

With the WHO's recent announcement that this outbreak is a global emergency, containment measures will get attention including vaccine development. As of yesterday, there have been 170 deaths in China due to this outbreak and the infection has spread to 18 countries.

According to medical experts, a primary mode of spread of this new coronavirus is by transmission through air and are airborne. Good hygiene such as hand wash and protection are recommended. Facemasks can help with the containment of airborne infection depending on their level of protection. Nonwoven wipes can be a good aide for personnel hygiene.

"Filters will play a part in slowing or stopping the spread of the coronavirus in hospitals and other building that utilize high MERV 13 and above rated filters to remove the virus which is air borne from the air. Other filters include face masks which can stop the transmission of the virus through coughing and sneezing when other people are within a 3-6 foot radius," stated Chris Plotz, Director of Education & Technical Affairs of INDA, a 19-year nonwoven industry veteran.

According to Cary-based Association of Nonwoven Fabrics Industry (INDA), filter and wipes substrates have 25% share based on weight, collectively at the end-user level. Overall, at the producer (roll goods) level, the industry is valued at US\$15.5 billion in North America.

Nonwoven substrates play an important role in human health and environmental protection. In recent times, when toxic chemical attacks happened, FiberTect decontamination wipes marketed by Chantilly-based First Line Technology proved its usefulness. After the 2010 BP oil spill in the United States, several nonwoven wipe technologies emerged. Towelie TM an environmentally friendly nonwoven-based oil absorbent technology evolved. In hospitals, while treating infected personnel, caregivers use different types of PPEs.

Nonwoven and textile products rise up to the occasion and aide with the containment of infectious disease outbreaks and environmental problems such as crude oil spills.

Nonwoven Textiles Aides with Job Creation in an Indian Village

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, January 27, 2020)-A village in the deep south of India starts manufacturing environmentally friendly nonwoven products as part of “self-help” effort.

Azhvarthirunagari, a village on the southeastern border of India, about 30 Kms from seashore is using nonwoven fabrics to manufacture eco-friendly products. Villagers with assistance from TVS Srinivasan Service Trust, a charitable arm of the leading TVS group of companies are resorting to self-help in creating jobs for unemployed youth and women.

It is pleasing to report that this initiative has some personal touch to see nonwoven products making inroads in to villages, and more importantly helping with job creation, since my effort to create practical awareness in this field by initiating USA-based Association of Nonwoven Fabrics Industry’s (INDA) first training workshop in Mumbai in 2007. Azhvarthirunagari happens to my village where I mostly spend time during summer—the nonwoven products initiative is in a way humble success to see the penetration of this technology, which has been my mission for 20-years. Indian government supported knowledge creation by collaborating with INDA, this scribe and many associations throughout India, since the mid-2000s.

The villagers are playing a major part in the “Avoid Single-Use Plastic,” initiative, which Honorable Narendra Modi, Indian Prime Minister launched recently and has rightfully encouraged the country to avoid using single-use plastic materials that pollute the environment. Single use thin polyethylene grocery bags are a main source of contamination in cotton and marine environments.

Thirty women have been trained to convert nonwoven fabrics into useful products. These women now have access to disposable income and enhances confidence in them. This scribe’s village house serves as an abode for the cutting operation and warehouse. Conversion happens at participating women’s houses, so that they can work on the project amidst their home chores.

“There is plan to go all cotton,” stated Ponnusamy Muthuramalingam, youngster involved in the initiative. We have identified cotton fabric source, added Ponnusamy. It was such a relish to know the enthusiasm and confidence in villagers like Ponnusamy and Ariharabalan Muthuramalingam, who spoke to this scribe via phone yesterday.

Plans are emerging to connect the group with nonwoven marketing group, Chennai-based WellGro United, which has taken cotton nonwoven Towelie™ to global markets. Opportunities in export markets are being examined to take the project further.

The nonwoven project in Azhvarthirunagari with support from a major manufacturing company, TVS group is an inspirational story, that too from my own village in India. The villagers solve their problems on their own taking their responsibility seriously by working closely with civic agencies. In fact, they use social media effectively to organize and solve their day-to-day problems.

Ramkumar, S

From: Joao Paulo Saraiva Morais <joao.morais@embrapa.br>
Sent: Tuesday, January 28, 2020 1:23 PM
To: Ramkumar, S
Subject: Re: Inspirational TexSnips: Nonwoven Textiles Aides with Job Creation in an Indian Village

Nice story! Thanks for sharing!

João Paulo Saraiva Morais, MSc. em Bioquímica

Pesquisador em Nanotecnologia / Nanotechnology Researcher

Embrapa Algodão / Embrapa Cotton
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Confira também: www.facebook.com/agrosustentavel



From: "S Ramkumar" <S.Ramkumar@ttu.edu>
Sent: Monday, 27 January, 2020 11:29:57 AM
Subject: Inspirational TexSnips: Nonwoven Textiles Aides with Job Creation in an Indian Village

Nonwoven Textiles Aides with Job Creation in an Indian Village

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

China Deal and Cotton

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, January 16, 2020)-United States-China trade deal (Phase-1) signed yesterday raises hopes for the cotton sector.

On the day when the United States-China trade deal (Phase 1) was signed in Washington, DC, cotton growers gathered for the Plains Cotton Growers' Board meeting yesterday, to talk about 2019 crop, trade situation and the cotton market.

Reece Langley, vice president operations at Memphis-based National Cotton Council presented information about the trade situation. This scribe had an opportunity to talk with Langley on the sidelines of the meeting about the trade deal signed and its impact on the United States' cotton sector.

With the signing of the deal, China's import of United States' agricultural products would reach at least US\$ 40 billion per year. Potential is there for US\$ 50 billion/year. Langley stated that commodity wise itemization is not known yet. United States' cotton sales to China during the 2017 calendar year was 2.5 million bales (480 lbs. each) worth about US\$ one billion. The sales of agricultural products in that year to China was about US\$ 24 billion. The trade deal is expected to enhance this value by US\$ 16 billion.

Langley hoped that the U.S. cotton's market share in China would at least reach the pre-tariff era. The tariff regime has brought down the share to about 18% last year.

Producing and delivering high quality and clean cotton will help to regain the market share. Dahlen Hancock, Lynn county farmer in the High Plains for 39 years stated, "we have to keep striving to provide superior quality as the world needs quality cotton."

Regional and international trade pacts such as the United States-Mexico-Canada agreement (USMCA), which is expected to be passed by the U.S. Senate this week, provides certainty for the existing marketing condition, stated Langley.

"The recently signed Phase 1 of the China trade agreement has the potential to provide resumption of access to an important market for Texas cotton producers. Confirmation of that will be actual sales to China, and we hope that comes to fruition soon," stated Steve Verett, chief executive officer of Lubbock-based Plains Cotton Growers, Inc.

The mechanism by which China is going to enable this trade deal to fruition will be interesting watch--- may be by providing tariff exemption to imports to achieve the target.

Ramkumar, S

From: Gurudas Aras <~~g_aras@ateindia.com~~>
Sent: Thursday, January 16, 2020 4:08 AM
To: Ramkumar, S
Subject: Re: TexSnips: Can We Create Researchers

Dear Dr Ramkumar

Greetings for the new year !!

Your following article makes great sense in the context of India. We are clearly lacking in innovating and research skills. In fact our education system in India does not encourage asking questions. The ecosystem too does not provide any kind of encouragement for research. The best criterion will be the number of research papers filed and number of patents filed each year in India vis a vis US and China. We clearly lack by thousands of miles in research and innovation and the change has to initiate itself from the primary education. We are producing thousands of engineers and doctors each year but just to feed the system. We do not produce enough scientists and researchers who can take India to a different level. Today that is really a need of developing country like India. A significant % of GDP needs to be spent on research and development activities; if we need to see some light at the end of the tunnel. Many more research institutions need to be founded for producing PH.D.s and scientists. The dream of developed India can not be fulfilled if this area is continued to be neglected.

Regards

Gurudas Aras Director, Textile Engineering Group



On Wed, Jan 15, 2020 at 2:29 AM Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

Can We Create Researchers?

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, January 14, 2020)-Enhancing competitiveness in manufacturing industry needs ramping up transformational research efforts.

Ramkumar, S

From: Dahlen Hancock <~~dk5000@ttu.edu~~>
Sent: Thursday, January 16, 2020 12:37 PM
To: Ramkumar, S
Subject: Re: TexSnips: China Deal and Cotton

Mr. Ramkumar,

Good seeing you yesterday at the PCG meeting. I think your article is good and my quotes about producing superior high quality cotton fits in with the article. I also hope this Phase 1 deal is a path back to prices that were pre tariff.

Have a nice day,
Dahlen Hancock

*Cotton Farmer since 1980
2019 Cotton Achievement Award Winner*

Sent from my iPhone

On Jan 16, 2020, at 9:32 AM, Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

Dear Mr. Hancock, it was indeed nice visiting with you y'day. Appended is my article wherein your comments are there.

Best regards,
Ram

Dr. Seshadri Ramkumar, PhD, CText, FTI (UK), FTA (*Honorary*)

Professor, Nonwovens & Advanced Materials Laboratory

Texas Tech University, Lubbock, TX, USA

E-mail: s.ramkumar@ttu.edu

Website: <http://www.tieh.ttu.edu/sramkumar>

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Ramkumar, S

From: Gautam Ganeriwal <gautam@sitaramspinners.com>
Sent: Thursday, January 16, 2020 8:28 PM
To: Ramkumar, S
Subject: FW: TexSnips: Can We Create Researchers

Dear Mr. Seshadri Ramkumar,

Nicely written article. We are 75,000+ spindles mill based out of Hyderabad, India manufacturing primarily cotton Core spun Lycra for stretch denims and bottom weight.

I am in USA for past 10 days visiting CES, Las Vegas and now presently pursuing 5 days Stanford University course on disrupting in your industry. I am attentively observing any idea we can get to reduce our cost or start new line of business which could be disruptive in our market place. However we aren't much successful yet after completing our expansion and being India's largest CSY manufacturer last year.

Please suggest way forward.

Thanks & best regards,
Gautam Ganeriwal

Sitaram Spinners Pvt. Ltd.,
(Government of India recognized Export House)
Corporate Office:
"Rama Towers", 5-4-83, 2nd Floor, TSK Chambers,
MG Road, Secunderabad - 500003. Telangana, INDIA
Ph: +91- (0)40- 3049 8000
Fax: +91- 40- 2754 3804
www.sitaramspinners.com

From: Lakshmi Rekha <lakshmirkha@msagarwal.com>
Sent: 16 January 2020 03:03
To: gautam@sitaramspinners.com
Subject: FW: TexSnips: Can We Create Researchers

Sir,

FYI

Thanks & Regards,
G Lakshmi Rekha
PA to Director
SITARAM SPINNERS PVT.LTD.
Mobile No. 8179068666

Can We Create Researchers?

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, January 14, 2020)-Enhancing competitiveness in manufacturing industry needs ramping up transformational research efforts.

How do we create researchers and make manufacturing sector such as textiles and materials competitive? Textile sectors in the West and even in India are under stress. A way out is to come up with textile products that have high performance applications which will be absorbed by markets.

Transformational research and development may provide some help. Research has progressed from carrying out activities, which may just satisfy intellectual curiosity to transformational. This needs changes in mindset and developing skill sets. Strategies can be followed to infuse research culture in academia and industry. However, researchers cannot be created using standard set of procedures.

In my 25 years of research in textiles and materials, my observation is that one can teach research methodology, but to develop researchers is not simple. It involves enthusiasm and passion from those carrying out research.

Cultivating research attitude among students early on, say from high school days is gaining momentum. Texas Tech University has initiated, “Transformative Undergraduate Experiences (TrUE),” program for undergraduate students. “For students in STEM disciplines, engagement in undergraduate research is particularly important to help them build the necessary skills. Research experiences are highly desirable for STEM majors who are preparing for admission to graduate and professional skills, but they also significantly benefit students who go directly to the workforce after graduation,” stated Professor Michael Galyean, provost and chief academic officer at Texas Tech University.

Insights from actual practitioners on the need to train next-generation workforce with research skills are particularly helpful.

Market and consumer surveys will help with moving ahead with R & D. “Customers can provide valuable technical advice as they have seen the technology at multiple vendors and know what to be worried about, what is normally possible, etc.,” stated Navaneeth Nandakumar, senior technical staff with semiconductor industry, Maxim Integrated.

“Interacting with industry to know the needs will assist planning next phase of research. Students can be paired with industrial partners, which will enable undergraduate and graduate students to be excited with practical aspects of classroom learning,” stated Sivaramakumar Pariti, senior technical marketing officer with United Kingdom-based Bluwin UK. A project led by Pariti involved students with Erode, India-based India Dyeing Mills, which has resulted in the reduction of salt in cotton fabric dyeing. Students’ enthusiasm in research enhanced as they could witness actual impact on environment and cost, added Pariti.

Customer objections can lead to new innovative ideas, stated Nikesh Rajagopalan, director of solutions, Medical Devices & Auto, HCL America. He added, “Customers are the best teachers around.”

Interaction with research partners, customers, and collaborative entities, can boost enthusiasm to do valuable research.

Planning and strategizing research in partnership with stakeholders is the way to move forward. Team and project leaders can be influencers to develop researchers. Of course, it is a two way street and researchers need to have passion and dedication. It is a team effort—valuable mantra for researchers.

01-14-2020

Ramkumar, S

From: Galyean, Michael
Sent: Tuesday, January 14, 2020 3:19 PM
To: Ramkumar, S
Cc: Pigg, Sharon; Duncan, Robert; Stewart, Rob; Schovanec, Lawrence; Heppert, Joseph; Presley, Steve; Cook, Chris; Salama, Toni; Young, Glenys
Subject: RE: You Views/Can We Create Researchers

Thanks Ram. Nice article, and we appreciate the opportunity to be highlighted in this venue.

Mike Galyean

*Provost and Chief Academic Officer
TTU*

From: Ramkumar, S <S.Ramkumar@ttu.edu>
Sent: Tuesday, January 14, 2020 2:37 PM
To: Galyean, Michael <Michael.Galyean@ttu.edu>
Cc: Pigg, Sharon <Sharon.Pigg@ttu.edu>; Duncan, Robert <Robert.Duncan@ttu.edu>; Stewart, Rob <Rob.Stewart@ttu.edu>; Schovanec, Lawrence <Lawrence.Schovanec@ttu.edu>; Heppert, Joseph <Joseph.Heppert@ttu.edu>; Presley, Steve <Steve.Presley@ttu.edu>; Cook, Chris <Chris.Cook@ttu.edu>; Salama, Toni <Toni.Salama@ttu.edu>; Young, Glenys <Glenys.Young@ttu.edu>
Subject: You Views/Can We Create Researchers

Dear Provost Galyean, Very many thanks for providing comments for my column, "Can We Create Researchers?" I have mentioned about TrUE. As you would know the column goes to about 2000 people as part of my Engaged Scholarship activity. Many outlets in the field in US, UK, India, Bangladesh, to name a few pick it up. Appended is the column, which has good ink about your views. Best regards, Ram

Can We Create Researchers?

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Ramkumar, S

From: Sagrika (Corp-MD Off) <~~sagrika@vardhman.com~~>
Sent: Tuesday, January 14, 2020 10:06 PM
To: Ramkumar, S
Subject: RE: TexSnips: Can We Create Researchers

Dear Dr. Ramkumar,

This was an incredibly interesting article and I am in complete agreement. At Vardhman also, we take students from IIT for internship projects. However, we can definitely do more!

Best Regards,
Sagrika

Corporate Management
Vardhman Textiles, India.

From: Ramkumar, S [mailto:S.Ramkumar@ttu.edu]
Sent: Wednesday, January 15, 2020 2:24 AM
Subject: TexSnips: Can We Create Researchers

Can We Create Researchers?

By: Seshadri Ramkumar, Texas Tech University, USA

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Marketing Needs to Focus on Attributes

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, January 09, 2020)-Marketing needs to focus on performance attributes.

A few marketing tips came out clear in a presentation today in the Agriculture Committee meeting at Lubbock Chamber of Commerce. Florentino Lopez, executive director of Sorghum Checkoff, marketing and promotion arm of the United States' sorghum producers provided valuable information on how to tap new opportunities and markets.

Looking for new markets and opportunities will enhance value and sales volume. As is the case with the United States' sorghum, which has become an important raw material for Baijiu, a Chinese drink, sustained marketing efforts can lead to new opportunities for cotton and textile products.

United States' sorghum industry marketed superior attributes like flavor, high protein content and antioxidant characteristics to tap new markets.

While volume based market will be priority, value-addition to find new applications will also help. This approach has helped with the development of new market opportunities for cotton such as Towelie TM oil absorbent wipes.

"It is all about attributes and consistent production capability," stated Lopez. Additionally, creating touch points to tell good story about the product such as environmentally friendliness can enhance value.

To a question from this scribe on how to overcome marketing barriers, John Duff, strategic business director of Lubbock-based National Sorghum Producers stated, "marketing based on performance attributes and not relying on one market helps." Diversifying applications is valuable as is the case with sorghum, which finds applications in sectors such as livestock feed, ethanol and other industrial applications such as wallboards and insulation.

Effective utilization of technology to tell positive stories on products will be vital. Social media can help to motivate consumers, which agricultural and textile sectors are effectively utilizing to promote products such as the cotton industry. "Reach out to influencers," said Lopez.

Ramkumar, S

From: Eddie McBride <Eddie.McBride@lubbockbiz.org>
Sent: Thursday, January 9, 2020 2:29 PM
To: Ramkumar, S; Norma Ritz Johnson
Cc: Patsy Moffett; Kyle Jacobson
Subject: RE: TexSnips: Marketing Needs to Focus on Attributes

Sounds great Ram, thanks.

Eddie McBride
President and CEO
Lubbock Chamber of Commerce
1500 Broadway, Ste 101 | Lubbock, TX 79401
P: 806-761-7000 | C: 806-441-8966
www.lubbockchamber.com

The Lubbock Chamber is...
a **CATALYST** for business growth;
a **CONVENER** of leaders and influencers;
and a **CHAMPION** for a stronger community.

From: Ramkumar, S <S.Ramkumar@ttu.edu>
Sent: Thursday, January 9, 2020 2:23 PM
To: Eddie McBride <Eddie.McBride@lubbockbiz.org>; Norma Ritz Johnson <Norma.Johnson@lubbockbiz.org>
Cc: Patsy Moffett <Patsy.Moffett@lubbockbiz.org>; Kyle Jacobson <Kyle.Jacobson@lubbockbiz.org>
Subject: FW: TexSnips: Marketing Needs to Focus on Attributes

[Norma and Eddie, My article on today's meeting, FYI.](#)

Best,
Ram

=====

Marketing Needs to Focus on Attributes

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Year End Bird's-eye View on Cotton

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, December 20, 2019)-Cotton is a natural material, which is pre-sold on comfort and faces competition from other fibers.

A year-end tête-à-tête with Professor Eric Hequet, an internationally renowned fiber quality expert at Lubbock-based Texas Tech University provided useful information that may benefit the global textile sector.

Focus on quality, providing maximum information on fiber quality and developing new products and markets are some aspects Hequet insisted that the industry should be concentrating.

“If the end-users such as spinners could know what they are buying in terms of cotton, it is a big plus,” stated Hequet. United States’ cotton industry has been a leader in providing maximum information on a bale of cotton. Other leading producers such as Brazil and India have started paying attention to providing information. As long as fiber quality evaluation is handled by reliable independent agency such as the United States’ Department of Agriculture classing offices, data’s credibility will be well accepted. Brands are demanding more source information to stay competitive and gain consumer acceptance and hence data dissemination is becoming vital.

Stakeholders’ contribution to the growth of the industry is vital for not only the cotton sector but also holds good for all sectors. Stakeholders need to support “mission-linked,” research for enhancing market share and use-value.

To a question from this scribe on what is next for the industry, Hequet stated improving fiber length uniformity, strength and finding new applications should be the task. He highlighted the growing interest in vortex spinning, which necessitates the need for length and strength improvement. The surface structure of these yarns are on par with ring spun yarns, but the internal structure is weak. Therefore, fiber strength improvement to 40-42 grams/tex will help. Labor cost is rising even in some eastern countries, which makes ring spinning expensive. Cotton sector can help by breeding fibers that will suit newer spinning technologies.

Hequet’s view on what should be the goal for the industry in the next five years included focusing on drought resistance and water efficiency without sacrificing fiber quality. As the global population is on the rise, maintaining cotton’s market share at 30% will enable more use of cotton based on consumption.

The biodegradability aspect has to be effectively handled by the industry both for developing new biomaterials and for marketing. For past few years, I have been advocating focusing our attention beyond, yield and quality such as creating new value-added products--this aspect came out clear in the discussion with Professor Hequet. With 38-years of experience in the cotton sector starting as a breeder in Chad, Hequet ended with a positive note that cotton is here to stay.

NASA Engineer Emphasizes Importance of Experience

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, December 18, 2019)-Little experiences in life add-up and cultivates leadership.

Speaking last Friday, December 13, 2019 at the Fall Commencement at Texas Tech University, Ms. Ginger Kerrick, Flight Integration Division Chief, NASA Johnson Space Center and a member of Board of Regents, Texas Tech University System (TTUS) highlighted the vital role experience plays in life and career. Leadership roles shape-up well based on experience and effective communication. Staying in touch with alma mater is important as it helps with career and life was the essence of short speech by Ms. Kerrick, who has the distinction of being NASA's first Russian training integration instructor and provided support to the first crew to live onboard on the international space station.

On a personal note, it was such a relish to be part of the solemn and joyful event and witness my student Lihua Lou receiving Ph.D. for her work on functional nanofibers for human health enhancement and environmental protection.

Chris Snead, vice president of operations, TTU alumni association highlighted the usefulness of planning. "Be ready to change if best laid out plans don't work," advised Snead. Five valuable points highlighted by Snead will serve researchers, administrators and business leaders well: 1) Positive attitude, 2) Persistent effort, 3) Passion to succeed, 4) Preparation and 5) Meeting deadlines and punctuality. Walking through his days in college, Snead advised to keep reinventing as change happens all the time.

J. Michael Lewis, business leader and vice chair of Board of Regents of TTUS gave a sage advice to be a lifelong learner.

Experience, reinventing in times of need and lifelong learning are valuable tools for success in industry and life.

Ramkumar, S

From: Prem Chitkara <Prem.Chitkara@ihsmarkit.com>
Sent: Wednesday, December 18, 2019 3:02 PM
To: Ramkumar, S
Subject: Re: TexSnips: NASA Engineer Emphasizes Importance of Experience

Dr Ram,

Very well said by Ginger and Chris.

Compliments for Lihua.

Merry Christmas and nice holidays ahead!

Best regards
Prem

Prem Chitkara
Director, Polyester & Nylon Fibers
IHS Markit, London, UK

From: Ramkumar, S <S.Ramkumar@ttu.edu>
Sent: Wednesday, 18 December 2019, 18:38
Subject: TexSnips: NASA Engineer Emphasizes Importance of Experience

[CAUTION] EXTERNAL EMAIL

NASA Engineer Emphasizes Importance of Experience

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

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Takeaways from the Australian Cotton Sector

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, December 12, 2019)-Amidst drought for three years. Australian cotton crop is expected to be about one million bales.

An hour-long insightful discussion with Dr. Kater Hake, vice president for agricultural and environmental research at Cary-based Cotton Incorporated, revealed some of the successful management practices adopted by the Australian cotton sector. Hake has just returned from his trip to down under interacting with global cotton industry people and visiting farm country in Dalby region in Queensland, Australia.

Australian production this year for the season ending in March 2020 is estimated to range from 0.7 million to 1.3 million bales. While the quantity is significantly down, quality seems to fall within the expected range. As close to all cotton produced is exported predominantly to Asian countries, quality plays a significant role, with tight range in micronaire.

Discussions with Dr. Hake revealed four important takeaways: 1) technology adaptation, 2) value-addition to cotton byproducts, 3) water use efficiency and 4) resistance management of Bt traits.

With increasing labor costs, Australian cotton farmers are effectively utilizing robotics. Hake pointed out that he had seen herbicide sprayer robots that have weather signaling systems in them. The sprayer senses wind directions and temperature and switches on and off enabling good environmental stewardship. As the Australian crop is irrigated, due to government restrictions in water usage, planting is limited to water availability during the growing season.

Australia has no oil crusher for oil; hence, all cottonseed goes to feeding cattle. Interestingly, 25% of the cattle diet is cottonseed, which enriches the quality of meat, catering to high quality export. Resistance management of Bt traits has helped the industry to have control on bollworms. While the resistance issue is not a serious concern in West Texas, other parts of the United States face this situation. Some of the agricultural practices such as shallow tillage to disrupt the pupae is helping the Australian farmers, stated Hake.

As the amount of available land in Australia for cotton is limited, with more acreage for cotton here, United States is still the largest and reliable supplier of cotton in the export market. However, cotton growing is expanding to the north and south of traditional growing areas in New South Wales and Queensland, observed Hake.

In closing Hake stated, “the production systems between the United States and Australia are similar and the two countries can learn and help each other to move the industry forward.”

Ramkumar, S

From: Hake, Kater D. <KHake@cottoninc.com>
Sent: Thursday, December 12, 2019 3:45 PM
To: Ramkumar, S
Subject: Re: TexSnips: Takeaways from the Australian Cotton Sector

Excellent Ram
thanks

→ by Dr. Kater Hake VP Agriculture, Cotton Inc
started career 40-years back as cotton farm advisor in
UC System in Bakersfield, CA.

On Dec 12, 2019, at 2:23 PM, Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

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Cotton Brainpower

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, December 05, 2019)-Collective brainpower in the United States' cotton sector descended for two days in Lubbock, Texas.

Cotton producers, researchers and academics gathered for two days (December 4-5) to discuss cutting-edge applied and field research in Lubbock. Researchers who have been funded by the U. S. cotton growers through Cotton Incorporated interacted with cotton producers to advance the industry forward.

Research focusing on transgenics to finding new applications and markets were presented. It is important to state that how engaged the cotton farmers were with the researchers and showed interest to take applicable results to their field.

Fiber yield, quality and new applications were the major themes that came across in the meeting, which had about 70 people in attendance. "We would not be here today with such higher yields and quality without research," stated Dale Swinburn of Tulia who has been farming for fifty years in the High Plains of Texas.

In discussion with this scribe, Barry Evans, who farms 4,000 acres in Swisher County in Texas, stated that research on drought resistance due to declining water levels and new applications for cotton are important.

Varieties, chemistries, farming methods and management have significantly improved over last four decades. Steve Verett, chief executive officer of Lubbock-based Plains Cotton Growers, Inc. and a cotton producer from Crosby County, Texas highlighted the research benefits that have resulted in varieties and improved irrigation efficiency since his beginning to farm in 1977.

As over 80% of United States' cotton crop is exported, Professor Eric Hequet of Texas Tech University emphasized on quality and preserving the quality through processing stages such as mechanical harvesting, ginning, etc.

"The industry has come a long way since my first farming days as a high school student in 1964, when herbicides were just beginning to appear," stated Danny May who farms in the Calhoun County in South Texas.

It is important for the global cotton industry to work with all the stakeholders such as the farmers, researchers and end-users and advance the industry forward.

Ramkumar, S

From: Steve Verett <steve@plainscotton.org>
Sent: Friday, December 6, 2019 11:24 AM
To: Ramkumar, S
Subject: Re: Cotton Growers-Researchers Interaction/Positive reaction from Past president of American Association of Textile Chemists and Colorists

Ram

This is really a very nice compliment and I completely agree. As you know however, the fact of the matter is, that the kind of engagement we have here in Lubbock among all of the different interests is very unique, but without you reporting on it, many would have no idea such takes place.

I too am thankful and proud to be a part of this cotton industry in Lubbock Texas..

Best regards

Steve

Steve Verett
Chief Executive Officer
Plains Cotton Growers, Inc.
8303 Aberdeen Ave.
Lubbock, Texas 79424
steve@plainscotton.org
806-792-4904 Voice
806-792-4906 Fax

On Dec 6, 2019, at 9:05 AM, Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

Greetings! Below I am forwarding a note from Nelson Houser, a prominent industry leader in textile chemistry and Past President of the leading professional association in the field of textile professionals, RTP-based *American Association of Textile Chemists and Colorists*.

Even before, TTU started doing right thing to push for engagement, I have been documenting my interactions with industry people and started publishing "TexSnips" column. It has about 2000 subscribers and sent totally complimentary. Many outlets around the world pick it up as well.

Glad people appreciate the collective efforts US cotton industry is doing.

I am thankful that I am part of this industry.

Best regards,

Ramkumar, S

From: Hequet, Eric
Sent: Friday, December 6, 2019 9:20 AM
To: Ramkumar, S
Cc: Hequet, Eric
Subject: RE: Cotton Growers-Researchers Interaction/Positive reaction from Past president of American Association of Textile Chemists and Colorists

Excellent! Thank you Ram.

Eric

Eric Hequet
Horn Professor, Texas Tech University
Faculty Fellow, Office of Innovation

From: Ramkumar, S <S.Ramkumar@ttu.edu>
Sent: Friday, December 6, 2019 9:06 AM
Subject: Cotton Growers-Researchers Interaction/Positive reaction from Past president of American Association of Textile Chemists and Colorists

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From: NHOUSER@triad.rr.com <NHOUSER@ >
Sent: Friday, December 6, 2019 8:17 AM
To: Ramkumar, S <S.Ramkumar@ttu.edu>
Subject: TexSnips: Cotton Brainpower

Ram - what would I, and may others, do if we didn't have you providing us with these excellent overviews, summaries, and reports related to the cotton industry.

If I might ask a "dumb" question, does such engagement by academics, growers, researchers, etc., occur in other cotton growing areas in the US, or are they too small and fragmented, or the respective area meetings not reported? Maybe the news is there, but I'm missing it.

Thanks to you for all that you do academically and industry-wide, and for your contributions to AATCC.

All the best for the holidays and wish you and family well.

Ramkumar, S

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Sent: Friday, December 6, 2019 8:17 AM
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All the best for the holidays and wish you and family well.

Nelson

*Textile Dye Industry Leader
(former President of American Association of
Textile Chemists + Colorists)*

From: "Ramkumar, S"
To:
Cc:
Sent: Thursday December 5 2019 3:23:08PM
Subject: TexSnips: Cotton Brainpower

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Resource Outsourcing-A Vital Tool for Industrial Success

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, December 2, 2019)-Cost cutting pressures, competition from low cost countries and constantly emerging incremental technologies have become industrial norms these days.

How can industries such as textiles and manufacturing survive in these competitive climates? It is a luxury to utilize resources and talents belonging to others by creating win-win situations. This is “Resource Outsourcing,” which is turning out to be a boon for industries ranging from semiconductors to biomedicine to advanced textiles.

A enlightening over an hour tête-à-tête with Navaneeth Nandakumar, senior technical staff with San Jose-based Maxim Integrated, who has a Ph.D. in chemical engineering from the research-intensive University of Illinois, Urbana-Champaign exposed me to the advantages of resource outsourcing. Maxim Integrated, a leader in the manufacturing of mixed signal integrated chips is effectively utilizing the resource outsourcing concept to cut cost, innovate products and increase the bottom line, i.e., net profit margins. May be this manufacturing models enables some semiconductor industries to have next profit margins as high as 30-35 percent.

“Business starts with customer and ends with customer,” stated Navaneeth. Companies are constantly under pressure to deliver new products that meet end-user expectations.

Resource outsourcing helps to avoid extensive capital investment by a single entity and so frees-up resources to undertake multiple projects and hire new talents. It is important to establish trust worthy IP relationships with outsourcing partners. Citing an example in the semiconductor industry, instead of investing in a new photo-patterning machine, which will cost several millions, outsourcing shops in countries such as Taiwan can be effectively utilized. This manufacturing model helps to reduce labor costs in high wage countries. Several strategies can be established such that there are joint IP generation, process improvements, off shore manufacturing, to name a few.

The above concept, which the semiconductor industries in developed nations such as the United States have been following, can be borrowed by the textile industry. Textile sector in economically emerging nations such as India can work with advanced textiles industry in Europe, Japan, etc. and can serve as manufacturing and product development foundries, provided solid IP sharing and protection strategies are established.

“It is important that companies remain competitive and increase their net margin,” stated Navaneeth. Resource outsourcing helps by enhancing profit margins, which are important from investors’ point of view, added Navaneeth.

Next wave in manufacturing is “Resource Outsourcing,” which needs to be serious sought after.

Organizational Leadership

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, December 1, 2019)-People and leading them in an organization are vital for its growth and success.

Tapping best talents and more importantly enabling talents in people for their own and organizational benefits are the hallmarks of a good leader.

To know what is needed for the organization and its employees enables a visionary leader to be successful. This aspect is visible in the passionate and dedicated efforts of Mr. Veeravalli Raghunathan of Charlotte, NC. Raghunathan, who holds a graduate degree in mechanical engineering from the internationally acclaimed Birla Institute of Technology and Science, Pilani, India having come to the United States in 1997 to grow his professional career, never lost focus on his passion—to create organization to promote culture and fine art of living.

While starting as one-man show, quickly tapped people who share similar interest and passion to found cultural organizations, which are six in number today. This is a good model for industrial leaders to pool people with matching talents and interests to deliver results.

“A leader has to be accommodative, not afraid of insults and failure,” stated Raghunathan. As is evident from his organizational skills, providing products for diverse pool of people to satisfy their needs is important. This is a valuable organizational strategy, so that industry can have broad-based market. In the case of Indian textile sector, broadening its product base, as is the case with the Chinese textile sector will help with its diversification and growth.

Raghunathan’s success in chasing his passion rested on organizing people, all the way motivating them towards the common goal. All modes of modern day communication have been effectively used that connected people spread across the globe such as India, United States and Middle East. Prompt and timely response sometimes tiring, helps—a good organizational skill.

“People are important,” stated Professor Siva Parameswaran, a colleague of mine at Texas Tech University, when I joined the University as a young professor many moons ago.

Never be afraid of admitting mistakes, but those should be quickly corrected towards growth and development, which leaders like Raghunathan practice. A sage personality and professional development mantra indeed!

Managing Innovations

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, November 29, 2019)-Invention with commercial value is innovation.

A discussion on the Thanksgiving day with Nikesh Anand Rajagopalan, director of solutions at Sunnyvale, California-based HCL America provided a clear understanding about innovation. Innovation is a required corporate strategy these days. Nikesh Rajagopalan who has a graduate management degree from the prestigious Indian Institute of Management, Bengaluru, India, has been managing innovations for multinationals in the printing device sector to medical field.

“Ideas alone are not innovation,” stated Rajagopalan. Inventions should find applications, be useful to the society and should make economic sense, added Rajagopalan---a sage advice indeed.

To a valid question from this scribe on how to innovate, Rajagopalan gave a textbook reply. This can be handled in two ways: 1) Provide a cost-effective solution for an existing gap and 2) Access an non-obvious gap and provide valid panacea. Citing the strategy of IBM to go and look for a need, that made personal computers a reality, he stated that this is a push strategy, which worked as the functionality and price point worked out. He cautioned that the push strategy may be risky but when a much needed solution could be provided, market will be strong.

How can we innovate? Innovation should be part of vision, but it should be practiced. It is helpful to follow certain methodologies. Reverse technology is a useful, citing the example of home delivery concept that is becoming a successful alternative to physical shopping. He practices what he preaches and has installed shower at his residence instead of sprinklers to water plants to have an efficient water system, which is cost effective.

Innovation can be achieved by utilizing resources to the maximum extent possible, which is known as “Segmentation.”

Creating an innovation culture in corporates is important. People need to feel they are innovators, stated Rajagopalan. He and his team have developed a concept called “Invention Disclosure a Day.” Along with innovation, branding is needed to make the innovation successful.

Agreeing people are important, corporate culture should motivate them and innovation has to be a work in progress and practiced, summed up Nikesh Rajagopalan.

Invention that creates value is innovation.

Thanksgiving and Tips for Successful Project Execution

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, November 27, 2019)-Thanksgiving symbolizes acknowledging people for support, kindness and leadership.

On the eve of Thanksgiving celebration, unique and a major festivity in the United States of America, a tête-à-tête with a successful project management expert highlighted the importance of acknowledging people and team effort towards successful project implementation.

Towelie™ cotton wipe project is a good example of successful team building, acknowledging expertise and efforts of each team member, say the innovator, the manufacturer and the marketing team.

As a way of expressing Thanksgiving, to my many collaborators in the textile industry, academia and other cultural and social organizations, I have been involved; it is such a relish to talk with Lakshmikumar Narayanan of McLean-based Acumen Solutions, Inc.

A project involves three pillars: 1) People, 2) Process and 3) Technology/tools. Team is the lifeline of any project stated Lakshmikumar Narayanan. He emphasized the need to motivate the group members of the team and bring them along. It is leader vis-à-vis manager, stated Narayanan.

It was clear in the discussion that Narayanan is thankful to many for the opportunities provided to him, who migrated to the United States from India in 2003.

In his 21-years as a project leader, his efforts in acknowledging his team members have given rich rewards, professionally and personally, admitted Narayanan. In managing a US\$18 million per year project for an insurance company, he practiced several team-building tricks and has always shown appreciation to his members. He said, “gamification,” helps, a term that is getting popular in IT and service sectors. Encouraging people to get quality output is the mantra.

In response to this scribe on how to maximize team’s deliverables, Narayanan stated, “appreciate people.” Having monthly talent recognition programs, providing platforms to enhance talents and more importantly reassuring the existence of shielded and safe environment are some tips, which should work. A leader should be upfront in resolving conflicts among team members, emphasized Narayanan.

Heartfelt thanks to all those who have helped me in my journey so far. Happy holidays!

100 Years of Experience and Ginning Tips

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, November 22, 2019)-Technology utilizing and enhancement of productivity have supported the growth of the cotton ginning industry.

Ginning contributes to the cotton sector by cleaning, drying and maintaining/enhancing the quality of the fiber.

100-years of collective experience in the ginning and the cotton sector was evident yesterday night at a dinner table in Lubbock, Texas. Executives of the ginning sector and this scribe met to discuss the growth of the ginning industry over past 30-years.

“Ginning machinery has not seen a whole lot of changes with regard to its functionality,” said Ray Moore, a 31-year veteran with the industry. Certainly, productivity has increased from 25 bales per hour to 100 bales per hour added Moore of Bajaj ConEagle, LLC.

This year’s lower cotton yield in the High Plains of Texas and its impact on the ginning sector became an important topic of discussion. “Yield is about 30% lower than what was expected earlier,” stated, 46-year veteran in the sector Steve Moffett, general manager of Lubbock-based Lubbock Electric Company. Another aspect of discussion was how the seed turn out and weight have reduced over the years. This has helped with the productivity, stated Shankar Venkatachalam, president of Bajaj ConEagle, LLC, ginning machinery manufacturer.

Ginning plays an important role in enhancing the quality of the fiber. Ginning industry should effectively utilize technologies such as image processing to control trash, contamination, etc.

Naturally, as Bajaj ConEagle is a subsidiary of India-based Bajaj Steel Industry, Ltd., interesting discussion focused on the Indian ginning sector, which is roller gin based. India should soon invest in saw gins to reduce trash content, stated Shankar.

It clear that the global ginning industry is focusing its efforts to reduce plastic contamination.



Ginning Industry Executives with Author
(Left-Right: Moffett, Ramkumar, Shankar and Moore)

Innovation Out Of Obstacles

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, November 20, 2019)-Barriers, pinch points may open doors for innovation.

To an audience of about 225 people, in Lubbock, yesterday, Robert Kaplowitz, music and sound designer highlighted, based on his 25-year career experience, how obstacles can be turned around to innovate and create new businesses.

These days, research and development has become interdisciplinary and focus on problems affecting societies. Innovation has to engage the community and solve bigger problems, stated Kimberly Gramm, associate vice president of innovation and entrepreneurship at Texas Tech University.

“Innovation is scary sometimes as it means change,” stated Gramm.

Scientists can no longer remain in silos and they have to interact with marketing specialists, business experts and designers. This is particularly a necessity to transform an idea from laboratory to market space. This scribe can attest to this need, as an international collaborative effort was needed to enable the cotton-based oil absorbent Towelie™ to reach end-users.

Kaplowitz highlighted how a team of collaborators improved the attendance to the famous Lapidarium stone sculpture museum in Prague by using Disney World practices---making the experience interactive with good sound and light ambience.

Technology can be great, but it needs good consumer base. This emphasizes the importance of constant improvements to products and processes to enlarge the consumer base. This aspect was clear in Kaplowitz’s talk, as was the case with his “Stage Collar,” sound App, which hit a saturation with the number of theaters that can the technology.

Improving the product to appeal to wider markets is an important mantra. In the case of Towelie™, while the technology was originally invented for the oil and gas sector, making the product appealing and cost effective is finding applications in metal manufacturing, automotive and household cleaning sectors.

Innovation appears at pinch points, according to Gramm and those points have to be keenly observed and seized. A good initiative, which is gaining momentum, is “Arts in Medicine.”

Cotton Harvest and Lower Yields

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, November 15, 2019)- Yields in the High Plains of Texas are expected to be below what was expected.

“Yields are 25-30% off the normal,” stated Mark Brown, director of field services for Lubbock-based Plains Cotton Growers (PCG), Inc. In today’s early morning meeting of all the stakeholders from the cotton sector, discussion centered on this year’s cotton harvest in High Plains, the largest cotton growing region in the United States of America. The meeting also had an international visitor from the prestigious CSIRO research agency, Australia.

Harvest is estimated about 50-60% complete in High Plains and is resuming after rains last week in some areas of High Plains such as Gaines County. “Harvest is picking-up,” stated Steve Verett, chief executive officer of PCG. The hot summer has seriously affected this year’s crop.

Rain in August is crucial for the yield and quality of cotton. “Each additional inch of rain in August may help with as much as an additional 100 lbs. of cotton,” stated Glen Ritchie, chair of Plant and Soil Science department at Texas Tech University. The problem has been hot temperature and no rain in late summer, added Ritchie. Recently, the dramatic adjustment of yield by the United States’ Agriculture Department from its earlier estimates clearly attest to the expected lower yield. Hot weather will also affect the irrigated cotton, which will result in their yields off from the normal level.

With regard to plastic contamination, crop classed in the Lubbock classic office show that the industry has really handled the issue well, which is a positive aspect for the importing countries.

The latest estimate is that the High Plains of Texas is expected to produce 3.78 million bales (480 lbs. each).

Cotton Wipe Remedies Oil Spill Situation

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, November 04, 2019)-Cotton-based oil absorbent wipe proves its oil absorption capability in a thermal energy plant.

On November 2nd, as a response to a minor oil spill incident in a National Thermal Energy Corporation (NTEC) plant, a public sector undertaking in Vallur, 20 Kms. away from Chennai city in Tamilnadu, India, Nambi Srinivasan, vice president for marketing for the Chennai-based WellGro United proved the effectiveness of Towelie™ wipe.

“Towelie™ wipe instantaneously absorbed heavy furnace oil and light crude oil and we immediately responded to the call to do a demo on Saturday,” stated Nambi Srinivasan.

Towelie™ evolved out an idea by this scribe and the commercial product was developed out of INDO-United States’ collaboration. Lubbock-based E Innovate, LLC markets it globally for oil spill remediation in oil, natural gas, automobile and manufacturing sectors.

The recent successful field trial at the thermal energy plant in India has proven that the cotton-based wipe is penetrating into multiple sectors such as energy, manufacturing, etc.

Irwindale, California-based Davis Wire, LLC is using Towelie™ in their manufacturing operation to clean-up oil spills during manufacturing of products like metal fences, which has enhanced its production efficiency at the same time reducing plastic wastes. “Towelie™ has been widely accepted by companies in the oil & gas, auto mechanic, manufacturing and marine industries who care about reducing their impact on the environment,” stated Ronald Kendall, Jr., president of E Innovate, LLC.

Towelie™ is a good example of translation of a laboratory idea into market place, which involved inputs from manufacturing and marketing entities like WellGro United and E Innovate, LLC.

INDO-United States’ partnership has clearly paved the way for a sustainable product to protect environment, enhance manufacturing and save human lives. “There is an unparalleled ease to INDO-USA collaboration when it comes to bringing affordable and innovative textile products to market,” added Kendall, Jr.



China and Demand in the Cotton Equation

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, October 18, 2019)-Finding new markets and applications is vital for the global cotton sector.

With the commencement of harvest in the High Plains of Texas, stakeholders of this important sector gathered today at Lubbock-based Plains Cotton Growers, Inc. (PCG).

The yield may not be a bumper as expected due to the hot July and August months in the High Plains of Texas. Hot summer days is affecting the yield particular in the dryland, where half a bale per acre seems to be the average yield. Weather pattern this summer showed that there were 43 days above 95 degrees F, which influenced the blooming, according to discussions among cotton producers.

Cotton supply is above the demand, which emphasizes the need to create new opportunities. “It’s demand that matters. We are not seeing demand increase worldwide,” stated Steve Verett, chief executive officer of PCG. Mr. Suresh Kotak, cotton industry leader from Mumbai, India shared the same viewpoint a few years back with this scribe, which highlights the pressure on this sector for value-addition. Although, the ongoing trade war between the United States and China has certainly put a dent in the market, China may not alone provide some respite, given the supply situation. Price of beans need to be watched, according to Darren Hudson, professor of agricultural economics at Texas Tech University. As price of beans increases, shift to beans will vacate some acres from cotton, which could bring the supply down—this again depends on a resolution to the ongoing trade situation with China, a major importer of soybeans.

The need to develop new cotton products is felt by spinners as well. Particularly, in India, there is excess spinning capacity, that happened in the recent years. Increasing quality and productivity without increasing spindles should offer some quick solution according to Shanmugam Velmurugan, general manager of Jayalakshmi Textiles, a 70,000-ring spindle spinning mill in Aruppukkottai, India. Quality of cotton will be a key contributor towards high quality yarns with less contamination. Exporting countries like the United States are paying much attention towards plastic contamination, a worthy effort that is being well received by importers.

With about 24,000 bales (480 lbs. each) classed so far in the Lubbock classing office, quality seems to be good such as micronaire. Interesting to watch as how the staple grades will evolve, again due to very hot summer days.



Seshadri Ramkumar in a Lubbock cotton field ready to be harvested

Ramkumar, S

From: Xungai Wang <xungaiwang@deakin.edu.au>
Sent: Friday, October 18, 2019 5:16 PM
To: Ramkumar, S
Subject: Re: TexSnips: China and Demand in the Cotton Equation

Hi Ram,

Always enjoy reading your TrxSnips.

Do you have a collection of these snips in the web somewhere? I'd like to read some old ones also!

Keep up the good work.

Cheers,

Xungai

Sent from my iPhone

Prof. Xungai Wang
Pro Vice-Chancellor
Deakin University
Australia

On Oct 19, 2019, at 3:52 AM, Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

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Ramkumar, S

From: Subramanian R <rsr1974@gmail.com>
Sent: Friday, October 18, 2019 5:12 PM
To: Ramkumar, S
Subject: Re: TexSnips: China and Demand in the Cotton Equation

Very usfull information today i have atted cotton USA metting in cbe they given information about quality of USA cotton

From India

On Fri, 18 Oct 2019, 22:23 Ramkumar, S, <S.Ramkumar@ttu.edu> wrote:

China and Demand in the Cotton Equation

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

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Nobel Clue for the Textile and Materials Industry

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, October 9, 2019)-Sustainable technology shines in the Nobel Prize recognition.

Renewable and energy efficient technologies, which are important contributors to the sustainability paradigm, have been duly recognized in today's recognition of Chemistry Nobel Prize.

The efforts towards developing highly efficient lithium-ion batteries by three scientists, John B. Goodenough and M. Stanley Whittingham, both from the United States and Akira Yoshino, from Japan led to the prize. Research undertaken by these scientists, a few decades ago has resulted in rechargeable, high potential batteries, which power many gadgets in our day-to-day lives.

This year's prize provides a lot of inspiration and thoughts for the fiber to fashion supply chain and the materials sector. Focusing on sustainable efforts right from growing fibers to using efficient processing technologies is the way forward for the industry. The Nobel winning work made the batteries efficient, logistically convenient and importantly at a cost-effective price.

Translating research from laboratory to reality, which can improve lives, is needed to grow the economy. In announcing the importance of the prize, Professor Sara Snogerup Linse of the Nobel committee for chemistry stated, "We have gained access to a technical revolution," because of the Nobel winning research.

Textiles and materials sector can gain a lot from understanding the research towards this Nobel Prize. Economics, performance efficiency, logistics such as lightweight as in the case of Li-ion batteries all play important part in transforming research to a product in the textiles sector. Constant development work towards product improvement is the key to consumer acceptance.

It is pleasing to report that the above principles have become standard these days for any consumer products like textiles. This model worked well for the development of sustainable oil absorbent product Towelie™ (www.towelieglobal.com). The idea for Towelie™ sparked in this scribe's laboratory due to an actual situation, BP oil spill in 2010. Collaboration with multiple partners such as manufacturing and marketing enabled a sustainable textile product, within a decade from conception to commercialization.

New Antimicrobial for Textiles

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, October 1, 2019)-A new antimicrobial finishing treatment can kill biofilm-forming bacteria.

Madison, Wisconsin-based Imbed Biosciences have come-up with an efficient antibacterial finishing technology that can enable wound dressing and textiles to have enhanced antibacterial efficacy.

Following its successful MicroLyte® technology, which is a bio-resorbable wound dressing, Imbed Biosciences has come-up with MicroLyte® Plus, which is shown to be effective against the tough bacteria, which has formed colonies living in the extra cellular matrix. These bacteria become dormant and so commonly available antibacterial technologies are not effective. Imbed Biosciences' Silver and Gallium combo will provide necessary ammunition to attack the complex biofilm bacteria.

In speaking with this scribe yesterday, Gaurav Pranami, vice president for research and development at Imbed Biosciences stated that the new technology could be used to functionalize fibers enabling a new generation of antibacterial textiles. "We have carried out fundamental science that uncovered the design principles for pairing silver ions with gallium," stated Pranami. Further efforts will focus on preclinical biocompatibility testing of silver and gallium prototypes, added Pranami.

In explaining the principle behind the addition of gallium to silver, Pranami explained that bacteria need iron for their metabolic activities. Since gallium and iron are similar in ionic radii and charge, bacteria uptake gallium. However, gallium is not reduced like iron so the bacteria is starved and sensitized to silver. This makes the silver in the combo to be effective, which is not possible by silver-only antimicrobials.

Hospital acquired infections, chronic wounds are major health issues, and the ionic silver and gallium functional chemistry may be a panacea. With regard to its applications in textiles, durability and cost have to be examined.

China is Cotton Deficit

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, September 25, 2019)-China needs to triple its cotton imports.

With government stocks depleting, China needs to import more to sustain its mills' consumption. Where would all that cotton come from? Recently, Jon Devine, senior economist and a 10-year veteran with Cary-based Cotton Incorporated presented a nice picture of the global cotton scenario.

The current government stock in China has fallen considerably from 2013/14 and is about 9 million bales (480 lbs. each bale) at the end of 2018/19. This puts the deficit in China to be at 15 million bales—necessitating more imports. The lingering trade war between China and the United States that has lasted for over a year now is affecting the supply chain and more importantly, creating uncertainty in the global economy. Chinese cotton production gap is one-third of its mill use, stated Devine.

As we approach the harvest season in the United States, higher production is expected due to favorable weather in the High Plains of Texas, with less drought compared to last year during the growing season. Upland cotton production, in the largest contiguous cotton producing region-High Plains of Texas is projected to be above 4.5 million bales (480 lbs. each). USDA estimates that the total cotton production in the U.S. will be 22 million bales with only 3 million bales consumption.

Last year, while China has increased its import, the share of United States' export has dropped. On a year-on-year basis, other countries like Brazil, Australia and India have fared well with regard to exporting to China. These scenarios, dictate the need for a speedy resolution to the ongoing trade war.

To this scribe's question on the takeover of the Chinese market by other exporting nations in the absence of a trade deal soon, Devine opined, "This is a central unknown, because we do not know where the details will end up. A resolution, if reached, should support US exports. If a resolution is not reached, demand for non-US cotton will be supported."

For the marketing year that ended in July, Devine added, "Even with the tariffs, the U.S. was still the third-largest source of cotton for China. China was the second-largest destination for U.S. exports (only behind Vietnam)."

While China is a key player, the textile industry is slowly moving away from China as Vietnam and Bangladesh are capturing the export market.

The trade war if prolonged may bring about a shift in the cotton market. United States need to look for markets such as Indonesia, Pakistan and India. Will India be a decent market for the United States' cotton? The current Minimum Support Price (MSP) for cotton in India is putting stress on the textile mills that should create market for quality cotton from the United States. "The MSP for the Indian cotton is much higher than the global cotton prices, making the input cost higher for the spinners who are in the export market," stated Gurudas Aras, director, Textile Engineering Group of Mumbai-based A. T. E. Enterprises Pvt. Ltd in an e-mail communication.

Looking ahead, trade war situation and the overall global economy will be the determining factors for cotton trade, which Devine agreed. Will there be more cotton acreage in 2020? Hard to tell with cotton prices being low, at this point of time.

Interesting aspect to watch is the growth of textile manufacturing in Ethiopia—a market to observe keenly.

Ramkumar, S

From: Gurudas Aras <aras@ateindia.com>
Sent: Wednesday, September 25, 2019 12:29 AM
To: Ramkumar, S
Subject: Re: TexSnips: Crisis in the Indian Textile Sector?

Dr Ramkumar

Greetings from India!!

First of all thanks for sending news briefs on interesting topics and compliments for doing it very professionally on a sustainable basis, which is commendable.

I went through your following news article and thought of writing about few of the other important issues concerning the Indian textile industry in this context.

1. There is clearly an over capacity in spinning industry today to an extent of at least around 10%. This has happened due to spate of new spindle additions happening in the state like Gujarat over the last 5 years in view of the available incentives. Unless some capacity closes down (which has already started happening now in Gujarat and other places), the stability won't return back soon to the spinning industry.
2. The MSP (market support price) for the Indian cottons is much higher than the global cotton prices making the input cost higher for the spinners who are in the export markets.
3. So far in the last couple of years the spinning industry flourished due to buoyant exports to China and other countries. However the exports to China have dropped more than 40% in the first 7 months of this calendar year compared to the last year as Pakistan and Vietnam have gained considerably due to zero import duty.
4. The Indian apparel sector still is much fragmented due to which it is not in a position to take advantage of the shifting of orders out of China. Moreover India is still cotton heavy while major global trade happens in synthetics and blends.
5. As far as the domestic market is concerned there is still a serious issue of demand contraction and unless the demand for garments and textiles picks up the situation may not change significantly.
6. In some of the textile value chains there is inverted duty structure in GST which blocks lot of working capital for the manufacturers.
7. The silver lining is that some of the bigger and integrated manufacturers like Welspun, Vardhman, Trident etc. are doing well, especially those who are in home textile business and have high level of exports.
8. The technical textiles are showing positive growth but investments are not happening in this sector. Value added textiles too have good growth but not many want to go out of commodity products and take the jump.

Regards

Gurudas Aras Director, Textile Engineering Group



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Ramkumar, S

From: Ketan Jariwala <~~ketan.jariwala62@yahoo.com~~>
Sent: Wednesday, September 25, 2019 6:41 AM
To: Ramkumar, S
Subject: Re: TexSnips: Crisis in the Indian Textile Sector?

In my opinion & experience in this industry over 35 years, the weakest point is processing & garment industry. These 2 industry need modernisation & huge capacity building, as it also need huge investment government should focus on this. It also has capacity to generate a large employment.

Sent from Yahoo Mail on Android

On Tue, 24 Sep 2019 at 22:10, Ramkumar, S
<S.Ramkumar@ttu.edu> wrote:

*Mr Ketan Jariwala
Industry Leader
Surat / Gujarat, India*

Crisis in the Indian Textile Sector?

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, September 24, 2019)-Declining yarn exports has put the Indian textile industry in a crisis mode.

Is this crisis a short or long term? A telephone conversation with two Indian textile industry professionals painted a clear picture.

Indian textile industry is strong in the spinning sector, which has been heavily dependent on exports. "Yarn market is dull," stated Mr. Subbiah Krishnamoorthy, general manager of Vaibhav Ginning and Spinning Mills, Pvt. Ltd., a spinning mill with 26,000 spindles located in a cotton growing area in Gujarat, India. China and Bangladesh are not buying yarns and the prices are low, added Krishnamoorthy.

"China is the major market for Indian yarns and the trade war between the United States and China has affected the Chinese textile sector," stated Mr. Krishnasamy Gandhiraj, general manager with Lakshmi Card Clothing Company, who has been in the textile industry for over four decades. Indian textile sector has been heavily spinning based and this is the problem added Gandhiraj.

Ramkumar, S

From: Naga Chandran <naga2888@gmail.com>
Sent: Wednesday, September 25, 2019 1:08 AM
To: Ramkumar, S
Subject: Re: TexSnips: Crisis in the Indian Textile Sector?

Dear Sir,

Read your Article. Very informative.

Product Diversification and value added will be market changer.

Thanks and keep going.

Yours Truly,

NAGACHANDRAN. V.
CHIEF EXECUTIVE

SUN POWER TEXTILES
T 69 A, RENGA TRIYAMBHAVA
KALAPATTI MAIN ROAD,
CIVIL AERODROME POST
COIMBATORE - 641 016
INDIA

Alternate mail: sunpowertex@gmail.com

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HAND PHONE: +91 98422 06002

+ 91 98422 04002

On Tue, Sep 24, 2019 at 10:14 PM Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

Crisis in the Indian Textile Sector?

Crisis in the Indian Textile Sector?

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

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While touring the cotton producing regions in Gujarat state, which is the number one cotton producing state in India, Gandhiraj stated, “This year’s crop will be of good quality due to rains. Yield will be high and due to good quality, yarn realization will also be high.” “Ginning will begin soon after Diwali, the prominent festival in India and harvest in some areas in Gujarat will be in 20-25 days,” stated Krishnamoorthy. His mill normally supplies to export (50%) and domestic (50%) markets, and is feeling the pinch in export shipments. The state of Gujarat has ramped up its spinning capacity since 2012, due to the state’s supportive schemes such as power and interest subsidies. Currently, the state has about 3.5 million ring spindles and has proximity to cotton—a positive aspect.

The upstream sector such as garmenting and finishing do not have the necessary capacity to cater to big markets. There is still demand for value-added products to markets like the United States, which cannot be currently handled by the Indian textile sector—Gandhiraj opined. Structural shift is needed to focus on building value-added sectors such as garments and technical textiles.

Given the slump in the textile sector, will there be confidence in building other sectors in the textile industry? For long-term viability, the goal should be to diversify and build the upstream sectors. Here again, Indian industry should enhance its product offerings. Recently, Aruppukottai-based textile industry has worked with this scribe and Chennai-based WellGro United, and has developed a value-added product, “Towelie TM,” which has attracted export markets catering to oil and gas sectors.

Diversification, working with marketing channels and looking for opportunities beyond traditional markets are needed. Probably, it is time to start planning towards attaining these goals. This should be the strategy moving forward!

Ramkumar, S

From: ~~skumar@q-lab.com~~
Sent: Tuesday, September 24, 2019 11:59 AM
To: Ramkumar, S
Cc: ~~jregan@q-lab.com; croberts@q-lab.com~~
Subject: RE: TexSnips: Crisis in the Indian Textile Sector?

Hi Ram,

Nice article.

Regards,



Smrithi Kumar

Global Customer Education Specialist
Q-Lab Corporation

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From: Ramkumar, S [mailto:S.Ramkumar@ttu.edu]
Sent: Tuesday, September 24, 2019 12:39 PM
To: Ramkumar, S
Subject: TexSnips: Crisis in the Indian Textile Sector?

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What is Going On in the Cotton Market?

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, September 20, 2019)-Demand, trade war and global economic scenario are all playing its part in the weak cotton market.

Today, about 80 people involved in different aspects of the cotton sector gathered in the new building of Lubbock-based Plains Cotton Growers, Inc. (PCG) and discussed the current cotton scenario.

Cotton demand is weak, stated Darren Hudson, professor of agricultural economics at Texas Tech University. This sentiment was echoed by a merchant, who stated, “There are no commitments from the buyers.” With over 4 million bales (480 lbs. each) expected this season from the High Plains of Texas, slow flow of cotton would be an issue for the cotton industry.

Obviously, the ongoing trade war with China has its own influence; it may not be the only reason for the weak demand. Spinning mills have excess yarn in their possession particularly in China and India,

which will play an important role in the cotton demand. Global economic picture is not that bright and the Chinese economy has slowed a considerable bit. “Global economy is plodding on but not witnessing tremendous growth,” stated Hudson.

With regard to trade deals, which the United States is expected to make with other countries, there was a sense of optimism. “I am optimistic about the United States-Mexico trade deal by the end of this year,” stated Kody Bessent, vice president of operations and legislative affairs at Plains Cotton Growers, Inc. The expected bilateral deal with Japan is viewed favorably by the United States’ agriculture sector. “The industry is hopeful that there will be a meeting between the United States and China, this October,” stated Bessent.

Inc.

While there is a need to resolve the trade dispute with China soon, the effect will not be felt immediately, as the demand needs to pick up. The deal between China and the United States will influence the decision to plant other crops such as soybean, which may take some acres away from cotton. This adjustment can bring some correction to the cotton supply and demand.

Additionally, the excess capacity of polyester in China has to be factored into the cotton demand scenario.

It is important that the global cotton sector focus on creating more demand by thinking beyond the conventional fiber to fashion chain.

Value-addition to cotton products and demand creation are needed.

Photo Caption: Cotton industry people meeting today in the new office of Lubbock-based Plains Cotton Growers,



Ramkumar, S

From: KG <~~kgbaalakrishnan@gmail.com~~>
Sent: Thursday, September 19, 2019 7:04 PM
To: Ramkumar, S
Subject: Re: TexSnips: All-Cotton Toxic Oil Absorbent

A good article
thanks
kgb

Mr. K. G. Balakrishnan (KGB)
Chairman, K. G. Group, Coimbatore.

On Thu, 19 Sep 2019 at 23:09, Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

All-Cotton Toxic Oil Absorbent

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

Mr. KGB has
visited Lubbock in
early 2000, as
part of Hon. PM
Shri Vajpayeeji's
trade mission to
the United States

(Lubbock, USA, September 19, 2019)- Sustainable and cost effective all-cotton oil absorbent developed.

Recent drone attacks on the world's largest oil processing facility and an oil field in Saudi Arabia **emphasizes** the important need for safety requirements **in** the oil and gas sector. Additionally, in the case of oil absorbents, with plastic contamination in both earth and marine environments, there is a heightened need for non-plastic products that are biodegradable.

Today, a company **in** the High Plains of Texas has come out with a timely and sustainable solution, Towelie™. Lubbock, Texas-based E Innovate, LLC has collaborated with a company from Chennai, India to release a biodegradable all-cotton product to the global oil and natural gas industry. Ronald Kendall, Jr., president of E Innovate, LLC today spoke with this scribe about the positive attributes of the product. Already the product is used by the oil and gas sector in the Permian Basin in Texas. "We want to expand our product offerings to solve oil spill issues from garages to offshore facilities," stated Ronald Kendall, Jr.

Ronald Kendall, Jr. undertook research under this scribe's supervision in the Nonwovens and Advanced Materials Laboratory as an undergraduate at Texas Tech University, which has led to the commercialization of Towelie™ wipe. Ideation and collaboration are important to take a product to market space. In speaking about the collaboration with the Indian company, Kendall, Jr., stated, "it helps to capture the strengths of United States and Indian companies to offer cost effective solution."

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How important are these industrial products for the cotton sector? Jeffrey Kitten, a partner in Slaton-based Kitten Land Company that farms about 11,000 acres of cotton in the High Plains of Texas lauded the release of cotton industrial product. Jeffrey Kitten, a fourth generation cotton farmer stated, "To continue to grow cotton in the highly competitive environment, we need to find all new and value-added applications for cotton." "Thinking beyond conventional products such as towels and blankets is needed," added Kitten.

Currently, majority of oil absorbents in the market are synthetic based and can lead to micro plastic problem. "Our all-cotton absorbent tackles that problem and will be a viable solution for toxic oil spill contamination in an environmentally friendly way," stated, Ronald Kendall, Jr.

The all-cotton oil absorbent will be sustainable, cost effective and will not lead to micro plastic issue. Plastic contamination is a genuine environmental issue that needs serious attention and more importantly, a timely solution.

Towelie™ absorbent will provide a solution to an important environmental problem without leading to secondary contamination like micro plastics in the environment.

Photo Caption: Seshadri Ramkumar (Left) and Ronald Kendall, Jr. (Right), president E Innovate, LLC., with all-cotton Towelie™



Seshadri Ramkumar (Left) and Ronald Kendall, Jr. (Right)

Fiber Demand in the Textile Industry

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 17, 2019)-Growth in fiber consumption would average annually around 3 to 4 percent.

Cotton is a valuable fiber in the mix for the textile sector. According to inputs from global brands, the industry can consume up to 31 million metric tons of cotton, said Robert van de Kerkhof, Chief Commercial Officer of Lenzing AG, Austria.

Who's who in the textile fiber world gathered last week in the picturesque town of Dornbirn on the foot hills of Karren mountain range in Austria. About 700 delegates from over 30 countries discussed the state of the fiber industry with regard to its sustainability initiatives.

While the global consumption of cotton has remained flat at 28 million metric tons, there is potential for additional demand of 3 million metric tons. To a question from this scribe on the competition between regenerated fibers and cotton, van de Kerkhof emphasized the need for all sorts of fibers. There is no competition between Lyocell and cotton stressed van de Kerkhof. With an annual production capacity of 300,000 metric tons, Lyocell needs friendly partnership with sustainable fibers. Lenzing will have additional 100,000 metric tons of Lyocell for the textile industry, as it will have a new manufacturing plant in Thailand and will be online by the end of 2020. He appreciated the sustainability efforts undertaken by the global cotton industry, but there is more work to do, added van de Kerkhof. He highlighted few initiatives such as those by the Brazilian cotton sector, which is making planned efforts to develop in regions where there is good rainfall.

According to van de Kerkhof, new products can have blends of cotton with Lyocell to enhance attributes like strength. United States-based Cotton Incorporated is also promoting the concept of developing cotton rich blends to exploit the benefits of different fiber blends. New opportunities are emerging for cotton such as Lenzing's cotton-based Lyocell fibers, "REFIBRA™." Cotton for use in technical textiles in both virgin and processed forms are being exploited by many industries these days. Chennai, India-based WellGro United has partnered with a textile manufacturer in South India to deliver cotton for technical textiles.

The 58th annual Dornbirn Fiber Congress highlighted the need for innovation and networking for sustainable growth. And, more importantly, the immediate need for circular economy in the sector.

Photo Caption: Seshadri Ramkumar (Center) with Friedrich Weninger (Left), Managing Director, Austrian Fibers Institute and Robert van de Kerkhof (Right), Chief Commercial Officer, Lenzing AG



Friedrich Weninger (Left), Seshadri Ramkumar (Center) and Robert van de Kerkhof (Right)

Ramkumar, S

From: tapan sengupta <~~sengupta_tk@hotmail.com~~>
Sent: Thursday, September 19, 2019 9:38 AM
To: Ramkumar, S
Subject: Re: TexSnips: Fiber Demand in the Textile Industry

Dear Dr. S. Ramkumar,

Thanks for sending International details on Textiles. These informations are very useful to us. Please keep sending the details.

Thanks & Regards.

T. K. Sengupta
National President
The Textile Association (India)
Mumbai
Mob; +919820575058 Email; sengupta_tk@hotmail.com

com / tksg1765@gmail.com

From: Ramkumar, S <S.Ramkumar@ttu.edu>
Sent: Tuesday, September 17, 2019 6:57 PM
To: Ramkumar, S <S.Ramkumar@ttu.edu>
Subject: FW: TexSnips: Fiber Demand in the Textile Industry

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By: Seshadri Ramkumar, Texas Tech University, USA

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United States-China Trade War to Linger On

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Dornbirn, Austria, September 11, 2019, 11.50 PM)-Trade war that has been lingering on for over a year is expected to go on.

The trade dispute that began in March 2018 has no end in sight and would go on stated, Mr. Bai Xueyin, deputy general manager of the state-owned Beijing-based Hantrong Investment Co. Ltd.

A 30-minute discussion with a group of four Chinese traders was quite educational and enlightened me about China. I decided to return to my hotel by walking with the Chinese visitors after attending Lenzing sponsored dinner hosted by the Mayor of the City of Dornbirn, Austria as part of the 58th Global Fiber Congress. Discussions during the walk in the middle of the night in a mild chilly weather (16 deg C) in the mountain town of Dornbirn was quite revealing and provided firsthand information on what is going on in China in the fiber sector.

At macro level, the trade war is all about geopolitical power, with United States being the number one economic super power and China in the second position. Even if the current United administration changes after the next election, trade situation may remain the same expressed the Chinese visitors, who represent trading agencies.

China has come to adjust itself to the trade situation as the dispute has been lingering for a long time. Chinese industry is realigning itself to accommodate the losses in trade with the United States. Chinese textile industry is shifting to Vietnam and Indonesia, stated Mr. Xueyin. In the short term, the loss of trade has affected China as employment of people is involved, but in the long run, China will adapt stated Xueyin.

Bai Xueyin has a specialized degree in industrial trading and has been with Hantrong Investment Co. Ltd for 10-years, which trades in agriculture, textile materials and chemical products. Due to overall global economic situation, people are not spending much on clothing, which has created a stagnation in the global textile sector. Textile giants like China and India have been affected and aggressive fiber buying is not happening. Commenting on the Chinese economy, the growth of 6.5% is decent, which is higher than developed economies, stated Xueyin. Our economy is big and this growth number is good, added Xueyin.

Chinese mills are focusing on Brazil, Australia, Middle Asia and even India to procure cotton. China is still a dominant player in manufacturing and textile sectors. China consumes about 800,000 metric tons of acrylic, which indicates its consumer power stated Ms. Rachel Chen of Shanghai-based Bright Field Trading Co. Ltd, which trades in acrylic fiber.

China needs to import about 3-4 million metric tons of cotton as the total consumption lingers around 8 million tons. In commenting about the existing government owned cotton stocks, it should be about one million tons stated Mr. Xueyin.

“May be we are not having clear dialogue with the United States,” stated Bai Xueyin. It is good to communicate so that the other party will know what we are thinking viewed Xueyin.

It was Xueyin who navigated our group safely to hotel Krone. He quipped, “you know, I am a good driver so I can find directions fairly correctly.” Xueyin as part of his trading activity has traveled to India, several Asian countries and Europe. He is yet to visit the United States.

A Cotton Textiles Success Story

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, September 07, 2019)- A US\$ 500 million business highlights the opportunities for cotton.

Today, a breakfast discussion with Mr. Arun Agarwal, chief executive officer of Dallas-based Nextt lead me to believe that cotton can provide enormous new opportunities. Arun is visiting Lubbock this week with a mission to brand and promote Texas and United States' cotton and interact with cotton researchers at Texas Tech University.

“West Texas cotton can surely compete with Egyptian cotton and branding efforts are needed,” stated Mr. Agarwal. He is already promoting Texas cotton as “Lone Star Cotton,” and his recent visit to Lubbock is part of the effort to promote and enhance the market opportunities for High Plains cotton.

Agarwal was impressed with the oil absorbency performance of the cotton based Towelie™ oil absorbent product, which he got introduced to, a few months back. Products like Towelie™ clearly promote the sustainable industrial applications of cotton, added Agarwal.

Agarwal's Nextt, which is a US\$ 500 million company supplies cotton home textiles to giants like Wal-Mart, Costco, Kohl's, to name a few. In revealing the secret to his success, Arun stated, “providing cost effective solutions to customers' requirements, greatly helps.”

Utilizing unique attributes of a material, say for example the sustainable attribute of cotton will enable new opportunities. “Human connection is important, no matter what we do,” advised Agarwal.

Agarwal's supplier, who manufactures 600,000 square meters of fabric per day is hoped to consume about 500,000 bales of United States' cotton this year, which can come from the High Plains region.

Effective Communication is a Critical Industrial Need

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Lubbock, USA, September 05, 2019)-Timely and effective communication is vital for the industry.

As the global cotton sector is under tremendous pressure in terms of demand and price levels, two factors can be helpful: 1) Mission-linked research and 2) Effective and timely communication.

In the textile industry, where established giants such as China and India are struggling, research that can lead to cost-effective products via diversification is a critical need. Research that can lead to products to improve life, meet societal requirements and protect the environment will help the industry. The model developed by the agriculture sector, i.e., mission-linked research approach can be followed by the textile sector. This approach emphasizes the importance of stakeholders' views in planning, executing and supporting research programs.

United States' cotton growers are a good example in supporting and carrying out research that will benefit their cause such as reducing insect pressure, yield improvements amidst environmental stress, contamination control, etc.

Although, there is no simple or straight forward strategy to conduct research, sage advice given to me 25-years ago by Dr. Manickvasagam Sundaram, currently a senior physician in the Department of Medicine at Lakeridge Health, Oshawa, Canada, while I was a doctoral student at Leeds University, U.K., is worth noting. Working on parallel projects, although tough will help to reduce risk, was a valuable guidance given to me by Dr. Sundaram, which helps me even to this day. I have used this approach in my twenty years at Texas Tech University that has resulted in products such as toxic chemical decontamination wipe, "FiberTect," and environmentally friendly oil absorbing mat, "Towelie."

Dr. Sundaram is currently visiting our laboratory in Lubbock and reiterated the importance of research and effective communication, which are important for practicing physicians, academicians, industrialists and even policy makers. More often research yields results, which are not expected, but they help with improving and will lead to successful outcomes. In such situations, transparent and clear communication clearly help.

The need for timely and good communication across the industry was emphasized today in Lubbock in a gathering of about 250 people at the Texas Cotton Association's Cotton Flow meeting.

Proper planning, skillful execution and effective communication are needed for the industry, and in fact any project to succeed.

(Publisher's Note: As India celebrates Teachers Day today, the article is a tribute to my mentors in India, U.K and the United States, who have helped with my research and communication skills.)

Ramkumar, S

From: Rajpreeth Industries <~~rajpreeth@gmail.com~~>
Sent: Friday, September 06, 2019 11:27 AM
To: Ramkumar, S
Subject: Re: TexSnips: Effective Communication is a Critical Industrial Need

Good evening sir sir
Very useful message sir and thank you very much sir

/India

On Fri, 6 Sep 2019, 8:07 pm Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

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Technical Skill Development and Research are Needed for the Textile Industry

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Bengaluru, India, August 19, 2019)-Technical skill development, research and development are immediately needed for the textile sector.

Today, as I leave for the United States wrapping-up my three-month sojourn in India that resulted in many interactions with industrialists and academics spanning spinning, weaving, finishing and technical textiles, it became evident that the Indian textile sector is keen to diversify and is looking for ways forward to enhance its value.

The trip had its finale with a visit to Ramaiah University of Applied Sciences in Peenya, Bengaluru to interact with professors and students in the Faculty of Art and Design. I was pleased to notice the motto of the institute to be, "Applied Brilliance Makes all the Difference." Situated in the Peenya Industrial Estate that has about 900 garment units, it is a perfect fit that the university offers programs in industrial design and textile fashion design. Some of leading names in the sector that are housed in the area include Gokaldas Exports, Gemini Finishing Mill, Sonal Exports, Shahi Exports, Texport Overseas, etc.

The department of fashion design is focusing on institute-industry interaction with skill development activities such as a 45-day program on sewing for training workforce with less formal education such as those with just 5th grade, stated Dr. Mamatha Hegde, head of the department of fashion design. With the support of central and state governments, training programs for shop floor technicians in the garment industry such as fabric quality evaluation, garment manufacturing basics, shop floor management that includes occupational safety are planned.

Recently a few garment units have closed due to lack of exports and labor issues stated, Mamatha Hegde. This necessitates the need for new product development to enhance the textile sector, added Hegde.

As part of my interaction with about 200 people, I was fortunate to do a demonstration of the "Towelie," oil absorbent product, which was conceived by me to address the Gulf of Mexico oil spill issue. Undergraduate students showed keen interest to know about research and development activities in textiles. B. Ram Kishan, a third year undergraduate product design student enthusiastically performed hands-on demonstration of the "Towelie," oil absorbent. Hopefully, such activities would create interests among young students to take-up applied textile research to address global issues.

Training textile industry workforce at shop floor and research levels is the need of the hour. This aspect has been aptly handled by the current Modi Government by launching the "Skill India," campaign to train industrial workforce in different fields. Industry will benefit if skills for marketing and project management are also imparted.

From: **Gopinath C** <g>

Date: Mon, Aug 19, 2019 at 6:26 AM

Subject: TexSnips: Technical Skill Development and Research are Needed for the Textile Industry

To: Seshadri Ramkumar Cc: Mamatha G Hegde

Dear Sir,

Many thanks for your kind response and your thoughts on the textile scenario in Bangalore. We were awed by your presentation cum demo and the strides you have achieved in your area of research.

Please accept my sincere thanks for enlightening us with your knowledge and competence in carrying out research activities.

We look forward to more interactions with the likes of you in the coming future.

Wishing you many more laurels and credits for your forthcoming innovative work.

With warm regards,

Gopinath C

Professor, Ramaiah University

FAD, RUAS

Peenya campus Bangalore

Indian Textile Sector has the Potential to Double

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(August 13, 2019, Aruppukottai, India)—Indian textile industry can double in the next five years if certain challenges are addressed.

It was such a relish for me to have visited with Mr. M. K. Ganesh Babu, CEO of Madurai-based Ganesh Textile Agencies, who is a fellow alumnus of the prestigious Chennai-based institution Alagappa College of Technology. Having graduated B. Tech in textiles in 1978, Ganesh Babu has had over 4-decades of rich experience in the textile sector. He now focuses on yarn exports and trading textile machinery based out of the temple city—Madurai in South India.

A tête-à-tête with Ganesh Babu in a coffee shop this morning in Madurai revealed his rich experience and knowledge of the Indian textile industry. Indian textile sector contributes 5% to the global textile trade, which can double in the coming five years, provided a concerted effort is taken by the stakeholders, said Ganesh Babu.

The current stressful cotton yarn situation in India, with lack of demand from China should be considered as an opportunity for the industry to regroup and come out with growth plans. Pressure from fluctuations in cotton price will be an ongoing issue as it varies with supply, hedging and stocking by multinational companies. Indian government should help the industry by easing the interest on working capital, creating a level playing field on par with international rates.

Value-addition beyond the spinning sector by focusing on the manufacturing of high-valued garments, development of feasible technical textile products, both for domestic and exports markets are some of the areas that need prompt consideration according to Ganesh Babu.

Indian industry has to work with domestic R &D institutions in creating practical knowhow on technical textiles products. And, finding international collaborations for marketing industrial products should be thought seriously. He applauded the “Towelie,” oil sorbent model, wherein an Indian manufacturing industry has tied-up with United States’ based company to market. When the market matures in India, for these products, domestic market can be tapped.

In the conventional sector, building a pipeline of skilled workforce at the shop floor level is critically needed. Attention need to be given to vocational training schools for technicians in the textile field akin to those of electricians and plumbers—a sage advice indeed!

Enhancing the conventional sector by widening the product basket, collective effort among government, industry and R & D to develop value-added products that can be marketed and strengthening applied research and vocational training systems are a few valuable take home messages from the meeting.

Knowledge Pilgrimage for Innovation and Growth

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(August 12, 2019, Aruppukottai, India)—Innovation and effective use of science and technology are much needed for growth, said The Honorable Vice President of India.

Yesterday in an event in Chennai, India, themed, “Listening, Learning and Leading,” Honorable Venkaiah Naidu, Vice President of India stressed the importance of lifelong learning for personal and professional growth. Science and technology, education, youth development, culture are valuable for national growth, stated Mr. Naidu.

I was honored to have been invited to this function which was fashioned in such a way that leading personalities in all walks of life such as space science, agriculture, cinema, academics that included students and politics attended.

Need for sustainable agriculture, utilization of technology to deliver important goods to the public, have become very important in the current liberalized, privatized and global economy (LPG) stated the Vice President. It was pleasing to note that the focus was on the need to interact with students and scientists. In his two years in office, the Vice President has delivered 61 convocation addresses, stressing the importance of education. Mr. Naidu termed such interactions as “Knowledge Pilgrimage.”

Government schemes such as the direct assistance to farmers need to reach the masses swiftly which can be delivered effectively through technology. Professor M. S. Swaminathan, the noted agricultural scientist made a clarion call to enhance farm productivity and the quality of farm products. This factor needs to be considered by the Indian cotton sector, as the yield is less than the global average yield. Cotton yield/acre in China and Australia and three times that of India—a fact, worth noting.

The Honorable Amit Shah, Home Minister of India, who released the book on “Listening, Learning and Leading,” emphasized the importance of listening and learning, which are needed for leaders.

In my opinion, these traits are much needed for scientists these days as conducting research in isolation and satisfying just intellectual curiosities are not sufficient. Translation of ideas from lab to supermarket aisles are needed for economic growth.

“Make-in-India“ initiative promoted by the current Modi government has given a greater push for many industries to focus on research to develop value-added products. Chennai-based Carborundum Universal Ltd., Aruppukottai-based Jayalakshmi Textiles, Bengaluru-based Resil Chemicals and Coimbatore-based Kanaka Lakshmi Textiles, are a few companies that I have interacted during my current travels in India, that are going on a high gear to transfer their R & D efforts into market place.

Additionally, Indian government is promoting the start-up culture as a way of employment generation. Chennai-based WellGro United is a good showcase which has taken an Indian made product to a global scale by having marketing collaboration with Lubbock, USA-based E Innovate, LLC in releasing “Towelie,” an oil absorbent nonwoven mat.

Industry-Institute Interaction (3Is) needs to be a priority, which is well practiced by institutes such as Ichalkaranji-based DKTE Society’s Textile & Engineering Institute, which I visited amidst heavy monsoon outpours and floods, last week.

Professor Sridhar Narayanan of Chennai-based Great Lakes Institute of Management, who attended the event stated that technology is much needed for national growth and more importantly it should help the people in the lowest rung of the society.

This scribe has been undertaking “mission-linked” applied research for 20-years at Lubbock, USA-based Texas Tech University that has resulted in the translation of laboratory research to market place such as “Fibertect,” military wipes and “Towelie,” oil absorbent.

[Writer's Note: This column is based on a speech delivered yesterday by the The Honorable Vice President of India in the presence of The Honorable Home Minister of India. I was humbled and honored to have been invited to attend this event in Chennai, India.]

Ramkumar, S

From: Schovanec, Lawrence
Sent: Tuesday, August 13, 2019 11:27 AM
To: Ramkumar, S
Cc: Galyean, Michael; Heppert, Joseph; Lindquist, Brent; Presley, Steve; Kendall, Ron; Wheeler, Julie; Duncan, Robert; Hernandez, Grace; Akchurin, Nural
Subject: Re: Thanks for the Support/Knowledge Pilgrimage for Innovation and Growth

Dear Ram,

It's good to hear of your successful trip to India. Congratulations on the invitation to speak at such a significant event and thanks for sharing the column you wrote.

I look forward to seeing you back on campus.

Lawrence

*Dr. Lawrence Schovanec
President, Texas Tech*

From: "Ramkumar, S" <S.Ramkumar@ttu.edu>
Date: Monday, August 12, 2019 at 5:57 AM
To: Lawrence Schovanec <Lawrence.Schovanec@ttu.edu>
Cc: Michael Galyean <Michael.Galyean@ttu.edu>, "Heppert, Joseph" <Joseph.Heppert@ttu.edu>, "Lindquist, Brent" <Brent.Lindquist@ttu.edu>, "Presley, Steve" <Steve.Presley@ttu.edu>, "Kendall, Ron" <Ron.Kendall@ttu.edu>, "Wheeler, Julie" <Julie.Wheeler@ttu.edu>, "Duncan, Robert" <Robert.Duncan@ttu.edu>, "Hernandez, Grace" <Grace.Hernandez@ttu.edu>, "Akchurin, Nural" <Nural.Akchurin@ttu.edu>
Subject: Thanks for the Support/Knowledge Pilgrimage for Innovation and Growth

August 12, 2019

Dr. Lawrence Schovanec, President

Texas Tech University

Lubbock, USA

Re: Invited for an Event by the Office of Vice President of India

Dear President Schovanec,

Technical Textile Sector Immediate Needs

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(August 7, 2019, Ichalkaranji, India)—Marketing knowhow and support are the immediate needs of the Indian technical textiles sector.

Amidst heavy southwest monsoon downpours, my visit to Ichalkaranji in the state of Maharashtra, India resulted in constructive discussions with experts at the DKTE Society's Textile & Engineering Institute in Ichalkaranji that threw much needed light on the current status of the technical textiles sector in India.

Since 2009, I have been pushing for the need of value-addition to nonwoven roll goods (fabrics) in India, in addition to creating more technical and marketing awareness.

DKTE institute is the home for India's only Center of Excellence for Nonwovens (CoE-Nonwovens) focusing on nonwovens R & D. Nonwoven offers good opportunity for the conventional textile sector to diversify stated, Professor P. V. Kadole, director of the institute. Products with specific end-use applications have to be conceived say for the Indian set-up and have to be marketed. "Industry can make use of R & D facilities like us to develop new products. Due to the interest from entrepreneurs, our R & D center even functions two shifts when needed," added Kadole.

R & D is needed and at the same time marketing knowhow needs strengthening stated, Professor U. J. Patil, deputy director of the institute.

Stating that many new nonwoven projects have emerged in the recent two years, marketing support is needed. Industry needs to avail government support schemes to develop a strong technical textile sector base in India, stated Aniket Bhute, technical director of the CoE-Nonwovens.

While in India awareness is there about technical textiles sector, focused efforts are needed to promote and grow the value-addition in this sector. "We need value-addition, not manufacturing nonwoven fabrics only," stated Rajanna Gotipamul, who teaches technical textiles to students at the institute.

Technical textiles should also explore sustainability aspects and focus on health care and environmental protection products. Agreeing on this aspect, R & D programs and product development should focus on cost-effective greener materials and natural fibers stated M. Y. Gudiyawar, a senior professor at the Ichalkaranji-based institute.

In my travels across the globe for 25-years and dealing with many institutes, it is pleasing to report that the DKTE Institute in Ichalkaranji is one of the finest in undertaking applied research in the textiles field.

Indian Textile Industry Needs Value-Addition

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Bengaluru, India, August 4, 2019)-Indian textiles sector needs to refocus and concentrate on value addition.

Textile industry in India is in distress due to sluggishness in yarn uptake by the upstream sectors. The ongoing trade war between the United States and China is having its own effect on the manufacturing and textile sectors in India. Cotton availability situation, manufacturing cost and slowing of yarn export are some of the factors that are negatively affecting the industry.

While cotton prices are showing a declining trend since this June, spinning industry is not enthused in buying cotton at the present time. 30-mm cotton that used to be priced at Indian Rupees (INR) 47,000 to 48,000 per candy (about 356 Kgs) few months back, today is priced around 44,000 INR per candy, which should interest mills to buy and stock. Lack of cotton yarn buying by the upstream sector in India has put enormous pressure on the spinning industry and allied sectors such as textile machinery.

“Yarn demand is not there,” stated Mr. S. K. Nanjappan, managing director of Coimbatore-based Kanaka Lakshmi Mills, Pvt. Ltd., who has been in the textile field for 50-years. Nanjappan is my alumni brother who graduated from the prestigious Chennai-based A. C. Tech, Anna University in 1970, followed with a management degree from the elite Indian Institute of Management, Ahmedabad in 1974. A telephone conversation with him today revealed many valuable points worth considering. Indian domestic market is saturated and hence value-addition focusing on technical products and export market is needed. He highlighted how his company started moving away from fashion and commodity textiles in the year 2000. Today, his weaving mill manufactures 400,000 square meters of woven cloth per month that goes into making base cloth for abrasives, showcasing the positive aspect of diversification. He is still exploring various options to take his company into technical textiles industry.

“Cotton yarns are selling at a much lower price than last year, thus squeezing margins and forcing production shutdown,” stated Mr. Velmurugan, general manager of a 70,000 ring spindle mill in Aruppukottai, South India. China factored heavily in his views on the slowdown of the Indian textile sector. He agreed with this scribe’s view that value-addition is the need of the hour. He stated that Indian spinning sector is a world leader, however, upstream sectors such as processing and technical textiles sectors need enhancement. He insisted that Indian government needs to support export by boosting incentives to capture high-end markets.

The cotton yarn situation has forced one day/week mandatory factory closures in some regions in India and idling about 30% of the total spinning capacity in India.

For two decades, I have been championing the development of value-added sector, by careful diversification across the fiber to fashion supply chain since my lecture at a meeting in Coimbatore organized by the South India section of the United Kingdom-based The Textile Institute during the Fall of 1999.

Indian textile and manufacturing industry needs an uptick. “Indian industry, not only the textile sector is in a wait and watch mood,” stated textile industry veteran Mr. Nanjappan.

Towelie Oil Absorbent Swims into a World Sailing Event

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Bengaluru, India, July 30, 2019)-Made in India product makes strides into a global sailing event in Japan.

INDO-United States' collaborative product, manufactured in India will be used in the Hempel World Series Sailing Event in Enoshima, Japan, to be held between August 25th and September 1st, 2019. Enoshima event will see 600 of the world's top sailors coming from over 50 countries.

Towelie oil absorbent marketed globally by Lubbock, USA-based E Innovate, LLC will help to meet the sustainability goals of the international sailing event in Japan. Chennai, India-based WellGro United manufactures different versions of Towelie oil absorbent products for industrial and environmental clean-up applications.

It is pleasing to report that the product conceived by me and developed out of United States-India collaboration will be used in the Enoshima Hempel World Series Sailing event in Japan. This scribe has been working on a commercially viable environmentally sustainable oil absorbent since the Gulf of Mexico oil spill in the United States. It has taken a global collaboration to make this effort possible.

Towelie absorbents have been chosen to support the Hempel World Cup Series, Enoshima event's sustainability initiative. Towelie absorbent will support the event's goal to reach the World Sailing's "Sustainability Agenda 2030." World Sailing's Sustainability Agenda 2030 outlines how the sport of sailing will contribute to the United Nation's Sustainable Development Goals.

"This event will require more than 300 rigid inflatable boats powered by outboard gasoline engines to be filled every day. The chance of oil spill is high and we are happy to know that "Towelie" will be on hand to soak up the spills and protect the environment," said Mark Smith, the event's sustainability officer.

The use of "Made-in-India," Towelie, marketed by USA based E Innovate, LLC is a great showcase of global collaboration finding its way into an international event, said WellGro United's NambiSrinivasan.

Big Bang to Biodegradable Textiles

By: Seshadri Ramkumar, Professor, Texas Tech University, USA

(Bengaluru, India, July 25, 2019)-Eight year old kids teach the importance of sustainability.

Tracing how the Universe evolved out of “Big Bang,” some 13.7 billion years ago, 231, 3rd grade students of Bengaluru-based Vidyashilp Academy, today sent a strong message to save the environment.

As the father of a 3rd grade student Aditya Ritvik Ramkumar at Vidyashilp, I was fortunate to attend the event “Sneak Peek,” organized as part of environmental sciences curriculum at the school, wherein 231 students under the guidance of a team of twelve dedicated teachers created an awareness to a room full of adults on the importance of saving the planet and environmental sustainability.

The nearly two hour event started with a lesson on how earth adapted itself after the big bang explosion, teaching the importance of adaptability. Self-development, adaptation, need to dream were some of the positive messages, eight year old educators told grown up students who were watching the performance with attention and awe. These are indeed management lessons, gurus teach in the hallowed halls of Harvard and Institute Institutes of Management.

For industry professionals, fiber science and materials researchers, there were a few lessons such as forests needs to be saved, industrialization is needed, but must be balanced.

The performance by budding citizens had plenty of lessons for human development. Ms. V. K. Seema, the teacher who was part of the 12-member team at Vidyashilp told this scribe that the school wanted to use innovative methods to train the next generation, particularly about the importance of saving the planet and environmental sustainability.

It is pleasing to know that schools these days are focusing on education related to sustainability, which will definitely lead to a well-balanced economic growth.

During my current travels in India, it has been pleasure to notice that many established industry groups and start-ups in the textiles sector such as Aruppukottai-based Jayalakshmi Textiles, Coimbatore-based Kanaka Lakshmi Mills and Chennai-based WellGro United are joining hands to develop biodegradable technical textiles such as oil absorbents, next generation cotton for industrial applications, etc.

Vidyashilp’s third graders ended up their event with an important message—“a little bit of dream and hope will lead to light at the end of the tunnel.” What a sage message!

Successful Indigenous Development of Biodegradable Oil Sorbent

By: Seshadri Ramkumar, Texas Tech University, USA

(Aruppukottai, India, June 12, 2019) -Today, Wellgro United in collaboration with Jayalakshmi Textiles released indigenously developed biodegradable oil sorbent and industrial high-tech wipe.

This scribe has worked with the two Indian companies in developing the green product.

Greater awareness of plastic pollution, more importantly, the release of micro plastic beads from synthetic products such as kitchen wipes has put pressure on textile and nonwoven companies to replace synthetics as much as possible in single-use wipes. The two Indian companies have partnered and worked closely with this scribe in launching the product to the marketplace today.

Most of the commercial oil sorbents today are polypropylene based meltblown and thermal bonded products that can release micro plastics into the environment. The wipe released today is highly biodegradable and will be devoid of polypropylene, making it a unique product to solve important environmental problems.

Aruppukottai-based Jayalakshmi Textiles is a successful cotton spinning entity with 70,000 spindles and is an established presence in the cotton sector. Chennai-based Wellgro United is specialized in value-added industrial textile products such as oil absorbents.

“We have used our experience in manufacturing cotton products to develop probably the first ‘Made-in India,’ biodegradable oil absorbent wipe. The collaboration with Wellgro United has enabled us to focus our attention on industrial textile products,” stated Shanmugam Velmurugan, general manager of Jayalakshmi Textiles. “Wellgro United is excited to work with Jayalakshmi Textiles and Texas Tech University’s Professor Seshadri Ramkumar to release the first indigenously manufactured biodegradable oil absorbent wipe,” stated Nambisrinivasan of Wellgro United.

This scribe has been advocating the concept of diversification in the Indian conventional textile sector to develop technical textiles with minimum additional investments. The launch of biodegradable high-tech wipe is a good example to showcase the successful collaboration between a spinning industry and a high-tech start-up.

Textile sector needs the infusion of ideas to develop technical textiles. “Jayalakshmi Textiles has focused on its textile strength, to launch a value-added industrial product,” stated Rengasamy Mohankumar of Jayalakshmi Textiles, who has been involved in the product development.

Product launch details available at:

<https://youtu.be/kqOFxiWDaZ4>

Startup Culture Needs a Push

By: Seshadri Ramkumar, Texas Tech University, USA

(Bengaluru, India, May 29, 2019)-Innovative and new ways of solving problems will get due attention, in India and elsewhere.

All eyes are on the formation of the new central government in India with Mr. Narendra Modi's inauguration tomorrow as India's Prime Minister--his consecutive second term in the office. India's majority electorate took into consideration Mr. Modi's leadership skills in electing his party to the unprecedented victory. Many nations are looking towards a decisive leader to lead them in these days of trade and political uncertainties.

Indian government's policies are expected to help with job oriented growth, which is the need of the hour. India's growth is lingering around 7% and the youth are hoping for increased job opportunities.

India needs to push the startup culture on a high gear to provide job opportunities for a million new entrants coming into the workforce each month. Initiatives such as Startup India, Atal Innovation Initiative, Digital India, Make in India will get serious consideration to grow the economy. "It is hoped that the new government will fine tune the Goods and Services Tax system to improve the economy, which is a welcome one," stated Venkatakrishnan Ramanujam, president of a Chennai-based startup WellGro United. WellGro United has recently launched an ecofriendly oil absorbent wipe, which is getting exported to the United States and few other countries.

Majority who voted for Mr. Modi's party to govern expressed satisfaction, as the election was centered around his decisive leadership, which is hoped to boost confidence among businesses and consumers. In addition to service, banking and healthcare, the retail sector is expected to have positive growth prospects. Sudhir Kumar, president of Bengaluru-based Innoroots, a consultancy agency stated that the retail sector in India will cross over a US\$ one trillion soon. Growth is happening in India, while economies are saturated in developed nations. "Global brands should eye on India for manufacturing their products for exports as well as capture the growing domestic Indian market," added Sudhir Kumar. India offers enormous opportunities for the infrastructure sector as there is a critical need to improve airports and roads. People are hoping that the new government will focus its attention on this sector as has been the case in Varanasi---Prime Minister Modi's home constituency. Varanasi's roads have been broadened and the city's sanitation infrastructure has tremendously improved in the past few years stated a Larsen & Toubro, civil engineer from Prayagaraj (formely Allahabad city), who is on an assignment in Botswana.

The new Indian government should push public sector banks to support the startup ecosystem as a way to build wealth and create more opportunities for India's youth.

Lessons from Leading Events for Businesses

By: Seshadri Ramkumar, Texas Tech University, USA

(Bengaluru, India, May 24, 2019)—Recent global events this week serve as valuable lessons for entrepreneurs and businesses.

Yesterday's India's national election verdict in the largest democratic exercise in the world and today's Brexit outcome in the United Kingdom can serve as valuable lessons for businesses and in fact, all individuals.

India's ruling Bharatiya Janata Party's (BJP), sweeping election victory, winning over 300 seats in the Lok Sabha, India's national assembly, gaining the single most majority for the second time since the 2014 national elections has brought enormous recognition for India as a global player.

Prime Minister Narendra Modi's image as a decisive and confident leader has in fact played the major role in this clear mandate in India. People look towards a leader who can inspire, as is evident from this recent event. In addition, a leader needs to show convincing leadership skills to clinch a deal. In spite of repeated efforts, Prime Minister Theresa May has not been able to convince her own party dissenters to help with a smooth Brexit divorce that has led to the resignation of the Prime Minister from party leadership.

These political events clearly point to the importance of decisive leadership, which is a must for businesses as well. In an interview with David Rubenstein, Tim Cook, CEO of Apple stated that the reason he joined Apple when it was just emerging was due to the leadership of Steve Jobs. Steve Jobs was turning towards left when others were looking right, showing that he was a distinct leader who believes strongly in his conviction and vision that led Tim Cook to quit his job from Compaq, highlighting the fact that convincing leadership role matters in determining whether the election of a nation or creating a successful global corporation.

In looking at how global successful companies emphasize on the chemistry between its employees and customers, political parallel is how a leader connects with the stakeholder (people). This is clearly evident in Prime Minister's Modi's election victory and his marketing skills. While opposition parties formed a strong coalition to unseat the ruling BJP government, slick marketing campaign by reading the minds of people and capturing their sentiments helped with the huge victory--shows the importance of strategic marketing—a good lesson for businesses and start-ups.

Learning from mistakes, and swiftly making corrective course is a valuable lesson for the industry. Again, the recent election in India helps to learn. While losing the recent state elections, although by narrow margins in two northern Indian states of Madhya Pradesh and Rajasthan, strategic efforts to convince the voters within a short timeframe has turned the tide giving a major victory for Prime Minister Modi in these states, is a great lesson for leaders whether in industry or politics.

Understanding constituents that equates to learning from consumers using their feedback is valuable for start-ups as they improve their products and fix price points.

Surely, recent worldwide events give positive lessons for all of us. How we learn from these matters!



Mixed Cotton Signals from the United States

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, May 17, 2019)-Higher expectations on the 2019 crop and unsettled trade disputes between the United States and China are leading to unsettling situation in the cotton industry.

Planting has taken a momentum this week in the High Plains of Texas with good soil temperature in most parts. “Moisture is the dream come true,” said one seed company representative in today’s morning meeting at the Lubbock-based Plains Cotton Growers (PCG), Inc. “20-30% of region’s cotton acres have already been planted and next week will see greater activity due to the time limit posed by crop insurance,” stated Mark Brown, director of field services of PCG. “We have not had such a good moisture in many years,” said Steve Verett, executive vice president of PCG

While the industry is happy with the weather conditions, so far, not all is rosy for the United States’ cotton sector. As the United States’ cotton sector is dependent on exports, with higher yield, comes higher stress to sell cotton. Market is in distress primarily due to the continuing trade issues with China. With the Trump administration imposing additional tariffs on Chinese imports, retaliation by Chinese is evident, which affects the cotton market.

In past two weeks, cotton futures have dropped by 10-cents and today, the December future is in the mid to upper sixty cent range. Huge crop expectation this season, is adding pressure to the market. United States’ is expected to produce 22 million bales of cotton (480 lbs. each). How to sell the 17 million bales that is targeted for export, asked one participant in today’s meeting. Because of the trade situation, there might be some cotton bales rolled over from last year’s trading, adding more pressure.

The need to continue market facilitation program is being felt strongly in the cotton sector. It looks like United States Department of Agriculture will soon make an announcement on the continuation of the program for the 2019 crop.

United States’ cotton sector is exploring new market opportunities. Will India be a promising market?

India Shaping to be a Market for United States' Cotton

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, May 14, 2019)-Trade war and India's lowered cotton output are enablers for new market opportunities for United States' cotton in India.

Mr. Arun Sekhsaria, Director of Mumbai-based Cotton Association of India (CAI) who is visiting the United States this week to explore different business opportunities spoke today with this scribe on the global cotton scenario. In speaking about the potential growth opportunities in cotton trade between United States and India, Sekhsaria provided an optimistic picture.

Arun Sekhsaria was present at the meeting between the USDA representative in India and the CAI officials during the last week in April that has led to the downward revision of India's production estimate by USDA. USDA's official estimate is now at 32.5 million bales (325 lakh bales of 170 Kgs each). However, the CAI's estimate is still low, and it is pegged at 31.6 million bales (316 lakh bales of 170 Kgs each). Lack of rain during the early part of the season has led to the decline in cotton output in major cotton growing areas such as Gujarat, Telangana and Maharashtra.

Discussion in the past few days among the Indian end-user community is that spinners have to look for imported cotton. Traders like Arun Sekhsaria, Managing Director of Mumbai-based D. D. Cotton, Pvt. Ltd., are making sincere efforts to provide appropriate cotton for Indian spinners, which includes importing option as well.

Commenting on the trade war between China and USA, Sekhsaria opined that Brazil may capture the China cotton market, therefore United States' should be looking for different markets such as India. Particularly opportunities are on the horizon for cottons grown organically and under better cotton initiative (BCI).

"India is appropriate market for 2018 and 2019 U.S. crops," stated Sekhsaria. However, the quality of cotton left over from the 2018 crop may not be adequate. But with the rains and favorable weather in West Texas, crop with good quality is expected for the 2019 crop added, Sekhsaria. Starting August, India will be a favorable market for U.S cotton as its prices are below the MSP support prices in India.

There is a need for more awareness of the United States' cotton sector among Indian spinners. Having visited Lubbock during Fall 2018 to see new applications for cotton such as oil absorbent wipes, Arun Sekhsaria is planning to bring a delegation of spinners from India to Texas in August 2019.

Towelie™ Nonwoven Oil Absorbent Video Released

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 30, 2019)- Today, video showcasing the applicability of non-microplastic oil absorbent wipe, Towelie™ has been released.

Lubbock-based E Innovate, LLC showcased the applicability and positive features of non-microplastic oil absorbent mat, Towelie™ via a video release today.

The product's history is interesting in that the founder of E Innovate, LLC, Ronald Kendall, Jr., was initiated into cotton research while he was a high school student by this scribe in the Nonwovens & Advanced Materials Laboratory at Texas Tech University (TTU). Ronald Kendall, Jr. has brought in mechanical engineer Luke Kitten of Slaton to take the product to the next phase.

Both Ronald Kendall, Jr. and Luke Kitten carried out research on cotton in the Nonwovens & Advanced Materials Laboratory at TTU, while studying in high schools in Lubbock, USA.

The video is available at the company's YouTube channel:

https://www.youtube.com/watch?v=_9o3X7htCa4

Towelie™ product information is available at: www.towelieglobal.com

Ramkumar, S

From: Curt White <~~cwhite@viatechtechnologies.com~~>
Sent: Thursday, May 02, 2019 9:36 AM
To: Ramkumar, S
Subject: Re: TexSnips: Towelie™ Nonwoven Oil Absorbent Video Released

~~988-708-4610~~

Please call so we can have a catch-up. I am so proud of you as you continue to bring the science of textiles to the practical world and build bridges between the USA textile industry and India and vice versa. Really wonderful stuff! 🙌

Curt
W. Curtis White, PhD / *Formerly with DOW, Michigan*

On Wed, May 1, 2019 at 8:45 PM Ramkumar, S <S.Ramkumar@ttu.edu> wrote:
Hi Curt, Hope all is well. What is your phone number? Thanks, Ram

From: Curt White <~~cwhite@viatechtechnologies.com~~>
Sent: Thursday, May 2, 2019 6:06:43 AM
To: Ramkumar, S
Subject: Re: TexSnips: Towelie™ Nonwoven Oil Absorbent Video Released

Ram:

Hello from Curt White!

Interesting for sure with lots of potentials. Companies in the "run-off water filtration" business have been innovating around this for years using fiber shapes for turbulence and adsorptive surfaces. We helped with our antimicrobial and balancing surface energies and hydrophobicity/oleophobicity using reactive finishes.

Curt
W. Curtis White, PhD

On Tue, Apr 30, 2019 at 3:55 PM Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

Towelie™ Nonwoven Oil Absorbent Video Released

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 30, 2019)- Today, video showcasing the applicability of non-microplastic oil absorbent wipe, Towelie™ has been released.

Ramkumar, S

From: Galyean, Michael
Sent: Wednesday, May 01, 2019 7:20 PM
To: Ramkumar, S
Subject: Re: KCBD TV News: May 1, 2019 Biodegradable Towelie

Ram - very nice segment on the news - good work by all!

Mike Galyean

Provost, Texas Tech University

From: Ramkumar, S
Sent: Wednesday, May 1, 2019 5:42 PM
To: Ramkumar, S
Subject: KCBD TV News: May 1, 2019 Biodegradable Towelie

<https://www.kcbd.com/2019/05/01/researchers-are-using-west-texas-cotton-biodegradable-towel-designed-clean-up-oil-spills/>



Researchers are using West Texas cotton for biodegradable towel designed to clean up oil spills - kcbd.com

www.kcbd.com

LUBBOCK, TX (KCBD) - Two young entrepreneurs have brought an idea out of the labs and into U.S. Markets that is the first of its kind. "Towelie," a simple name for a seemingly simple product with the potential to clean up a complicated environmental and ecological problem: oil spills in bodies ...

Ramkumar, S

From: Kelly, Brendan
Sent: Thursday, May 02, 2019 8:19 AM
To: Ramkumar, S
Subject: Towlie

Congrats on Towlie! It looks like a great product.

Brendan

Brendan Kelly, Ph.D.
Assistant Professor
Fiber and Biopolymer Research Institute
Plant and Soil Science
Texas Tech University
Texas A&M AgriLife Research
806-834-0326
brendan.kelly@ttu.edu

Ramkumar, S

From: ~~techtex@gmail.com~~
Sent: Tuesday, April 30, 2019 11:57 PM
To: Ramkumar, S
Subject: RE: TexSnips: TowelieT Nonwoven Oil Absorbent Video Released

Dear Ram,

Thanks and congrats to you on successful product development.
At approx.USD 20 per kg at retail pricing, it is a high value-added product.
Curious to know how it is lighter than water when it is made from 100% cotton. Can share some information?

Best Regards

Ravi

KS Technical
B-2, Sandalwood
22, Pratapgunj Soc.,
Opp. Rosary School
Vadodara 390002
INDIA
Mail: ~~techtex@gmail.com~~
Phone +~~919825242940~~

From: Ramkumar, S <S.Ramkumar@ttu.edu>
Sent: Wednesday, May 1, 2019 2:25 AM
To: Ramkumar, S <S.Ramkumar@ttu.edu>
Subject: TexSnips: Towelie™ Nonwoven Oil Absorbent Video Released

Towelie™ Nonwoven Oil Absorbent Video Released

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 30, 2019)- Today, video showcasing the applicability of non-microplastic oil absorbent wipe, Towelie™ has been released.

Lubbock-based E Innovate, LLC showcased the applicability and positive features of non-microplastic oil absorbent mat, Towelie™ via a video release today.

Ramkumar, S

From: Stewart, Rob
Sent: Tuesday, April 30, 2019 5:45 PM
To: Ramkumar, S
Subject: Re: TexSnips: Towelie™ Nonwoven Oil Absorbent Video Released

That's pretty interesting, Ram. Thanks for sharing.

Rob
Dr. Robert Stewart
Senior Vice Provost, Texas Tech University

From: "Ramkumar, S" <S.Ramkumar@ttu.edu>
Date: Tuesday, April 30, 2019 at 4:01 PM
To: "Ramkumar, S" <S.Ramkumar@ttu.edu>
Subject: TexSnips: Towelie™ Nonwoven Oil Absorbent Video Released

Towelie™ Nonwoven Oil Absorbent Video Released

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Lubbock-based E Innovate, LLC showcased the applicability and positive features of non-microplastic oil absorbent mat, Towelie™ via a video release today.

The product's history is interesting in that the founder of E Innovate, LLC, Ronald Kendall, Jr., was initiated into cotton research while he was a high school student by this scribe in the Nonwovens & Advanced Materials Laboratory at Texas Tech University (TTU). Ronald Kendall, Jr. has brought in mechanical engineer Luke Kitten of Slaton to take the product to the next phase.

Both Ronald Kendall, Jr. and Luke Kitten carried out research on cotton in the Nonwovens & Advanced Materials Laboratory at TTU, while studying in high schools in Lubbock, USA.

The video is available at the company's YouTube channel:

<https://www.youtube.com/watch?v=9o3X7htCa4>

Towelie™ product information is available at: www.towelieglobal.com

Seshadri Ramkumar, PhD, CText., FTI (UK), FTA (*Honorary*)
Professor, Nonwovens & Advanced Materials Laboratory
Texas Tech University
Lubbock, TX, USA

Technical Textiles Sector is the Need of the Hour

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 25, 2019)- Current cotton and yarn situations in leading textile manufacturing countries like India is compelling the textile industry to go for diversification.

India has been promoting the technical textiles sector for nearly two decades. The history of this effort in India can be well traced by this scribe as a personal witness. As the co-chairman of the India Committee of the USA-based INDA, Association the Nonwoven Fabrics Industry organized its first nonwoven technical workshop in Mumbai in January 2007 that was followed by a major business event, "Link with India." Probably, this event was ahead of its time as the technical textiles sector was getting started with wide spread awareness then.

Currently, India is going on a high gear to push technical textiles forward due to the stressful situations faced by the spinning sector due to cotton price volatility and supply issues.

"Margin in the spinning sector has been eroding and today one can say it is non-existent in most of the mills," stated Prakash Vasudevan, director of Coimbatore-based The South Indian Textile Research Association. Those mills that have invested in wind power and modernization are surviving, but still needs to focus on diversification, added Prakash Vasudevan.

This scribe has been emphasizing on developing a converting sector base for technical textiles. Investing in infrastructure to produce roll goods (fabrics) will be fruitful, if there is a base to absorb huge production. Vasudevan added that there is a need to have specialized converting sector. He further added that exploring the market and strengthening the marketing aspect should take priority. In this scribe's opinion, there is an immediate need to create a flow channel for technical textiles fabrics (downstream), that can be translated into value-added products, used by consumers. Additionally, creating collaborations between advanced nations in this field such as Germany and United States will pave the way for growth of this sector. Recently, this scribe has enabled a joint effort between a Chennai-based WellGro Innovations and Lubbock-based E Innovate, LLC, which has resulted in the debut of Towelie™ oil sorbent nonwoven wipe in the United States' market.

Technical textiles sector is getting attention by entrepreneurs as well as conventional players. Santhana Thirumalai, an IT expert who has moved back to Coimbatore from the United States is exploring the advanced textiles sector to diversify their family-based weaving and agriculture activities.

More information on the type of products needed and how to go about developing those products must be made available for the new entrants.

Sustainable Oil Sorbent Debuts in the U.S. Market

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 22, 2019)- Sustainable and biodegradable fibrous oil sorbent makes into to the United States' market.

A Texas Tech University's (TTU) alumni has enabled the market penetration of different versions of efficient oil absorbent mats and wipes, "Towelie TM." The product has evolved out of a successful collaboration between India and United States utilizing strengths in the textile and advanced materials sectors in the two nations.

Ronald Kendall, Jr., showed interest in finding sustainable solutions for toxic oil spill as a high school student and carried out research in this scribe's Nonwovens and Advanced Materials Laboratory during Fall 2011-Spring 2012. Kendall, Jr., attended TTU majoring in energy commerce and has continued his passion for finding environmentally friendly solutions for toxic oil spills, which has resulted in his founding, E Innovate, LLC. Kendall, Jr., serves as its president ably assisted by young entrepreneurs who have a passion to innovate and finding environmentally friendly solutions to complex problems such as oil contamination.

Towelie TM is not only an oil absorbent, it functions as an efficient wipe for cleaning leaking well heads, rods and tubes in oil and gas production. Field studies in oil production wells in the Permian Basin have been successful and well received by leading companies. "This product has been exceeding expectations in efficiently wiping and absorbing hydrocarbons in oil and gas drilling operations and pipelines," stated Ronald Kendall, Jr.

Some of the largest oil producers have tested the product to replace the shop rags and other synthetic oil absorbing mats. Towelie TM products enhance production efficiency, result in the improvement in workflow in oil and natural gas fields and it offers a sustainable solution as the absorbent core is biodegradable. These products are timely as microplastics and plastic contamination issues are getting serious attention, due to potential environmental and human health risks.

Towelie TM is offered in different versions depending on the need of the customers such as 100% biodegradable, product that has biodegradable sorbent core, etc. "The product can easily transition into various fields such as manufacturing, marine, mining, automobile sector due to its application capability such as sorbents, wipes," stated Kendall, Jr.

This scribe has been advocating the use of natural materials for oil sorbents and other industrial applications and is thrilled to see products such as Towelie TM that are coming into the market space.

More information of the product is at: <http://www.towelieglobal.com>

Ramkumar, S

From: Dr. PR Roy <prroy1941@gmail.com>
Sent: Tuesday, April 23, 2019 5:03 AM
To: Ramkumar, S
Subject: Re: TexSnips: Sustainable Oil Sorbent Debuts in the U.S. Market

Congrats ! A high-school boy has truly jumped high .
Your early observations some years back are seeing the day-light today.

On Mon, Apr 22, 2019 at 10:59 PM Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

*Dr. P. R. Roy
former Group Chief Executive
Arvind Group
Ahmedabad, India*

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Nonwoven Innovations to be Featured

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 18, 2019)- Nonwoven sector is a growth industry.

According to recent statistics, the global nonwoven industry has registered a growth of 6.9 percent. Speaking with this scribe yesterday, Brad Kalil, director of market research and statistics at the Cary-based INDA, Association of the Nonwoven Fabrics Industry presented a growth picture for the sector. On production terms, United States accounts for 30% of global production at roll goods (fabric) stage accounting about US\$13.7 billion in value. The value at roll goods stage globally will be about US\$50 billion. When this scribe started promoting the nonwoven sector in India in 2006, the global nonwovens sector at roll goods level was valued at US\$30 billion.

Nonwoven's field lends itself to constant research and innovation. The Nonwovens Engineers and Technologists (NET) division of TAPPI will be showcasing new developments in the field in the forthcoming NETInc 2019 conference to be held this May in conjunction with the world's leading paper conference (PaperCon 2019) in Indianapolis. Over 1000 participants have already registered for the PaperCon event. Larry Montague, president of TAPPI commented, "this year's event will showcase best practices for now, and ideas for the future to drive the industry forward."

The nonwoven conference will kick-off with keynote presentations. Andrew Aho, vice-president of new business development at Industrial Fabrics Association International will provide insights on the United States' advanced textiles market and outlook for the future. Amit Kapoor, president and CEO of First Line Technology, will focus his talk on nonwovens commercialization pathways. First Line has transitioned nonwoven wipe, "FiberTect," into defense markets.

With heightened awareness on plastic contamination, papers on bio-based oil absorbing nonwovens, antibacterial cotton products and developments in nanocellulose research will be presented. The conference has attracted good mix of papers from industry and academia on varied themes such as innovative filter media, foam finishing, biodegradable wool felts, etc.

Gaurav Pranami, vice president R & D at Imbed Biosciences, stated, "with 22 talks on the latest R&D in the field of nonwovens from industry and academia and national and international participants, NETInc 2019 is the conference to be." More details about the event is at:

<http://netincevent.org/program/technical-program/>

A Few Tips for a Successful Business

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 16, 2019)- Have ideas to sell as well as ideas to develop a new product.

While economic growth has been a jobless growth in many countries, creating a start-up culture may offer some help.

Speaking to entrepreneurs, researchers and students recently in Lubbock, Sherwin Greenblatt, one of the first employees of the Bose Corporation and its former president enlightened the audience on how to take an idea and create a successful business out of it. Texas Tech University (TTU) organized a week long, "Discoveries to Impact Week," this month focusing on research translation. Lawrence Schovanec, president of the university emphasized the importance of research at undergraduate level highlighting the "Transformative Undergraduate Experiences (TrUE)," which is a new paradigm in learning and teaching at TTU.

In the innovation world, the translation of ideas from lab to reality is the toughest part which is often referred to as the "death valley." In the personal experience of this scribe, ideas can be innovative and good, unless they are developed into a product for which the price is at the right mark, it often is a tough sail. This emphasizes the importance of good marketing strategy, "plan to sell."

"We need ideas to sell as we need ideas to develop products," stated Greenblatt—what a sage wisdom. Greenblatt's view highlights the need to have a proper planning right from the scratch, for an entrepreneur who wants to develop an idea to a commercial product or license it from a research laboratory.

Greenblatt's talk provided few tips that may be useful for any business. One should know the purpose of any venture, which will lead to the founding principle. Bose started the company with a simple but real purpose, which was to provide high quality acoustics so that people can enjoy. This vision has today translated into a company with over US \$ 4 billion in sales with 10,000 employees. Attracting proper talent, who like what they do in addition to expertise is important.

An important advice was that one must balance the short- and long-term goals. This has been the case with Bose Corporation. While they were improving their acoustic products, there were selling power conversion devices using semiconductors. For start-ups, it is not possible to have all the expertise, so getting someone else to do some jobs is always important.

It is good to plan, and an understanding of the need and current market helps. In other words, product needs to be practical, which will be accepted by consumers. Right product in right market at right price always helps. Having great ideas help but at the same time, ideas for marketing should also be developed right from the get-go.

Ramkumar, S

From: Sanket Shingote <~~sanketshingote@caionline.in~~>
Sent: Wednesday, April 17, 2019 1:11 AM
To: Ramkumar, S
Subject: RE: TexSnips: Important Article: A Few Tips for a Successful Business

Dear Sir,

Very nice article. I am reading all your articles and getting awareness about Industrial as well as academic scenario of rest of the world.

I would like to read many more such articles from you.

Best wishes,
Sanket Shingote
B.Tech, ICT (Mumbai)
Technical Officer, CAI
+91 7666384165

Cotton Association of India

From: Ramkumar, S [mailto:S.Ramkumar@ttu.edu]
Sent: 16 April 2019 09:20
To: Ramkumar, S
Subject: TexSnips: Important Article: A Few Tips for a Successful Business

A Few Tips for a Successful Business

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Ramkumar, S

From: projects <Projects@glesterjute.com>
Sent: Wednesday, April 17, 2019 12:53 AM
To: Ramkumar, S
Cc: dcb
Subject: Re: TexSnips: Important Article: A Few Tips for a Successful Business

DEAR DR. RAMKUMAR .S,

THANKS FOR THE INFO ON THE LATEST DEVELOPMENTS –COTTON AND NOW TRANSITION OF SCIENTIFIC IDEAS INTO TECHNOLOGY –INTO PRODUCTS – PRICING- BEFITTING THE MARKET DYNAMICS PREVAILING.

YEARS HAVE GONE BYE, WE HAD YOUR VERY PRECIOUS INNOVATIVE THOUGHTS ON NON-WOVEN TEXTILES .

REGARDS
I.J.SHARMA

Jute Mills, on the banks of Hoogli (Ganges) Kolkata, India.

From: Ramkumar, S
Sent: Tuesday, April 16, 2019 9:21 PM
To: Ramkumar, S
Subject: TexSnips: Important Article: A Few Tips for a Successful Business

A Few Tips for a Successful Business

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China Signaling Buying U.S. Cotton

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 12, 2019)-China has started showing interest in buying United States' cotton.

There has been some movement in the United States' cotton to China, which is a positive signal. This is in anticipation of a positive trade deal between China and the United States.

Cotton industry stakeholders who met this morning at Lubbock-based Plains Cotton Growers' (PCG), Inc., focused their attention on the planting season ahead. With the ginning process completed this week in the High Plains of Texas, it is hoped that the High Plains' cotton production will cross the 4 million bales mark.

"Demand for cotton is there," stated one merchant at the meeting. This is evident at the December Futures value for the new crop (77.60 cents). This is somewhat high, given the volume of cotton left to sell, somewhere about half to three quarter of a million in the United States.

China's buying is certainly hampered with the 25% tariff and the future buying in volumes depends on a favorable trade deal, that needs to be accomplished sooner. While China normally goes for high quality cotton, they are interested in lower grades (31 and 41 color grade) at a discounted price. Trade deal will enable to push these cottons into the China market.

"Everybody is hopeful that a deal can be finalized sooner to clear the way for cotton to move into China," stated Shawn Wade, Director of Policy Analysis and Research at PCG.

On the quality note, this year's average micronaire for the cotton bales classed at Lubbock USDA classing office has been 4.07, which is good number compared with the last year's average of 3.21.

Why Cotton?

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 9, 2019)- Building demand for cotton is needed as good production potential is expected in near future.

Cotton is in business as it is presold on its comfort. Speaking to a large audience on April 5 at the 62nd Annual Meeting of the Lubbock-based Plains Cotton Growers (PCG), Inc., Berrye Worsham, President and CEO of Cary-based Cotton Incorporated, highlighted three important aspects of cotton to enhance its demand.

Cotton production in the United States of America in near future is expected to reach 20-25 million bales (480 lbs. each), that necessitates creating more value and new industrial applications such toxic oil absorbent and insulation products.

According to Worsham, cotton's advantages fall into three categories: 1) Health/wellness; 2) Strategic benefits and 3) Sustainability. Compared to some synthetics, cotton does not cause skin irritation. Synthetics may retain odor more than cotton and workout clothes from cotton wash much cleaner.

In a survey, it was revealed that 82% of consumers surveyed in India stated that sustainability influenced their clothing purchase, in China 64% of consumers were influenced by sustainability, while the number in the United States was 47 percent.

Textiles account for about 37% of microplastic contamination in water. With growing awareness on the microplastic pollution, cotton being natural, offers competitive advantage, as the fine cotton fibers degrade in water systems. There are predictions that with increase in the synthetics' usage, the microplastic contamination can grow three times by 2050, which is a serious concern.

Cotton industry is also focusing its efforts to create more awareness among consumers on the fiber content in their clothing, stated Worsham.

Ramkumar, S

From: Hiroki Ishikura <~~hishikura@nifty.com~~>
Sent: Tuesday, April 09, 2019 11:10 PM
To: Ramkumar, S
Subject: Re: TexSnips: Why Cotton?

Hi Ram,

Cotton products are comfortable to wear. In Japan, many polyester fiber products are developed because chemical fiber manufacturers are strong, but wearing cotton shirts and pants and, wearing a wool coat on a cold day, it is enough. Certainly cotton is good to the environment and it is human-friendly. One day let's start some project in Texas and Japan.

By the way I'm glad if the 2021 summer conference date will be decided by the end of August.
Thanks,

Regards,
Hiroki

Professor Hiroki Ishikura
Japan

----- Original Message -----

>From: "Ramkumar, S" <S.Ramkumar@ttu.edu>

>To: "Ramkumar, S" <S.Ramkumar@ttu.edu>

>Subject: TexSnips: Why Cotton?

>Date: Tue, 9 Apr 2019 17:58:18 +0000

>

>

>Why Cotton?

>

>By: Seshadri Ramkumar, Texas Tech University, USA

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>

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>1) Hea

Ramkumar, S

From: Bansod, Ashwini abansod@phillipcapital.in
Sent: Tuesday, April 09, 2019 10:35 PM
To: Ramkumar, S
Subject: RE: TexSnips: Why Cotton?

Thank you for adding my email Sir.

Your presentation at CAI's March Conference was extremely informative and with a different approach and more focus on demand.

Incase you are interested we could add your email for our cotton reports. It is a small brief on cotton futures movement on domestic commodity exchanges MCX and BSE.

Good day and Regards,
Ashwini Bansod
Head , Commodities Research
PhillipCapital India Pvt Ltd.
Direct: 022-66679982
M:9920088105

From: Ramkumar, S [<mailto:S.Ramkumar@ttu.edu>]
Sent: Tuesday, April 09, 2019 11:35 PM
To: Ramkumar, S
Subject: TexSnips: Why Cotton?

Why Cotton?

By: Seshadri Ramkumar, Texas Tech University, USA

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Ramkumar, S

From: Bharat Desai <~~bharat.desai@sintex.co.in~~>
Sent: Tuesday, April 09, 2019 8:20 PM
To: Ramkumar, S
Subject: Re: TexSnips: Why Cotton?

Dr Ramkumar

Greetings and thank you for sharing!

It was pleasure meeting you in mumbai during CAI conference.

My personal email is ~~pappybd@gmail.com~~

Best

Bharat

*Semias Cotton Purchaser / Expert
Ahmedabad, India*

On Tue, Apr 9, 2019, 23:34 Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

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By: Seshadri Ramkumar, Texas Tech University, USA

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Ramkumar, S

From: Rajpreath Industries <rajpreath@gmail.com>
Sent: Wednesday, April 10, 2019 12:19 AM
To: Ramkumar, S
Subject: Re: TexSnips: Why Cotton?

Dear sir Good morning

Thank you very much for your mail. It's very useful message for all

Thanking you
Regards
Rajpreath industries

Angu Ayyappan BE

On Tue, 9 Apr 2019, 11:34 pm Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

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Ramkumar, S

From: Ketan Jariwala <~~ketanjariwala62@yahoo.com~~>
Sent: Wednesday, April 10, 2019 1:06 AM
To: Ramkumar, S
Subject: Re: TexSnips: Why Cotton?

Thanks to hear since long, but your effort to educate us is great.

Sent from Yahoo Mail on Android

Surat, India

On Tue, 9 Apr 2019 at 23:28, Ramkumar, S
<S.Ramkumar@ttu.edu> wrote:

Why Cotton?

By: Seshadri Ramkumar, Texas Tech University, USA

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India's Cotton Production is on Decline

By: Seshadri Ramkumar, Texas Tech University, USA

(Bengaluru, India, March 8, 2019)- Cotton production in India is on the decline.

Yesterday, speaking to an audience of about 400 people in Mumbai, India, Mr. Atul Ganatra, President of Mumbai-based Cotton Association of India (CAI), presented the latest estimate of this year's (October 2018-September 2019) cotton production in India.

India is estimated to produce 32.8 million bales (170 Kgs each) this year, which is 3.7 million bales less than last year's crop of 36.5 million bales.

CAI is organizing a major international conference, "Global Opportunities and Challenges in Cotton," March 6-8, 2019 in Mumbai that has attracted key people in the international cotton research and marketing. Representatives from Washington, DC-based ICAC, UK-based ICA, Texas Tech University, India based ICAR and many cotton trading and related agencies from around the globe are gathering in the important event that is organized at a location in a scenic setting, Nariman Point, Mumbai.

Speaking to this scribe on the sidelines of the event, Mr. Arun Sheksaria, a CAI Director stated that the timing of this conference is important with uncertain trade situation between the world's leading exporter of cotton, United States and the largest consumer, China. The conference aims to discuss the trade war situation, global economic climate and more importantly enhance the brand image of Indian cotton.

Deficit rainfall during the months of September and October in key cotton growing states in India such as Gujarat, Maharashtra and Telangana is the main factor that has resulted in the decline in the crop, stated Atul Ganatra. Therefore, there will be no 4th and 5th pickings. Also, states like Maharashtra and Telangana have urged the farmers to uproot the plants by last December end to prevent pink bollworm infestations.

Serious discussions took place towards enhancing the yield in India, which is a major issue faced by Indian farmers, as the average yield in India falls below the global average yield/acre.

Commenting on the price situation, Ganatra advised Indian mills to procure cotton now as spot price of 29 mm quality crop hovers around Rs 42,000 per candy, warning that price may go up as cotton shortage is expected after June 2019.

India may end up with a stock of about 1.7 million bales, which will be less than last year's ending stock.

Nobel Laureate Sees No Recession in Sight

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, February 22, 2019)- Times are good and getting better, economically.

Professor Edward Prescott, Nobel laureate in economics (Nobel Memorial Prize in Economic Sciences) who is the co-recipient in 2004, visited Texas Tech University (TTU) yesterday and spoke about the importance of free enterprise. Along the way, he discussed the current global economic situation, in an event organized by TTU's Free Market Institute.

The Nobel laureate predicted that there is no recession in sight and technological advancements are driving the growth situation. United States' economy is booming stated Prescott. This has resulted in the shortage of skilled labor force, which is a positive news for higher education sector. One factor that is enabling a higher growth is the recent lowering of U.S. corporate tax rate, which is good according to the Nobel prize winner.

East is catching-up fast with the West and the tech capital they are developing will help them as well as the West added, Professor Prescott.

To a question from this scribe on the current trade war and tariff situation, Professor Prescott said, Presidents must do this sometimes to take care of national interests referring to President Johnson's effort to protect the U.S. tire industry. He quipped to this scribe, guess what, President Lincoln was the greatest proponent of tariffs.

Joseph Heppert, TTU's Vice President for Research and Innovation stated that visits by such acclaimed scientists motivates students and researchers and enable positive outcomes.

Having multiple business and manufacturing locations, is an added advantage citing Wal Mart as a good example for having locations in Mexico and elsewhere. An important point that came out of the talk was that team production and resource allocation for team's efforts, as is currently practiced in big corporations, increase productivity and the wealth of nations. This is what happened in late 1750s with the start of industrial revolution, which wiped out the traditional way of doing businesses.

When knowledge becomes public, it is good, but Prescott cautioned "know your data." The Nobel laureate advocated for decentralization stating competition among entities like states within a federal system is healthy, mentioning how Texas has been recently growing in population and economy.

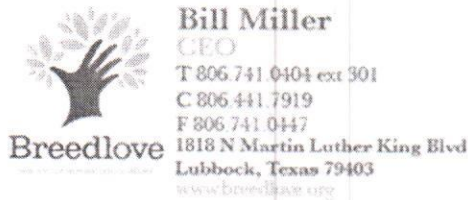
His speech concluded with a message times are good and getting better.

Ramkumar, S

From: Bill Miller <~~billmiller@breedlove.org~~>
Sent: Friday, February 22, 2019 1:00 PM
To: Ramkumar, S
Subject: RE: TexSnips: Nobel Laureate Sees No Recession in Sight

Nice article Dr. Ramkumar. Would you be free for lunch next week ?

Respectfully,



From: Ramkumar, S [mailto:S.Ramkumar@ttu.edu]
Sent: Friday, February 22, 2019 12:50 PM
To: Ramkumar, S <S.Ramkumar@ttu.edu>
Subject: TexSnips: Nobel Laureate Sees No Recession in Sight

Nobel Laureate Sees No Recession in Sight

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Teaching Creativity and Innovation

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, February 18, 2019)-Can creativity and being innovative be taught? But the process leading to be creative and innovative can be established.

On a recent cool and quiet Saturday morning, a group of people who practice these concepts gathered to interact with the well-known artist couples, Terry and Jo Harvey Allen at Lubbock-based Texas Tech University.

With economies struggling to create new jobs, there needs to be new ideas and thoughts to create opportunities that can arise from the interaction of arts and science to medicine and technology.

“Creativity is unteachable,” said Andy Wilkinson, chair of creative process commons at TTU, a new initiative formed to enable creativity among people with diverse interests and expertise. But, the process to be creative is certainly teachable. The initiative provides people from different disciplines to interact so that creation of new processes and ideas across disciplines can happen.

“Drop down names of disciplines and get down to be a human,” said Terry Allen, who has been an artist and a creator for over fifty years. In other words, breaking down silos and creating an opportunity for designers, technologists and medical doctors to interact is the path forward in the innovation world.

It is not the data or statistics, but human curiosity drives the world of creativity stated Aliza Wong, professor of history at Texas Tech. In these days, diverse pool of talents with varying cultural background, expertise and interest matters, stated Lawrence Schovanec, a mathematician and the current president of Texas Tech University.

To enable creativity and enhance innovative spirit, interactive platforms are necessary and that is the reason, the creative process commons initiative has been launched. The platform is a vehicle for different disciplines to interact, stated Michael Galyean, provost at Texas Tech. Creative process cannot be put in a bottle, but cross fertilization of ideas helps, added Galyean.

Human interaction is key to develop new products and ideas as is evident from new consumer products being developed by tech giants like Apple. Trying new ideas without the constant fear of failure is a step in the right direction.

An important take home message was collaborations are needed and it is not about one person but, the work and collective output matters.

The workshop certainly provided a lot of wisdom to be creative and innovative.

All Eyes on Cotton Market

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, February 15, 2019)-Excess supply and prolonging trade war with China is affecting the cotton market.

Productive, albeit stressful conversations, occurred today at the Lubbock-based Plains Cotton Grower (PCG), Inc., about the current trade situation with China, which is impacting the production agriculture in the United States. More importantly, discussions on how the cotton market with excess supply is being affected with China not being a player due to the prolonged trade dispute between the United States and China occupied the center stage.

With the cost of inputs rising, increase in production coupled with slow demand, cotton farmers are starting to think about alternate strategies. Producers vocally expressed frustration with the dispute lingering so long without an end in sight.

“Tariffs are good for no one,” stated Darren Hudson, professor of agricultural economics at Texas Tech University. Supply is relatively high compared to demand, added Hudson.

Farmers who gathered agreed that the trade issue with China primarily centered around intellectual property rights has been going on for over 2 decades, and therefore finding a resolution is complicated. A solution to the dispute is in the interest of agribusiness, particularly cotton, as China is a major importer of U.S. cotton.

Availability of financial resources in these tough times is critical. Market planning and getting control over costs of inputs and operational costs are some of the strategies that need greater attention. “This emphasizes the need for savvy business calculations and cost-effective practices stressed,” Steve Verett, executive vice president of PCG and a well-respected leader in the cotton industry.

With the expectation that there will be increased cotton acreage in the United States in 2019, the supply-demand situation is going to play a pivotal role in the cotton sector this year.

Currently, China and Turkey are not active buyers, stated one cotton merchant. Although there is demand for good grade at 70 cents, low grade cotton prices linger around 65 cents. The cotton price and demand situations are being seriously watched as producers have started preparing the land for this year’s cotton planting in West Texas.

Some Tips for Businesses

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, February 8, 2019)- A life in the service of a society and more importantly in the service of community of nations provides sage wisdom for personal and professional growth.

Yesterday, Ambassador Sichan Siv, former United States Ambassador to the United Nations Economic and Social Council (2001-2006) visited Texas Tech University. While speaking to an attentive audience, Ambassador Siv's journey from the killing fields of Cambodia to White House and subsequently to the United Nations portrayed several attributes, which professionals in businesses could embrace for achieving successes.

The lecture focused on positive attributes such as hope, commitment, perseverance, lifelong learning and above all a great sense of duty to the community and nation.

Having his flights canceled twice due to mechanical failure for his short trip from San Antonio to Lubbock, Siv was determined to arrive in Lubbock for the lecture, a journey that took nearly 24-hours. He drove from San Antonio to Austin to catch a plane to arrive for lecture as planned, is itself a hallmark of commitment.

Escaping hard labor camp in Cambodia during the Vietnam war era and then arriving as a refugee in the United States in 1976 showcased hope, which he learnt from his mother. Starting his New York life as a taxi driver determined to make good for himself took him to the White House serving President George H. W. Bush, which ultimately ended-up in the United Nations.

In a question on reaching heights or in business parlance achieving the financial target, Ambassador Siv stated, unless one tries, the chance of winning or reaching the goal post is not possible. It is like one must play lottery to even dream of winning. Learning has been an important part of his career, which his now deceased wife practiced even as a high school student. He quipped, "behind every successful man, there is a (Texan) librarian." This relates well with businesses showing continuous professional development is important.

Julie Wheeler, a Plainview native, who has been in the cotton industry for all most all her life, mostly recently with Lubbock-based Plains Cotton Grower, Inc., emphasized the importance of dependability in a business leader, which is often taken for granted.

In a question from this scribe on the contribution to the needy parts of the world, it was clear from what Ambassador Siv practices, being service oriented. This aspect needs to be taken seriously by the corporate world, as industries are being judged by their corporate social responsibility, these days.

A life well lived is a practical textbook for personal and professional development.

Ramkumar, S

From: S Siv <~~goldensiv@gmail.com~~>
Sent: Monday, February 11, 2019 9:29 AM
To: Ramkumar, S
Subject: A life well lived

Good job on "A life well lived" Ram.

Congratulations!

My Golden Best
Sichan Siv

<https://na01.safelinks.protection.outlook.com/?url=www.sichansiv.com&data=02%7C01%7Cs.ramkumar%40ttu.edu%7C1afd8bf0a14546a0c2b308d69035b410%7C178a51bf8b2049ffb65556245d5c173c%7C0%7C1%7C636854957665502943&data=2zB%2FjRirE0BbH3rpMPX0vbbM4xsSoiCXv7DjFa57FIA%3D&reserved=0>

Comment on my column, "Some Tips for
Businesses," based on his speech at
TTU on February 7, 2019, Thursday.

Ambassador Siv served President George H.W. Bush
(41st President) and President George Bush
(43rd President) as United States Ambassador to
United Nations' Economic and Social
Council (2001-2006)

Future of Innovation

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, February 7, 2019)-Active innovation ecosystem is the future of research enterprise.

Today, Texas Tech University (TTU) organized an engaging event in Lubbock to discuss the future of the research enterprise and the need for an innovation ecosystem to advance economy.

As the economies of most developed nations are facing stagnation and even developing nations witnessing jobless growth, efforts undertaken by research universities to create innovation ecosystem that transfer research into deliverables and jobs are being noticed.

Mr. Narendra Modi, Prime Minister of India recently made a clarion call to researchers to focus on research commercialization.

“Support for innovation has become one of the core functions of modern research universities,” stated Joseph Heppert, Vice President for Research at Texas Tech University.

The old way of research commercialization, which was a “push” approach doesn’t seem to work these days. “Proactive approach which enables the start-up culture is the way forward,” stated David Snow, Senior Managing Director of the Office of Research Commercialization at TTU. Certainly, this scribe can vouch to this approach being a practitioner of translational research for 20-years at Texas Tech University. One of his early inventions, FiberTect military wipe has been commercialized by Chantilly-based First Line Technology. It is easier if a technology finds a home in the society, which has been the case with the FiberTect textile wipes and low-grade cotton mats for oil spill remediation.

David Snow outlined some of the benefits the inventors and academics receive by commercializing their inventions. He emphasized the importance of engagement with industry and customers to transfer technologies into market place. In a question from this scribe on the need for marketing support, Snow admitted access to resources is a challenge, which can be overcome by attracting support from local economic development agencies, which support small grants to develop prototypes.

The importance of taking an idea and creating start-ups was emphasized by Kimberly Gramm, Senior Managing Director of the Innovation Hub at Texas Tech University. Gramm began her speech with a slogan, “We Launch Start-ups.” Outlining government supportive programs to promote research commercialization, Gramm pointed to support initiatives by science funding agencies which are now realizing the broader impact of technology transfer and commercialization.

It is clear from a productive event today that research engine is moving faster from being a generator of ideas to being a job creator with broader societal and economic impacts.

Ginner is the Gatekeeper for Cotton Fiber Quality

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, February 5, 2019)-Ginning is vital to maintain good cotton fiber quality and avoid contamination.

Today, two cotton ginning industry leaders visited the Nonwovens and Advanced Cotton Laboratory at Texas Tech University to discuss latest developments in cotton fiber quality.

As part of West Texas cotton ginning industry visit, Shankar Venkatachalam, President of Alabama-based Bajaj ConEagle, LLC visited Lubbock and TTU's Advanced Cotton Laboratory. Shankar Venkatachalam was accompanied by Steve Moffett, General Manager of Lubbock Electric Company. They conducted hands-on experiments on the oil absorption characteristics of low micronaire cotton mats developed in the laboratory, assisted by graduate students.

Oleophilic and biodegradable characteristics of cotton mats will create new opportunities for cotton, stated Shankar Venkatachalam.

Fiber strength, length and maturity play important role in the ginning process as well as influence the type of ginning method used. While cotton length is good in India, other characteristics like strength and maturity ratio make them not suitable for saw ginning. India's ginning sector is based on roller ginning, while in the United States it is based on saw ginning. Because of good fiber strength and maturity, fiber damage does not occur in the saw ginning stated, Shankar Venkatachalam.

We have come a long way in the past twenty years with regard to the staple length in West Texas and today majority of the crop is 36 staple, stated Steve Moffett. There has been tremendous technology influence in ginning, where remote monitoring is helping with production efficiency, added Moffett. Improvements in genetics and varieties have enabled higher staple length and more yield per acre, which have enabled gins to operate at their full capacity stated Moffett.

Lint cleaning and drying needs to be enhanced in Indian gins to enhance quality commented Shankar Venkatachalam. Roller gins operate at 75-100 Kgs/hour/machine, while saw gins operate at 15 bales/hour/machine. It will be a paradigm shift to venture into saw gins in India as the fiber length is good enough to be processed through the saw gins at slower speeds. African gins run at a slower speed of about 10 bales/hour and have thereby improved the quality of their cotton according to Shankar Venkatachalam. South Africa is slow switching over to saw ginning to enhance its cotton quality.

As India is venturing into the next phase of Technological Mission on Cotton, it will be valuable to focus on the trash and quality of ginned cotton. Although Indian cottons entering gins are not moist, still it will be helpful to dry them to get cleaner cotton.

Bajaj ConEagle, LLC has about 20 saw gin installations around the globe with 10 in the United States. Its parent company, Nagpur, India-based Bajaj Steel industries, Ltd is a leader in roller gin technology and sells about 6000 roller gins per year in India and East Africa.

India to be US\$ Five Trillion Economy in the Next Five Years

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, February 1, 2019)-India is on growth trajectory and will be a US\$ five trillion economy in the next five years.

Today, Mr. Piyush Goyal, cabinet minister holding the additional portfolio of finance ministry presented the interim Indian budget for the 2019-20 fiscal year, which offers several new initiatives that will support the growth of manufacturing sector like textiles, agriculture and digital economy.

Particularly, the support for medium and small-scale manufacturing enterprises (MSME) will boost textile and allied sectors to go on high gear in research and development. In the United States, supportive schemes such as SBIR has enabled the growth of the R&D base and has helped the small business sector to be a major employer.

According to a new initiative, 25% of procurement by the Indian government should be made from the MSME sector and of which 3% should be from women owned enterprises. As handloom textiles, leather and other cottage industries are with unorganized labor, a new social security (pension) scheme for those aged 60 years has been launched. “The requirement insisted on government agencies to procure from MSMEs will definitely the boost the confidence among small players, which will grow the economy and create jobs,” stated Chennai, India-based Professor Sridhar Narayanan, convener of the education committee of the powerful industry body, Federation of Indian Chambers of Commerce and Industry, Tamil Nadu state unit.

Infrastructure, agriculture, digital infrastructure and defense sectors will enjoy greater and much needed support. In all these areas, advanced textiles can find new opportunities such as defense clothing, geosynthetics, etc.

“Clean India” initiative (Swachh Bharath) will be of great significance towards rural development and hygiene sector, where again pollution prevention technologies and medical textiles can be a valuable contributor. Companies such as Chennai-based WellGro Tech (www.wellgrotech.com) are already focusing on “Make in India,” effort towards manufacturing products such environmentally friendly oil clean-up technologies, which evolved out of a collaboration between this scribe and a South India-based textile manufacturing company.

In order to support exports and domestic manufacturing, duty free import of some capital goods has been allowed and the customs logistics is being fully digitized to enhance trade.

From the consumer point of view, the budget has supportive fiscal initiatives for middle class, low-income community and farmers, which should boost spending, thereby supporting nonessential commodity procurement by the general public.

Cotton Research on a High Gear

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, January 29, 2019)-New research and innovations in cotton address the immediate needs of the industry.

Today, in a meeting in Lubbock organized by the Memphis-based The Cotton Board, about 65 people participated to discuss about the present and the future of cotton research and development.

Dryland cotton will be the future in the High Plains of Texas-the largest cotton growing patch in the United States of America.

Ginning byproducts, cotton seed developments, clean cotton initiatives, developing functional cotton and quality aspects were deliberated in the meeting attended by cotton farmers and researchers.

Opening the meeting, Shelley Heinrich, Southern Plains Regional Communication Manager of The Cotton Board traced the history of the cotton research and promotion program that started in 1966 which is continuously supported by the cotton growers. Stating that the research and promotion budget managed by Cotton Incorporated for this year is US\$ 82 million, Heinrich added that the research program has been a role model for other commodity industries.

With competition from other fibers and the need to increase the market share of cotton, particularly in burgeoning economies, researchers working of innovative projects met with area cotton producers to seek their input. The strength of the United States' cotton sector has been the active involvement of producers in taking the industry to the next level in research and policy matters.

It was clear that the cotton sector was interested in promoting cotton seed as a nutritious meal. As its share in the seed crushers is nearly saturated, efforts are underway to take it beyond cattle feed and dairy industry. Recently, the United States' Department of Agriculture has deregulated gossypol free cotton seed, which opens-up new opportunities for the seed. "We are waiting on the FDA approval of the gossypol free seed, which will lead to commercial use for feeding aquaculture, poultry, swine and even humans," stated Kater Hake, Vice President of Agriculture and Environmental Research at Cary-based Cotton Incorporated.

Kristie Rhodes, Manager Product Development at Cotton Incorporated showcased several new fabrics that utilize new technologies such as dyeing cotton using sulfur dyes from cotton byproducts.

This scribe has been advocating for thinking beyond the yield and fiber quality issues and focus on functional aspects of fiber and textiles. A project funded by Cotton Incorporated in the Nonwovens and Advanced Materials Laboratory at Texas Tech University is focused on finding industrial applications for low micronaire cotton such as toxic and crude oil absorbent mats.

Ramkumar, S

01-30-2019

From: Jim Steadman <JSteadman@meistermedia.com>
Sent: Wednesday, January 30, 2019 8:56 AM
To: Ramkumar, S
Subject: RE: Cotton Grower: FYI

Thanks for sharing, Ram.

Since posting yesterday afternoon, we've had more than 500 views of the article on our website and Facebook page, plus more than 200 impressions on our Twitter feed.

Jim

Jim Steadman
Editor, The Cotton Grower

From: Ramkumar, S [mailto:S.Ramkumar@ttu.edu]
Sent: Wednesday, January 30, 2019 8:50 AM
To: Jim Steadman <JSteadman@meistermedia.com>; Beck Barnes <JBBarnes@meistermedia.com>
Subject: FW: Cotton Grower: FYI

Jim, Positive feedback from Stacey Gorman, FYI.

Kindly,
Ram

From: Stacey Gorman <sgorman@CottonBoard.org>
Sent: Tuesday, January 29, 2019 5:39 PM
To: Ramkumar, S <S.Ramkumar@ttu.edu>
Subject: Re: Cotton Grower: FYI

Wonderful, thank you so much.

Stacey

Sent from my iPhone

On Jan 29, 2019, at 4:46 PM, Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

<https://www.cottongrower.com/cotton-news/growers-researchers-discuss-the-present-and-future-of-cotton-innovations/>

Ramkumar, S

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Stacey Gorman
Director of Communication
The Cotton Board
USA

<https://www.cottongrower.com/cotton-news/growers-researchers-discuss-the-present-and-future-of-cotton-innovations/>



Growers, Researchers Discuss the Present and Future of Cotton Innovations

www.cottongrower.com

Growers and researchers met in Lubbock to discuss how new research and innovations in cotton can address the industry's immediate needs.

Kindly,
Ram

Cotton and Tariffs

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, January 17, 2019)- Continued trade tension between the United States and China is impacting the global cotton and textile sectors.

“Back and forth on tariff discussions is problematic and it results in the slowdown of global cotton demand,” stated Dr. Gary Adams, President and CEO of Memphis-based National Cotton Council, USA. On January 16th, Adams spoke at the Lubbock-based Plains Cotton Growers’ meeting highlighting the impact of trade tensions between the world’s largest cotton user, China and the largest cotton exporter, the United States of America.

China’s 25% tariff on U.S. cotton affects the whole supply chain. China was expected to import about 3 million bales this marketing season, from the United States. The continued trade tensions have affected the cotton trade. Because of this situation, China may import less than one million bales from the United States, stated Adams.

Tariffs affect the general economy and it certainly impacts cotton and textile consumption stated Professor John Robinson, Cotton Economist at Texas A & M University. Cotton’s demand slows down during recessions and in uncertain trade scenarios, unlike food grains, added Robinson.

In the light of the current trade tensions between China and the United States, to a query from this scribe on the 2019 cotton season, Steve Verett, Executive Vice President of Plains Cotton Growers, Inc., stated, “Trade tensions certainly are casting some uncertainty as to the exact planting mix for farmers on the High Plains of Texas. There continues to be great interest in cotton production and some increase of plantings in our northern panhandle area, especially given the very successful growing season of 2018. Currently we expect some increase in cotton plantings for 2019, but relative prices for crops at planting time will ultimately dictate how much that increase might be.”

Certainly, cotton growers are hoping that a forthcoming visit by the Chinese delegation to the United States may find a favorable solution to the ongoing trade tensions between the two countries. There are no winners with retaliatory tariffs as they affect consumers’ interest in textile goods.

Cotton and TPP-11 Agreement

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, January 15, 2019)-TPP-11 trade treaty has come into force in seven countries.

Comprehensive and Progressive Agreement for Trans-Pacific Partnership, popularly known as TPP-11 came into force in seven countries out of 11 participating countries.

Yesterday, January 14th, the treaty came into effect in Vietnam. The treaty was signed by 11 countries on March 8th in Santiago, Chile, which had to be subsequently ratified by respective national assemblies.

The treaty came into effect in Australia, Japan, Mexico, New Zealand, Canada and Singapore on December 30th, 2018.

Vietnam's entry into the pack on January 14, 2019 creates an interesting dynamic in the cotton trade. Vietnam's textile sector is burgeoning and is in good need of cotton.

In the last three seasons, Vietnam is the number one importer of United States' cotton. In the 2017/18 season, about 2.98 million bales (480 lbs. each) were exported to Vietnam from the United States. The export has more than doubled since 2013/14, when the export from the United States was about one million bales.

Vietnam is followed by China in terms of U.S. exports, while other major importing countries are Turkey, Indonesia and Pakistan. Interestingly, Bangladesh is marching closely with Mexico in importing U.S. cotton.

The free trade between Australia and Vietnam as part of the TPP-11 treaty, will boost agricultural exports from Australia to Vietnam. This agreement eliminates 98% of tariffs in the TPP-11 region, whose collective GDP is about US\$ 13.5 trillion.

According to Australian Department of Foreign Affairs and Trade, all tariffs on cotton exports will be eliminated under the treaty. Exporting of cotton to Vietnam gives additional advantage to Australian cotton sector. Japan has given more market access to Australian cotton via Vietnam. Tariffs on clothing made from Australian cotton in Vietnam have been eliminated in Japan giving more market entry for Australian cotton. In 2017, Australia's 15 percent of total cotton exports were to TPP-11 countries. Market access and common rules are expected to enhance the export chances of agricultural products from Australia.

Mr. Grady Martin, Director of Sales for Lubbock-based Plains Cotton Cooperative Association stated, "Vietnam is a very important market for U.S. cotton. As yarn and garment operations are shifting to Vietnam, the country has growing importance." To a question from this scribe on the impact of the new TPP-11 treaty on exports to Vietnam, Martin replied that it may have an impact, but Vietnam needs cotton. In the long run, what the impact will be is hard to judge right now, added Martin, who has been in the cotton industry for 36-years.

Will the non-participation of United States in the TPP-11 impact agricultural exports and particularly cotton, as 80% of U.S. cotton gets shipped abroad is a question that needs careful investigation.

Ramkumar, S

From: Hequet, Eric
Sent: Tuesday, January 15, 2019 1:29 PM
To: Ramkumar, S
Cc: Hequet, Eric
Subject: RE: TexSnips: Cotton and TPP-11 Agreement

Excellent!

Eric F. Hequet, Ph.D.
Horn Professor and Chair
J.A. Love Endowed Chair
Texas Tech University
Direct line: (806) 834 0621
Cell phone: (806) 790 9493

From: Ramkumar, S <S.Ramkumar@ttu.edu>
Sent: Tuesday, January 15, 2019 11:06 AM
To: Ramkumar, S <S.Ramkumar@ttu.edu>
Subject: TexSnips: Cotton and TPP-11 Agreement
Importance: High

Cotton and TPP-11 Agreement

By: Seshadri Ramkumar, Texas Tech University, USA

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New Year Indian Cotton Update

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, January 11, 2019)-India's this year's crop may well be the lowest in a decade.

Recently, Mumbai-based Cotton Association of India (CAI) has come out with an estimate of 33.5 million bales (170 Kgs each) for this year's (October 2018-September 2019) crop.

Earlier in the season in October 2018, the estimate was about 34.8 million bales. Within a 3-month duration, the estimate has been downsized by 13 lakh (1.3 million) bales. Deficient rainfall has been attributed to be the main reason, which has been evident in the plant sizes even in October. Plant sizes were observed to be not more than four feet in the period, when 5-6 feet growth would have been observed.

"The rainfall situation has made sure that there is no scope for 3rd and 4th pickings and hence farmers have uprooted the plant." stated Mr. Atul Ganatra, President of CAI. Some State governments have advised farmers to uproot cotton plants by the end of December 2018, to give room for Rabi crops such as pulses, as well as a precautionary measure against pink bollworms.

Currently, there is no cotton plant on the ground in Gujarat, stated a cotton expert from Rajkot, Gujarat. The source added that those with irrigation have already planted pulses.

While the significant reduction estimate has been based on rainfall situation, spinners feel that reliable production estimate is needed in a timely manner according to Mr. S. Velmurugan, General Manager of Aruppukottai, India-based Jayalakshmi Textiles, which has about 70,000 ring spindles. Velmurugan who has been in the spinning industry for 28 years stated that wide range data fluctuations affect the spinning sector, particularly in making decisions about cotton purchasing and stocking.

Today, seed cotton (Kapas) prices in India are ruling above the minimum support price, which is positive for the farmers. Other factor that influence cotton planting in the next season is the excess global availability of palm and soybean oils. This situation may not encourage Indian cotton farmers to divert to other options in the next season.

However, views from the spinning sector show that yarn demand is not that high, which may influence cotton pricing and post-harvest sectors.

Just as a historical note, India's 2010-11 crop was 34.5 million bales (170 kgs each) and the highest since that time has been 40.2 million bales in the 2013-14 crop year.

TexSnips publisher (Seshadri Ramkumar) wishes a safe, healthy and prosperous 2019 to all.

Gisch, Patty

From: Ramkumar, S
Sent: Friday, January 11, 2019 12:13 PM
To: Gisch, Patty
Subject: Fw: TexSnips: New Year Indian Cotton Update

From: Arjun Dave
Sent: Friday, January 11, 2019 10:40 PM
To: Ramkumar, S
Subject: Re: TexSnips: New Year Indian Cotton Update

Absolutely perfect sir

Regards

Arjun Dave
Manager, Rajkot Office
Cotton Corporation of India, India

On Fri, 11 Jan 2019, 22:28 Ramkumar, S <S.Ramkumar@ttu.edu> wrote:
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Translational Research is the Way Forward

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, January 7, 2019)- Research knowledge should be transformed to benefit the society and grow the economy.

Mr. Narendra Modi, Honorable Prime Minister of India speaking to a large audience on January 3rd at the 106th annual session of the Indian Science Congress in Jalandhar, India emphasized the importance of translational research that would serve the society and grow the economy of nations.

Invoking a new slogan, “Jai Anusandhan,” meaning praise be to research spotlighted that research should not be carried out just for the sake of research. Research should be commercialized so that weaker sections of the society would also benefit.

Honorable Modi stated that knowledge developed needs to be consumed and made a clarion call to scientists to develop affordable technologies. He added, “Technology needs to solve local problems.”

These valuable points are relevant for the global textile and manufacturing sectors. Textile sector needs to diversify and move towards translational research.

This scribe has been practicing translational research for 20-years at Texas Tech University, which has resulted in a commercialized defense technology, “FiberTect.” FiberTect is a nonwoven toxic chemical decontamination wipe marketed by Chantilly, USA-based First Line Technology. A collaboration with a textile manufacturing industry in South India has led to the development of an environmentally sustainable crude and toxic oil absorbent wipe, which has resulted in a start-up “WellGro Tech,” in Chennai, India. This effort fits exactly with India’s new initiative, Atal Innovation Mission, to create a start-up culture among its scientists and businesses.

Chennai, India-based Professor Sridhar Narayanan, academic and a management consultant who has been advocating industry-institute collaborations for 22 years stated, “Scientific research should be relevant to the societal needs and as a way forward should lead to the creation of new businesses. Research leading to development in any sector need to take care of the environment as well.” He added that such translational research will be able to take care of unemployment challenges. Low cost technologies for the development of growing and highly populated nations are the need of the hour, added Narayanan.

Prime Minister Modi called for drought monitoring and resistant technologies and clean water solutions, which can lead to novel textile and material developments, benefiting the cotton and textile sectors. The Prime Minister challenged the state universities and colleges to engage in more research and urged the industrial sector towards boosting the research ecosystem.

Ramkumar, S

From: Arjun Dave ~~<dave07vikky@gmail.com>~~
Sent: Monday, January 07, 2019 12:32 PM
To: Ramkumar, S
Subject: Re: TexSnips: Translational Research is the Way Forward

Dear Professor Ramkumar,

Your articles are really impressive and your research contribution is a boon for the industry.

Thanking You,

Regards

Arjun

Mr. Arjun Dave, Manager
Raykot, GJ Office
Cotton Corporation of India

On Mon, 7 Jan 2019, 22:26 Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

Translational Research is the Way Forward

By: Seshadri Ramkumar, Texas Tech University, USA

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Ramkumar, S

From: Kanti Jasani ~~Kantijasani@yahoo.com~~
Sent: Monday, January 07, 2019 11:41 AM
To: Ramkumar, S
Subject: Re: TexSnips: Translational Research is the Way Forward

Ram,

Very good information.

Best regards,
Kanti

Mr. Kanti Jasani, President
Performance & Textile Consulting
Harrisburg, PA, USA

On Jan 7, 2019, at 11:56 AM, Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

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January 08, 2019

Ramkumar, S

From: Dr. PR Roy <prroy1941@gmail.com>
Sent: Tuesday, January 08, 2019 12:34 AM
To: Ramkumar, S
Subject: Re: TexSnips: Translational Research is the Way Forward

Thanks and Congratulations on your pragmatic approach to R & D for the Industry / Society.

On Mon, Jan 7, 2019 at 10:26 PM Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

Dr. P. R. Roy
former Group Chief Executive
Arvind Mills
Ahmedabad, India

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Reviving Textile Manufacturing in the United States of America

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, January 2, 2019)- Reviving textile manufacturing in the United States is getting a fresh look.

A year end discussion with Professor Eric Hequet, an internationally renowned cotton fiber quality expert at Lubbock-based Texas Tech University, threw light on why there needs to be revival in the textile manufacturing sector in the United States.

While United States' advanced textile industry that includes nonwovens is showing steady growth and investments, conventional textile manufacturing has shown a decline since 1997. This could be identified with the consumption of cotton in domestic mills, according to Hequet. Currently the cotton consumption in domestic mills within the shores of United States ranges between 3.4 to 3.8 million bales per year.

Majority of the cotton produced in the United States is exported, about 80% of its production.

Commenting on the current international spinning scenario, Professor Hequet highlighted that the trend is towards finer yarns and ring spinning technology, while United States focuses on coarser yarns.

United States can do a better job of bringing back its textile production by focusing on high quality textiles, complete automation and improved cotton breeding programs. In speaking about improved production efficiencies, Kanti Jasani, president of Harrisburg, Pa.-based Performance and Technical Textile Consulting, emphasized the importance of less manual handling, sustainable practices and automation in the production sectors in developed economies.

Cotton breeding program needs to focus on length, enhanced length uniformity and strength according to Hequet. Today, cotton's strength can reach 40 grams/tex, but efforts must be streamlined to go up to 50 grams/tex, stated Eric Hequet. He added that it is a bold goal but is possible. Such high strength cottons will pave way for the high productive vortex spinning. United States is still the cheapest place to produce rotor cotton yarns and these advantages must be properly capitalized.

Having recently visited the National Institute of Cotton Research in Anyang, China, Hequet stated that China is concentrating on high quality textile products and the commodity industry is moving towards Vietnam and Bangladesh.

Skilled labor, cheap energy and the availability of high-quality cotton within its borders should encourage the United States' textile sector to take a serious look at revitalizing its spinning and the upstream textile sector.

Way Forward for the Global Textiles Sector

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, December 18, 2018)—Innovation and training of skilled labor force are necessary attributes for the global textiles sector to move forward.

Some 600 delegates representing the entire supply chain of the textile industry participated this past weekend in a major event in Coimbatore, India. The Textile Association of India's South India Unit organized a mega textile event on December 15th and 16th in the textile city, Coimbatore. Textile Association of India has about 23,000 members, who are technocrats and engineers representing various segments of the textile industry.

Facing threat from the IT sector in attracting highly qualified engineers, a message of optimism was provided to the attendees and the next generation workforce. Textile industry is in need of qualified and skilled workforce. This will help to innovate new technologies and products, stated industry leaders who participated in the event.

In addition to competing sectors, competition from low wage countries was also felt by the delegates who attended the event.

Dissemination of timely and relevant information including the growth prospects is much needed stated Mr. R. Seenivasahan, Vice President (Technical) of Sri Kannapiran Mills Ltd., Coimbatore, India. Stating how the Indian textile sector lags behind some developing nations in terms of productivity, quality and productivity have to be improved to make the industry competitive stated Mr. S. Sivakumar, Executive Director of Coimbatore-based Sabari Textiles, Pvt. Ltd. These facts were agreed by Mr. E. Mounagurusamy, Coimbatore based industry veteran who has been in the textile industry for 50 years.

Improving training, maintaining standard procedures substantiated by documentation and diversification of the textiles sector were key points discussed in the two-day event.

The event was attended by large audience who were technicians and engineers from the textile industry, who exhibited keen interest to learn new developments in the industry.

An interesting aspect of the conference was a debate on the usage of the term, "technical textiles." This scribe proposed a simple and new classification of the non-commodity industrial textiles which can be grouped as: 1) consumer products; 2) institutional products and 3) government regulated products such as defense textiles.

The conference was organized in Coimbatore after 25 years and was meant to boost confidence among the textile industry stakeholders stated Mr. K. Gandhiraj, Honorary Secretary of the South India Unit of Textile Association, India.

World Food Prize Laureate Offers Sage Advice for Cotton and Agriculture Sector

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, November 30, 2018)—World Food prize laureate, Gurdev Khush provided valuable insights for the cotton and agriculture sector.

Genetically modified crops play a role in enhancing agricultural productivity according to Dr. Gurdev Khush, the 1996 World Food Prize laureate in a lecture at Lubbock, United States of America. Dr. Khush has led a program that has resulted in more than 300 high yielding rice varieties.

Speaking to a full room yesterday in the Halls of Nations at Texas Tech University (TTU), Dr. Khush highlighted the benefits of modern technology, genetics and breeding efforts that have helped the world. Remarkable developments in agriculture have enabled the world's poverty level to drastically reduce from 37% in 1990 to 12.8% in 2015.

The graduate students of the Plant and Soil Science department at Texas Tech University hosted the visit of the internationally renowned geneticist, who is a Fellow of Royal Society, London.

Jake Sanchez, a graduate research scholar stated that Dr. Khush's career will inspire future students to make career choices that can impact the humanity. Professor Eric Hequet, the Chairperson of the Plant and Soil Science department at TTU encouraged the students to follow the path of Dr. Khush and quipped that the student should surpass the internationally renowned scientist.

In speaking about new technology and its adaptation, Khush stated, relaying correct information to the public is important, as misinformation may be misleading, particularly regarding GMOs. Strategies for enhancing agricultural productivity should focus on increasing the yield ceiling and closing the yield gap. Genomic approaches must be carefully adopted to improve the farm sector.

Citing China as an example, the speaker stated how hybrid breeding has enabled China to enhance its rice yield by 20 percent.

The cotton revolution, which has taken place in India is due to both hybrid and the adaptation of GMO seeds.

To a question from this scribe on the prohibitive cost of the seeds with advanced technologies, Khush while agreeing that there is a cost of research and development involved, stressed the importance of striking a balance to support the farmers.

In closing, Dr. Khush stated that he is optimistic about GMOs and convincing people and governments with proper information is essential.

Ramkumar, S

From: Del Sangha ~~(del.sangha@ttu.edu)~~
Sent: Friday, November 30, 2018 12:43 PM
To: Ramkumar, S
Subject: Re: TexSnips: World Food Prize Laureate Offers Sage Advice for Cotton and Agriculture Sector

Dear Mr KUMAR

Thanks for sharing such a valuable input.

Best Regards
Del Sangha
President
UNIPET INC

~~704-278-8980 (office)~~
~~704-278-8980 (cell)~~

On Nov 30, 2018, at 1:30 PM, Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

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Bioproducts Offer New Opportunities for Cotton

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, November 27, 2018)—Cotton is finding applications as novel biomaterials.

Professor Noureddine Abidi, Managing Director of Lubbock-based Fiber and Biopolymer Institute (FBRI) at Texas Tech University is using waste and low-grade cotton to develop bioproducts that could find many nonconventional applications for cotton.

In speaking with this scribe, Abidi explained about multiple opportunities for bioproducts derived from waste cotton such as biodegradable films and porous materials. Abidi and his team has been working for the past five years to derive cellulose-based bioproducts with the aim of developing environmentally friendly materials.

Conventionally, regenerated cellulosic materials use wood pulp as starting material. The research at FBRI uses cotton as base material to develop regenerated cellulose. Solvent separates cotton into cellulosic chains without degrading the cellulosic component, resulting in cellulosic gels.

With heightened awareness about microplastic issue in the environment, such cotton-based biomaterials may offer a better solution in the near term, stated Abidi. He hopes in due course; process efficiencies can be improved leading to cost effective biodegradable products.

The research at FBRI complements the work carried at the Advanced Cotton Laboratory at Texas Tech University that focuses on the application of low micronaire cotton as environmentally friendly oil absorbents.

Texas State Support Committee of the Cary-based Cotton Incorporated is supporting these novel projects that enable industrial applications for cotton.

More and more, research in cotton is focusing beyond the yield and quality issues due to the support of United States' cotton producers.

Cotton Demand and United States-China Trade Dispute Scenarios

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, November 23, 2018)—Internationally, the demand for cotton is good.

Last Friday, two cotton executives from India visited Lubbock in the High Plains of Texas to explore new developments in the High Plains' cotton sector and interact with the cotton industry leaders in Lubbock.

Mr. Mahesh Sharda, President of India Cotton Association, Ltd., Bhatinda, Punjab and Mr. Arun Sekhsaria, Director of Mumbai-based Cotton Association of India, who are fifth generation in their families to be involved in cotton trade and production started their day by attending the early morning meeting at Plains Cotton Growers (PCG), Inc.

Indian cotton merchants were impressed at the discussion among various stakeholders in the early morning meeting at the Plains Cotton Growers, Inc., in Lubbock. Remarking about the meeting, the team felt, Indian cotton farmers should engage regularly with merchants, government agencies, and local policy makers so that their voices are heard. They stated that they were impressed with the cooperative initiatives such as PCG. Indian government's schemes such as the support for private-public partnership initiatives are encouraging, which should be effectively utilized to advance the agricultural sector in India.

Consumer preference, expectations for comfort and more importantly, the need for green products in advanced economies will drive the demand for cotton, according to Indian merchants.

The current trade war between the United States and China may not be favorable for the U.S. cotton sector in the long run according to the Indian cotton business men. This situation may help India as cotton can flow from India to China. So, India may need to import cotton from the United States, which has indeed started to happen. This new market dynamics is interesting to watch.

Indian cotton sector leaders visited the Advanced Cotton Laboratory at Texas Tech University and evaluated the cotton oil absorbent technology developed at the laboratory.

In a question from this scribe on what take home messages will they carry for the Indian textiles sector, they stated, the coordination effort which they have witnessed in the United States among various cotton stakeholders and the support for value-added research by cotton farmers are very valuable for the Indian cotton and textile sectors.

Ramkumar, S

From: shirish kumar <~~Shirish.kumar@resil.com~~>
Sent: Friday, November 23, 2018 1:58 PM
To: Ramkumar, S
Subject: RE: TexSnips: Cotton Demand and United States-China Trade Dispute Scenarios

Dear Sir,

Hope you are doing well!

Nice Texsnips. Thanks a lot for sharing such a valuable information.

Regards,
Shirish Kumar

Resil Chemicals, Ltd, Bengaluru, India

From: Ramkumar, S [mailto:S.Ramkumar@ttu.edu]
Sent: Saturday, November 24, 2018 12:35 AM
To: Ramkumar, S <S.Ramkumar@ttu.edu>
Subject: TexSnips: Cotton Demand and United States-China Trade Dispute Scenarios

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Changing Landscape of Cotton and Textile Engineering Education

By: Seshadri Ramkumar, Texas Tech University, USA

(November 09, 2018)-Cotton and textile engineering education's landscape has been changing to better reflect the change and growth of the field.

Recently, a chat with Professor Gajanan Bhat, Chairperson of the Department of Textiles, Merchandising and Interiors, at Athens-based University of Georgia (UGA) in his office clearly presented a picture on how the education in the field of fiber science and textile engineering has evolved and is changing.

Interestingly, it is pleasing to report that University of Georgia is celebrating 100 years this year of offering courses in textiles and clothing. With the ending of World War-I in 1918, University of Georgia created the Division of Home Economics that offered textiles course.

Bhat stated, today UGA offers graduate degrees in polymer and fiber science and international merchandising. Undergraduate level education focuses on fashion merchandising and design in many institutes in the United States and Europe.

Advanced level research and education focuses on smart materials, polymer and fiber science and management, showcasing that the focus has shifted from the traditional offering of textile engineering courses. The shifting of textile manufacturing in developed economies has forced this change, stated Bhat, who has been in the textile academia for 29 years.

While textile engineering has been one of the founding departments of Texas Tech University in 1925, fiber related advanced level degrees are offered through the Department of Environmental Toxicology and Plant and Soil Sciences. Students with textiles and fiber science backgrounds could get graduate degrees in the Department of Environmental Toxicology focusing on materials science projects that concentrate on countermeasures to toxic chemicals, materials to enhance human health and protect the environment, such as cotton based materials to absorb toxic oils.

Research areas in the UGA's Department of Textiles, Merchandising and Interiors focus on nanocellulose, niche areas in manufacturing such as digital printing, bio-based plastics from algae, stated Professor Bhat.

As with the case of the University of Georgia and Texas Tech University, the landscape of textile engineering education has shifted in its 100 years of offering the course so as to reflect the need and the nature of the field. But still the field offers tremendous opportunities as there are emerging opportunities in integrating electronics with textiles, cost effective biodegradable materials, taking cotton into next phase by infusing functional capabilities at the farm level, to name a few.

Ramkumar, S

From: Mahesh Sharda <Mahesh@ddp.cotton>
Sent: Thursday, November 15, 2018 10:39 PM
To: Ramkumar, S
Subject: Re: TexSnips: Changing Landscape of Cotton and Textile Engineering Education

Dear Dr

Hello!

We have been in touch for a while and your reports are very informative. Mr Arun Sheksaria from Mumbai and myself are visiting Lubbock for 2 days and wish to know if it is possible to meet you.

Regards

Mahesh Sharda
+919717177777

Cotton Business / India

On Fri, 9 Nov 2018, 11:50 Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

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New Cotton Finishing Technology

By: Seshadri Ramkumar, Texas Tech University, USA

(Athens, USA, November 7, 2018)- Ultra thin coating technology offers new opportunities for cotton finishing.

Today, as part of a visit to the University of Georgia (UGA), Athens to deliver a seminar on “Sustainable Materials: Mind to Market,” at the department of textiles, merchandising and interiors there, it was obvious how interdisciplinary research is vital to move the textiles sector forward.

Professors Sergiy Minko and Suraj Sharma of the department of textiles, merchandising and interiors at UGA are exploiting nanotechnology to develop sustainable dyeing and finishing techniques for cotton textiles. The research group has come-up with nanocellulose gels that can be used to dye cotton and blends.

Nanocellulose gels obtained from bleached pulp are dyed to obtain nanocellulose-dye dispersions, which are then coated on to textiles. Spray coating and screen printing methods can be used to obtain the coloration using the gels.

Ms. Anuradhi Liyanapathirana, a research scholar from Sri Lanka, working on the project stated that pretreatments such as scouring and bleaching do not affect the dyeing efficiency.

Ms. Smriti Rai from India has effectively utilized the ultrathin coating technology to dye cotton using reactive and indigo dyes. The gel technology uses less water and the dye fixation is higher than the exhaust method, stated Smriti Rai.

The research group is optimistic that cost-effective sustainable processes can be made commercially viable, which can move the textile industry into the next phase.

Cotton Contamination is a Global Issue

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, October 22, 2018)-Trash and foreign matter contamination are major issues facing the global cotton sector.

Recently, a high-level Indian delegation from the Cotton Corporation of India (CCI), under the Ministry of Textiles, Government of India, visited United States to explore the cotton industry of the High Plains of Texas.

The goal of our visit was to learn more about the High Plains' cotton production systems, operations for contaminant free cotton and cotton classing, stated Mr. Sajjan Kumar Bansal, Manager-Planning of CCI, Mumbai.

While visiting a gin in Lubbock, the group was impressed to know how the United States' gins maintain quality with less fiber breakage, even though saw ginned and keep the trash content to be minimal. Multiple levels of drying the seed cotton and the use of pre-cleaners such as inclined cleaners help with keeping the trash under control.

Trash and contamination in cotton lint remain important problems worldwide. "In the United States, we have a good handle on contamination originating from the cotton plant itself, but contamination from plastic such as grocery bags and module covers is a major concern. The industry is very aware of this issue and works tirelessly to eliminate this source of contamination. Several research groups in the United States and in Australia work on early detection and removal of plastic contaminants," stated Professor Eric Hequet, Chairperson of the Department of Plant and Soil Science at Lubbock-based Texas Tech University.

As Indian cotton is handpicked, theoretically, trash levels should be lower, which is not the case. Poor seed cotton handling at the farm yards and storage facilities in farmers' houses result in higher trash levels. Additionally, plastic contamination arises for polyethylene and jute packaging in India. As the plastic contamination is also the situation in the United States, the contamination issue is gaining due attention globally.

In India, the trash content before ginning is about 7% and after ginning, trash is about 2.5 to 3% stated, Sajjan Bansal. The take home message for the Indian delegation was how organized the United States' cotton sector is, from farm to processing to marketing, stated Bansal.

Ramkumar, S

From: Vaman Nadiger <nadiger1959@gmail.com>
Sent: Monday, October 22, 2018 10:47 PM
To: Ramkumar, S
Subject: Re: TexSnips: Cotton Contamination is a Global Issue

Very interesting, thanks for sharing.

On Mon, Oct 22, 2018 at 11:24 PM Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

*Dr. Nadiger
Former Director
Textile Committee
Mumbai, India*

Cotton Contamination is a Global Issue

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, October 22, 2018)-Trash and foreign matter contamination are major issues facing the global cotton sector.

Recently, a high-level Indian delegation from the Cotton Corporation of India (CCI), under the Ministry of Textiles, Government of India, visited United States to explore the cotton industry of the High Plains of Texas.

The goal of our visit was to learn more about the High Plains' cotton production systems, operations for contaminant free cotton and cotton classing, stated Mr. Sajjan Kumar Bansal, Manager-Planning of CCI, Mumbai.

While visiting a gin in Lubbock, the group was impressed to know how the United States' gins maintain quality with less fiber breakage, even though saw ginned and keep the trash content to be minimal. Multiple levels of drying the seed cotton and the use of pre-cleaners such as inclined cleaners help with keeping the trash under control.

Trash and contamination in cotton lint remain important problems worldwide. "In the United States, we have a good handle on contamination originating from the cotton plant itself, but contamination from plastic such as grocery bags and module covers is a major concern. The industry is very aware of this issue and works tirelessly to eliminate this source of contamination. Several research groups in the United States and in

Ramkumar, S

From: K.S. Murthy <~~ksmurthy@hotmail.com~~>
Sent: Tuesday, October 23, 2018 5:51 AM
To: Ramkumar, S
Subject: Re: TexSnips: Cotton Contamination is a Global Issue

It is a good lesson for Indian delegates.
K.S.Murthy

*Dr. K.S. Murthy, India
Contributor to Colovage India
and other magazines*

From: Ramkumar, S <S.Ramkumar@ttu.edu>
Sent: Monday, October 22, 2018 11:23 PM
To: Ramkumar, S
Subject: TexSnips: Cotton Contamination is a Global Issue

Cotton Contamination is a Global Issue

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, October 22, 2018)-Trash and foreign matter contamination are major issues facing the global cotton sector.

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Trash and contamination in cotton lint remain important problems worldwide. "In the United States, we have a good handle on contamination originating from the cotton plant itself, but contamination from plastic such as grocery bags and module covers is a major concern. The industry is very aware of this issue and works tirelessly to eliminate this source of contamination. Several research groups in the United States and in Australia work on early detection and removal of plastic contaminants," stated Professor Eric Hequet, Chairperson of the Department of Plant and Soil Science at Lubbock-based Texas Tech University.

As Indian cotton is handpicked, theoretically, trash levels should be lower, which is not the case. Poor seed cotton handling at the farm yards and storage facilities in farmers' houses result in higher trash levels. Additionally, plastic contamination arises for polyethylene and jute packaging in India. As the plastic contamination is also the situation in the United States, the contamination issue is gaining due attention globally.

Ramkumar, S

From: projects <~~projects@globalstetextile.com~~>
Sent: Tuesday, October 23, 2018 12:52 AM
To: Ramkumar, S
Cc: dcb
Subject: Re: TexSnips: Cotton Contamination is a Global Issue

DEAR DR. RAMKUMAR.S,

PLEASE ACCEPT OUR GREETINGS OF THE SEASON.

THANKS TO YOU FOR MAILING US UP-DATE ON WORLD TEXTILES
– COTTON FIBERS AND NON-WOVEN TEXTILES LATEST SEARCH EFFORTS .

REGARDS

I.J.SHARMA

Leading Jute Mill, Calcutta (on the banks of
River Hubble)

From: [Ramkumar, S](#)
Sent: Monday, October 22, 2018 11:24 PM
To: [Ramkumar, S](#)
Subject: TexSnips: Cotton Contamination is a Global Issue

Cotton Contamination is a Global Issue

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New Cotton Application Technology Evaluated by Indian Cotton Delegation

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, October 12, 2018)-Non-traditional applications of cotton are being explored to create new sustainable products and new markets.

Advanced Cotton Laboratory at Lubbock-based Texas Tech University has been exploring new opportunities for cotton, for a few years now. Research has resulted in biodegradable oil absorbent, new green process to dewax cotton, and identify molecular markers for cotton's comfort property.

A five-member delegation from Cotton Corporation of India (CCI), a public sector undertaking under the Central Ministry of Textiles, Government of India visited Lubbock this week to explore the United States' cotton sector. The team was also interested in knowing about new cotton products and opportunities.

The team was interested in evaluating the cotton-based oil absorbent wipe technology developed at Texas Tech University using low micronaire cotton, which is discounted.

The technology worked well and received positive feedback from the Indian cotton experts, who analyze cotton fibers daily.

The evaluation of the absorbent technology using motor oil is provided in the YouTube video link:

<https://www.youtube.com/watch?v=xKh6J8XCH54>

“Research on low micronaire cotton is a useful value-addition work on cotton for application in the automobile sector. Furthermore, we can use low micronaire cotton in different segments like, if any oil container fell in the oceans, then biodegradable oil sorbent can recover oil from the spill, which indeed is a very big research achievement in the cotton industry, stated Manish Rawat, of CCI, Head Quarters Mumbai, who did hands-on experiment to validate the technology.

Arjunsinh Dave, of CCI, Rajkot, Gujarat, which is the largest cotton growing state in India, enthusiastically evaluated the cotton technology and stated, “the cotton absorbent product will result in the industrial utilization of low micronaire cotton which will be a tremendous new opportunity for the cotton industry.”

The next phase of the cotton sector is to explore new technologies from farm to fashion to enhance the use and sales value of cotton.

China Trade Dispute and Cotton Flow

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 20, 2018)- With no end in sight for the trade dispute between China and the United States, cotton industry stakeholders met recently to discuss the situation.

About 220 people representing all segments of cotton supply chain such as producers, warehouse operators, merchants and shipping agencies met in Lubbock last week in a meeting organized by Texas Cotton Association (TCA).

The flow of cotton from the flat fields in the United States to markets several thousand miles away is complex and any trade dispute surely affects the flow. New markets and their requirements must be considered in these situations. Therefore, the gathering organized by TCA as part of their annual meeting takes significance, this year more than ever.

“The purpose of this annual meeting is to provide a forum and timely setting for each segment of the cotton industry to meet to communicate any anticipated problem associated with flowing Texas cotton to market. If there is one broken link in the chain, we all suffer,” stated Kandice Poteet, Executive Vice President of Texas Cotton Association.

While talking about the demand for U. S. cotton, Kandice Poteet stated, that in a recent meeting with China National Textile and Apparel Council, held in Dallas, it indicated that the demand for U. S. cotton in China would increase by one million bales over previous years, which is highly significant while there are trade disputes between the two countries.

Steve Verett, Executive Vice President of Lubbock-based Plains Cotton Growers, Inc., provided an update of the 2018 cotton crop from the High Plains and Rolling Plains of Texas. His analysis on the quality of cotton showed that cotton maturity is on track and will be better than the 2017 crop. He was optimistic about the staple length being good and micronaire returning to normal distribution. There has been significant abandonment of dryland acres in the region.

As expected, the impact of recent tariffs occupied the center stage of discussions. As China’s lead as the number one importer of U.S. cotton has eroded in the past two years, it still imports good quantity and hence the situation needs attention.

“We are much better without tariffs, but trade wars come and go,” stated Darren Hudson, Professor of Agricultural Economics at Texas Tech University. He added, extended trade war may not be good as it affects the supply chain.

Setting aside the current trade dispute, providing contamination free good quality cotton based on delivery schedule is important for the United States to have premium markets.

“The U.S. cotton industry has worked hard for many years to have the reputation of being contamination free. The whole industry, from producers to ginners must do everything possible to keep plastic out of cotton harvesting and processing so that we do not diminish our reputation of contamination free cotton,” stated Steve Verett.

As textile processing is shifting away from China, focusing on the needs of emerging markets in Southeast Asia such as the flow to these markets must be carefully considered by the United States’ cotton industry.

Comment on TexSnips/Sep 20 2018

Ramkumar, S

From: Kandice Poteet <tca@tca-cotton.org>
Sent: Friday, September 21, 2018 3:35 PM
To: Ramkumar, S
Cc: Hudson, Darren; steve@plainscotton.org; shawn@plainscotton.org; Mary Jane Buerkle; kody@plainscotton.org
Subject: Re: International visibility for TCA Meeting Coverage

Dr. Ram,

Thank you for covering our recent flow meeting in Lubbock. We appreciate your continued efforts to promote our valuable product. Your enthusiasm is infectious and we are glad you are a part of our Texas cotton family! You make us proud!

In Texas Cotton,
Kandi Poteet / Exe. V-P, Texas Cotton Association

Sent from my iPhone

On Sep 21, 2018, at 3:15 PM, Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

Hello Kandice, Darren and Steve

The article on TCA's meeting that has your comments have appeared in major industry-related press in the:

- 1) United States: Cotton Grower
<https://www.cottongrower.com/cotton-news/examining-the-china-trade-dispute-and-cotton-flow/>
- 2) England, WTIN News (paid subscription) but well read (see the article attached as PDF)
- 3) Highly Read Commodity Outlet in India: Commodity Online
<https://www.commodityonline.com/commodity-news/china-trade-dispute-and-cotton-flow/commodity-analysis/22541>

Have a good weekend.

Kindly,
Ram

Seshadri Ramkumar, PhD, CText., FTI (UK), FTA (*Honorary*)
Professor, Nonwovens & Advanced Materials Laboratory
Texas Tech University
Lubbock, TX, USA
Tel (Main Office): (001) 806 742 4567

Microplastic Contamination Busters: Unsung Heroes

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 11, 2018)-Microplastic and plastic pollution is affecting food chain, ground water levels and ecosystem.

Plastic pollution can be a positive opportunity for fiber, processing and packaging sectors.

From a remote village in the deep south of India to the pristine beaches of Costa Rica, slowly and rightly, people are realizing the ill effects of micro plastic contamination in their environment.

In the past few decades, textile industry had to focus its attention towards remedial measures for waste water discharge and the current microplastic contamination in the marine environment due to synthetic fibers seems to be a tough task to handle. A concerted effort is needed among public, consumers, government and the manufacturing industry to tackle this growing problem.

Azhvarthirunagari (Azhvai), a remote village on the banks of perennial river Thamirabharani in the deep south of India has come to realize the plastic pollution in a hard way. Being situated at the delta of a perennial river, which used to be richly fertile with rice and banana cultivation few years back, is feeling the pinch of ground water depletion. Single-use plastic materials thrown over a period of decade or so serve as an impermeable barrier for the rain water to drip through the ground. Villagers have come to understand this situation recently and have taken the situation in their own hands to find solutions. They have formed, "Azhvai People Welfare Association" and are effectively utilizing new communication tools like WhatsApp to hold people and local government accountable. Life has started improving ever since the need for collective efforts and raising a shared voice have started to happen. For the first time, recently, the association convinced a local coffee shop owner to start using multi-use packaging material instead of single use polyethylene bags. This news was received with a fanfare invoking supportive feedback among the agrarian community. It is not an easy decision for a small coffee stall in a society depending on agriculture to make this decision; but it is a laudable task.

In speaking to this scribe, Mr. M. Ponnusamy, of Azhvai People Welfare Association said, "villagers started to realize that polyethylene and thin plastic debris dumped on the canal and river banks block water seeping through the ground, which they found affects the ground water level. Agrarian society like us should care for Mother Nature as we depend on it for our livelihood." As a small step, they are creating awareness on the ill effects of plastic contamination and they are happy that the village is setting itself as a model among surrounding villages to avoid single-use plastics.

Recently, the state of Tamilnadu in India, where the village Azhvarthirunagari is situated, has made a policy to ban single-use plastics effective January 1, 2019. Due to immense importance for cost-effective and reliable supply of packaging materials, only milk, oil and medicinal packaging are exempt from this ban.

Some 10,000 miles apart, Costa Rica, whose economy depends on tourism is taking proactive measures to preserve its beaches and biodiversity from the plastic pollution. Twenty five percent of Costa Rica is designated as protected natural area.

David Robledo, a research scholar at Lubbock, Texas-based Texas Tech University is concerned about the environment in heritage economies like Costa Rica. He is focusing his attention to create awareness among public and politicians on science-based decision making to counter microplastic and plastic contamination. As an environmentalist and a technical communicator, he views, simple and timely communication is the first step towards addressing this issue. "General awareness on this plastic pollution doesn't even exist," said Robledo.

While stark images of beautiful sea birds ingested with plastic mess get due attention and emotional outpouring, pollution in the mainland several hundred miles away is the root cause of the problem, so alerting the negative effects of these problems should be the first order of business.

Ramkumar, S

From: S.P. SINGH <sp1946@hotmail.com>
Sent: Thursday, September 13, 2018 2:04 AM
To: Ramkumar, S
Subject: Re: TexSnips: Microplastic Contamination Busters: Unsung Heroes

Dear Dr. Ramkumar ,

Normally I keenly read your mails bringing always some new valuable information . Keep it up . This awareness in the remote village of Tamil Nadu is really inspiring for us all . Just to share with you , our family since 1970s had stopped use of plastic to an extent that the kitchen waste we use to wrap in old news papers and only then put in the municipal garbage . We number of cotton bags with strong strings which we carry for vegetables etc .My wife when we go on long drives always keeps as many tumblers [multi use] as many we are so that at any stopovers we take tea or coffee in these . That is a small contribution we feel happy to do .

I had the privilege to go under a week's training under you , on Non - Wovens , way back in Kolkatta 2008/9 {Perhaps}
At that time I was CEO of a German MNC in Gurgaon , Haryana , India

Now I am in Malaysia , Penang . Incidentally my wife brought with her our cotton bags and the local vegetable/ fruit vendors are bewildered to see these because use of Plastic here is unbelievable .

Regards

S.P.Singh
CEO
Union Pile (Penang) - Sdn-Bhd
Prai Industrial Area ,
13600 PRAI
Penang , Malaysia

Ph +6016 400 0253

From: Ramkumar, S <S.Ramkumar@ttu.edu>
Sent: Wednesday, September 12, 2018 8:03 PM
To: Ramkumar, S
Subject: TexSnips: Microplastic Contamination Busters: Unsung Heroes

Microplastic Contamination Busters: Unsung Heroes
By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 11, 2018)-Microplastic and plastic pollution is affecting food chain, ground water levels and ecosystem.

Plastic pollution can be a positive opportunity for fiber, processing and packaging sectors.

Ramkumar, S

From: Seshadri Ramkumar <seshadriramkumar71@gmail.com>
Sent: Thursday, September 13, 2018 1:24 PM
To: Ramkumar, S
Subject: Azhvai People Welfare Association India

நமது ஊருக்கு பெருமை சேர்த்திடும் வகையில் கட்டுரை எழுதியுள்ள ஐயா அவர்களுக்கு நமது ஆழ்வார்திருநகரி மக்கள்நலச்சங்கத்தின் சார்பாக நன்றி நன்றி ஐயா

Sent from my iPhone

Comment in Tamil language
from Azhvarthirunagari People
Welfare Association, India
filed via WhatsApp

Ramkumar, S

From: Rajan Vempati <chkgroup@att.net>
Sent: Wednesday, September 12, 2018 10:04 AM
To: Ramkumar, S
Subject: Re: TexSnips: Microplastic Contamination Busters: Unsung Heroes

Ram,

Good Morning.

I enjoyed the article.

Thanks.

Raj

Dr. Rajan K. Vempati
President, ChK Group, Inc.
(www.chkgroupinc.com)
Phone: (214) 704-4128
Email: chkgroup@att.net
Skype: rajan.vempati

From: "Ramkumar, S" <S.Ramkumar@ttu.edu>
To: "Ramkumar, S" <S.Ramkumar@ttu.edu>
Sent: Wednesday, September 12, 2018 9:33 AM
Subject: TexSnips: Microplastic Contamination Busters: Unsung Heroes

Microplastic Contamination Busters: Unsung Heroes

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 11, 2018)-Microplastic and plastic pollution is affecting food chain, ground water levels and ecosystem.

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Azhvarthirunagari (Azhvai), a remote village on the banks of perennial river Thamirabharani in the deep south of India has come to realize the plastic pollution in a hard way. Being situated at the delta

Green Processing of Cotton

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 7, 2018)-Microplastics and effluent issues have heightened the need for green processing of textiles.

Discharge of textile mill effluents and disposal of single-use textiles such as hygiene pads are watched very carefully by regulatory bodies. Therefore, textile industry has been working to find cost-effective solutions to tackle these environmental issues.

Recently, a collaborative research between scientists from Kerala, the southwestern state of India and Florida has utilized supercritical carbon dioxide as a carrier to size and desize cotton.

They have identified supercritical carbon dioxide attractive chemistries such as sucrose octaacetate, glucose pentaacetate and poly ethylene glycol that can be applied to textiles via supercritical carbon dioxide at a pressure of about 90 bars, making the process cost effective.

The researchers claim the process is cost effective as it avoids other costlier functional chemistries and is environmentally friendly. Sucrose octaacetate in supercritical carbon dioxide system provided good results for cotton and polyester and the chemical is inexpensive as it is an agricultural product.

Green technologies such as supercritical fluids and plasma have been getting serious attention these days.

“Typically, wet-chemical treatments used to create surface hydrophilicity to woven and nonwoven textile materials can damage the polymer matrix and produce, as a byproduct, large volumes of hazardous waste effluents. Atmospheric pressure plasma (APP) technology is an ecofriendly alternative for obtaining similar or better results with these materials, compared to wet chemical treatments. It is also commercially recognized that the APP process can also significantly reduce dye consumption due to enhanced dyne uptake and wicking,” stated Rory A. Wolf, Business Unit Manager, ITW Pillar Technologies.

Sustainable processes and clothing are preferred by consumers. Stating a survey, Melissa Bastos of Cary-based Cotton Incorporated said, “63% of consumers globally put time and effort into finding sustainable clothing.”

United States' Cotton Farmers to Receive Support

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, August 28, 2018)- With unsettled trade dispute between China and the United States, U. S. government announced support schemes.

United States' agricultural commodity producers will receive support to offset price imbalances due to the retaliatory tariffs imposed by China. Termed as Market Facilitation Program (MFP), support will be provided to commodities that include cotton, corn, soybean, dairy, etc.

Earlier in Spring, United States' government-imposed import tariffs of many goods from China to protect American manufacturing and innovation.

Export crops such as cotton and soybeans were negatively affected due to price increases due to imposed tariffs and made them uncompetitive against other exporting nations to China. To help farmers withstand the tariff situation, yesterday, United States Agriculture Secretary announced support schemes, which have been a welcoming situation among the farm community.

"Cotton producers prefer to participate in a fair and equitable market place," says Steve Verett, Executive Vice President of Lubbock-based Plains Cotton Growers, Inc. "Unfortunately, the current market environment is being heavily influenced by unsettled trade issues that have detrimentally impacted our ability to fairly compete in markets that have consistently been strong purchasers of U.S. cotton. This situation has adversely impacted cotton demand and price and we are grateful for the assistance announced by USDA to offset at least some of that impact through the Market Facilitation Program."

Cotton producers will receive a support of 6-cents per pound based on certified production. Initially, producers will receive support for 50 percent of their 2018 production. Additionally, the support is capped at \$125,000 per person or entity.

According to a source, farmers hope to see their checks coming at the beginning of the new year.

Mission-linked Cotton Research

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, August 24, 2018)- Translational research focusing on all aspects from cotton seed to shirts on the rack will be the next phase of cotton research.

Mission-linked research encompassing basic and applied research to promote the advantages of cotton, bring new opportunities for cotton beyond the fiber to fashion supply will be next phase for research in the cotton sector.

Bringing expertise from different scientific fields such as genomics, molecular biology, chemical engineering and textile science to work on strategic projects to boost the consumption of cotton is the way forward. This effort was visible recently at a reception hosted for Professor Luis Rafael Herrera-Estrella, a foreign member of the United States' National Academy of Sciences (NAS), who is joining Texas Tech University (TTU) as a distinguished professor, becoming its first NAS member. TTU already has five National Academy of Engineering members as its distinguished faculty.

Professor Herrera-Estrella will focus on genomics and other advanced scientific techniques to improve cotton such as stress tolerance against environmental factors at the new Center for Functional Genomics of Abiotic Stress at TTU. This initiative has been possible due to a US\$ 5 million grant from the Governor's University Research Initiative in Texas. TTU provided matching funds with the support of industry to establish this center in Lubbock.

Cotton research needs to be interdisciplinary involving aspects of basic research such as those of Professor Herrera-Estrella that gets translated in the field to benefit the farmers and the entire supply chain.

How to go about such translational research that benefits the stakeholders?

Involving academia, industry, local, state and federal agencies towards focusing on projects that are strategic may be the way forward. There is no other place for cotton research like Lubbock, which is the epicenter of cotton activities in the High Plains of Texas. Paying attention to strategic strengths of the region is evident in the recent effort at TTU, which was echoed in a statement by Lawrence Schovanec, President of TTU.

Addressing the issues faced by stakeholders whether cotton producer, consumers and importing nations will pay good return on the investment. Cotton producers rely heavily on the research activities conducted by universities," says Shawn Wade, Director of Policy Analysis and Research at Lubbock-based Plains Cotton Growers, Inc. "Cotton producers face a tremendous number of challenges, all of which ultimately impact yield and quality of the cotton they produce. Research that can focus on specific issues that can range from managing or adapting to increased environmental stresses to developing new markets for low micronaire cotton are key to their continued success."

In responding to a query from this scribe on the next phase of cotton research, Eric Hequet, Chairperson of the department of Plant and Soil Sciences at TTU and an internationally renowned researcher on cotton fiber quality provided valuable insights on the importance of fiber quality.

"Technological advances in textile production throughout the world and stiff competition with a wide array of man-made fibers have led to an ever-moving fiber quality profile target. Evolution of the textile industry forces us to continuously improve yield, quality, and stress tolerance of (Texas) cotton. Another aspect of this evolution is the increasing demand for bio-based products, which will create new opportunities for cotton. Interdisciplinary research and development activities focusing from gene to jeans will benefit the cotton sector and economies that depend on cotton," stated Hequet.

Additionally, attracting leading talents in strategic areas will drive the innovation forward as is the case with the addition of the first NAS member to TTU.

"With the strength that Dr. Herrera-Estrella will add to our genomics effort, combined with our already world-class programs in production practices, economics, fiber quality, and novel uses for cotton fiber, Texas Tech will be the global leader in research, education, and outreach related to this important crop," stated Michael Galyean, Provost at TTU.

Ramkumar, S

From: Schovanec, Lawrence
Sent: Monday, August 27, 2018 3:12 PM
To: Ramkumar, S; Galyean, Michael; Hequet, Eric; shawn@plainscotton.org
Cc: Heppert, Joseph; Presley, Steve; steve@plainscotton.org; Mary Jane Buerkle; Pigg, Sharon; Carrasco, Emma
Subject: Re: Nice Visibility for TTU

Ram,

Thank you for writing this excellent piece. I appreciate your supportive and positive reception of Dr. Herrera-Estella. With you related expertise and cooperation, I'm very optimistic of what we can be achieved at TTU in the many areas related to cotton.

Lawrence

*Lawrence Schovanec
17th President of Texas Tech University, USA*

From: "Ramkumar, S" <S.Ramkumar@ttu.edu>
Date: Monday, August 27, 2018 at 1:58 PM
To: Lawrence Schovanec <Lawrence.Schovanec@ttu.edu>, Michael Galyean <Michael.Galyean@ttu.edu>, "Hequet, Eric" <Eric.Hequet@ttu.edu>, "shawn@plainscotton.org" <shawn@plainscotton.org>
Cc: "Heppert, Joseph" <Joseph.Heppert@ttu.edu>, "Presley, Steve" <Steve.Presley@ttu.edu>, "steve@plainscotton.org" <steve@plainscotton.org>, Mary Jane Buerkle <maryjane@plainscotton.org>, "Pigg, Sharon" <Sharon.Pigg@ttu.edu>, "Carrasco, Emma" <Emma.Carrasco@ttu.edu>
Subject: Nice Visibility for TTU

Congratulations Gentlemen for your efforts at TTU.

I am glad to be of some timely help in promoting your efforts. Many outlets have picked up my story, which has been compiled by CASNR.

See:

"In Press: Mission-linked research explores new opportunities for cotton" with 5 jpgs
<https://www.depts.ttu.edu/agriculturalsciences/news/posts/2018/08/in-press-mission-linked-cotton-research.php>

Ramkumar, S

From: Jayashree Venkatesh <venkatesh.jayashree@gmail.com>
Sent: Saturday, August 25, 2018 12:34 AM
To: Ramkumar, S
Subject: Re: TexSnips: Mission-linked Cotton Research

Very interesting

I agree completely - " Simply put, a collective effort with inputs from stakeholders is the need of the hour to advance cotton R&D to the next level. "

happy to receive thought provoking mails from you.

Thanks & regards

JV-Bangalore-9448303730

INDIA

On Fri, Aug 24, 2018 at 9:24 PM Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

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Professor Herrera-Estrella will focus on genomics and other advanced scientific techniques to improve cotton such as stress tolerance against environmental factors at the new Center for Functional Genomics of Abiotic

Ramkumar, S

From: Galyean, Michael
Sent: Saturday, August 25, 2018 11:16 AM
To: Ramkumar, S
Cc: Pigg, Sharon
Subject: Re: You appeared in Indian online magazine

Ram - thanks for all the global attention you continue to draw to Texas Tech. Great work.

Mike Galyean

*Provost and Senior VP for Academic Affairs
Texas Tech University, USA*

From: Ramkumar, S
Sent: Saturday, August 25, 2018 10:39 AM
To: Galyean, Michael
Cc: Pigg, Sharon
Subject: Fwd: You appeared in Indian online magazine

Even though Saturday, an Indian textile news outlet has carried the news on TTU's first NAS arrival and related story.

This story mentions you. Already leading magazine Cotton Grower has already carried this news. Thanks to you for providing comments promptly.

<http://www.textilevaluechain.com/index.php/news/corporate-sme-news/item/2631-mission-linked-cotton-research>

Mission-linked Cotton Research

www.textilevaluechain.com

By: Seshadri Ramkumar, Texas Tech University, USA (Lubbock, USA,) Translational research focusing on all aspects from cotton seed to shirts on the rac...

Kindly,
Ram

Sent from my iPhone

Ramkumar, S

From: Galyean, Michael
Sent: Friday, August 24, 2018 10:47 AM
To: Ramkumar, S
Subject: Re: Thank You (TexSnips: Mission-linked Cotton Research)
Importance: High

Thanks Ram. Nicely done!

Mike Galyean

Provost and Senior VP for Academic Affairs
Texas Tech University, USA

Sent from my Verizon LG Smartphone

----- Original message-----

From: Ramkumar, S
Date: Fri, Aug 24, 2018 10:44 AM
To: Galyean, Michael;'steve@plainscotton.org';shawn@plainscotton.org;Hequet, Eric;
Cc: Pigg, Sharon;Schovanec, Lawrence;Hernandez, Grace;Perlmutter, David;Presley, Steve;Heppert, Joseph;Swingen, Abigail;Carrasco, Emma;Cook, Chris;'Khake@cottoninc.com';Mary Jane Buerkle;
Subject: Thank You (TexSnips: Mission-linked Cotton Research)

Dear Provost Galyean, Steve, Shawn and Eric,

Let me thank you for acceding to my request and providing comments to my today's column that also talks about the arrival of first NAS member to TTU. I have also a comment provided by President Schovanec at the reception.

As you may note, this is general one that highlights what the research in the cotton sector need to be. Your valuable comments strengthened my views, which I have scribed.

Hopefully it will be picked up by leading outlets such as Leeds, UK based WTiN News, India-based Commodity Online and USA based Cotton Grower and a few in Europe and Asia.

Also it goes to about 2000 people via direct e-mail. I hope you will find that I balanced it in such a way that is not promotional.

Thank you.

Kindly,
Ram

Mission-linked Cotton Research

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, August 24, 2018)- Translational research focusing on all aspects from cotton seed to shirts on the rack will the next phase of cotton research.

Next Generation Cotton

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, August 15, 2018)-Functional cotton that have comfort and properties of synthetic fibers are being developed.

Cotton shirts that may need no iron, protection characteristics and enhanced comfort are some of the functional properties that are being engineered to make cotton a high-performance fiber.

This week, a team of scientists from Australian science agency, CSIRO is pitching these ideas at the AgCatalyst event in Australia.

As part of Synthetic Biology Future Science Platform, scientists at CSIRO are exploiting genetic engineering techniques to bring functional characteristics to cotton.

Dr. Madeline Mitchell in video release stated that bioengineering techniques are being used to incorporate stretchy protein into the cell wall of cotton to make it elastic so that “iron free” cotton can be envisaged.

A few years back, Cary-based Cotton Incorporated started looking at what makes cotton breathable and comfortable at molecular level. The research carried out at Texas Tech University in its preliminary findings showed that long chain sugar molecules have a role to play in the mass transport of water vapor through the fiber structure.

Dr. Kater Hake, Vice President for Agriculture Research at Cotton Incorporated, who served as the project manager for the above project stated, “Cotton Incorporated’s long-term objective is to make cotton comfortable and functional using innovative approaches.”

While these projects have a long-term view, investing time and resources will lead to new opportunities for cotton in high performance applications.

Dr. Madeline Mitchell stated that they hope to have proof of concept in a few years.

These new ideas show that the cotton industry, in addition to enhancing the yield and fiber quality is now looking into functional attributes of cotton, which this scribe has been researching and promoting for a few years.

Electronics Embedded Washable Textiles

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, August 13, 2018)-Functional semiconductor embedded soft textiles developed.

An industry-university team has developed thin polymer preform, which is light emitting diode. The preform when heated liquified partially resulting in a long fiber. The partially liquid state fiber was mixed with electronic devices with the diodes in the core.

These semiconductor fibers were then woven into fabrics that can be laundered at least ten times. Inman Mills developed techniques to weave the semiconductor fibers, using conventional loom.

The team consisted of scientists from Massachusetts Institute of Technology (MIT), EPFL in Lausanne, Switzerland and Inman Mills, South Carolina.

The attempt will endeavor to establish a “Moore’s Law,” in wearable textiles, according to the researchers involved in the study.

The advancement enables a scalable method to incorporate semiconductors into fibers stated Yoel Fink, member of the team from MIT. The technology will see a rapid commercialization process, added Professor Fink.

Applications range from communications to biomedical textiles and protective textiles.

The work was funded in part by the United States’ federal government through its agencies such as the Department of Defense and National Science Foundation. The work has appeared in a recent issue of journal Nature.

International Conference on Advanced Textiles Announced

By: Seshadri Ramkumar, Texas Tech University, USA

(Coimbatore, India, July 27, 2018)—Avinashilingam Institute for Home Science and Higher Education for Women will be organizing an international conference in collaboration with Texas Tech University, USA in its campus in Coimbatore, India between January 30th and 31st, 2019.

In continuation with the tradition, Lubbock-based Texas Tech University will be organizing the eighth “Advances in Sustainable Materials, Nonwovens, Technical Textiles and Textile Machinery,” conference popularly known as ATNT in Coimbatore during January 2019.

The INDO-US collaborative conference will provide a cost effective platform for international stakeholders in the advanced textiles field to discuss new developments such as cutting-edge improvements in cotton production and technology, sustainable textile materials, eco-friendly processing, nonwovens, industrial textiles and functional materials in an open platform.

In speaking about the conference, Dr. Premavathy Vijayan, Vice Chancellor, Avinashilingam Institute for Home Science and Higher Education for Women, stated, “Our institute is pleased to collaborate for the second time, with Texas Tech University in organizing the ATNT event on advanced textiles.” Commenting on the scope of the event, Dr. Premavathy Vijayan further added that Avinashilingam Institute has been pioneering in research efforts on sustainable materials and biotextiles and hence this forum is a perfect fit for us to partner with Texas Tech University, which is a leader in the field of cotton and technical textiles.

Dr. N. Vasugi Raaja, Dean, School of Home Science at Avinashilingam Institute will work with this scribe side-by-side in conducting the international conference. Dr. Vasugi Raaja stated that this event provides ample opportunities for international stakeholders, as India is an important place for textile and manufacturing sectors.

The deliberations will be published in a reputed international journal which may benefit scientists and academics for their carrier development. The organizers hope to provide focused interactive sessions with the international industry to help grow business initiatives and gain useful information on new research and business developments. Many global international professional and industry organizations will be supporting the event.

The theme and the location of the conference are ideal for global players in the field of textiles to assemble in India for the eighth time as ATNT.

A call for presentations and sponsorships is being issued for the proposed international event.

More information will be available online at: <http://www.atnt2019.com>

Indian Cotton Textile Sector Update

By: Seshadri Ramkumar, Texas Tech University, USA

(Bengaluru, India, July 20, 2018)- Indian cotton textile sector is at an important stage, given the trade situation between the two other leading cotton producing and trading countries.

In addition to the above global picture, Indian government has recently hiked its support price for cotton by about 28 percent.

The unsettling trade situation between the world's leading cotton exporter, United States of America and a leading user, China, should place India's cotton and textile sector in a better situation. Indian currency has been weakening against dollar, which should benefit textile exports. However, this positive sense is not felt by the textile industry in India.

Recently, earlier this month, Indian government announced minimum support price (MSP) increase for important crops such as paddy and cotton to support farmers. While providing support to India's farm sector is welcomed by agriculture, textile and allied sectors, there is some feeling in the textile sector that the support to the farm sector should have been provided by some other mechanism and not by market intervention schemes such as MSP, as this will increase the price of domestic cotton.

Will the spinners be in a position to absorb this price hike questioned Mr. S. Velmurugan, general manager of a large cotton spinning mill in Aruppukottai, India. The mill in the South Indian town of Aruppukottai has about 70,000 ring spindles and produces fine count yarns catering to home textiles sector. While the industry benefited due to established presence as a leading yarn exporter and relatively cheaper skilled labor force, Velmurugan stated that those advantages have been slowly eroding due to countries like Vietnam, Indonesia, etc. The MSP increase would make the raw material relatively expensive, which will impact the sector.

These current situations are making it clear that the Indian cotton sector should focus on increasing its productivity, improving its quality, working on its contamination levels and diversifying its strength. Enhancing its product basket, strengthening its downstream processing and developing value-added textile sectors such as technical textiles could offer near to long term benefits for India's textile industry.

This scribe has been promoting the growth of nonwovens and technical textiles in India for over 15 years. However, economically feasible and suitable projects that can attract both domestic and export markets are needed.

Technical Textiles in Leather Industry

By: Seshadri Ramkumar, Texas Tech University, USA

(Bengaluru, India, July 11, 2018)-Textiles find myriad of applications in leather sector.

In a face-face interview recently at Potissimus Arrow Shoes in Ranipet, India, Mr. Pandey Velayutham, Managing Director of Arrow Group of Companies highlighted many opportunities for textiles in fashion and high-end shoe sector.

Some of the applications, which Mr. Velayutham highlighted include fabric interliners in shoes, textile shoe uppers, easy care shoe wipes, etc. Interlining fabrics need to be odor proof, water proof, but allow the penetration of vapor to make them breathable. These interlining fabrics are used as reinforcing materials to give body to shoes and to control the extension of leather component so as to provide suitable fit and comfort.

To enable “Make in India,” effort to be successful, research and developmental initiatives are needed.

The discussion made clear that the shoe industry is keenly interested in enhancing the comfort of wearers by providing functional and fashionable shoes. Founded in 2002, Arrow Group of companies focuses on research and development activity to take the shoe industry to the next level. It employs over 1100 employees in its three manufacturing units in Ranipet area. It manufactures for reputed brands like Hotter, Kurt Geiger, Gabor, Bugatti, etc. In 2017, Arrow Shoes introduced Gabicci line of products in India with aim to provide highly comfortable men’s products such as shoes, socks, etc., without sacrificing aesthetic aspects.

According to Pandey, “research and development is needed based on regional and cultural necessities, particularly in consumer goods industry like apparel and shoes.” He emphasized that he strongly believes in the fusion of different disciplines to come-up with performance products that can cater to both Indian and international consumers.

Spider Silk for Cancer Cure

By: Seshadri Ramkumar, Texas Tech University, USA

(Bengaluru, India, June 14, 2018)— Synthetic spider silk based vaccine help with cancer and infectious diseases cure.

A team of European multidisciplinary researchers from Switzerland and Germany have synthesized spider silk in the laboratory, which has been used to develop vaccine capsules from peptides that find application against infectious diseases such as tuberculosis and cancer.

The synthetic spider silk capsule protects the vaccine from degradation as the silk is resistant against light and heat. Spider silk capsules are used as drug delivery agents that deliver vaccines to lymph nodes and enhances the immune response.

The vaccine system is stable and is easy to manufacture stated Professor Carole Bourquin of the University of Geneva.

Professor Thomas Scheibel of the University of Bayreuth, Germany who collaborated in the work stated that peptide inserted spider silk can be formed into injectable microcapsules. According to Scheibel, special characteristics of spider silk such as biodegradability, biocompatibility, resistance to extreme external conditions lend itself to many medical applications such as sutures, etc.

The work has appeared in a recent issue of the journal, Biomaterials.

Boost for Cotton Research

By: Seshadri Ramkumar, Texas Tech University, USA

(Bengaluru, India, June 7, 2018)-Millions are being invested to boost cotton research in Texas.

Cotton research gets a boost from the State of Texas through its Governor's University Research Initiative. Texas has funded US\$5 million to boost research and education in cotton at Texas Tech University (TTU) in Lubbock. This public funding has been matched by the University to create an institute that will focus on environmental stresses on cotton under the leadership of internationally recognized researcher in plant science, Dr. Luis Rafael Herrera-Estrella, a foreign associate member of the prestigious National Academy of Sciences of the United States of America.

High Plains of Texas is the world largest contiguous cotton producing patch, but is impacted by lack of rain, which affects cotton production and quality. Research on drought and environmental stresses is of international significance and more relevant to the cotton industry in the High Plains of Texas.

Agriculture is a core research area for Texas Tech and Dr. Herrera's research in cotton genomics will help with the economic development of West Texas and the state, stated Dr. Lawrence Schovanec, president of Texas Tech University. President Schovanec's vision is to raise the profile of TTU as an internationally renowned research intensive university. Attracting such highly recognized researchers will strengthen the university's research in strategic areas such as cotton, wind energy and water. President Schovanec and his team are focusing on efforts such as undergraduate research, international collaborative education like linkages with China, Costa Rica, to name a few.

The new cotton institute will focus on areas such as cell biology, stress physiology and biochemistry, bioinformatics, etc., stated Eric Hequet, chairperson of the Department of Plant and Soil Science.

Cotton research at TTU not only focuses on yield and quality, but also on value-added applications. Research activities at the Fiber and Biopolymer Institute and the Nonwovens and Advanced Materials Laboratory have resulted in high performance products such as bio aerogels, cotton based oil sorbents and toxic chemical decontamination wipes.

Dr. Luis Rafael Herrera-Estrella becomes TTU's first National Academy of Sciences member, while the university already has five National Academy of Engineering members in its faculty.

The new institute and Dr. Herrera's arrival will elevate the university's research status, stated Provost Michael Galyean.

Sustainable Textiles: Chat with my Son on World Environment Day

By: Seshadri Ramkumar, Texas Tech University, USA

(Bengaluru, India, June 5, 2018)-Young son informs the benefit of green materials on the eve of world environment day.

Sustainable and green textiles may benefit from increasing awareness on plastic pollution.

Yesterday, while driving back from school on the start of a new academic term, my son Aditya Ritvik Ramkumar, a second grader chatted with me that in his class on environmental sciences, they discussed about this year's world environment day activities. Dad he said, this year's theme is "Beat Plastic," and do not throw plastic away, try to reuse them.

It is pleasing to note that these days; young kids have lessons on the environment and are made aware of pollution, and the need to save the environment. It assured me that these youngsters, who will become independent consumers in a decade, will demand more sustainable goods and textiles will be certainly one of those products.

Textiles sector needs to be proactive in this arena and focus on 3Es: 1) environmental sustainability; 2) economic sustainability and 3) energy and process sustainability. Although environmentally friendly products and processes have been in vogue, unless, economy is brought into the equation; large scale acceptance of green products will be a major challenge.

Natural fibers sector such as cotton has been at the forefront in this field by bringing more awareness on the benefits of natural materials against manmade products. Recent issue with micro plastics in the marine environment is certainly getting some good attention and a concerted effort among stakeholders may increase the share of natural fibers in consumer textiles. Science based data will help to bring awareness on the need for earth friendly products. Cost benefit analysis data need to be provided for making greater impact on common consumers.

Even in industrial products that are used to protect environment such as oil sorbents, it is the cost which plays a significant role, although user sectors are slowly paying attention towards greener products. Chennai, India-based WellGro Tech while developing sustainable oil absorbent using textile materials has to work hard to take the product into commercial space as it has to be competitively priced against synthetics. Consumer market space is highly cautious about the cost and is not willing to give a premium for green products.

With the world environment day campaigns in full swing in India, being this year's host nation, hopefully, its textiles sector can benefit.

Certainly, as youngsters like Aditya are talking about environment, there is much optimism for green chemistry, sustainable textiles and newer products.

Indian Textiles Sector looks towards Value Addition

By: Seshadri Ramkumar, Texas Tech University, USA

(Bengaluru, India, May 22, 2018)-Indian textile and clothing exports register positive growth.

In 2017, India remained as the world's leading cotton yarn exporter with a global market share of 25 percentage.

Coimbatore, India-based The Southern India Mills' Association (SIMA) released data for textile and clothing exports from India for 2017. Data showed that India's textiles and clothing exports grew about 5.37%, which was higher than the global growth rate of 3.94 percent.

Indian textile and clothing exports reached US\$ 37.4 billion in 2017 as against US\$ 35.5 billion, the previous year.

While speaking with this scribe via telephone from Coimbatore today, Dr. K. Selvaraju, Secretary General of SIMA told that the future of Indian textiles sector is good amidst challenges.

Tamilnadu is strong in spinning contributing 47% of total yarn production in India. Selvaraju stated that this is also evident in the strong membership of SIMA with about 700 members representing the entire value chain from ginning to finished goods sector.

Coimbatore district in Tamilnadu has about 7.2 million ring spindles and 100,000 rotors, which are higher than those available in the northern states of Gujarat and Maharashtra. The contribution of Tiruppur and Coimbatore districts in Tamilnadu is about 70% of total cotton knitted goods production in India.

India textiles sector is heading towards value-addition, stated Selvaraju.

Sustainable Oil Absorbent Receives Recognition

By: Seshadri Ramkumar, Texas Tech University, USA

(Bengaluru, India, May 21, 2018)- Biodegradable oil absorbent mats receive recognition by the Indian Coast Guard.

Chennai, India-based WellGro Tech has recently developed highly biodegradable oil absorbent pads and mats for oil spill remediation. This development is timely as more attention is being focused on plastics cluttering marine environments. Hence sustainable alternatives to synthetic sorbents are needed for oil spill response in high seas and waterways.

WellGro Tech's sorbent showed that in 120 days, it degrades, according to soil burial test undertaken by an accredited laboratory in South India.

WellGro Tech has recently been recognized as a qualified supplier of pollution control equipment and spares by the Indian Coast Guard. Indian Coast Guard under the Ministry of Defense, India is the central coordinating agency for oil spill response.

The oil absorbent was evaluated earlier in a paddy field in the Cauvery river delta region in the southern state of Tamilnadu, which has rich oil resource. Oil spills in the paddy fields of the Cauvery delta region due to oil transport pipeline breakages has been a frequent occurrence and hence stakeholders are looking for effective oil spill remediation techniques.

Mr. R. NambiSrinivasan of WellGro Tech while commenting about the Indian Coast Guard's recognition said, "this is not just about oil sorbent alone but we are meeting the compliance process and parameters as set by the Coast Guard."

Realizing the growing importance of sustainable oil sorbents, this scribe at Lubbock-based Nonwovens and Advanced Materials Laboratory, Texas Tech University has been focusing on biodegradable oil spill products since 2010.

While biodegradable products have many advantages, cost is a challenge when compared with cheap synthetics. The industry has to work hard to convince the stakeholders in gaining acceptability of sustainable green oil absorbent products.

Indian Cotton Sector Update

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, May 10, 2018)- India's cotton crop production for the current season (October 2017-September 2018) is estimated to be 36 million bales (170 Kgs each).

According to Mumbai-based Cotton Association of India (CAI), crop arrival till the end of April was about 31.1 million bales. Total consumption during the current year till end of April (7 months) has been 18.9 million bales, averaging 2.7 million bales per month. By the end of April, about 86% of crop has arrived in the market.

Total supply for the full season ending this September is estimated to be 41 million bales (170 Kgs each). Total domestic consumption during the season will be 32.4 million bales. Exports according to CAI will be 6.5 million bales.

An expert on Indian cotton market based in Mumbai stated however, there is some hope among traders that the export will be about 7 million. Given the uncertain situation regarding tariff by China on imports from United States and the weakening of Indian rupee against dollar will be of some boost to Indian exports.

In November of last year, Indian production was expected to be about 37 million bales, but pink bollworm infestation in Maharashtra, Telangana and Andhra Pradesh has reduced the output. However, stakeholders are paying close attention to this issue during the forthcoming planting season so that India's leading cotton producing state, Gujarat does not face this insect situation.

There is a need for quality cotton and the price difference between quality and average cotton is widening stated the Indian expert.

Indian meteorological department has predicted timely rainfall during this June-September timeframe, which will determine planting intentions. However, chances for diversification is also there as in 2017-18, edible oil sector performed well.

Next 2-3 months is bullish for the cotton sector, said the expert.

Cotton Wins Big in Space Challenge

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 27, 2018)-Experimentation with cotton in the International Space Station receives big boost.

Target Corporation has committed to 100 percent sustainable cotton by 2022. This effort is getting a boost from Target by providing huge sums of money towards sustainability of cotton.

The International Space Station cotton sustainability challenge program sponsored by Target and supported by the Center for the Advancement of Science in Space (CASS) recently selected three projects.

Each project will receive up to a million dollar in funding supported by Target. Through a collaboration between CASS and NASA, the project will be implemented at the International Space Station.

Upstream Tech of Alameda, California will work on field scale, aggregated best management practice verification and monitoring. Upstream has developed machine learning tools to acquire data from satellites. This capability will be used to monitor cotton agriculture practices which will help Target in its cotton sustainability goals.

A project led by Christopher Saski of Clemson University will utilize gene sequencing tools to investigate gene expression and genome sequences of three cotton cultivars. In zero gravity, information obtained on the process of regeneration will help with good fundamental knowledge. Such information may help with better growing cotton under stressed conditions.

Simon Gilroy of the University of Wisconsin-Madison will focus on roots as part of the space station project, as resistance to stresses such as drought are somewhat related to the root system. The international space laboratory will provide opportunities to know about the environmental factors and the genes that control root growth in zero gravity.

These studies may not only help with cotton agriculture, but the fundamental knowledge will lead to advances in agriculture as the resources are shrinking. There is a growing need to feed the increasing population, particularly in those parts of the world such as India, where land space is limited.

Cotton Goes to Space

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 26, 2018)-Cotton will be experimented in space.

The cotton sustainability research challenge program sponsored by Target and coordinated by Center for the Advancement of Science in Space has selected a project by Simon Gilroy of University of Wisconsin-Madison as one of its three winners.

The project will endeavor to grow cotton on the International Space Station, to acquire more knowledge for growing it back on earth in a sustainable way.

According to Gilroy, the goal is to understand the growth of the root system so that it can be grown more efficiently in scavenge water and sequester more carbon in the soil. Gilroy plans to study the cotton variety that has good drought resistance.

An important and interesting observation will be to find out how zero gravity will affect the root growth that will enable to develop new varieties that use less water.

The other two winning projects are from Upstream Tech in Alameda, California and Clemson University.

The United States' cotton industry has been putting lot of efforts towards sustainable growing practices, consuming less energy, chemicals and water during growing and working closely with the textile industry to explore processes that utilize less resources during finishing into consumer garments.

Scaled-up Wearable Smart Textiles

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 26, 2018)- Scaled-up process enables the production of knitted wearable textiles.

A different approach has been adopted by researchers at the Institute for Frontier Materials at Geelong, Australia-based Deakin University to produce strain sensing smart textiles.

A few disadvantages so far, regarding wearable textiles are scalability for mass production, acceptable cost, durability and washability.

Research undertaken features continuous production of conductive filaments, which can be used to knit functional textiles. This method differs from other ways of developing wearables such as adding/stitching electronic components or coating functional materials after the fabric is made.

The conductive filament knitted fabrics were found to detect strains up to 200% and could be stable up to 500 cycles of stretches.

Functional filaments were wet spun from a solution of polyurethane and polyethylenedioxythiophene:polystyrenesulfonate (PEDOT:PSS) and then knitted into different knit structures, which acted as sensors. These knits could be worn on the human body such as limbs and were able to provide reliable strain responses.

The authors claim that many different applications such as remote sensing of body parts, soft robotics, are possible.

Strain sensing textiles can be worn directly on the body without need of additional items, which is due to advances in the conductive fiber spinning stated, Dr. Shayan Seyedin, lead researcher in the project.

The study is appearing in a forthcoming issue of the journal Applied Materials Today.

Ramkumar, S

From: Sarah Heaps <sarah@ica-ltd.org>
Sent: Friday, April 27, 2018 6:05 AM
To: Ramkumar, S
Subject: RE: TexSnips: Cotton Goes to Space

Dear Dr Ramkumar

I received your TexSnip regarding the cotton sustainability research challenge program. I love this story and I think our members will to. I would like to share it via our social media channels; please would you grant permission for me to reproduce the story and share on our website and social media?

Many thanks,
Sarah

Sarah Heaps Marketing and Communications Officer
e: sarah@ica-ltd.org | t: +44 151 242 3315 | www.ica-ltd.org

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International Cotton Association, 6 Floor, Walker House, Exchange Flags
Liverpool L2 3YL, UK. Registered in England 744445

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From: Ramkumar, S <S.Ramkumar@ttu.edu>
Sent: 26 April 2018 19:16
To: Ramkumar, S <S.Ramkumar@ttu.edu>
Subject: TexSnips: Cotton Goes to Space

Cotton Goes to Space

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Ramkumar, S

From: projects <projects@glesterjute.com>
Sent: Friday, April 27, 2018 1:24 AM
To: Ramkumar, S
Cc: dcb
Subject: Re: TexSnips: Cotton Goes to Space

DEAR DR. RAMKUMAR S.,

THANKS SO MANY FOR UPGRADING OUR INFO FOR THE LATEST TEXTILES RESEARCH STRIDES WORLD OVER.

JUTE –HAVING HUGE WATER LOADING , WE BELIEVE, CAN HUGELY BENEFIT FROM THE SPACE LAB. TRIAL RESULTS DERIVED FOR COTTON.

OUR GOOD WISHES ARE WITH THE AGENCIES TAKING UP THE JOB FOR SEARCHING NEW ROUTES TO SUSTAINABLE & BIGGER MARKET SPACE FOR THE NATURAL FIBER TEXTILES.

REGARDS

D.C.BAHETI

Leading Jute Mill, Kolkata, India

From: Ramkumar, S
Sent: Thursday, April 26, 2018 11:43 PM
To: Ramkumar, S
Subject: TexSnips: Cotton Goes to Space

Cotton Goes to Space

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Ramkumar, S

From: Dr. PR Roy <prroy1941@gmail.com>
Sent: Friday, April 27, 2018 1:11 AM
To: Ramkumar, S
Subject: Re: TexSnips: Cotton Goes to Space

Dear Dr.Ramkumar ,

Many thanks for communicating two highly thought-provoking Research activities .

Regards ,

Dr.Roy

*Dr. P. R. Roy, Retired Group Chief Executive
Arvind Group India*

On Thu, Apr 26, 2018 at 11:42 PM, Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

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Ramkumar, S

From: Ravi@texprocil <ravi@texprocil.org>
Sent: Thursday, April 26, 2018 11:54 PM
To: Ramkumar, S
Subject: Re: TexSnips: Scaled-up Wearable Smart Textiles

Dear Dr Ramkumar,

Thank you for all the informative news and regular update on Cotton related issues.

Do you have any update on robotics in automated apparel manufacturing ?

Regards,

N. Ravindranathan
Director
TEXPROCIL
Tel: +91-22-23632910- 12
Email: ravi@texprocil.org
www.texprocil.org

On 26 April 2018 at 22:43, Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

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Dear Dr Ramkumar

I received your TexSnip regarding the cotton sustainability research challenge program. I love this story and I think our members will to. I would like to share it via our social media channels; please would you grant permission for me to reproduce the story and share on our website and social media?

Many thanks,
Sarah

Sarah Heaps Marketing and Communications Officer
e: sarah@ica-ltd.org | t: +44 151 242 3315 | www.ica-ltd.org

Hong Kong 2018
Bringing the world of
cotton together.
Registration now open



International Cotton Association, 6 Floor, Walker House, Exchange Flags
Liverpool L2 3YL, UK. Registered in England 744445

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From: Ramkumar, S <S.Ramkumar@ttu.edu>
Sent: 26 April 2018 19:16
To: Ramkumar, S <S.Ramkumar@ttu.edu>
Subject: TexSnips: Cotton Goes to Space

Cotton Goes to Space

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 26, 2018)-Cotton will be experimented in space.

The cotton sustainability research challenge program sponsored by Target and coordinated by Center for the Advancement of Science in Space has selected a project by Simon Gilroy of University of Wisconsin-Madison as one of its three winners.

The project will endeavor to grow cotton on the International Space Station, to acquire more knowledge for growing it back on earth in a sustainable way.

Ramkumar, S

From: projects <projects@glesterjute.com>
Sent: Friday, April 27, 2018 1:24 AM
To: Ramkumar, S
Cc: dcb
Subject: Re: TexSnips: Cotton Goes to Space

DEAR DR. RAMKUMAR S.,

THANKS SO MANY FOR UPGRADING OUR INFO FOR THE LATEST TEXTILES RESEARCH STRIDES WORLD OVER.

JUTE –HAVING HUGE WATER LOADING , WE BELIEVE, CAN HUGELY BENEFIT FROM THE SPACE LAB. TRIAL RESULTS DERIVED FOR COTTON.

OUR GOOD WISHES ARE WITH THE AGENCIES TAKING UP THE JOB FOR SEARCHING NEW ROUTES TO SUSTAINABLE & BIGGER MARKET SPACE FOR THE NATURAL FIBER TEXTILES.

REGARDS

D.C.BAHETI

Leading Jute Mill, Kolkata, India

From: Ramkumar, S
Sent: Thursday, April 26, 2018 11:43 PM
To: Ramkumar, S
Subject: TexSnips: Cotton Goes to Space

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By: Seshadri Ramkumar, Texas Tech University, USA

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The project will endeavor to grow cotton on the International Space Station, to acquire more knowledge for growing it back on earth in a sustainable way.

According to Gilroy, the goal is to understand the growth of the root system so that it can be grown more efficiently in scavenge water and sequester more carbon in the soil. Gilroy plans to study the cotton variety that has good drought resistance.

Ramkumar, S

From: Dr. PR Roy <prroy1941@gmail.com>
Sent: Friday, April 27, 2018 1:11 AM
To: Ramkumar, S
Subject: Re: TexSnips: Cotton Goes to Space

Dear Dr.Ramkumar ,

Many thanks for communicating two highly thought-provoking Research activities .

Regards ,

Dr.Roy

*Dr. P. R. Roy, Retired Group Chief Executive
Arvind Group India*

On Thu, Apr 26, 2018 at 11:42 PM, Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

Cotton Goes to Space

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An important and interesting observation will be to find out how zero gravity will affect the root growth that will enable to develop new varieties that use less water.

Ramkumar, S

From: Ravi@texprocil <ravi@texprocil.org>
Sent: Thursday, April 26, 2018 11:54 PM
To: Ramkumar, S
Subject: Re: TexSnips: Scaled-up Wearable Smart Textiles

Dear Dr Ramkumar,

Thank you for all the informative news and regular update on Cotton related issues.

Do you have any update on robotics in automated apparel manufacturing ?

Regards,

N. Ravindranathan
Director
TEXPROCIL
Tel: +91-22-23632910- 12
Email: ravi@texprocil.org
www.texprocil.org

On 26 April 2018 at 22:43, Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

Scaled-up Wearable Smart Textiles

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 26, 2018)- Scaled-up process enables the production of knitted wearable textiles.

A different approach has been adopted by researchers at the Institute for Frontier Materials at Geelong, Australia-based Deakin University to produce strain sensing smart textiles.

Free Trade Needed

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 13, 2018)-Free, but fair trade is the need of the hour.

With United States and China engaged in tariff battles, cotton and grain sectors are nervous and are watching carefully, as the situations around proposed tariffs are uncertain. More importantly, in the High Plains of Texas, which is the ground zero for the U.S. cotton industry, where planting of cotton is around the corner, it may affect the planting intentions and hence influence the broader economy of the region.

On April 6, speaking at the 61st annual meeting of Plains Cotton Growers, Inc., in Lubbock Honorable Jodey Arrington, the United States' congressman representing Lubbock and the cotton growing regions surrounding this epicenter of cotton production, emphasized the importance of level playing field for U.S. trade. Arrington while supporting the proposed tariffs by the United States to safeguard America's interest, stressed that executing those policies are more important. Outlining some of the recent successes to protect the cotton industry, such as the recognition of seed cotton in the Title 1 of the current Farm Bill and the ginning assistance program, Arrington stated free and fair trade are linked and more free trade agreements are needed to open-up new markets.

With the recent announcement from China about the proposed 25% tariff on 106 products from the United States, key agricultural commodities like soybean, sorghum, cotton may be impacted.

Sorghum industry, which is an important agricultural commodity grown in the High Plains of Texas may feel the impact, if the tariff proposal becomes reality. "trade must be fixed, but farmers should be protected", stated John Duff, strategic business director of Lubbock-based National Sorghum Producers. Last year, United States exported 189 million bushels of sorghum to China, which is about 78% of total exports from the United States. China is a significant market and there is demand for protein and quality cotton as it is a growing consumer society.

Steve Verett, with 21-years of experience as the executive vice president of Plains Cotton Growers, Inc., stated, "export markets are extremely important to U.S. cotton producers and up to 80 percent of U.S. cotton is sold into export markets around the world, including China." "The potential for current or future trade disputes to impact or redirect the flow of U.S. cotton is very real and it is a situation that we are monitoring closely," added Verett.

The tariff issue clearly highlights the point that one size fits all does not work, as it evident with the impact it may have on the U.S. agriculture sector unlike its manufacturing sector.

Branding is an Important Marketing Tool

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 10, 2018)-Brand sells, and it is an important marketing tool.

Bruce Atherley, Executive Director of Cotton Council International has brought his successful marketing and brand experience to the United States' cotton sector to increase the global share of U.S. cotton.

On April 6th, Atherley spoke in Lubbock to cotton industry people at the 61st annual meeting of Lubbock-TX based Plains Cotton Growers (PCG), Inc.

The importance of effective communication and connecting the value chain was stressed by Atherley, who has worked with brands like Lucky Charm in his previous job at General Mills.

Brand mean trust, which sells products and cotton is no exception. He presented some of the successful efforts, the Cotton Council International (CCI) has been doing to enhance the presence of U.S. cotton in the world.

U. S. cotton industry strives to educate and engage with the world buyers about the superior attributes of U. S. cotton. The industry has been promoting the brand COTTON USATM to differentiate its cotton.

Although, United States' cotton occupies 40% of global export trade, it is important to increase the share further. As growth is in Asia, driving growth in that region is a priority for the industry. As part of educating the customers, CCI has created "Mill Exchange Program," where executives from mills that use U.S. cotton interact with non-users, thereby creating new market opportunities. This project has so far involved Thailand, Indonesia and Vietnam, replicating this program in other parts of the world is expected to create new markets.

As part of education and communication, new ideas have to be conveyed to brands to create new products and enhance the use-value of cotton, which CCI has been doing to create new product opportunities for cotton.

Enhancing trust via branding, innovation, effective communication with the entire value-chain are needed to develop markets, highlighted Bruce Atherley.

As 80% of United States' cotton is exported, developing markets overseas is needed and being a reliable supplier is important, stated Steve Verett, cotton producer and Executive Vice President of PCG.

Ramkumar, S

From: ~~shawn.holladay@plainscottongrowers.com~~
Sent: Tuesday, April 10, 2018 12:18 PM
To: Ramkumar, S
Cc: steve@plainscottongrowers.com; shawn@plainscottongrowers.com; Brown, William F
Subject: Re: TexSnips: Branding is an Important Marketing Tool



Shawn L. Holladay

Cotton Producer & 2018 Cotton Achievement Award
Winner by Cotton Grower

On Apr 10, 2018, at 10:34 AM, Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

Dear Steve,

I plan to write one or more columns on the PCG's annual meeting. Here is the first one. Hope you like it.

Kindly,
Ram

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Ramkumar, S

From: ~~Steve <steve@plainscotton.org>~~
Sent: Tuesday, April 10, 2018 11:27 AM
To: Ramkumar, S
Cc: Shawn Wade; Brown, William F; Shawn Lee Holladay
Subject: Re: TexSnips: Branding is an Important Marketing Tool

Good job Ram.

Thanks!
Steve

Steve Verett
Executive Vice President
Plains Cotton Growers, Inc.
4517 West Loop 289
Lubbock, Texas 79414
~~steve@plainscotton.org~~
806-792-4904 Voice
806-792-4906 Fax

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Nonwoven Innovations

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 5, 2018)- Status of advanced textiles sector and innovations in the field will be featured at a forthcoming conference.

The Nonwovens Engineers and Technologists division of TAPPI will organize Innovative Nonwovens Conference (NETInc) in Charlotte, NC from April 16 through April 18, as part of the leading paper conference PaperCon of TAPPI.

This year's event is probably the first one where all four leading textile associations like, TAPPI, Association of the Nonwoven Fabrics Industry (INDA), IFAI and AATCC are being represented.

In commenting about the exciting program this year, Gaurav Pranami, Vice President of Research & Development, Imbed Biosciences stated, "I have been a regular attendee at NETInc for several years because it is wonderful program that allows us to stay abreast of the latest technological advancements in the field. That said, this year's program is particularly exciting because it will bring together all the major movers and shakers of the field like never before."

Given the recent tariff battles between United States and China, the industry would be keenly interested to know the status of nonwovens and advanced textiles sector. Dave Rousse, President of INDA and Jeff Rasmussen of IFAI will be presenting keynotes on the future and current status of advanced textile sectors.

The conference will focus on key themes such as nonwovens in biomedical applications, new sustainable technologies such as atmospheric pressure plasma which could be of use to functionalize and develop new textile products, to name a few.

Interesting topics such as innovation pathway, academia-industry interaction, human centric approach to develop innovative products will find place in the conference. One such paper will focus on nonwoven military wipes and the commercialization pathway adopted by Chantilly-based First Line Technology, LLC.

Several papers will focus on sustainable products such as cotton nonwovens for oil absorption, soy-based materials, nano materials, etc. In a special session on sustainability, Jesse Daystar of Cotton Incorporated will present an interesting paper on science-based approaches to sustainability.

The nonwoven conference will have a 2-hour tutorial on nonwovens, which will surely be of benefit to newcomers to the field. The attendees will have an opportunity to tour the Textile Technology Center at Gaston College.

More information at: <http://www.netincevent.org>

Ramkumar, S

From: Ramkumar, S
Sent: Sunday, April 08, 2018 8:52 AM
To: Ramkumar, S
Subject: FW: TexSnips: Nonwovens Innovations

From: projects <[redacted]@jute.com>
Sent: Friday, April 06, 2018 1:08 AM
To: Ramkumar, S <s.ramkumar@ttu.edu>
Subject: Re: TexSnips: Nonwovens Innovations

DEAR DR. RAMKUMAR, S

THANKS FOR KEEPING US ABREAST OF THE LATEST RESEARCH
WORK ABOUT TEXTILES-FIBERS AND PRODUCTS AROUND THE WORLD.

REGARDS
D.C.BAHETI

Leading Jute Mill, Kolkatta, India

From: Ramkumar, S
Sent: Friday, April 06, 2018 12:42 AM
To: Ramkumar, S
Subject: TexSnips: Nonwovens Innovations

Nonwoven Innovations

By: Seshadri Ramkumar, Texas Tech University, USA

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Ramkumar, S

From: Ramkumar, S
Sent: Sunday, April 08, 2018 8:52 AM
To: Ramkumar, S
Subject: FW: TexSnips: Nonwovens Innovations

From: ~~John jacquin <jjacquin@castnet.com>~~
Sent: Thursday, April 05, 2018 4:54 PM
To: Ramkumar, S <s.ramkumar@ttu.edu>
Subject: Re: TexSnips: Nonwovens Innovations

Hi Ram - Nice promotion - very well done. Best Regards, John jacquin

MICHELMAN
Technical Service + Application
Development Manager
michelman.com

From: "S Ramkumar" <S.Ramkumar@ttu.edu>
To: "S Ramkumar" <S.Ramkumar@ttu.edu>
Sent: Thursday, April 5, 2018 3:12:38 PM
Subject: TexSnips: Nonwovens Innovations

Nonwoven Innovations

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United States-China Trade War and Cotton

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 4, 2018)-Today, Chinese government escalated its response to United States' tariff actions on Chinese goods.

Earlier in March, President Trump proposed 25% tariff of steel imports and 10% on aluminum imports, while exempting few countries. The move was aimed at protecting United States' jobs and American innovation and its industry. At that time, the effect was not perceived to be serious and/or direct for the United States' cotton industry.

United States' soybean industry was expecting immediate retaliation from China, as China is the largest consumer of U.S. soybeans. This might benefit Brazil's soybean sector.

Chinese Ministry of Commerce, today announced its plan of imposing 25% tariff on many U.S. goods including agricultural products such as soybean, corn, beef and cotton. It is expected that the effect will be felt on exports worth about \$50 billion from the United States. This proposed action may affect the U.S. and High Plains cotton industry as China is a leading importer of U.S. cotton. Although, China is not the number one importer for the 2017 crop, as of today, United States exports significant cotton to China. Other leading importers are Vietnam, Turkey, Indonesia and Pakistan.

Earlier it was thought that the tariff effect may not be felt much by the U.S. cotton industry as was the case with other agricultural commodities like soybean. But with today's move, the export market for U.S. cotton might likely shift.

Immediate reaction to today's move is that United States, due to the proposed tariff by China, may move cotton out of Chinese market due to pricing issue.

The impact would be the dislocation of U.S. cotton and agricultural exports, which may likely harm, U.S. farmers, stated Darren Hudson, Professor and Combest Chair of Agricultural Competitiveness at Lubbock-based Texas Tech University. More cotton would likely be pushed to Southeast Asia away from China, added Hudson.

Some Lessons for Business

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 29, 2018)-People are important in business and attracting best people pays off.

As part of National Ag Day celebration about 200 people gathered in Lubbock at the Bayer Museum of Agriculture, in an event organized by Lubbock Chamber of Commerce on March 20th to listen to Mr. Aaron Alejandro, Executive Director of Texas FFA Foundation.

Talking about hardships in his childhood, having lost his father at ten, Alejandro emphasized the importance of determination, community support and engagement towards achieving goals.

“We need to compete for minds and people,” stated Alejandro. This is apt for businesses both in attracting talented people to run and grow, as well as develop products and services that benefit the society.

Given the internet age we are in, engaging with people in all forms of social media is important and much needed to compete and attract new opportunities. In this scribe’s own experience, engagement in professional social media LinkedIn with over 9000 connections to his page, has enabled to share new developments in the field of textiles.

Giving statistics that 66% of adults logon to Facebook every day and 84% of millennials use social media to do purchases, Alejandro emphasized the importance of emerging tools to compete.

Community organizations such as Chambers of Commerce play an important role in the growth of businesses, as they open doors, said Alejandro.

A sage statement from the speech was, “If you want to know the future, grow it.” It is important to take risks and strive for success in any endeavor in life.

Alejandro ended the speech by saying, “Life is all about breath.” One should keep on trying for the next best effort, which is particularly true for start-ups and businesses.

Ramkumar, S

From: Eddie McBride <Eddie.McBride@lubbockbiz.org>
Sent: Tuesday, April 03, 2018 8:07 AM
To: Ramkumar, S
Cc: Aaron Alejandro; Kyle Jacobson; Norma Ritz Johnson; Presley, Steve; Galyean, Michael; Patsy Moffett
Subject: RE: National Ag Day Write-up

Great article, thanks. Aaron and his message were well received and was a terrific way for us to celebrate our Ag businesses. Hope all your readers in Bangladesh enjoyed the piece as much as we did!

Thanks again Ram.

Eddie

Eddie McBride
President and CEO
Lubbock Chamber of Commerce
Office 806-761-7007
Mobile 806-441-8966
www.lubbockchamber.com



From: Ramkumar, S [mailto:S.Ramkumar@ttu.edu]
Sent: Monday, April 2, 2018 9:31 AM
To: Eddie McBride <Eddie.McBride@lubbockbiz.org>
Cc: Aaron Alejandro <aaron@texasffaoundation.org>; Kyle Jacobson <Kyle.Jacobson@lubbockbiz.org>; Norma Ritz Johnson <Norma.Johnson@lubbockbiz.org>; Presley, Steve <Steve.Presley@ttu.edu>; Galyean, Michael <Michael.Galyean@ttu.edu>; Patsy Moffett <Patsy.Moffett@lubbockbiz.org>
Subject: National Ag Day Write-up

Dear Eddie,

Further to my write-up, as it is the case, the column has appeared in outlets. I am providing as a sample, that appeared in well-read textile outlet from Bangladesh, "Textile Focus." As Bangladesh is an emerging export market for High Plains cotton, thought of providing you this link:

<http://textilefocus.com/people-important-business-attracting-best-people-pays-off/>

Kindly,
Ram

Seshadri Ramkumar, PhD, CText., FTI (UK), FTA (*Honorary*)

Ramkumar, S

From: W. Curtis White <wcurtwhite@gmail.com>
Sent: Monday, April 02, 2018 8:11 AM
To: Ramkumar, S
Cc: W. Curtis White
Subject: Re: TexSnips: Some Lessons for Business

Dear Ram:

Thanks for taking the time to reflect on this. No matter where we are in the chain from invention to the marketplace, what is stated here has to be taken into consideration if we and our efforts are going to be relevant. It's much like the scientific method teaches us as one of its key steps: publish and get others to verify. This sets the stage for us and others to make new hypothesis for the next cycle of invention, innovation, and commercialization. What I hope does not get lost in these discussions of the rather sterile use of electronic media, is that all real and useful communication is done face to face. For example, at the Chamber meeting, at the lunch table, in the hallway, and then back at the farm or the factory, real communication comes from interacting "eyeball to eyeball". We all need to remember that upwards to 90% of all communication is non-verbal. That body language component is hard to do in social media but is essential to the "trust agreements" needed in all parts of our lives. That handshake that is firm, a strength contest, or floppy or that eye contact that is warm or dismissive all matter! Much of our society is losing the art and importance of face to face communication.

Mr Alejandro was obviously pointing out the important of the "networks" and people to people actions needed for progress. His life experiences are a wonderful mirror of how relevant progress can be made and how we all are challenged to integrate the pixelated world into our work and personal environments for both personal and the greater good.

Food for thought.
Curt
W. Curtis White, PhD
White IEQ Consulting

On Thu, Mar 29, 2018 at 1:51 PM Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

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By: Seshadri Ramkumar, Texas Tech University, USA

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Ramkumar, S

From: Hake, Kater D. <KHake@cottoninc.com>
Sent: Thursday, March 29, 2018 4:10 PM
To: Ramkumar, S
Subject: Re: TexSnips: Some Lessons for Business

Ram
Nice report. I love the quote "if you want to know the future, create it"
Thanks for sharing
Kater

Dr. Kater Hake
VP - Agriculture Research
Cotton Incorporated
USA

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Talking about hardships in his childhood, having lost his father at ten, Alexandro emphasized the importance of determination, community support and engagement towards achieving goals.

"We need to compete for minds and people," stated Alexandro. This is apt for businesses both in attracting talented people to run and grow, as well as develop products and services that benefit the society.

Given the internet age we are in, engaging with people in all forms of social media is important and much needed to compete and attract new opportunities. In this scribe's own experience, engagement in professional social media LinkedIn with over 9000 connections to his page, has enabled to share new developments in the field of textiles.

Giving statistics that 66% of adults logon to Facebook every day and 84% of millennials use social media to do purchases, Alexandro emphasized the importance of emerging tools to compete.

Community organizations such as Chambers of Commerce play an important role in the growth of businesses, as they open doors, said Alexandro.

A sage statement from the speech was, "If you want to know the future, grow it." It is important to take risks and strive for success in any endeavor in life.

Biodegradable Oil Absorbent Mats on the Market

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 26, 2018)-Biodegradable nonwoven composite oil absorbent mats have been launched.

Microplastics and marine pollution have been gaining global attention, in addition to oil spill accidents. Chennai, India based WellGro Tech has recently brought biodegradable and environmentally benign oil absorbent mats to the market.

Oil absorbent mats are predominantly synthetic based and with increasing awareness on issues with marine pollution by plastics, WellGro Tech has come up with non-synthetic absorbent mats.

Sustainable absorbent pads and mats are devoid of plastics and can be reused multiple times. The company has tested the product in two leading research and testing laboratories in India.

Results show that as per ASTM standard, when tested using motor oil, the mat could absorb oil 13 times its weight and the cumulative absorption will be much higher, as the mats can be reused. According to the company, the same mat can be used at a very minimum twenty times.

Tests undertaken using ASTM and AATCC standards show that the mat and the oil soaked mat degrade and show strength loss, a indicator of degradation.

Mr. Venkatakrishnan Ramanujan, President of WellGro Tech, who is marketing the biodegradable mats told this scribe that the effort to develop environmentally friendly oil absorbent mats has been successful with positive third party tests carried out by two accredited laboratories.

WellGro Tech is focused on export markets, where the awareness of using biodegradable oil absorbent technologies is more. Venkatakrishnan is actively seeking marketing collaborations to promote and take the product to global customers.

Venkatakrishnan stated that the product is ready and just waiting for export orders.

Ramkumar, S

From: Ramkumar, S
Sent: Tuesday, March 27, 2018 10:14 AM
To: 'seshadriramkumar71@gmail.com'
Subject: FW: TexSnips: Biodegradable Oil Absorbent Mats on the Market

From: K.S. Murthy <drksmurthy@hotmail.com>
Sent: Tuesday, March 27, 2018 10:10 AM
To: Ramkumar, S <s.ramkumar@ttu.edu>
Subject: Re: TexSnips: Biodegradable Oil Absorbent Mats on the Market

Thank you for sharing the developments in the field.

Regards.

Dr.K.S.Murthy

*Pidilite Industries
Mumbai*

From: Ramkumar, S <S.Ramkumar@ttu.edu>
Sent: Monday, March 26, 2018 10:15 PM
To: Ramkumar, S
Subject: TexSnips: Biodegradable Oil Absorbent Mats on the Market

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Ramkumar, S

From: projects <projects@glosterjute.com>
Sent: Tuesday, March 27, 2018 2:18 AM
To: Ramkumar, S
Subject: Re: TexSnips: Biodegradable Oil Absorbent Mats on the Market

DEAR SIR,

THANKS FOR THE USEFUL INFO.

REGARDS
D.C.BAHETI

Gloucester Jute Mills, Kolkatta, India

From: Ramkumar, S
Sent: Monday, March 26, 2018 10:15 PM
To: Ramkumar, S
Subject: TexSnips: Biodegradable Oil Absorbent Mats on the Market

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Ramkumar, S

From: Kannan Krishnamurthy <kannank.universal@gmail.com>
Sent: Monday, March 26, 2018 10:38 PM
To: Ramkumar, S
Subject: Re: TexSnips: Biodegradable Oil Absorbent Mats on the Market
Attachments: Profile Kannan Krishnamurthy 40 slides.pdf

Dear Dr, Seshadri Ramkumar,

it was very nice going through the article. Appreciate you for your efforts in communicating it to me.

In Fact I am part time lecturer at GSKSJTI now handling Technical Textiles and Management Subjects Your articles are adding to the knowledge bank.

Keep sending related articles/ppt/pdf

When you happen to visit Bangalore, may I request you to give a guest lecturer at our college with our TAI members as audience.



Kannan Krishnamurthy

Director,

Universal Group,

Honorary Jt General

Secretary / Textile Association (India)

How Innovation Needs to Work in Textiles

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 16, 2018)-Innovation aimed at benefitting the society will be successful.

An hour-long discussion over a few cups of coffee with Ganesh Srinivasan, Executive Director, Innovation at Bengaluru-based specialty chemical company, Resil brought out several valuable points on innovation. Yesterday, Ganesh Srinivasan visited the Nonwovens and Advanced Materials Laboratory at Texas Tech University to discuss some ideas for collaboration in advanced textiles field. His 25-years of experience in polymers and specialty chemicals fields and vast travel experience were certainly visible in his discussions.

Ganesh began talking about innovation pipeline, which in his view is governed by 5-Cs. These 5-Cs are: 1) Customer need; 2) Collaboration; 3) Creativity; 4) Community and 5) Communication.

Creating a new product is a long-term endeavor. In a query from this scribe on how companies can survive and thrive, Ganesh responded by emphasizing the importance of customer need and communication. Effective communication about product's application, benefits, etc. can take care of the cost aspect, which is an important barrier in a new product launch.

Innovation needs to be agile and open. Collaborating with academia and research establishments will enhance the efficiency and effectiveness of projects, while keeping economics under control. This has been the practice in Resil chemicals and they have long standing collaborations with leading institutes like Indian Institute of Technology, New Delhi and other engineering institutions.

Ganesh also emphasized the importance of low interest financial support for product innovation by banks, as is the case in Japan. Utilizing proper resources and talents, with much needed financial support can lead to high delta innovation. Such developments will ultimately have long term impacts on the industry and consumers.

Ramkumar, S

From: K.S. Murthy <drksmurthy@hotmail.com>
Sent: Saturday, March 17, 2018 7:12 AM
To: Ramkumar, S
Subject: Re: TexSnips: How Innovation Needs to Work in Textiles

Thank you for sharing the discussion Mr.Ganesh Srinivasan had with you on Innovation aimed at benefiting the society.

I would like to add some observations based on presentation at National Technology Day.

Science brings in new knowledge and technology converts that knowledge into practical use. Research converts money into knowledge and innovation vice versa and the two must go together. Innovation has always been critical as an engine of economic growth in any field.

An innovation leader, according to Dr.R.A.Mashelkar, Chairman, National Innovation Foundation, is one who does not know that it cannot be done. He sees what everyone sees, thinks of what nobody else thinks, and sees business opportunities.

Technological innovation needs to be backed by innovations in business model, work flow, organisation, research process, system delivery and policy. It is only a combination of these that will work.

Talent, technology and tolerance for failure and risk taking for failure is critical. Betting on failure is important. He emphasised on the need for inclusive innovation for India.

It is a paradigm shift such as giving higher quality at affordable price and providing more from less.

Regards.

Dr.K.S.Murthy (Pidilite Industries, Ltd, India)

From: Ramkumar, S <S.Ramkumar@ttu.edu>
Sent: Friday, March 16, 2018 11:05 PM
To: Ramkumar, S
Subject: TexSnips: How Innovation Needs to Work in Textiles

How Innovation Needs to Work in Textiles

By: Seshadri Ramkumar, Texas Tech University, USA

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Ramkumar, S

From: Kanti Jasani <kantijas1@yahoo.com>
Sent: Saturday, March 17, 2018 12:37 PM
To: Ramkumar, S; ganesh@resil.com
Subject: Re: TexSnips: How Innovation Needs to Work in Textiles

Hi Ram and Ganesh,

It was very nice seeing you both last week at IC'18 in Greenville. It appears you two had an interesting meeting and very useful dialog. Great! I just want to add a couple of points to your note.

The innovation can be driven by multiple factors. It could be customer driven, market driven or it is entirely a creation of some genius on his/her or their own, a rain child. In the later case, innovation requires a long view and outside box thinking. Yes, creativity, usefulness and cost are important factors that determine level of success, coupled with smart marketing.

I look forward to seeing you both in RTP at research committee meetings next month.

Kanti

Senior AATCC Member
Recipient of Chapin Award from AATCC

On Mar 16, 2018, at 1:37 PM, Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

How Innovation Needs to Work in Textiles

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Ramkumar, S

From: Dr. PR Roy <prroy1941@gmail.com>
Sent: Saturday, March 17, 2018 12:54 AM
To: Ramkumar, S
Subject: Re: TexSnips: How Innovation Needs to Work in Textiles

Dear Dr.Ramkumar ,

Thanks for sharing some valuable inputs for success in applied R&D . I sincerely appreciate.

Regards ,

Dr.Roy *Former Group Chief Executive, Arvind Ltd, India*

On Fri, Mar 16, 2018 at 11:05 PM, Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

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Ramkumar, S

From: Dennis Scheer <Dennis_Scheer@vfc.com>
Sent: Friday, March 16, 2018 1:15 PM
To: Ramkumar, S
Subject: RE: TexSnips: How Innovation Needs to Work in Textiles

Hi Ram,

Great article. I have a lot of respect and admiration for Ganesh. He is a good partner with us and has a lot to offer relative to innovation! Thanks for publishing.

Dennis

VFC Corporation, USA

From: Ramkumar, S [mailto:S.Ramkumar@ttu.edu]
Sent: Friday, March 16, 2018 1:36 PM
To: Ramkumar, S <S.Ramkumar@ttu.edu>
Subject: [EXTERNAL] TexSnips: How Innovation Needs to Work in Textiles

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Ramkumar, S

From: Kannan Krishnamurthy <kannank.universal@gmail.com>
Sent: Friday, March 16, 2018 7:28 PM
To: Ramkumar, S
Subject: Re: TexSnips: How Innovation Needs to Work in Textiles

Dear Dr. Ramkumar Sheshadri

Thanks a lot for the highlights .

Kannan Krishnamurthy,
Jt.Grn Secretary,
The Textile Association (India),
Central be Office, Mumbai
8088438536.

On Mar 16, 2018 11:06 PM, "Ramkumar, S" <S.Ramkumar@ttu.edu> wrote:

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India to Produce Less Cotton than Earlier Expectations

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 12, 2018)-Pink bollworm infestation is influencing the cotton production in India, this year (October 2017-September 2018).

Since the December 2017 estimate, cotton production has been revised downwards due to crop damage in some major cotton growing states.

Today, Mumbai-based Cotton Association of India (CAI) estimated that this year's cotton production would be 36.2 million bales (170 Kgs each) as against its December estimate of 37.5 million bales. Last month, CAI estimated the crop to be 36.7 million bales.

Speaking via telephone in the early hours of today, a key market watcher in India stated that the lower estimate was expected as the governments of Maharashtra and Telangana advised cotton farmers to remove the plants in January to avoid furthering and spreading of pink bollworm infestation to save Rabi and subsequent Kharif crops.

While the infestation has been serious in some major southern states, proactive measures taken in Gujarat and Northern states after 2016-17 infestation the issue has been less serious there. Cotton experts have requested cotton growing states to take precautionary measures now so that the issue will be under control in the next cotton growing season.

According to Atul Ganatra, President of CAI, "the lowered crop estimate is mainly due to crop damage because of severe pink bollworm infestation and scarcity of water in some states."

While the production is expected to be lower, good news is that domestic consumption in India is on the rise due to new spinning mills in Gujarat and other states which has resulted in 3.5 million additional spindles in India.

Latest Cotton Crop Report

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, January 12, 2018)-USDA's World Agricultural Supply and Demand Estimates this month's report was released today.

United States is expected to produce 21.26 million bales (480 lbs. each), this season. Global production estimate for the 2017/18 season is projected to be 120.97 million bales (480 lbs. each).

Indian production is estimated by USDA to be 29.3 million bales (each 480 lbs.), making it the largest cotton producer. This estimate fairly matches with the latest Cotton Association of India's recent estimate of 37.5 million bales (374 lbs. each), which translates to 29.22 million bales (480 lbs. each).

There has been slight downward adjustment regarding United States' cotton production for the 2017/18 season by about 177,000 bales, compared with the last report, while the export numbers are maintained at the same level of 14.8 million bales (480 lbs. each). The reduction in the production will leave an ending stock of about 5.7 million bales.

China's production is projected to be 26.4 million bales, which will be the second largest producer.

As ginning this season's cotton is nearing completion in the United States, the production figures are getting clearer, as reflected in today's report. "We are closer to knowing what actually the production is," stated Steve Verett, executive vice president of Lubbock-based Plains Cotton Growers (PCG), Inc.

Echoing the above sentiment, Shawn Wade, director of policy analysis at PCG stated, "there has not been huge reduction in the production estimate, but reflects yield adjustments across regions."

About seventy percent of ginning has been completed in the High Plains area of Texas, said Verett of PCG. Some gins may be running beyond February, but that number will be small, added Verett.

Cotton Industry Watching China Closely

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, January 11, 2018)-United States' cotton sector is cautiously watching China in hopes that its imports may be on the rise.

Addressing a gathering of about 80 people in Lubbock's Bayer Museum of Agriculture, Dr. John Robinson, professor and extension economist at Texas A&M AgriLife Extension Service, optimistically stated, "Sometime in next few years, hopes are high that China's overall import levels may rise and may even be back to 16 million bales." Surely this caught the attention of area wide gin representatives and cotton farmers, who were attending the Board of Directors' meeting of the Plains Cotton Growers (PCG), Inc.

The meeting opened-up with reports from various gins in the High Plains area. It was clear that the recent season witnessed variability between fields in terms of yield. "Variability best describes the yields across our area," said Steve Verett, producer and executive vice president of PCG. According to Shawn Wade, PCG's director for policy analysis, "more producers have reported that their yield was less than expected."

Low micronaire has been an issue this season predominantly attributed to lack of maturity due to cold and cloudy weather in August. Commenting on this aspect, Verett stated, "definitely below average micronaire for our area and not what we strive to produce."

With regard to current market situation, demand is there for cotton. With economy recovering slowly, consumer will start spending and so nonessential commodity buying will start to rise. Observing the recent export sales figures, Robinson stated if the exports follow the current trend, cotton exports from the United States may be above the USDA's estimate of 14.8 million bales (480 lbs. each). He expects USDA may rise their estimate by about half a million bales or so. However, he cautioned about the heavy ending stock which may affect the price.

Couple of reasons are there for being optimistic about enhanced imports by China in the next few years. According to Robinson, demand will be a positive influence and the need for newer stock as China's reserves are 5-6 years old.

Market will reflect first on the increased demand from China and the farmers will follow in a year or two, like employment numbers, which is always a lagging indicator.

When the China import situation improves, it will be a game changer, said John Robinson.

Ramkumar, S

From: Dr. PR Roy <prroy1941@gmail.com>
Sent: Friday, January 12, 2018 12:19 AM
To: Ramkumar, S
Subject: Re: TexSnips: Cotton Industry Watching China Closely

Dear Ramkumar ,

A valuable Input indeed ! Pl keep it up .

Regards ,

Roy

On Fri, Jan 12, 2018 at 2:02 AM, Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

Dr. P. R. Roy
Ex Group Chief Executive
(Called father of Indian
denim industry)

Arvind Ltd
Ahmedabad, India

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New Year Indian Cotton Crop Update

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, January 4, 2018)- India expected to produce about 37.5 million bales (170 Kgs each) amidst the pink bollworm infestation situation in major cotton growing regions.

Global cotton and textile sectors are watching closely the Indian crop production situation, as the major news from that region has been on pink bollworm infestation in Maharashtra and Telangana regions.

Recently, Mumbai-based Cotton Association of India (CAI), which represents the entire cotton sector in India with about 450 members has released the cotton production estimate for the current cotton season (October 2017-September 2018). According to the latest figures, the production estimate is maintained same as the last estimate of 37.5 million bales (each bale weighing 170 Kgs). This estimate fairly agrees with India's Cotton Advisory Board (CAB) estimate of 37.7 million bales, released in December.

While major cotton regions in India have had bollworm infestation, the increase in cotton acreage has off-set the huge loss in yield, which has enabled to maintain the estimate at 37.5 million bales, stated an agricultural expert from Mumbai, India. The arrivals during October-December 2017 has been about 14.7 million bales as against 10.8 million bales during October-December 2016.

According to CAB, cotton acreage in India this year is about 12.235 million hectares which is higher than 2016-17 acreage of 10.845 million hectares. Earlier, before the pink bollworm infestation issue surfaced, there was an expectation in the cotton sector that the production this season may reach about 39 million bales, which of course is not happening predominantly due to pest infestation.

With the Rabi crop sowing completed, planning should begin for the Kharif season planting in June, where cotton is a major crop. There seems to be serious discussion among farmers about cotton planting due to the recent pink bollworm issue. While stagnancy in pulses and oil seed prices, has encouraged farmers to plant cotton, given the recent pest issue, how well cotton will be favored for June planting will have to be seen.

Given the current scenario, proper promotion of scientific methods and educating the farmers, should be priority focus for stakeholders and government, stated a well-informed agriculture market expert from Mumbai. Farmers are encouraged to burn the current standing crop in bollworm infested areas and avoid 4th and 5th picking, to avoid issues in the next season. Looks like next year's cotton crop acreage may come down from this year's area of about 12.2 million hectares.

The editor/publisher of TexSnips wishes the readers a healthy, safe and prosperous 2018.

01-05-2018

Ramkumar, S

From: Dr. PR Roy <prroy1941@gmail.com>
Sent: Friday, January 05, 2018 12:00 AM
To: Ramkumar, S
Subject: Re: TexSnips: New Year Indian Cotton Crop Update

Thanks Ramkumar . I sincerely appreciate .

On Thu, Jan 4, 2018 at 11:30 PM, Ramkumar, S <S.Ramkumar@ttu.edu> wrote:

New Year Indian Cotton Crop Update

Dr. P.R. Roy
Ex- Group Chief Executive
Annis Mills
(Responsible for
Denim revolution in
India)

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India to Build its Textiles Sector

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, December 21, 2017)-India aims to grow its textiles sector by building skilled manpower.

As textiles are a major export commodity from India, its textile industry needs adequate resources such as skilled and trained manpower, financial capital for both current capital and long-term infrastructure improvements, research and development, promotion and marketing efforts.

Recently, the cabinet committee of economic affairs, under the leadership of Prime Minister, Mr. Narendra Modi has approved a new skill development program for the Indian textile industry with an outlay of 13 billion Indian Rupees (INR 1,300 crores) for a two-year period.

Human skills will be enhanced based on demand in specific fields within the textile sector and will be implemented through industry via in-house training and other institutions that have links with the industry. One important aspect is to re-tool or re-skill the labor to adapt technologies and to be employable in emerging fields.

One million people are expected to go through the skill development program with majority being trained in unconventional fields within the industry.

Being the second largest job provider in India, Indian textiles sector needs investments to enhance its human capital and infrastructure. The new scheme will focus not only on new entrants, but also on middle level managers and especially entrepreneurs.

Coimbatore-based The Southern India Mills' Association (SIMA) has welcomed this support scheme from the government. Mr. P. Nataraj, Chairman of SIMA said, as India is lagging in productivity, with China ahead of the game, the new scheme will enable workers to achieve higher productivity.

Indian industry wants to adopt scientific principles to upgrade its productivity, improve quality and cut costs.

Year End Cotton Update from West Texas

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, December 18, 2017)-Cotton crop from Texas will be good, this year.

With Christmas on the horizon, harvest in the High Plains of Texas is nearly completed with about 85-90 percent of crop harvested. The recent estimate from the USDA, puts this year's production of upland crop from the United States at 20.713 million bales (480 lbs. each). Cotton from the High Plains of Texas will be about 5.57 million bales (480 lbs. each) and the total crop from Texas will be about 9.5 million bales (480 lbs. each).

On Friday, December 15th, Lubbock-based Plains Cotton Growers, Inc. (PCG), witnessed a large attendance of stakeholders to discuss the harvest situation, shipment of cotton, impending tax legislation in the U.S. Congress, to name a few. In welcoming the gathering at the last meeting of this year, Steve Verett, Executive Vice President of PCG recognized the importance of shared contribution and information sharing; stated, "the interest and participation of stakeholders with diverse expertise is a testimony to the importance of the cotton sector in the High Plains." He added, the industry gains more information from such meetings that involve people from R & D, banking sector, representatives of elected officials and academics.

Shawn Wade, PCG's Director of Policy Analysis and Research stated that this year's crop in the High Plains will be larger than the last one with about 5.5 million bales. Last year's crop was about 5.1 million bales.

Activities in Washington, DC are on a high gear this week to pass the Tax Cut and Jobs Act, which will result in the permanent reduction in corporate tax rate from 35% to 21%, that goes into effect next year. This probusiness legislation is expected to enable long term capital investments by the industry. Having returned from his recent trip to DC, Kody Bessent, PCG's Vice President of Operations and Legislative Affairs stated, "overall, the revised tax code provisions should be positive for agriculture."

Quality of this year's crop from the High Plains of Texas is being closely watched by the industry. According to Danny Martinez, Area Director of the USDA cotton classing office in Lubbock, with about 50 percent of crop ginned in the 24 counties his office serves, but for micronaire issue, other important aspects such as length, strength and color grade are good. Seasonal average value of strength shows the cotton is in the strong range with the average strength being about 29.78 g/tex. Length is in the 36 staple, which is about what is expected in the area. This year, Martinez expects about 4 million bales to be ginned out of 72 gins, which gets classed in his office in Lubbock.

Mark Brown, Director of Field Services at PCG stated, quality has been a concern this year, with the low micronaire issue. Probable reasons could be the cool and cloudy weather in the month of September and some late planting situations that did not let the crop mature well enough for the harvest. High Plains will have good crop and so some gins may have to run until February or March to wrap-up this year's crop.

With regard to the demand of cotton, Turkey and Pakistan are buying. Getting cotton quickly out of the shores of the United States is important from exports point of view.

Overall, 2017 has been a good year for the U.S. cotton sector in terms of production and demand.

The editor/publisher of TexSnips wishes the readers a joyful and safe holiday season.

Supercapacitor Fibers Developed

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, December 12, 2017)-Supercapacitor fibers that can serve as power source for wearable technologies has been recently developed.

A team of scientists from Deakin University, Australia has spun 2-dimensional “MXene,” into fibrous strands, which can be a power source for electronic gadgets. The scientists from the Institute for Frontier Materials at Deakin University envision that one day clothing items such as trousers containing the supercapacitor fibers can help charge a mobile phone by just slipping into pocket areas in trousers that have these MXene fibers.

The new development comes from the process improvement where MXene, which is commonly not spinnable, when integrated with graphene sheets evolved as fibrous strands.

The team has been working on the process improvement to get spinnable strands for three years, led by Associate Professor Joselito Razal at Deakin. Energy gets stored at the microscopic spaces of the MXene-graphene fibrous strands.

According to Shayan Seyedin, a researcher in the Deakin team, this supercapacitor fiber can be an alternative to bulky batteries for charging gadgets.

The supercapacitor fibers showed high capacitance and electrical conductivity with good strength and flexibility, enabling them to be made into wearable clothing. The next task for the researchers is to make the structures more flexible and washable.

MXene offers good metallic conductivity and electrochemical properties and hence attracts researchers to develop new technologies using this material such as wearables.

The research has appeared in a recent edition of Journal of Materials Chemistry A.

Cost, washability and durability are challenges that need to be overcome in wearable electronics. However, due to novel applications and limitless opportunities for R & D in this field, wearable electronics attracts multidisciplinary researchers.

Cotton Crop to be Exceptional in Texas

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, December 1, 2017)-Cotton crop in Texas this season will be exceptional in terms of yield.

This morning, over 50 people representing different regions of Texas and the entire spectrum of the cotton industry that included producers, agricultural lenders, policy personnel and researchers gathered in the conference room of the Plains Cotton Growers (PCG), Inc. office in Lubbock, TX. Probably, this meeting had the highest attendance this season, which shows the importance of cotton in the High Plains of Texas.

Quality of this season's cotton was in the minds of all those who attended today's gathering. In a question from this scribe to a producer, he responded "I am still harvesting, but the quality?" Maturity has been affected by cold weather during the end of September and early October, in High Plains.

Coming to the yield, there is going to be a lot of cotton from Texas. High Plains of Texas will have over 5 million bales of cotton. Texas is going to have a large crop, while we are experiencing some low micronaire issue in High Plains, other qualities are outstanding, stated, Mr. Steve Verett, Executive Vice President of PCG.

Producers are pleased with exceptional crop yield per acre. In High Plains, although good crop is expected, there has been good variability in the yield with some regions not performing well while others have exceeded normal expected production resulting in overall good crop. John Spence, producer from El Paso reported that his area is witnessing yields of 1300 pounds/acre for Upland cotton and 900 pounds/acre.

Toby Robertson of Robstown, TX who has a family farm of 10,000 acres stated that this year the crop has been exceptional with 1505 pounds/acre in his operations. Normal yields in his area are about 800-1000 pounds/acre, this year, it has been about 1500 pounds. Similar experience was shared by Jeff Nunley, Executive Director of South Texas Cotton and Grain Association, who stated that this year, his region will have about 1.8 million bales as against last year's production of one million bales.

Mood in terms of market was very optimistic, as the demand is strong. While cotton is being harvested, cotton is at 73 cents which is a good signal of cotton's demand world over. Mills in Pakistan and Turkey are buying U.S. cotton and more recently, the demand is huge from Pakistan, said a cotton trader. Overall picture is yields are good and the market is showcasing good price points. Prices never rise during harvest season, but this past two weeks or so, price is on the rise, which is a positive news for the industry said Shawn Wade, Director of Policy Analysis and Research at PCG.

With India's crop downsized recently and the growing demand for cotton, United States cotton industry is looking forward to the new year with full optimism.

Sage Advice for Businesses

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, November 20, 2017)-Without margin, there is no mission.

On a fine Fall day morning last week, interview with Mr. Bill Miller, CEO of Lubbock-based Breedlove Foods yielded a lot of valuable information, which may be beneficial to industries. Miller has been an entrepreneur since he was 27 years of age, banker and industry leader in Lubbock. His vast experience in leading several organizations has given him opportunities to handle complicated situations, which was evident from the discussion.

For an industry to exist, there needs to be a margin, said Miller. In businesses, people have to constantly negotiate with different stakeholders. A key aspect in the art of negotiation is to make people realize that they are appreciated. You need to live in the moment with the people who is on the other side of the table, stated Miller.

Working with national and international partners is good these days, which Breedlove follows. Breedlove works with organizations in 67 countries and is the world's largest non-profit food relief processor. Safety and quality are important for any industry, whether being a food processor, clothing manufacturer, machinery maker, etc.

In a question from this scribe on what are some factors that fail businesses, Miller stated, other than working capital, lack of trust among people and poor communication lead to negative results.

An interesting point that came out of the discussion was that all companies have goals but they should have plans to stretch, in other words adapt to changing circumstances, in order to grow.

Industry should have a vision which should be supported by a mission.

In closing, Miller reiterated the importance of this sage advice, which many people try to follow, "poor plan properly executed is far better than a perfect plan, which no one will ever attempt."

High Plains Cotton Harvest on Progress

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, November 17, 2017)-High Plains of Texas is gearing up with its cotton harvest.

With high humidity levels putting a brake on cotton harvest recently, producers are going on high gear this week to harvest cotton. Given the high expectation in yield, cotton harvest may continue till Christmas.

Stakeholders of High Plains' cotton industry gathered this morning at Lubbock-based Plains Cotton Growers, Inc. (PCG), to talk about the harvest, yield and quality of the crop.

The moisture was in the minds of people, as it delayed the harvest in the region. Producers are sensitive to humidity levels while harvesting because it can impact the quality of cotton during the ginning process said, Seth Byrd, Extension Cotton Specialist, TAMU in Lubbock. On average the harvest in the region has reached one-third mark.

Variability in terms of yield and quality across the region is one to watch for this season.

Lubbock county has reached about 40% of its harvest mark and progressing north of Lubbock, harvest is around 25% said, Mark Brown, Director of Field Services at PCG. Variability has been influenced by the late plating date well into June, said Brown.

While some producers felt the yield is not turning out to what they expected to start with, the High Plains will have a good crop. The November USDA puts the High Plains region's production at 5.375 million bales (480 lbs. each).

In regions, where there was timely rainfall and best conditions, dryland has been yielding 1.5 to 2 bales per acre and irrigated lands up to 4 bales/acre.

Harvest has begun in high gear, this week and may continue through Thanksgiving well into Christmas.

Two of the high cotton growing regions of the world, High Plains of Texas and India are expected to have higher crop this season.

First Estimate of India's New Season Cotton Crop

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, November 15, 2017)-Today, India's first estimate of the current season's cotton crop has been released.

Today, Mumbai-based Cotton Association of India (CAI) has released the first estimate of cotton crop for the current season (October '17-September '18). India is projected to produce 37.5 million (375 lakh) bales of cotton, each weighing 170 Kgs.

Last year's crop was 33.725 million (337.25 lakh) bales (170 Kgs each).

The increase this year is due to increase in the acreage by about 19% compared to the last season.

India's cotton balance sheet this new season will show surplus with a closing stock of 3.9 million bales. Export this season will be at the same level as last year at 6.3 million bales of 170 Kgs each. Total domestic demand will be 32 million bales.

The chance of having enhanced production more than the first estimate of 37.5 million bales is slim. Yield this season will be affected by pink boll worm infestation and unseasonal rainfalls in September-October timeframe in the cotton belt.

Stagnancy in the price realization for pulses and oil seeds has led the farmers to diversify to cotton. Farmers switched to cotton during kharif season, June-July planting season, primarily due to price issue with pulses and oil seeds, stated an agriculture analyst based in Mumbai.

Arrival of cotton has just begun and only by the end of this month, exact picture of quality and production will be known, but it is likely that the production may not exceed the first estimate projected today.

Nonwoven Sector to Grow

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, November 14, 2017)-Globally, nonwoven sector will experience growth.

Nonwoven sector is an established sector in developed countries, while some work needs to be done in markets where it is still at infancy.

Affordability and awareness are the two important factors that will push for the exponential growth of this sector. Quantity, consistent quality and price affordability are important for the nonwoven and technical textiles sector to grow in developing markets like India, stated Govind Periwal, CEO of Dahej, India-based Pioneer Hygiene Products.

On a foggy morning last Friday, having his flight from Dallas delayed by an hour, Periwal visited the Nonwovens and Advanced Materials Laboratory in Lubbock, TX, to discuss new applications and opportunities for PE films in hygiene products.

Pioneer Hygiene Products with a current annual capacity of 6,000 metric tons of PE films is India's largest breathable PE film manufacturer.

In the past five years, many companies are coming-up in India to focus on hygiene products. India has global giants like P&G, KC and Unicharm who are active players in the market. The issue is slow penetration in rural areas, stated Govind Periwal. When it comes to diapers, pullup pants are gaining momentum, in India.

Hygiene and infrastructural sectors will drive the growth of nonwovens. The single nation-wide taxation policy on goods and services (GST), will help with promoting the nonwovens sector as it will push domestic manufacturing, stated Periwal.

Nanofibers from 3-D Device

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, November 9, 2017)-Nanofiber production may become cheaper due to a new development.

Researchers from Cambridge, USA-based Massachusetts Institute of Technology (MIT) have effectively utilized a less expensive commercially available 3-D printer to develop a nozzle microfluidic device to produce nanofibers.

3-D printed microfluidic device enables to get uniform nanofibers providing flexibility with regard to the structure of the webs. Luis Fernando Velasquez-Garcia of MIT's Microsystems Technology Laboratories and his two postdocs have reported this development in the latest issue of journal, Nanotechnology.

According to researchers, using 3-D printed device to produce nanofibers will help to avoid the need for cleanroom and will make the process cheaper.

The technique uses emitters or nozzles which have holes made through them and hydraulically the fluid to be electrospun, is poured into the holes until holes are full. Then only, electric field is applied to develop nanowebs. The authors term this procedure as "internally fed."

Nanofibers are produced basically by controlled chaos which in a way leads to variability in fiber size and less uniformity of the web. In other words, there is some sort of "self-assembling," process when the fibers are dispersed by electric field and collected on collectors such as screens. Patterns are obtained based on the nature of the collector.

A few years back, Thandavamoorthy Subbiah working in this scribe's laboratory effectively handled the self-assembly process to develop honeycomb like PU nanofibers.

Nanofiber production techniques are evolving to have high productivity and have better control of the fiber and web uniformity.

The 3-D device is a step in the right direction.

A Few Tips for Businesses

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, November 3, 2017)-Small businesses are the life blood of economy these days.

Entrepreneurs and small businesses can provide sound business advice, as they encounter a lot of challenges. On Wednesday, business people, students and academics participated in the 1-Million Cups Program at the Innovation Hub in Lubbock. This regular first Wednesday event offers a lot of networking opportunity for business people. Such events are very critical for small towns and rural communities.

On November 1st, two entrepreneurs provided some valuable tips that will be of help to start-ups.

Businesses can start from any idea and can be located anywhere. Ms. Mary Malmberg, owner of MKM Organizing focuses on organizing people's homes. Malmberg helps people to clean their clutter. Who would have thought, there is money to make out of such businesses? Surely, this is an organized profession in the United States. For a small business owner, the ease of starting and doing the business is a must. Malmberg who moved from Washington, DC to Lubbock-TX stated that in Washington, DC, it just takes a day to open an LLC. Certainly, many would love be in such a situation. Malmberg believes in keeping the operating cost low so that people can afford to take cut in their earnings. This what Malmberg did, when she moved from DC to Lubbock so that her business could be attractive to communities like Lubbock. In other words, efforts to adapt and adjust can help to sustain a business in a new environment.

Perseverance is vital for entrepreneurs. Greg Bazar of Eleven Risk Solutions practices the mantra he preaches. Eleven Risk Solutions is cyber liability insurance company, which recently got recognized by the prestigious insurance firm, Lloyds of London. Greg and his business partners persevered till they could get an audience with Lloyds, which has enabled them to be an active player in the cyber insurance sector, when cyber threats are occupying headlines all over the world.

To a question from this scribe on how to appeal to giants in the industry or clients, to basically get a head start in the business, Bazar answered, "you should know what you are talking about?" This basically comes down to the art of convincing and negotiation. In the practical world, skill sets and resources such as motivation, support network, persistence, etc., matter.

New opportunity may arise from someone whom one has never met before. So, always keep looking for the next opportunity and when it hits, seizing it, is important.

Vitals for Cotton Sector

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, October 31, 2017)-Maintaining the market share, enhancing consumer awareness and continuous investments in R and D are needed to advance the cotton sector.

Steve Verett, Executive Vice President of Lubbock, TX-based Plains Cotton Growers, Inc., captivated the audience in a speech last Thursday at Texas Tech University (TTU) about the 2017 cotton crop and the industry overall.

As the talk was held in a conference room in the chemistry building at TTU, Verett quipped that chemistry drove him away from majoring in agro science to Business School, when he joined Tech in the Fall of 1971. Guess what, Verett comes back to chemistry building four decades later as a most respected leader in the U.S. cotton sector interacting with students and scientists on the current state of the United States' cotton industry. Verett who farms 5,000 acres in Crosby County is a Tech graduate with an accounting degree.

Briefing about the current crop estimates from High Plains, two weeks lost due to cool weather in late September and early October would cost this year's crop, but still High Plains' crop would be good. "It is hard to get additional heat units in October for maturity," stated Verett. Commenting on the estimates by the USDA, he stated that due to established procedures, at the end, they come out to be right. Projected crop from the High Plains this year will be about 5.44 million bales, while for Texas, it will be 9 million bales.

Asked about the survival of High Plains' cotton industry in the next twenty years, Verett was very optimistic as this area's weather will support crops like cotton which is highly drought tolerant. There is a need to produce quality crop for the reason that the market for U.S cotton is overseas. Even though United States' consumers use textiles equivalent to 20 million bales, 80% of the crop is exported.

In answering a question from this scribe, Verett agreed that the U.S. cotton sector can have competitive and distinct advantage over other cotton producing countries by producing contaminant free cotton, with reliable delivery schedules and supplying consistent quality output.

Professor Eric Hequet, chairman of TTU's Plant and Soil Science department and a renowned fiber quality expert highlighted the importance of maintaining a market share of 30% globally for cotton so that seed companies, textile mills and textile machinery companies will be motivated to find new products that can advance the industry. United States has done a better job in this regard with about 50% share due to promotion campaigns by the cotton industry.

The take home message here is that, with global population heavily concentrated in Asia, it is important that cotton maintains a healthy market share in those parts of the world.

Middle School Students and Cotton Nonwovens Research

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, October 30, 2017)-Show-and-tell, practical demonstrations can attract students to science and engineering.

A group of 84, 8th grade students from Lubbock-based Terra Vista Middle School belonging to Frenship ISD visited the Nonwovens and Advanced Materials Laboratory at Texas Tech University, last Friday.

The students were shown practical demonstration on how raw cotton nonwoven fabric picks-up motor oil. Two teachers who accompanied the students did hands-on experiments as well.

It was pleasing to see the curiosity and interest in students for science experiments. Interacting with middle and high school students is a learning experience for college professors as well.

A presentation about the applications of cotton nonwovens such as oil absorbents pads was shown, which was documented in a YouTube video whose link is appended below.

<https://www.youtube.com/watch?v=AoCQkiWmMdl>

It is becoming clear that field trips and laboratory visits are ways to attract school children to careers in science and engineering.

Five Year Old Girl Enthused by Cotton Research

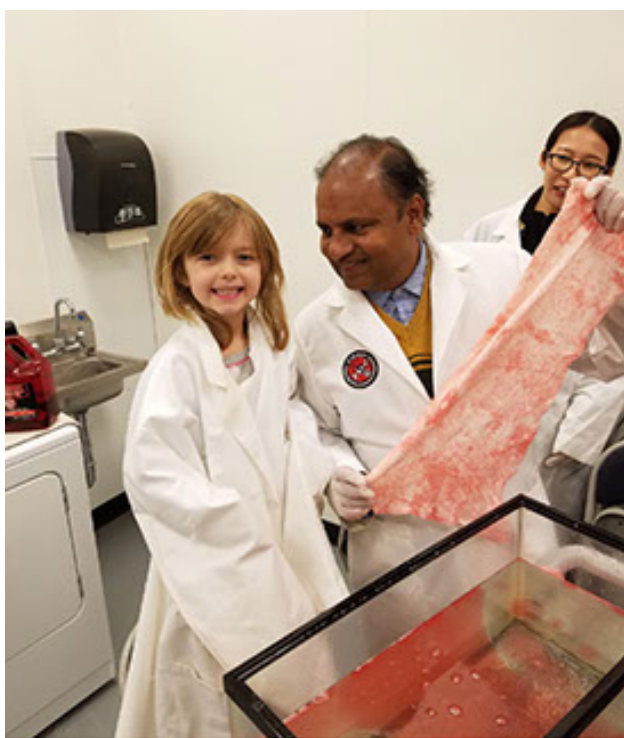
By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, October 27, 2017)- Young students gathered on a cold Friday morning in Lubbock to learn about cotton research, first hand.

A group of 84 students accompanied by a handful of teachers, visited the Nonwovens and Advanced Materials Laboratory at Lubbock-based Texas Tech University to know more about cotton.

The 8th grade students belong to Terra Vista Middle School, Frenship ISD in Lubbock. The school is situated in the middle of cotton fields and the students see cotton just outside their school ready to be harvested, during the cotton season.

As part of seeing what they learn in classrooms, the students visited the cotton research laboratory. In the group was a five year Ellie Sledge, daughter of a social science teacher, Joseph Sledge, who was so eager to visit laboratories. As the lecture demonstration began, responding to a question from this scribe, Ellie spotted cotton and stated, “fluffy.” Her father Joseph mentioned that such enthusiasm will lead students to choose science fields for their careers. This is what the school sets out to do every year to encourage students in science and mathematics subjects.



Five Year Old Ellie Sledge
Photo by Joseph Sledge

Although, the students who are from Lubbock, are familiar with cotton, they were thrilled to learn about different opportunities that are available for cotton products. Students were impressed with the oil absorption experiments using cotton and could immediately visualize many applications for cotton. One teacher who was from Louisiana recollected the Gulf of Mexico oil spill incident and stated that such developments are beneficial to the community.

While seeing cotton instantaneously picking up oil from oil-water mixture, “It is a complete win-win for the environment,” stated Kristina Janeway, the English teacher who accompanied the students. Students and teachers could connect their daily lives with science, which is the highlight of such field trips and lecture-demonstrations.

The cotton industry tries to reach out to consumers and create awareness on the advantages of cotton. Reaching out to middle and high school students, who are the future independent consumers should be part of that marketing equation, as well.

Educating the common public and young students about new products and benefits of science should be a priority for many different industrial sectors.

Nonwoven Association President to Keynote at a Major Congress

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, October 25, 2017)-Nonwoven sector is poised to have good growth and there is growing optimism in the sector as it metamorphoses into high performance engineered fabrics industry.

Technical Association of the Pulp and Paper Industry popularly known as TAPPI is organizing an international nonwovens conference developed by its Nonwovens Division, NET, from April 16-18, 2018 in Charlotte, NC, USA.

Dave Rousse, President of Cary, NC-based Association of the Nonwoven Fabrics Industry, INDA, which has about 365 companies as its members, will keynote about the state of the nonwoven industry in the Nonwovens Conference of TAPPI in April 2018.

The event offers several added advantages to professionals in the nonwovens, textiles and technical textiles sector as it is co-located with TAPPI's leading technical conference, PaperCon. The attendees will benefit from listening to sessions in allied disciplines such as paper making, pulp, etc. PaperCon is the "go to" place for people in wet laid and pulp sectors. Nonwoven and paper technologies are closely related and this conference will enable crossbreeding of ideas, which can take the nonwoven sector to the next phase, i.e., engineered performance fabrics.

"The synergies of TAPPI's nonwoven conference with the larger TAPPI PaperCon brings out the natural history of all nonwoven processes to the first real nonwoven-paper. Today the two industries still share common technologies, equipment and supplier base that gives this conference a very strong base," stated, Pete Wallace, TAPPI Fellow and nonwoven industry veteran based in Morganton, NC, USA.

The nonwoven conference will begin on the afternoon of April 16th with the much awaited kick-off lecture from Dave Rousse, president of the leading nonwoven association in the world. According to a latest report from INDA, durable nonwoven sector is expected to have faster growth than disposables, showcasing that there are a lot of opportunities for nonwovens as engineered fabrics.

"I am delighted to address the TAPPI nonwovens conference and look forward to meeting the many members of the paper industry who also produce nonwovens, either as a wet laid material or as a composite with paper," stated Dave Rousse.

The participation of INDA in the nonwoven conference organized by the leading paper and pulp association has brought cheers in the community. In speaking about the nonwoven event, Larry Montague, President and CEO of TAPPI, which has about 8477 members aptly stated, "You never know where the next great idea will come from, but I assure you that conferences with combined settings is very likely to be one of those places."

The organizers are accepting abstracts for presentations and more information about the event is available at: www.netincent.org

Ramkumar, S

From: Ben Hopper <BHopper@tappi.org>
Sent: Wednesday, October 25, 2017 12:44 PM
To: Ramkumar, S
Subject: RE: THANKS

This was masterfully written in my opinion. Thanks so much.

BH

Best,
Benjamin A. Hopper, COSS
Divisional Operations Manager
TAPPI
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Join the Conversation



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From: Ramkumar, S [mailto:s.ramkumar@ttu.edu]
Sent: Wednesday, October 25, 2017 1:23 PM
To: Ben Hopper <BHopper@tappi.org>
Subject: THANKS

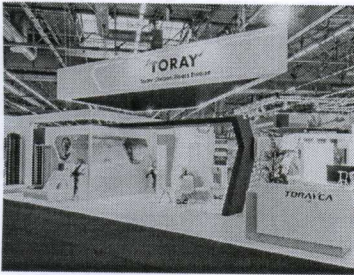
Dear Colleagues, This appended column written for my regular column, "TexSnips," was filed today to many outlets, who pick up my writes-ups in the USA, UK, Bangladesh, India. Additionally, my University sends out to about 2000 people via e-mail, probably you are already in the list.

It is really exciting to have Dave come and speak at the event, which is being held in April in textile hub, Charlotte.

Kindly,
Ram

Nonwoven Association President to Keynote at a Major Congress

By: Seshadri Ramkumar, Texas Tech University, USA



Toray to open environmental automotive base in Europe

Toray Industries Inc has announced that it will open its Automotive Center Europe (AMCEU) in August 2018 near Munich, Germany



Performance fibre combinations and multifunctional finishing

Lado Benisek selects some highlights from the recently concluded Dornbirn Man-Made Fibers Congress

EDITOR'S PICK

Cordura unveils Authentic Alchemie 2.0 denim collection

Invista to participate in Performance Days expo, Munich

Octopus inspired camouflage material

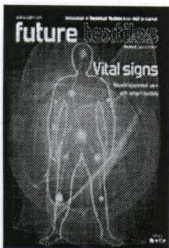
Chomarat takes part in Kompozyt expo 2017

Technical Textile Update

WTiN New

Editor's Pick, October 25, 2017

JOURNALS



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Octopus Inspired Camouflage Material

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, October 23, 2017)-Biomimetic approaches can help with the development of sophisticated high performance textiles.

A team of researchers from Ithaca, NY-based Cornell University and Woods Hole, MA-based Marine Biological Laboratory have borrowed inspiration from cephalopods such as octopus in devising camouflage materials.

Nonwoven textile structure was used in conjunction with elastomeric silicone membranes in developing a structure that enables papillae like structures, as found in octopus.

Scientists took clues from octopus' morphology to develop synthetic structures which can transform quickly from its 2-dimensional structures into 3-dimensional shapes, which adapts well with its environment, similar to what octopus does in real life situations.

The nonwoven textile structure is flexible but not stretchable and has hierarchical structure which enables the stretchable membrane to assume 3-dimensional shapes. This is similar to what happens with the papilla in octopus. The textile structure helps with inflating and stretching the elastomeric membranes.

According to researchers, the hierarchical structure with the help of pneumatics will enable the 3D shapes to happen, which otherwise is not possible.

Such a biomimetic approach may one day help with the better designing of stretchable sportswear, protective and camouflage suits.

The work has appeared in a recent issue of journal "Science," published by American Association for the Advancement of Science.

Ramkumar, S

From: Jagadananda Behera <jagada.itt@gmail.com>
Sent: Tuesday, October 24, 2017 1:49 AM
To: Ramkumar, S
Subject: Interest for getting free TexSnips e-news

Dear Sir,

I have read your Tex Snips e-news which i got from my colleague. Could you please send me directly all the e-news to my email account.

Thanks
Regards

--

JAGADANANDA BEHERA
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PIN-400607
Mob- +91 8108947457
Fax: +(91)-(022)-25868365

Ramkumar, S

Subject: FW: TexSnips: Octopus Inspired Camouflage Material

From: John Jacquin [mailto:jdjacq@comcast.net]

Sent: Monday, October 23, 2017 9:25 PM

To: Ramkumar, S <s.ramkumar@ttu.edu>

Subject: Re: TexSnips: Octopus Inspired Camouflage Material

Thanks Ram - really interesting!

Best regards, John

MICHELMAN

John Jacquin
Technical Service & Application Development Manager

On Oct 23, 2017, at 1:56 PM, Ramkumar, S <s.ramkumar@ttu.edu> wrote:

Octopus Inspired Camouflage Material

By: Seshadri Ramkumar, Texas Tech University, USA

Ramkumar, S

From: Jayashree Venkatesh <venkatesh.jayashree@gmail.com>
Sent: Tuesday, October 24, 2017 12:17 AM
To: Ramkumar, S
Subject: Re: TexSnips: Octopus Inspired Camouflage Material-JV

Thank you sir for the snippet.

Innovative and creative development of materials will definitely explore the possibilities of suitable application.

Thanks and Regards
Dr. Jayashree Venkatesh
Department of Apparel Technology and Management,
Bangalore University
Bangalore
Mobile: 9448303730

On Mon, Oct 23, 2017 at 11:29 PM, Ramkumar, S <s.ramkumar@ttu.edu> wrote:

Octopus Inspired Camouflage Material

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, October 23, 2017)-Biomimetic approaches can help with the development of sophisticated high performance textiles.

A team of researchers from Ithaca, NY-based Cornell University and Woods Hole, MA-based Marine Biological Laboratory have borrowed inspiration from cephalopods such as octopus in devising camouflage materials.

Nonwoven textile structure was used in conjunction with elastomeric silicone membranes in developing a structure that enables papillae like structures, as found in octopus.

Cotton Market to Witness Pressure

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, October 3, 2017)-Cotton market will show signs of pressure, for at least a short timeframe.

Looks like, there is going to be lot of cotton world over. Addressing the 95th Annual General Meeting of Mumbai-based Cotton Association of India, Nayan Mirani stated recently, “cotton prices are likely to witness a depressing trend.” The supply situation will dictate the price, while other factors may also factor into the price situation.

Even with the losses due to recent hurricanes in the cotton belt of the United States, the size of U.S. crop is expected to be larger. Indian acreage for the current season (October 2017-September 2018) is expected to increase by about 12% compared to last year. Expecting yield to increase by about same percentage points, India will have a bumper crop. If this scenario turns out to be correct, there may be a situation that will warrant Indian government to support farmers by kicking in the minimum support price (MSP) operations.

Among many factors that have led to the increase in Indian acreage, an important aspect has been the shift from cultivating oil seeds and pulses due to lack of good prices for these commodities. There has been a stagnancy in prices of these commodities and government had to apply MSP for these products, stated an Indian market expert.

Cotton price is under pressure as the mill demand is not high. To exacerbate this situation in India, a confusion is prevailing with regard to the implementation of GST system. Given that Indian rupee has slightly weakened against U.S. dollar recently, export of goods such as textiles should be on high gear, which really is not the situation on the ground.

Weather so far has been reasonably good for Indian crop. Major cotton producing regions in Punjab, Haryana, Maharashtra, Rajasthan and Madhya Pradesh have received sufficient rainfall during the flowering season, which should translate into good crop, this season.

Buyers are basically in “wait and watch” situation, which is inserting pressure on the cotton market. Hopefully, there will be some stability from January of next year, stated an experienced and reliable source from Mumbai, India.

Some Tips for Industrial Innovation and Growth

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 25, 2017)-Collaboration with academia, building international tie-ups and leveraging financial resources to effectively transform ideas into commercial products will help with industrial innovation and growth.

The State of São Paulo in Brazil has been promoting the aforementioned concepts to build a vibrant industrial and innovation ecosystem. As part of growing and continuing international linkages, a delegation from São Paulo visited Lubbock, Texas, last week which included personnel from São Paulo Research Foundation (FAPESP), a public funding agency which began operating in 1962 and university academics.

Financial resources and human talents are becoming difficult to obtain these days, which are influenced by many factors, both domestic and international. Competition from sister industries and other competing fields is a factor. Disruptive technologies that have immediate consumer acceptance have become fewer and far between, which emphasizes the need for multipronged collaborations.

The State of São Paulo in Brazil has realized this need since the early 1960s and has been effectively leveraging state funds to support industrial innovation and growth. One aspect they are actively pursuing is establishing formal research collaborations with institutes in many countries. This way, it benefits their industry and academia as well as those from other places such as Texas.

Speaking to an attentive audience last week in Lubbock at an event organized by Texas Tech University, Dr. Carlos Brito Cruz, Science Director of FAPESP, São Paulo highlighted the collaborations they have been able to forge with global companies such as GSK, Shell, etc. Unicamp, a state university in São Paula has been a pioneer in startups culture in Brazil, which has helped with the creation of about 454 companies that has resulted with over 21,000 jobs.

While speaking at the above event, Dr. Lawrence Schovanec, President of Texas Tech University emphasized the importance of international collaboration and stated, “research universities that aspire to address global and grand challenges in research and education should focus on international collaborations.” He added, “international linkages enable us to understand the culture and people of different nations, in addition to strengthening academic and research tie-ups.”

In the State of São Paulo, industries have a higher share in R&D expenditure followed by the state and federal governments. Industries contribute to about 57% in the total science and technology, research expenditure in the state and have an active role in the undertakings of R & D projects in big research centers funded by public agencies such as FAPESP. Perhaps, this is a valuable message for public funded centers in the United States and other countries.

More recently, the U. S. government is supporting many industry-academia collaborative centers as part of revitalizing its manufacturing sector. One such center related to textiles is led by Cambridge, MA-based Massachusetts Institute of Technology called Advanced Functional Fabrics of America (AFFOA).

Considering the State of São Paulo as a model, industries and academia can work together to effectively unitize human and financial resources to advance to their next stages of growth and development, such as job creation and entrepreneurial ecosystem.

Ramkumar, S

From: Dallas Crotts <ddcrotts@cekalspecialties.com>
Sent: Wednesday, September 27, 2017 1:06 PM
To: Ramkumar, S
Subject: RE: TexSnips: Some Tips for Industrial Innovation and Growth

Thank you.

Good efforts for innovation, although the very high V.A.T imposed in Brazil effectively prevents or excludes a lot of trading, or at least the ability of foreign entities to do business in Brazil....curious if that came up 😊....

I do appreciate all your communications!!! Very informative!

Thanks and regards

Dallas

Dallas D. Crotts
Cekal Specialties, Inc.

From: Ramkumar, S [mailto:s.ramkumar@ttu.edu]
Sent: Monday, September 25, 2017 3:21 PM
To: Ramkumar, S <s.ramkumar@ttu.edu>
Subject: TexSnips: Some Tips for Industrial Innovation and Growth


Some Tips for Industrial Innovation and Growth

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 25, 2017)-Collaboration with academia, building international tie-ups and leveraging financial resources to effectively transform ideas into commercial products will help with industrial innovation and growth.

The State of São Paulo in Brazil has been promoting the aforementioned concepts to build a vibrant industrial and innovation ecosystem. As part of growing and continuing international linkages, a delegation from São Paulo visited Lubbock, Texas, last week which included personnel from São Paulo Research Foundation (FAPESP), a public funding agency which began operating in 1962 and university academics. Financial resources and human talents are becoming difficult to obtain these days, which are influenced by many factors, both domestic and international. Competition from sister industries and other competing fields is a factor. Disruptive technologies that have immediate consumer acceptance have become fewer and far between, which emphasizes the need for multipronged collaborations.

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Tips for industrial innovation and growth in textiles

Dr Seshadri Ramkumar | WTiN

Banner Story, September 26, 2017, WTiN News, England

Ramkumar, S

From: Schovanec, Lawrence
Sent: Tuesday, September 26, 2017 8:20 AM
To: Ramkumar, S; Perry, Gad
Cc: Cook, Chris; Galyean, Michael
Subject: Re: Visibility for Brazil-TTU Event

Dear Ram,

I enjoyed your column—and appreciate the positive visibility it brings to Texas Tech. Thanks for letting us know of the feedback.

Lawrence

*Dr. Lawrence Schovanec
Current & 17th President of Texas Tech
University*

From: "Ramkumar, S" <s.ramkumar@ttu.edu>
Date: Tuesday, September 26, 2017 at 6:28 AM
To: Lawrence Schovanec <lawrence.schovanec@ttu.edu>, "Perry, Gad" <gad.perry@ttu.edu>
Cc: Chris Cook <CHRIS.COOK@ttu.edu>, Michael Galyean <michael.galyean@ttu.edu>
Subject: Visibility for Brazil-TTU Event

Good morning Dr. Schovanec and Gad,

My column on the last week's event where in I gave some ink to Dr. Schovanec's thought on international collaboration in my regular column has promptly appeared in South Carolina based materials science/textile e-newsletter. This goes to cotton and many leading companies and academia in the field around the world.

As I get additional pick ups of my column, I will forward to you.

Kindly,
Ram

Here it is:

<http://www.etextilecommunications.com/092517ramtexas-techbrazil-delegation>

Ramkumar, S

From: Perry, Gad
Sent: Tuesday, September 26, 2017 8:54 AM
To: Ramkumar, S; Schovanec, Lawrence
Cc: Cook, Chris; Galyean, Michael; Ross, Mikki; Hernandez, Grace; Misra, Sukant
Subject: Re: MAJOR VIBILITY for Brazil-TTU Event

Wow Ram - this is getting a lot of mileage - great job! Thanks for sharing,

Gad

Dr. Gad Perry

Dept. of Natural Resource Management *and*

Senior Director, Division of International Research and Development *and*
Director, International Center for Arid and Semiarid Land Studies

Phone: (806) 834-2339

Home page: http://www.rw.ttu.edu/ttunrm/index.php?option=com_content&task=view&id=33&Itemid=45

ICASALS home page: <http://www.iaff.ttu.edu/home/icasals/index.asp>

** Go Green! Print this email only when necessary.

From: Ramkumar, S
Sent: Tuesday, September 26, 2017 8:31 AM
To: Schovanec, Lawrence; Perry, Gad
Cc: Cook, Chris; Galyean, Michael; Ross, Mikki; Hernandez, Grace
Subject: MAJOR VIBILITY for Brazil-TTU Event

Sir, As you talk about positive visibility for TTU, here are major visibility for us:

United Kingdom based major fiber related news service called WTIN has put the column as Banner Story.

<http://www.WTIN.com>

India based #1, major commodity news portal, called Commodity Online has picked up the write-up:

Ramkumar, S

From: Munjal Udeshi <munjal.udeshi@pacificharish.com>
Sent: Tuesday, September 26, 2017 12:34 AM
To: Ramkumar, S
Subject: Re: TexSnips: Some Tips for Industrial Innovation and Growth

Dear Dr Seshadri.

Excellent article and need of the hour.

Regards.
MUNJAL UDESHI

PACIFIC-HARISH INDUSTRIES LTD
19,Parsi Panchayat Road.
Andheri East. Mumbai 400069.
India.

Tel No-91 22 66490251/52.
[Web-www.pacificharish.com](http://www.pacificharish.com)

On 26-Sep-2017, at 12:54 am, Ramkumar, S <s.ramkumar@ttu.edu> wrote:

Some Tips for Industrial Innovation and Growth

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 25, 2017)-Collaboration with academia, building international tie-ups and leveraging financial resources to effectively transform ideas into commercial products will help with industrial innovation and growth.

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High Tech Wipe

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 20, 2017)- A flexible high-tech wipe that has defense, homeland security and industrial applications has been developed to protect soldiers, emergency personnel and civilians.

Chantilly, VA-based First Line Technology is promoting “systems approach,” to combat threats from toxic chemicals. FiberTect® technology, developed by First Line Technology, feeds exactly to the immediate needs of the United States’ Defense and Homeland Security community.

First responders face a wide range of chemical threats, including chemical warfare agents and toxic industrial chemicals. To deal with this largely unknown threat, responders require a flexible, inexpensive, and broad spectrum protective fabric system.

An effective and universal dry decontaminant, capable of decontaminating personnel and sensitive equipment, needs to be non-corrosive and devoid of particles such as with the case of M-291 kit. Although there are a range of aqueous decontaminants, they do not have broad range of action as they are very specific to subsets of nerve and toxic industrial chemicals. Additionally, liquid based chemical decontamination technologies may be corrosive to sensitive equipment and even human skin.

There is an immediate need to develop a “system approach,” which will tackle the shortfall with standalone technologies. This concept has been advocated by Lawrence Livermore National Laboratory (LLNL Science & Technology Review, March 2009). Having a wiping technology as part of the decontamination system offers several advantages such as avoiding the excessive use of chemical decontaminants and offering cost savings.

FiberTect® is a three layer, inert, flexible, drapable, nonwoven composite substrate for absorbing and adsorbing chemical warfare agents (CWAs), toxic industrial chemicals (TICs), toxic industrial materials (TIMs), and pesticides.

Amit Kapoor, President of First Line Technology stated, “Non-aqueous wipe technology helps with bulk decontamination of toxic chemicals. Testing has shown that bulk decontamination is an important step in the removal of contamination before applying neutralizing decontaminants. Dry wipe also helps to reduce the overall decontamination footprint for first responders while expanding response capability.”

FiberTect® decontamination wipe can serve as a standalone technology or used effectively as an integral component of a decon system. This can be used on personnel and sensitive defense equipment and can be handled very easily with regards to use and disposal. FiberTect® keeps life-cycle costs low and is self-contained and packaged for easy use, storage, and transport.

Novel Functional Cotton

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 15, 2017)-Incorporation of biological molecules to cotton may lead to novel functional cottons.

Finding value-added applications for cotton, enabling it to be wearable smart textiles will be the next phase of R&D in the cotton sector. This scribe has been advocating for developing functional cottons at farm level in addition to the industry focusing its efforts on yield and quality aspects.

A team of international scientists from Israel, Germany and Austria has used a biological approach to impart functionality to cotton.

External biological molecules that contain glucose moieties with specific functionalities were incorporated to upland cotton in vitro. The in vitro cultures were incubated with glucose moieties that could penetrate through the cell wall to be incorporated into fibers. Glucose moieties with magnetic complexes could enable cotton to be magnetic.

The incorporation of biological molecules enables fibers to have functionalities that are durable.

Washability, durability and wearability are some of the challenges faced by the smart textiles sector. The exploitation of biological methods may give new opportunities for natural fibers to penetrate in to technical textiles sector.

The authors claim that this approach could be adopted to other fibers such as flax and bamboo.

It would be really useful for the cotton industry, if such efforts translate to the farm level to develop functional fibers directly from plants.

The work reported in today's Science journal published by the American Association for the Advancement of Science may be a step towards that direction.

Ramkumar, S

From: projects <projects@glstexjute.com>
Sent: Monday, September 18, 2017 1:38 AM
To: Ramkumar, S
Cc: dcb
Subject: Re: TexSnips: Novel Functional Cotton

DEAR DR.RAMKUMAR. S,

VERY MANY THANKS FOR THE PERIODICAL INFORMATION ON THE DEVELOPMENT EFFORTS AT WORK FOR THE MAGNIFIED & VALUE ADDED USES OF COTTON-PARTICULARLY FROM ITS SEEDS AND FARM LEVELS-BEYOND WHAT HAS BEEN ACHIEVED ALREADY THROUGH ITS GENETIC DECODING AND MODIFICATION A FEW YEARS AGO .

WE HOPE AND ASPIRE TO WITNESS , ONE DAY,SIMILAR PERSUITS OF EXCELLENCE IN PLACE FOR THE SECOND BIGGEST NATURAL FIBER - JUTE FIBERS AS WELL .

REGARDS

D.C.BAHETI

MANAGING DIRECTOR ,

Gloster Jute Mills, Calcutta India

----- Original Message -----

From: Ramkumar, S

To: Ramkumar, S

Sent: Friday, September 15, 2017 11:12 PM

Subject: TexSnips: Novel Functional Cotton

Novel Functional Cotton

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 15, 2017)-Incorporation of biological molecules to cotton may lead to novel functional cottons.

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The incorporation of biological molecules enables fibers to have functionalities that are durable.

Ramkumar, S

From: Prabir Jana <~~prabir.jana@nift.ac.in~~>
Sent: Saturday, September 16, 2017 11:33 PM
To: Ramkumar, S
Subject: Re: TexSnips: Novel Functional Cotton

Very informative and nice.
Regards
Prabir

Prabir Jana, Professor, NIFT, New Delhi
India

On 15 Sep 2017 11:11 p.m., "Ramkumar, S" <s.ramkumar@ttu.edu> wrote:

Novel Functional Cotton

By: Seshadri Ramkumar, Texas Tech University, USA

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Ramkumar, S

From: Pravin Patel <pp.patel@yandea.com>
Sent: Sunday, September 17, 2017 9:06 AM
To: Ramkumar, S
Subject: Re: TexSnips: Novel Functional Cotton

Dear Sir,
Hope you are okay.
Very interesting to hear new concept of technical cotton. Some more information may be given on the topic.
How are you? Do you affected from the recent Problems at Texas?

Dr. Pravin C Patel Professor Textile Engineering Department Faculty of Technology and Engineering
The M S University of Baroda, Vadodara - 390002 Mobile No. 09427592836

From: "Ramkumar, S" <s.ramkumar@ttu.edu>
To: "Ramkumar, S" <s.ramkumar@ttu.edu>
Sent: Friday, 15 September 2017 11:20 PM
Subject: TexSnips: Novel Functional Cotton

Novel Functional Cotton

By: Seshadri Ramkumar, Texas Tech University, USA

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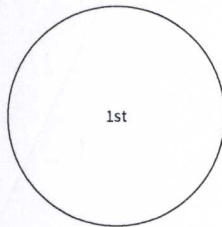
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Seshadri Ramkumar

Professor at Texas Tech University
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Seshadri Ramkumar
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Novel Cottons

Creating Novel Functional Cottons
cottongrower.com

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Likes



Michael Schuhmann Thanks for sharing, Professor Ramkumar.
Functionalisation on molecular level would allow a new positioning against synthetic fibres where spin mass additives allow processors to tailor functionality as per user needs. Hope to hear more from you regards to the progress of these developments.

24h

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Michael Schuhmann
Global Business Development
Finishing, Archroma
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High Plains of Texas to Have Bigger Cotton Crop

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 8, 2017)-Harvey has come and gone and the impact Irma will have on cotton is yet to be seen.

Having caused havoc in the Caribbean, category-4 hurricane Irma after slamming Florida coast according to forecasts, may move upward to South Carolina and Georgia. What influence it will have on cotton in the southern cotton growing regions like Georgia is not clear.

Today, in the Lubbock office of Plains Cotton Growers, Inc., with a packed room full of cotton industry stakeholders, people started discussions focusing on the aftermath of hurricane Harvey on the global cotton sector.

“I could handle one storm and not another one in two week timeframe,” said one cotton merchant. South Texas cotton producers have come back to the fields recently to start picking the cotton. Cotton in the fields has weathered the storm better than expected. Round modules have performed well compared to the conventional ones.

While a few gins have been hit hard, the ginning industry is working diligently to resume operations to support the harvest.

Positive aspect is that the demand for cotton is strong and China is buying. What matters is that will the industry be able to deliver to China to meet their immediate demands in October-November months?

High Plains of Texas is hoped to have higher crop than last year. Weather between now and the harvest will influence how big the difference is going to be compared to last year's crop. High Plains harvested about 5.118 million bales last year, which was the highest for the region in past five years.

Referring to national forecast from NOAA for next few weeks, Steve Verett, Executive Vice President of Plains Cotton Growers was optimistic about the weather that could deliver a good crop. Forecasts show temperature above normal and below normal precipitation, which should enable good maturity.

Intermediate to long term forecasts are favorable from yield stand point and higher crop from High Plains stated, Shawn Wade, Director of Policy Analysis and Research at Plains Cotton Growers.

With the United States expected to export about 14.9 million bales, quality is the driver.

Cotton Update from West Texas

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 1, 2017)-All eyes are on Texas since last Friday, when hurricane Harvey hit South East Texas.

Major industrial sectors in Texas such as cotton, oil refinery and transportation have been hard hit by the natural disaster. Harvey has faded to be a depression now, but the loss to lives and properties have been huge. There have been over 30 fatalities and damages are in billions. The global impact has been such that my friends from Indian cities, Chennai and Ahmedabad have been asking about my wellbeing although I live in West Texas. Harvey has put Texas in the living rooms of many living some ten thousand miles away.

Cotton fields in South Texas have been flooded with harvested modules damaged. This would of course, impact ginning and the quality of the harvested crop. While Harvey was about to make landfall late last Friday, cotton industry people met in the Plains Cotton Growers' office in Lubbock. Discussions centered on Harvey's potential impact and cotton production this year. Industry leaders and participants at the last Friday meeting had South Texas cotton industry in their minds and were hoping for the best.

While touring Lubbock, this week, Dr. Kater Hake, Vice President, Agricultural and Environmental Research at Cary-based Cotton Incorporated showed me some pictures of damages to the cotton fields in South Texas, which he has received, that showcased damages to modules sitting in water flooded fields.

This year's crop in South Texas has been mostly harvested, with tremendous yields as high as 3.5 to 4 bales in some fields. It is the cotton from this region that gets exported first every year. Mother Nature's havoc would certainly influence ginning and the export of cotton from the belt that was hard hit by Harvey. This has also influenced the market, but over long run fundamentals will set the price right.

Turing attention to High Plains, the epicenter of cotton activities, away from the Harvey zone, weather has been pleasant. Mood is upbeat about this year's cotton and there will be a lot of cotton. High Plains' crop is looking good with less insect pressure. Weed issues have been well controlled. "Tremendously clean fields", stated Peter Dotray, Professor of Weed Science in Lubbock.

Given the congenial weather so far, there will be a bumper crop in Texas. Hopes are high such that expectations for Texas ' crop will be about 9.5 million bales with High Plains contributing as high as 5.75 million bales. These expectations are higher than the latest projections from USDA, which was 8.8 million bales from Texas and about 5.2 million bales from High Plains.

"I am optimistic about good crop this year coming along," stated Hake while touring Lubbock region, this week. Similar optimistic picture is also prevalent in India, with regard to its cotton crop this season.

"It all depends upon good warm weather between now and September-October timeframe", cautioned, Shawn Wade of Lubbock-based Plains Cotton Growers, Inc. Let us hope for the best for South Texas' cotton industry.

My sincere prayers for all those affected by Harvey and wish them safety and wellbeing.

Electricity from Yarns

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, August 25, 2017)-Highly twisted coiled carbon nanotube yarns termed “twistron,” generate electricity efficiently.

A team of international scientists from the United States, South Korea and China led by researchers at The University of Texas-Dallas (UT Dallas) and Hanyang University, South Korea have reported in today’s Science magazine that these harvester yarns in electrochemical environment can transform mechanical energy to electricity without any external voltage source, in other words without the need of external batteries.

According to Na Li, at Alan G. MacDiarmid NanoTech Institute at UT Dallas, who has been involved in the study, yarns charge with the help of electrolyte, without external batteries.

Mechanical activities on the highly twisted yarn assembles the charge closer to the yarns, thereby increasing the voltage, helping with harvesting of electricity.

The strength of the new development is that the yarns result in high energy output per cycle.

Stretching the yarn 30 times per second generated 250 watts per kilogram of electric power, stated Professor Ray Baughman of UT Dallas, lead researcher in the study.

Shi Hyeong Kim, a postdoctoral researcher at UT Dallas and with Hanyang University did a bold study to prove the efficiency of the yarns, by experimenting the yarns in the cold waters off the east coast of South Korea. A 10-cm twistron yarn was attached between a balloon and a sinker on the seabed. With ocean waves, the yarn would stretch 25 percent, thereby generating electricity.

The task is to make these high-tech yarns economical and scale-up the production method.

Maybe one day, such high performance textile yarns can harvest energy from ocean waves.

New Thoughts for the Cotton Industry

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, August 23, 2017)- Finding new markets and applications for cotton is becoming a priority for the cotton industry.

Over this summer, this scribe had an opportunity to interact with a few cotton leaders in India and it has become clear that the industry is looking into several factors such as availability of land for food vis-à-vis fiber, demand, cost and competition from synthetics. With higher crop predicted this season in the United States, expected to be largest in 11 years, price and demand factors will play important roles both from production and consumption points of view.

Cotton has derived demand, stated Mr. Suresh Kotak, Chairman of Mumbai-based Kotak Commodities Services, Ltd. With increases in production, a way to enhance the demand is to find new applications and markets. Enabling cotton to be a functional fiber, finding new markets with industrial applications will find new demand. Cotton industry has to enhance its R&D and marketing strategies towards these goals.

New techniques such as genomics can bring about these changes in production, application and economics aspects.

Interestingly, promoting cotton to be a food crop by finding more and added value to its seed may have some benefit. In a brief discussion with this scribe in Mumbai, Vinay Kotak, Director of Kotak Commodities stated that this strategy might work if proper and concerted efforts are made. Instead of marketing cotton seed as a byproduct, by making it main stay, fiber will be a byproduct. This will reduce the price and cotton will be much competitive with polyester. This has to work in sync with finding value-added applications for cotton fiber, such as industrial textiles, so that more demand and market value can be created.

United States' cotton sector is working towards raising the profile of cotton fiber from being a commodity fiber through its R&D efforts in developing function fabrics out of cotton and focusing its attention on value-added cotton seed applications.

Young Korean Scientists Explore US Labs for Oil Absorbent Research

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, August 21, 2017)- A team of young scientists from South Korea recently toured the United States to know about latest research on oil absorbents.

LG Corporation of South Korea, electronics and consumer goods giant is sponsoring LG Global Challenge as a way of promoting science and international understanding. The four membered team "UPONGE," whose project is on "Secondary Pollution from Waste Oil Absorbents," was one of the teams chosen to go to next round from the initial 2000 teams, which participated in this year's challenge.

LG Corporation has supported the travel cost of the four young engineers to tour United States for two weeks and interact with scientists in two laboratories working on oil absorbents.

As part of LG supported scientific travel, the team visited with scientist at Argonne National Laboratory in Chicago who was involved with the development of oleo sponge oil absorbent. The team undertook a survey with citizens in New York's Central Park about the awareness of oil spill and remediation methods. The team found that the public interviewed at Central Park were aware of the ill effects of oil spill, but were not much aware about what do be done with oil absorbent wastes, after they have soaked up the oil.

After completing the survey, the team visited Lubbock and had discussions with scientists at the Nonwovens and Advanced Materials Laboratory at Texas Tech University. The team had an opportunity to actually use the cotton based oil absorbent developed at Texas Tech University to soak up oil. Mr. HyeonJae Lee of Pukyong National University of Busan, South Korea, conducted the experiment while at Texas Tech University.

Commenting about cotton product, HoJeong Ryu, team leader stated that being natural and reusable makes cotton sorbent more applicable as they do not lead to secondary contamination.

The team was impressed to see flat high plains farm lands where the cotton season is going on. The visit enabled the scientists to visit laboratories and more importantly provided an opportunity to see the United States which is blessed with diverse geography, people and culture.

The recent trip was the first trip for the team to the United States of America.

Functional Fabrics Developments

By: Seshadri Ramkumar, Texas Tech University, USA

(Bengaluru, India, August 6, 2017)—Wearable textiles with electronic gadgets and circuits incorporated in them are gaining prominence.

Recently, an event was held at Cambridge, USA-based Massachusetts Institute of Technology (MIT) to support and encourage the development of smart fabrics with electronics and special functionality in them. The event brought students and researchers from MIT, Boston area and many others in developing prototypes of functional fabrics.

About 20 projects were showcased and two projects were selected as winners. Remote Triage involves sensors in fabrics, which can detect injuries and Security Blanket that has multiple applications were selected as winners in the event.

Other projects that were showcased at the event have exciting applications such as military clothing with RFID tags, stress detecting clothing, etc.

The event was organized by MIT Innovation Institute, Advanced Functional Fabrics of America and MD5, which is a partnership effort between U.S. Department of Defense and research intensive universities.

According to Bill Kernick, technology and partnership development executive of MD5, the three-day event was held to enable relationships with various innovators and U.S. Department of Defense and help in moving ideas forward.

In addition to this technology event, organizations like USA-based Industrial Fabrics Association International (IFAI) has been supporting student design competitions to support developing advanced textiles.

Although, wearable textiles sector is creating a lot of buzz, a concerted effort is needed to deal with practical and logistical barriers such as cost, wearability and durability issues.

Nonwoven Sector's Growth in India

By: Seshadri Ramkumar, Texas Tech University, USA

(Bengaluru, India, July 31, 2017)—Nonwoven and technical textiles have important roles to play towards the growth of the Indian textiles sector.

India wants its textile sector to reach \$US 250 billion by 2020. There needs to be growth in natural fiber, synthetic fiber, conventional and technical textiles sectors to achieve this economic figure.

Government of India has supported the growth of nonwovens industry by establishing a Center of Excellence in Nonwovens in Ichalkaranji, Maharashtra.

Amidst lush sugarcane fields, a nonwoven R&D and incubation center is fully operational at DKTE Textile and Engineering Institute in Ichalkaranji. Some 90 companies have availed the help from the institute in their product development and research.

Trutzschler's 2-meter wide needlepunching line with domestically made through-air bonding machine serve nonwoven companies and start-ups in developing a myriad of nonwoven products that find applications in filtration and insulation. A coating line has been added for functional finishing of nonwovens. Industry regularly uses the manufacturing size nonwoven machines and the testing center for their product development stated, Aniket Bhute, Assistant Director of the center.

The center has been financially supported by DKTE Institute and has been established by public and private partnership stated, Professor P. V. Kadole, Director of DKTE Institute. Many novel projects such as linen needlepunched nonwovens, solar water nonwoven filter, membranes for ethanol-water separation are currently ongoing at the center.

Nearly a decade ago, this scribe predicted the growth of India's nonwoven sector using the relationship between per capita nonwoven consumption and GDP growth rate. The model predicted India's growth to be in double digits, which is now fairly accepted growth figure for the nonwoven sector in India.

Textile Education Should Sync with Practical Training and Research

By: Seshadri Ramkumar, Texas Tech University, USA

(Bengaluru, India, July 30, 2017)—Future textile education should involve practical training and research in addition to classroom teaching.

Mr. Prakash Awade, former textile minister of the State of Maharashtra, India emphasized the importance of comprehensive education in engineering that should have research experience and internships as part of the regular curriculum, while speaking recently at a function in Ichalkaranji as part of training workshop on Technical Textiles to faculty and students at the DKTE Textile and Engineering Institute.

Tutorials on nonwovens and technical textiles were delivered by this scribe at the DKTE institute. At this event, Professor P. V. Kadole, director of the DKTE institute, emphasized the importance of linkages with industry and international institutes.

DKTE institute has about 1200 students in textile curriculum leading to diploma and degree certificates.

Ichalkaranji, situated in a fertile agricultural belt in Maharashtra is a prominent power loom sector with over 1,20,000 power looms in operation in the region. In addition, the region has the largest concentration of shuttle less looms with about 14,000 high speed shuttle less looms. Most recently, support from the Government of India has resulted in the establishment of a Center of Excellence in Nonwovens, which is serving as an incubation center for emerging nonwoven sector in India.

Innovation Pathway for Textile Sector

By: Seshadri Ramkumar, Texas Tech University, USA

(Bengaluru, India, July 23, 2017)—Five tenets of innovation will enable textile sector to develop as a value-added sector.

Practical experience and lessons learned from twenty-five years of experience in specialty textile chemicals industry has helped Ganesh Srinivasan, Director of Innovation at Bengaluru, India based Resil Chemicals to develop high-tech products involving a myriad of collaborations from around the world.

In an interview with this scribe in Resil Chemicals' campus at Bommasandra, Bengaluru, Ganesh Srinivasan, articulated five principles of innovation, which his company practices. These involve: 1) customer focus; 2) creating new products based on customer expectations; 3) utilize collaborations from all corners to achieve results; 4) communication with stake holders and 5) community involvement.

Resil, whose annual revenue is about US\$ 30 million, produces 15,000 tons of specialty chemicals catering to textiles, pharma and agriculture sectors. In fact, it has about 500 formulations related to textiles.

A valuable asset, which Resil has is, its vast network of collaborators in India and abroad. These collaborations have turned laboratory research into commercial products quickly. One such example is its collaboration with Indian Institute of Technology, New Delhi that has resulted in a cost effective silver particulate technology for antimicrobial textiles. A tie-up with Acticell of Austria has resulted in eco-friendly denim finishing technology.

Resil's clients include key global brands such as Wrangler, Van Heusen, etc.

Ganesh opines that the textiles sector should focus on collaborative R and D to move forward.

International Cotton Leader Showcases Innovations

By: Seshadri Ramkumar, Texas Tech University, USA

(Bengaluru, India, July 8, 2017)—Finding new applications and concentrating on functionalities of King Cotton are important.

Dr. Kater Hake, Vice-President of Agricultural and Environmental Research at Cary, USA-based Cotton Incorporated delivered the first Narendra C. Sheth Memorial cotton lecture sponsored by C. A. Galiakotwala & Co. Pvt. Ltd, in Mumbai on July 6th.

Addressing a large gathering of people from cotton and textile sector in Blue Sea, Worli, Dr. Hake highlighted key innovations in the cotton sector from around the world. Staging his talk to emphasize the importance of continued R&D in the cotton industry to compete against synthetics, Hake mentioned how Cotton Incorporated works with researchers in 55 institutions to advance the industry.

His impressive talk focused on developments from Brazil such as zero tillage cotton farming, which has resulted in the yield of 1500 kg/hectare, data utilization by US farmers to increase agricultural efficiency, etc. Dr. Hake advised that the agriculture sector should utilize advances from biomedical industry to enhance the yield such as Pocket Laboratory development from Africa.

Gene editing is a promising advancement, which would result in improving fiber quality according to Dr. Hake.

In addressing a query from this scribe, Hake stated, finding new applications for cotton and focusing on the functionality of cotton at the fiber and application levels are important for the cotton sector.

Dhiren Sheth, Director of C. A. Galiakotwala & Co. Pvt. Ltd., and former President of Cotton Association of India, stated that the purpose of Narendra Sheth lecture series is to inspire youngsters to involve themselves in cotton R& D. Many of Shri. Narendra Sheth's contemporaries, who have played an important role in the Indian cotton sector attended the event.

Indian Textile Industry Aims to Reach US\$650 Billion by 2025

Seshadri Ramkumar, Texas Tech University, USA

(Bengaluru, India, July 3, 2017)—Indian Prime Minister sets the goal for Indian textiles sector to reach US\$650 billion by 2025.

Mr. Narendra Modi, Honorable Prime Minister of India, while inaugurating India's largest ever textile meet, Textiles India-2017 on June 30th in Gandhinagar, Gujarat, India heralded the strength and capacity of the Indian textile industry.

Speaking extemporaneously in Hindi and English thrilled a large audience in Mahatma Mandir, Gandhinagar with statistics about India's textile industry and outlining the opportunities for the sector.

Using a slogan, "farm to foreign," the Honorable Prime Minister, emphasized the need for increasing the exports to reach the target of US\$650 billion by 2025.

Speed, scale and quality are necessitates for Indian textiles to compete against countries like China, said the Prime Minister. Innovation and research are needed to meet the demands of consumers in other countries as culture, life style and fashion trends are different. He also emphasized some specific areas such as organic dyes, which need attention.

This scribe was in the audience while the Prime Minister was delivering the inaugural address at the mega textile event that had over 1000 exhibitors and 15,000 registered buyers/delegates from many different countries.

Ministry of Textiles, Government of India organized the 3-day event, which attracted a large technical audience and general public.

Carbon Fiber Development

Seshadri Ramkumar, Texas Tech University, USA

(Bengaluru, India, June 27, 2017)—Australian scientists have developed an improved carbon fiber manufacturing process which could result in low cost of carbon fibers.

Maxime Maghe and Steve Atkiss, associated with Deakin University's Carbon Nexus have invented a process that reduces energy with carbon fiber manufacturing by 75% and speeds-up the production process.

Deakin University has licensed the technology to LeMond Composites, founded by Mr. Greg LeMond, three-time Tour de France champion. "Technology developed by Carbon Nexus will feed the world with low cost carbon fiber," said, Mr. LeMond.

There is a plan to have a carbon fiber manufacturing plant in Geelong with investment from LeMond Composites. Furnace Engineering of Victoria, Australia will be supplying machinery for this venture.

The licensing agreement between Carbon Nexus and LeMond Composites is first of its kind from Carbon Nexus, stated Derek Buckmaster, Director of Carbon Nexus.

Carbon Nexus was formed at Deakin in 2014 with investments from Australian Government, local and state agencies and Deakin University. Mr. LeMond was the first cyclist to win Tour de France using carbon fiber bike.

Indian Company Debuts Cotton for Technical Textiles

By: Seshadri Ramkumar, Texas Tech University, USA

(Bengaluru, India, June 22, 2017)—A company based in South India has developed mechanically processed cotton varieties suitable for use in absorbent technical textiles products.

Globally, nonwovens sector is in the lookout for new fibers that are sustainable. To fulfill this need, South India based Jayalakshmi Enterprises has released two different types of processed cotton that can be used in nonwoven manufacturing processes such as needlepunching and hydroentangling to develop absorbent and other specialized technical textiles products.

Jayalakshmi Group has been in cotton textiles business for over five decades. Recently, they have diversified to develop cotton based high-tech products such as oil sorbents.

“We are in the phase of diversification and so developing cotton products that can fulfill the needs of the growing nonwovens and technical textiles sector is natural growth process for us,” stated Mr. S. Velmurugan, the general manager of Aruppukottai based Jayalakshmi Enterprises. They have so far developed two types of cotton. One variety has soft silky touch and is the high-end variety from Jayalakshmi Enterprises.

Jayalakshmi Group has an annual turnover of about Rupees 150 crores and is into developing specialized cotton yarns and allied cotton products.

Chennai-based Wellgro Tech trading group will be marketing the cottons for nonwovens and technical textile sectors.

“As we are into marketing adult diapers and incontinence products, collaborating with Jayalakshmi Group is a good growth strategy for us,” stated Venkatakrisnan, Founder/President of Wellgro Tech. Wellgro Tech will be looking towards domestic nonwovens wipe manufacturers and international players as its potential customers, said Nambi Srinivasan, marketing in-charge at Wellgro Tech.

Indian companies need to develop their nonwovens sector right from fibers to fully finished products that can be available at retail outlets. Such endeavors by conventional textile groups such as Jayalakshmi Group are much needed to advance the technical textiles sector in India.

Toxic Chemical Protective Nonwoven Fabric

By: Seshadri Ramkumar, Texas Tech University, USA

(Bengaluru, India, June 12, 2017)—A team of U.S. scientists has used improved coating method to develop chemical warfare protective nonwoven fabric.

Collaborators from Edgewood Chemical Biological Center of the U.S. Army and North Carolina State University have deposited zirconium based metal-organic-framework (MOF) material using refined method. The technique has resulted in thin coating using atomic layer deposition of the catalytic layer to degrade toxins. Polypropylene nonwoven fabric with the MOF thin coating was able to degrade warfare simulant DMNP effectively, rather quickly.

The unique aspect of this research has been the growing of zirconium based MOF on the nonwoven fabric at room temperature, unlike earlier research work which needed elevated temperatures.

This work has appeared in a recent issue of the journal Chemistry of Materials.

Bio Moisture Managing Suit Developed

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, May 26, 2017)-Biological cells embedded suits that adapt to changes in moisture have been designed.

Researchers at Cambridge, USA-based Massachusetts Institute of Technology have created breathable workout suit with flaps for better moisture control. The interesting feature is that the flaps are lined up with live biological cells that shrink and enlarge with the changes in the environmental humidity.

Additional product with similar technology is a sport shoe, which has been designed by the researchers.

The cells used can be designed using genetic engineering and are safe, according to the researchers. The suits can be functionalized to enable them to be color sensitive such as fluorescence and release pleasant odor when working out in the gym.

According to researchers led by Wen Wang, former research scientist at MIT's Chemical Engineering, the cells are strong and can be coated on to fabrics.

Common nonpathogenic E. coli strain has been used, which shrink and swell with variations in humidity. These were then cell printed onto natural rubber latex. The cell lined latex was used to develop flaps which were tailored to the workout suit.

The work was recently published in the journal Science Advances and involved true multidisciplinary expertise involving fashion design, mechanical, chemical and bio engineering disciplines. The team collaborated with New Balance Athletics.

Silk Eardrums

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, May 22, 2017)-Research effort on silk membranes as eardrum implants by Australian Scientists is closer to reality.

London-based UK Wellcome Trust has provided a major grant worth a few million dollars towards the development of silk membranes and its clinical trials, according to Deakin University in Australia.

Deakin University and Ear Science Institute of Australia are the winners of the major grant, which will enable the research to progress towards clinical trials.

Researchers, Rangam Rajkhowa and Ben Allardyce of Deakin's Institute for Frontier Materials have developed silk based membranes along with scientists at the Ear Science Institute.

According to the researchers, silk membranes are thin and vibrate like natural eardrum. As they are biocompatible, they biodegrade when natural eardrum is regenerated.

The clinical trials will evaluate how the membranes adapt to the human ear environment.

According to Professor Xungai Wang, Director of the Institute for Frontier Materials at Deakin, the three-year project has been funded by Wellcome Trust as part of its Translation Fund.

Cotton Has Unique Strengths

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, May 19, 2017)-Cotton is pre-sold on its comfort attributes. In addition, it has certain environmental benefits.

With planting in serious mode on the High Plains of Texas, stakeholders of the industry gathered at 7.30AM in the office of Lubbock-based Plains Cotton Growers.

The meeting kicked-off with discussions about planting accomplished so far and then shifted to discuss about certain benefits of the natural fiber.

On an average about 20-30% of acreage has been planted in the High Plains. In Lubbock County, 30% of acres have been planted. Wind has been strong recently and has deterred some producers from going on a high gear. As usual in the region, it is the rain, which will determine the amount of production. It is the not number of acres planted, ultimately, weather and the number of bales produced are what matter and will influence the price and hence the demand.

“Rain fixes a lot of things,” stated Shelley Heinrich, a cotton producer, who farms about 3000 acres in South of Lubbock. With higher prices, producers are expected to plant more cotton acres. In High Plains, this year, 60% of acreage will be dryland and 40% will be irrigated. In recent years we had slipped a little and irrigated acreage had dipped to around 35% stated Shawn Wade, Director of Policy Analysis at Plains Cotton Growers.

While discussing the benefits of cotton, it's not only the comfort on which cotton is pre-sold, there are also environmental benefits. More and more consumers are aware of the problems caused due to the bioaccumulation of micro synthetics in marine lives and ocean floors. Cotton being biodegradable can be a natural alternative to address this issue.

With the help of technology and good environmental stewardship, producers these days, use fewer resources such as water and chemicals in production. Even in the case of irrigation, High Plains' producers practice supplemental irrigation techniques and are quick to adopt to water-savings management strategies.

Cotton's natural benefits and improved manufacturing practices are enabling it to penetrate into high performance and active wear markets. The cotton sector needs to focus on imparting desirable functional characteristics to the fiber, without sacrificing its comfort to make it more attractive to these markets.

Wearable Exosuit Developed

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, May 16, 2017)-Virginia Tech and Lowe's have collaborated to develop a lift assisting wearable exosuit.

The exosuit has been developed to assist employees to be comfortable and safe while lifting weights in stores. The prototype has been put to validation at Lowe's store in Christiansburg, Virginia.

The technology uses soft and flexible electronic elements making the suit wearable.

Alan Asbeck, Assistant Professor in the Department of Mechanical Engineering at Virginia Tech along with a team of eight students collaborated with Lowe's Innovation Labs for this project.

The next phase of the project is to examine the physical effects of the suits while using such as comfort, ease of use, etc.

Lowe's is committed to explore opportunities to improve workplace environment stated, Kyle Nel, Executive Director of Lowe's Innovation Labs.

According to Joe Sirico, store manager at Lowe's Christiansburg location, developing such technologies help to keep associates from being worn out.

More and more it is becoming apparent that innovations and applied developments in textiles cut across disciplines and come from non-traditional textile research powerhouses. Textiles truly lends into many multidisciplinary endeavors involving basic sciences, manufacturing technologies and electronics.

India Expected to Produce More Cotton

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, May 10, 2017)-Indian cotton crop may see about 20 percent increase in the new season.

India's current cotton crop for the season ending this September is expected to be about 34.1 million bales (170 Kgs each). However, next season's crop (October 2017-September 2018) could be up to 20% higher than this current season.

Mr. M. M. Chockalingam, Chairman and Managing Director In-charge of state owned cotton company, Cotton Corporation of India (CCI), spoke this morning with this scribe and advised that farmers are enthusiastic in planting more cotton, next season. Mr. Chockalingam predicted that the crop increase would be about 15-20 percent next year.

This year, farmers in India have realized good price for cotton, which has not been the case in grains. Cotton farmers have received Rupees 6000 for one quintal of seed cotton (Kapas), whereas, the minimum support price set by government has been only Rupees 4160 per quintal.

Pulse grain production has been high this year, which has resulted in lesser price for producers. Prices of edible oil seeds has been stagnant.

Higher price expectation is driving more cotton planting, which is clear from the plantings so far in northern areas such as Punjab, Haryana and Rajasthan. Seventy percent sowing has been complete in this region already.

The weather seems to be favorable for the next season, with early and above average rainfall expected in cotton planting zones in the country. Overall increase will come from increases in acreage and yield.

According to a source based in Mumbai, who has been in the cotton business for many decades, the higher price scenario will result in the diversion of plantings in pulses and edible oil seeds towards cotton.

Ramkumar, S

From: Suresh Kotak <suresh021033@gmail.com>
Sent: Thursday, May 11, 2017 1:05 AM
To: Ramkumar, S
Subject: WONDERFUL COTTON REPORT

Dear Dr. Seshadri,

We met a number of years ago when I visited Lubbock for ICAC meeting.

I remember having visited your plant and having interactions with you. Incidentally I read a cotton report from you sent by somebody. Interesting report, thanks I got reminded of you. Hence thought of sending a message to you.

Next while in India, do have time to visit us.

Best regards,
Suresh Kotak,
Chairman - Kotak Commodities,
Chairman - Indian Society for Cotton Improvement

Collective Effort Needed to Advance the Industry

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, May 5, 2017)-Cotton industry needs collective effort by all stakeholders to advance.

End-user communities, research organizations, financial institutions, policy makers need to work with cotton, agriculture and for that matter any industrial sector to advance.

Lubbock-based Plains Cotton Gowers, Inc. has been the champion of the collective spirit and it can serve as model for the global cotton and textile industries.

As the planting season is on the High Plains of Texas, stakeholders related to the industry gathered today to discuss planting season, cotton market situation and federal support programs.

Researchers from Texas AgriLife Research and Extension, Texas Tech University and USDA presented scenarios with regard to pest management, weed control, moisture situation, etc. With the medium to long-term climatic conditions, showing above average precipitations for this region, this season should be very positive for cotton.

Global demand of cotton is good, which may be a driver for more cotton planting in the High Plains.

However, as cotton being non-food crop is subjected to many uncertainties such as consumer demand, price volatility, competition from other producing countries and cost of production. With heavy dependency on weather, to have sustained advancement in sectors such as cotton and production agriculture in general, safety net policies are needed.

Today's meeting at the backdrop of latest budget situation highlighted the collective and positive working spirit of producer associations such as Plains Cotton Growers.

Steve Verett, Executive Vice President of Plains Cotton Growers, emphasized the importance of collaborative efforts among all stakeholders to carry through stressful situations, which the US cotton industry has been facing recently.

Global textile and cotton industry whether a major cotton producer like India, or leading apparel producer like Bangladesh needs to have strong associations such as those in the United States to take care of the needs of their producers, manufacturers.

More importantly, when it comes to advocating support structure to the respective governments, while appreciating the contributions of other allied industries, such associations are vital.

In the United States, associations such as Plains Cotton Growers, Memphis-based National Cotton Council and National Council of Textile Organizations play a vital role to support and advance the industry.

Ramkumar, S

From: Mary Jane Buerkle <maryjane@plainscotton.org>
Sent: Monday, May 08, 2017 12:00 PM
To: Ramkumar, S
Cc: Steve Verett; Shawn Wade; Kody Bessent; Kater Hake
Subject: Re: INDIA: Commodity Online

Great article getting some great play! Thanks, Ram!

Mary Jane Buerkle

Director of Communications and Public Affairs
Plains Cotton Growers, Inc.
4517 W. Loop 289
Lubbock, TX 79414
(806) 792-4904
maryjane@plainscotton.org

[Plains Cotton Growers on Facebook](#)

[PCGNews on Twitter](#)

On May 8, 2017, at 9:00 AM, Ramkumar, S <s.ramkumar@ttu.edu> wrote:

<http://www.commodityonline.com/commodity-news/collective-effort-needed-to-advance-the-industry/commodity-analysis/14696>

Kindly,
Ram

Ramkumar, S

From: Venkatesh D.A. <venchi31@yahoo.com>
Sent: Monday, May 08, 2017 3:05 AM
To: Ramkumar, S
Subject: Re: TexSnips: Collective Effort Needed to Advance the Industry

ramkumar

a well thought idea of taking care of the cotton growers and its related issues in India no such organisation exists to address the issues, if it is there is, not open for all.

D.A.VENKATESH *India*

On Friday, May 5, 2017 9:02 PM, "Ramkumar, S" <s.ramkumar@ttu.edu> wrote:

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Ramkumar, S

From: Paul Sawhney <paulsawhney@hotmail.com>
Sent: Friday, May 05, 2017 12:26 PM
To: Ramkumar, S
Subject: Re: TexSnips: Collective Effort Needed to Advance the Industry

EXCELLENT AND APPROPRIATE ADVICE FROM A WORLD-KNOWN COTTON TEXTILE RESEARCHER FROM TEXAS TECH!

Best regards, as always,

Paul
+++++

*Dr. A. P. Sawhney
Recently retired from ARS, USDA
(50 years of active textile research in
USA)*

From: Ramkumar, S <s.ramkumar@ttu.edu>
Sent: Friday, May 5, 2017 3:31 PM
To: Ramkumar, S
Subject: TexSnips: Collective Effort Needed to Advance the Industry

Collective Effort Needed to Advance the Industry

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Demand Drives the Cotton Market

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 21, 2017)-Strong demand drives the cotton market amidst increased planting intentions in the United States.

Cotton industry stakeholders in the High Plains of Texas gathered in Lubbock, this morning with optimistic mood in spite of dense fog to discuss this year's cotton planting, Washington politics and global demand and market scenario.

There is going to be lot of acres in Texas with about 20% increase in acreage predicted. Recent planting intentions report by the USDA estimates, Texas will have about 22% more acreage this year as against last year. Steve Verett, Executive Vice President of Lubbock-based Plains Cotton Growers, Inc., estimates the increase will be significantly higher in the I-N region of the High Plains, Central Texas and South Texas areas to achieve the overall increase of 20% in Texas.

The High Plains of Texas with 41 counties will have more cotton planted than any other region in the United States, stated, Verett.

The High Plains is expected to have 15% more cotton acres, this year. Shawn Wade, Director of Policy Analysis and Research at Plains Cotton Growers stated that the High Plains of Texas should see its highest planted acreage since 2011. In 2011, it seemed the region planted every acre available for cotton, stated Shawn Wade. The 2017 plantings will probably not reach that level, he said, but should easily reach 4.25 million acres.

One would expect with higher planting intentions, market would go down, but December futures is trading at about 75 cents.

Demand is strong with China coming into buying, makes the market stand steady. China and Vietnam are buying American crop. At this point of time, US is shipping cotton, which is good according to cotton sales people who were present at today's meeting in Lubbock.

Global textile industry is in need for quality cotton and reliable delivery schedules.

Coloring Cotton with Cotton

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 18, 2017)-A collaborative endeavor has resulted in dyeing cotton with cotton.

Archroma has pioneered the concept of using natural wastes and byproducts to synthesize dyes to color textiles.

Bryan Dill from Archroma US, Inc, presented the “Earthcolors” technology at the recent international conference of the American Association of Textile Chemists and Colorists in Wilmington, NC. Archroma has synthesized sulfur dyes from natural wastes such as almond shells, cotton gin wastes, plant byproducts and shoots of rosemary, etc. This technology originally came out of Archroma’s unit in Spain.

Archroma collaborated with Cary-based Cotton Incorporated in using sulfur dyes derived from cotton waste and gin waste to color cotton denims.

Mike Tyndall, Vice President for Product Research at Cotton Incorporated stated that this endeavor expands the boundaries of agriculture and utilizes agricultural resources to make dyes that replace petroleum precursors.

Cotton denims dyed with cotton waste will be coming into the market soon. These products will be environmentally and skin friendly, according to Archroma.

Interesting feature is that consumers will be able to trace the entire supply chain from the origins of the dyes and the natural raw material used in the process.

Ramkumar, S

From: Jim Steadman <JSteadman@meistermedia.com>
Sent: Tuesday, April 18, 2017 1:06 PM
To: Ramkumar, S
Subject: RE: News Filing: Coloring Cotton with Cotton

Thanks, Ram! Very interesting article.

<http://www.cottongrower.com/cotton-news/coloring-cotton-with-cotton/>

Jim

*Jim Steadman, Senior Editor, Cotton Grower
Meistermedia, Memphis*

From: Ramkumar, S [mailto:s.ramkumar@ttu.edu]
Sent: Tuesday, April 18, 2017 12:41 PM
To: Beck Barnes <JBBarnes@meistermedia.com>; Jim Steadman <JSteadman@meistermedia.com>
Subject: News Filing: Coloring Cotton with Cotton

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Seshadri Ramkumar, PhD, FTA (*Honorary*)
Professor, Nonwovens & Advanced Materials Laboratory
Texas Tech University

IT Techies Foray into Technical Textiles

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 02, 2017)-Two Indian IT techies are venturing into technical textiles field.

In what seems to be a surprising reversal of trend, engineers are switching from information technology to the manufacturing sector.

India over the past two decades has gained reputation as an IT giant with its skilled IT engineers spread across the globe.

Chennai, in South India is known for its automotive and IT sectors and is the home base for Wellgro Tech, which is aiming at marketing domestically manufactured high-end nonwoven and technical textiles to domestic and export markets.

Wellgro Tech's co-director R. Prabakaran, in speaking to this scribe recently stated that although IT sector has employment opportunities; the business as such has become very competitive. In echoing this sentiment, R. Venkatakrishnan, the other co-director stated that that is the reason, they have ventured into technical textiles, in particular to market hygiene products. There is need for good quality and cost effective adult incontinence products in India, according to their field research.

Within a short span of time, Wellgro Tech has acquired clients, who want domestically made quality hygiene products. According to the founders, initial effort will be to procure domestic products that meet stringent quality standards for their customers.

Wellgro Tech's goal is to manufacture and supply domestically made high quality technical textiles products that cater to hygiene, automotive and chemical sectors.

It is interesting to note that both founders have 20 years of experience in the IT field, before they switched to technical textiles field.

Walmart Pushes for Technology and Talent

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 31, 2017)-As part of reviving manufacturing, Walmart advocates for developing talent and technology.

Speaking recently to a standing room only audience at the 2017 international conference of the American Association of Textile Chemists and Colorists (AATCC) in Wilmington, NC, Joe Quinn, Senior Director of Public Affairs at Walmart presented a case for growing talent and new technologies to drive growth in manufacturing and economy.

Talent gap worries companies such as Walmart. Companies are supporting domestic manufacturing, which is having an improved image these days as clean, well paid and cutting edge. As long as it is economical and of good quality, leading companies will go for domestic manufacturing and suppliers. Quinn highlighted an example of how Walmart worked with Statesville-based Homestar, the furniture manufacturer, in delivering high quality office furniture, which is the most preferred item among college students.

Walmart, which started in 1962, is the world's largest retail store with 5300 retail shops, which constantly adapts to new technologies as evidenced with their grocery pick-up program.

Companies are seriously looking into procuring products domestically diverting from China, although there are some challenges to do that. Quinn gave some advice on how to shift business from China such as locating locally made goods, increasing access to finance for small businesses, improving talented labor pool, to name a few.

Quinn's closing statement that may be music to domestic manufacturers is that "we are in good place with talented young people and new technologies."

Growing young people with interest in manufacturing and developing new technologies are important to grow diversified economies.

This week's AATCC conference displayed a revival in manufacturing, particularly in advanced textile products.

Cotton Demand is Strong

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 27, 2017)-The demand for cotton is strong, which will be reflected in increased plantings. High level of optimism was evident in Lubbock at the Plains Cotton Growers' (PCG) meeting, this past Friday. At least, 15% increase in acreage is expected against last year, this planting season in Texas. High Plains of Texas with 41 cotton-growing counties will see 15 to 20% increase in cotton planting this spring compared to last year. Given the yield, quality of the crop and the price levels, cotton is the best crop in High Plains against food grains. High Plains has seen enhancement of quality in the recent crops with low bark, improvement in micronaire, which drive up cotton production, as there is demand for quality cotton world over. The importance of quality cotton with less contamination is a need felt by Indian cotton spinners. This may be the reason; exporters like Australia are taking a serious look at Indian market, which itself is a leading producer of cotton.

Last year, High Plains of cotton planted 3.68 million acres of upland cotton, which is expected to go up this year. Steve Verett, Executive VP of PCG stated, growers are indicating an increase of cotton plantings for 2017, especially in our northern high plains region. Many of PCG's members plant a various mixture of crops and we support their seeking the mix that is most efficient and profitable for their individual operation, added Verett.

The main reason for increased interest in cotton is the growing demand for cotton. Price fluctuations with synthetics and increase in general demand for cotton are major drivers. This season's (October 16 –September 17) India's crop is not what it was expected earlier, which also has aided more interest in cotton in the High Plains of Texas and elsewhere.

Of course, weather will be a major driver on what the yields will be for the 2017 crop in Texas, the leading cotton producing state in the United States. Large range modeling hints that good weather patterns in May to June period, that may be beneficial to cotton said, Matt Ernst, Fox34 chief meteorologist in Lubbock.

All pointers are pointing in the right direction for cotton and surely, demand is leading the charge for more cotton.

Tips for Cotton and Allied Sectors

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 22, 2017)-Getting involved and being active participants are a few traits that are needed to push the cotton, textile related sectors forward.

Mr. Larry Combest, former Chairman of the US House Agriculture committee while reminiscing about his long experience in the United States' Congress provided some value suggestions that are needed for people in any industry, in particular cotton sector.

Getting involved in the causes that affect the industry, by being very specific about problems and reasoning with policy makers will help to move the industry forward, said Mr. Combest.

Yesterday, Lubbock Chamber of Commerce hosted Salute to Ag Luncheon as part of National Ag Day celebration in Lubbock. In that event, Mr. Combest and his associate, Tom Sell of Lubbock- based Combest, Sell & Associates explained to farmers, academics and agribusiness people, some ways to accomplish bigger tasks such as passing farm bill legislation. Mr. Combest was the architect of the 2002 farm bill, who put together the bipartisan support for the bill, which provides the necessary support structure for production agriculture.

Lubbock is the epicenter of cotton production and research and has a thriving agribusiness such as insurance and lending agencies. Murvat Musa, Executive Director of Lubbock-based Reese Technology Center stated "cotton's importance to the West Texas region goes beyond economics. It's truly embedded in the culture and is vital for future generations and the prosperity of families that have been providing cotton to the world."

Trade is important stated, Mr. Combest. Echoing this sentiment, Tom Sell stated that United States produces more than it can consume and hence fair trade deal is important.

Getting to know people, putting alliances together and having a collective voice such as Chambers of Commerce are needed, at times when there are severe competitions for resources.

Governments around the world need to support research and programs to boost production, given many uncertainties that exists in the agriculture and manufacturing sectors.

Obviously, proposed reductions in U.S. agriculture department's budget is ringing some alarm bells among researchers and producers.

In addressing this issue, Steve Verett, Executive Vice President of Lubbock-based Plains Cotton Growers aptly stated that U.S. Presidents' budget is a blueprint that hints about the priorities of the administration. However, the proposed cuts to USDA are troubling as they represent significant reductions to programs such as agricultural research and the delivery of programs through the Farm Service Agency.

Verett, who has been with Plains Cotton Growers since 1997, practices on a daily basis, those traits that were expressed by the Congressman to be essential tools to thrive in the cotton industry. Verett embodies the spirit of hard working farmers of West Texas, who believe in shared responsibility, fair trade and good civic and professional ethics.

Wonder Material from Soy

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 20, 2017)- Graphene has been made using soybean oil by a team of Australian scientists.

Graphene, deemed recently as a wonder material is a type of carbon, which is strongest, thinnest with good electrical conductivity. These properties enable it have potential applications in wide array of sectors such as electronics, biomedicine and aerospace.

The Australian team led by CSIRO, Australia has come-up with a new method of graphene production termed, "GraphAir," which uses ambient environmental conditions to grow graphene films. This process deviates from other conventional techniques that require high energy and extensive vacuum. The conventional methods are costly, which has prevented good commercial success of graphene.

In the new method, soybean oil was used as a precursor to develop graphene using one-step process. Interestingly, the team has experimented with leftover cooking and waste oils.

According to Dr. Dong Han Seo, the CSIRO scientist involved in the study, the new technique results in graphene with good and comparable properties with graphene developed using conventional processes.

The scientists envisage applications such as improving battery performance and developing cheap and efficient solar panels, to name a few.

In 2010, the Nobel Prize committee recognized two scientists from the University of Manchester, United Kingdom for their work on graphene.

Indian Cotton Situation Stable

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 16, 2017)- Cotton situation in India from both producers and users points of view seem to be stable.

Cotton price is reasonable, stated the general manager of a large spinning in South India.

In a morning telephone call with this scribe today, the general manager whose mill procures 40,000 bales (170 Kgs each) of cotton each year stated that spinners, ginner and farmers are realizing reasonable price since February. Spinning mills have been suffering over the past two years and many have been forced to close the doors due to cotton price volatility and weak yarn prices. This trend seems to have reverted. Currently, the mill has bought MCU-5 cotton at about Rupees 46,000 per candy (356 Kgs).

The mill in South India has about 68,000 spindles and spins cotton yarns with an average count of 65s Ne. They procure generally MCU-5 cotton with 30 mm staple and produce yarns with counts ranging between 60sNe and 80sNe, catering to bed sheets and poplin fabric producers.

Yarns prices have steadily climbed and is comfortable now, stated the source. The price of fine count 60sNe is about Rupees 290 per kilogram, which is reasonable. Over a period of one year, yarn price has gained about 40 rupees per kilogram for 60sNe, which is a favorable trend.

In India, this season's 65 percent of cotton crop has arrived and if the price stability is maintained, it will be win-win for the cotton and textile sectors.

The source cautioned that if the cotton price skyrockets as was the case sometime back, it would make it difficult for the spinners.

At present times, according to the well-informed source, cotton price vis-à-vis yarn price is comfortable.

Peacock Inspires Textile Coloration

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 15, 2017)- Peacock feathers have inspired scientists to develop a textile coloration process.

Peacock, which is the national bird of India, has inspired designers for many generations. Recently, a team of researchers from Dalian University of Technology, China has borrowed inspiration from the patterned structure of peacock feathers to derive structural colors in textiles, to make the coloration process more environmentally friendly.

Deviating from the concept of chemical colors, the scientists have developed 3-D colloidal crystals and have transfer printed on to voile fabrics to create structural colors.

The coloration formulation consists of polystyrene nanoparticles, polyacrylate, carbon black and water. The nano polystyrene is responsible for the 3-D colloidal crystal formation, which modulates the light to develop the structural color patterns. Polyacrylate is needed for mechanical stability of the colloidal structures on the fabric.

According to the researchers, colloidal crystals are promising alternates to organic dyes and pigments. Transfer printing of colloidal particles resulted in good wash resistant multicolored patterns similar to those in peacock feathers. The work has appeared in a recent issue of ACS Applied Materials & Interfaces.

UK Invests Heavily in Advanced Materials Research

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 14, 2017)-United Kingdom is investing heavily to boost research and development in advanced materials.

As part of initial phase of investment, UK's government is investing 128 million British Pounds to host Henry Royce Institute at The University of Manchester, which will have an estimated investment of about 235 million pounds from the government.

The initial investment will cater towards building and equipment. The institute will cater towards R&D of advanced materials for various sectors such as energy materials, nuclear and aerospace.

According to Mr. Jo Johnson, UK's Minister for Universities and Science, the funding will help with the development of advanced materials such as graphene for different fields such as aerospace and healthcare.

The institute will comprise of seven research-intensive universities in the United Kingdom such as Manchester, Leeds, Cambridge, Oxford, Sheffield, Liverpool, Imperial College and two national laboratories that focus on nuclear and fusion energy research.

In speaking with this scribe recently, Daniel Cochlin of Henry Royce Institute said the building in Manchester will be up by the middle of 2019. Mr. Cochlin stated that the institute would focus on inventing and improving new materials that will perform better catering to advanced sectors.

The UK has already invested heavily in the National Graphene Institute that opened in 2015, which has attracted good support from the Europe Union as well.

03-15-2017

Ramkumar, S

From: Saurabh Maheshwari-PEL <saurabh@silkolite.com>
Sent: Wednesday, March 15, 2017 1:57 AM
To: Ramkumar, S
Subject: RE: TexSnips: UK Invests Heavily in Advanced Materials Research

Dear Sir,

This is to acknowledge receipt of informative emails being sent to me from your good office. Thanks a ton for sharing all this information which helps us to be in line with global developments in technical textile field.

With best wishes,

Saurabh Maheshwari – Associate Director
Pioneer Embroideries Limited
www.silkolite.com

INDIA

From: Ramkumar, S [mailto:s.ramkumar@ttu.edu]
Sent: Tuesday, March 14, 2017 7:42 PM
To: Ramkumar, S <s.ramkumar@ttu.edu>
Subject: TexSnips: UK Invests Heavily in Advanced Materials Research

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Cotton Shows Promise as a Superior Oil Absorbent

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, February 27, 2017)-Raw and finer cotton in loose form comes out as best oil absorbent.

A collaborative research involving high school students from Lubbock, scientists from Texas Tech University and U. S. Department of Agriculture's Laboratory in New Orleans has shown that micronaire, which is an indicator of maturity and fineness of cotton plays a significant role in determining cotton's oil absorption properties.

The experiments carried out at the Nonwovens and Advanced Materials Laboratory at Texas Tech University (TTU) has shown that raw cotton, which is finer and in loose form absorbs more oil than coarser cotton. This trend was evident in structured fabrics such as needlepunched and hydroentangled nonwoven fabrics, showing that finer cotton exhibited higher sorption values.

The results were published in the March/April 2017 issue of AATCC Journal of Research, published by the American Association of Textile Chemists and Colorists (AATCC).

In addition to the useful result, the research displayed one of the interesting collaborations. The team involved very senior and junior scientists.

Two high school students from Lubbock, Luke Kitten and Ronald Kendall, Jr., conducted experiments in TTU's Nonwovens Laboratory, which was supervised by a graduate student Vinitkumar Singh. Vinitkumar graduated Ph.D., from TTU and is currently employed as a Product Development Engineer at Sontara, a spunlace nonwovens manufacturer in Old Hickory, Tennessee.

The research also involved Dr. Paul Sawhney, who will be turning eighty in a few months, just retired last May from USDA after about 50 years of active research in the textiles field in the United States. The work has highlighted the importance of multidisciplinary research team involving next generation scientists and industry veterans.

The goal of the research at TTU's Nonwovens Laboratory is to enable cotton to be a high performance fiber. United States' upland cotton growers supported the work, through their Texas State Support Program. Lubbock-based Plains Cotton Growers, Inc. has been an active supporter of the work at TTU's Nonwovens and Advanced Materials laboratory.

Ramkumar, S

From: ashok kulkarni <arkku70@hotmail.com>
Sent: Wednesday, March 01, 2017 7:08 AM
To: Ramkumar, S
Subject: RE: TexSnips: Cotton Shows Promise as a Superior Oil Absorbent

THANKS

QUITE INFORMATIVE
REGARDS
KULKARNI

Senior Textile Consultant, India
Formerly Premier Nonwovens Unit
India

Sent from Mail for Windows 10

From: Ramkumar, S
Sent: 27 February 2017 22:32
To: Ramkumar, S
Subject: TexSnips: Cotton Shows Promise as a Superior Oil Absorbent

Cotton Shows Promise as a Superior Oil Absorbent

By: Seshadri Ramkumar, Texas Tech University, USA

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Ramkumar, S

From: needleman5@aol.com
Sent: Monday, February 27, 2017 12:06 PM
To: Ramkumar, S
Subject: Re: TexSnips: Cotton Shows Promise as a Superior Oil Absorbent

Hello Ram,

Very nice research. Any thoughts of presenting a paper at RISE?

Best regards,
Mike Pate
864-706-0706

Needlepunch/needle industry veteran

-----Original Message-----

From: Ramkumar, S <s.ramkumar@ttu.edu>
To: Ramkumar, S <s.ramkumar@ttu.edu>
Sent: Mon, Feb 27, 2017 12:02 pm
Subject: TexSnips: Cotton Shows Promise as a Superior Oil Absorbent

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Indian Cotton Consumption to Go Up Slightly

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, February 21, 2017)- India is estimated to consume 29.5 million bales of cotton (170 Kgs each), this season ending this September.

Within one month of its recent estimate, Mumbai-based Cotton Association of India (CAI) has revised the estimate of India's cotton consumption and import numbers.

While the crop estimate is to remain same as the previous estimate at 34.1 million bales (170 Kgs each), total domestic consumption will be slightly up by 500,000 bales (five lakh bales) and is estimated to be 29.5 million bales (170 Kgs each). Imports are estimated to be about 1.9 million bales.

The total supply will be about 40.5 million bales and the available surplus at the end of this season will be about 11 million bales. With the revised estimate, the available surplus will come down slightly from the previous estimate of 11.4 million bales.

According Mr. Nayan Mirani, President of CAI, arrivals have picked up and it is about 200,000 bales per day. This reflects the positive feeling among producers as they are realizing good price for their crop.

Australian Debut into Carbon Fiber Production

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, February 20, 2017)- For the first time, Australia will have the capacity to produce carbon fibers at scaled-up level.

Today, a wet spinning line has been installed at Waurm Pounds, Australia that will enable to carry out carbon fiber research starting from molecules to fully finished components.

Dr. Anita Hill, Director of Future Industries at Australia's premier research organization, CSIRO stated that the carbon fiber research capability could disrupt the carbon fiber industry.

Using the CSIRO patented carbon fiber technology, the carbon fiber facility will help Australia to develop next generation high performance carbon fibers.

In praising the industry-academia partnership, Professor Jane den Hollander, Vice-Chancellor of Deakin University stated that Australia would benefit with the collaboration.

The wet spinning capability develops strands of thin fibers, which are thinner than human hair, which are then carbonized. According to CSIRO, an Italian company, with research inputs from Deakin and CSIRO researchers, built the wet spinning line.

CSIRO has had longstanding research reputation in the field of fibers and textiles. Deakin University in recent times has been extremely active in fiber research focusing on high performance and next generation fibrous materials.

Innovations in Nonwovens to be Featured in an International Event

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, February 14, 2017)- New developments in nonwovens technology will be featured at a forthcoming international event.

Technical Association of Pulp and Paper Industry, popularly known as TAPPI will be organizing Innovative Nonwovens Conference (NET Inc) from April 23-26 in Minneapolis, United States.

TAPPI is a 100 year old professional association and provides a platform for the nonwoven industry professionals to interact with peers and exchange technical information. Pete Wallace, an industry veteran who has been with TAPPI for over 35 years commented, “for the past 35 years, TAAPI, Nonwovens Division (TAPPI-NET) has been the most important source of networking I have had in the industry. TAPPI has been essential to my career and in enabling me to do the best job possible for the companies I have worked for.”

The conference provides a good mix of market information and technology. The event will kick start with two keynotes. Andrew Willis, Technology Director at filter media manufacturer Hollingsworth & Vose will talk about “New Trends in Filtration,” and David Allan, Editor for Nonwovens at RISI Inc., will provide a market report on nonwovens field.

A Special feature of this nonwovens conference is that it is co-located with PaperCon, the premier pulp and paper conference of TAPPI. This gives opportunity for nonwoven professionals to learn about allied fields.

The conference will offer two workshops aimed at educating workforce in the nonwovens field and will feature, “Technical Textiles: 101,” and “Nonwovens Testing.” Added benefit to the participants will be the tutorials offered by PaperCon such as “Fiber Preparation for Tissue.”

In talking about the conference and the division that pulled the event together, Maureen Nunn of Pennsylvania Chemical Consultants stated, “TAPPI NET Division is the place where industry and universities come together to develop the next nonwoven industry innovations.”

Technical sessions will focus on many emerging topics such as cellulose nanofibers for nonwoven use, polyimide nanofibers for Li-ion battery applications, hemp fibers for wipes, nonwoven cotton substrate for separating oil from oil-water mixture, etc. Given the growth in smart textiles, a talk will focus on fiber device for energy harvesting.

More information about the nonwovens conference can be found at: <http://netincevent.org>

Indian Company Launches Environmentally Friendly Oil Sorbent

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, February 3, 2017)-South India based maritime services company has launched environmentally friendly and biodegradable oil sorbents.

There has been a recent incident of oil spill on the shores of Bay of Bengal in India at Ennore port affecting the marine life and the pristine beaches of Marina, in Chennai, India.

In the early morning hours of January 28th, an LNG tanker ship and a petroleum tanker collided at Ennore port resulting in spill. Reports indicate that this may have affected the marine life, resulting in dead turtles and oil-laden hatchlings washed ashore.

To aid the clean-up activities, government agencies and NGOs are working diligently.

A Chennai based maritime company; NAVTEK has come-up with a timely solution and has used its environmentally friendly absorbent mats at the spill site. NAVTEK has been in the works for some months now to refine their technology and has launched its product, which is much environmentally friendlier than synthetic polypropylene mats. They have 100% biodegradable mats and oil sorbents in their product basket.

Today, NAVTEK tested its product at Ennore port. In call with this scribe this morning (U.S. time) from Chennai, Mr. T. S. Rangarajan, Vice President-Technical of NAVTEK said, he personally evaluated the product on the oil spill site. “our mats absorbed the oil instantaneously.”

According to Rangarajan, the mat was able to absorb minimum 10 times its weight of oil in first shot of soaking. This ties in well with their earlier tests, which were carried out according to international standard by a third party accredited laboratory.

Companies like NAVTEK are contributing to Prime Minister Modi’s “Make in India,” effort by manufacturing and marketing Indian made products to solve global problems. According to NAVETK, they are also exploring international markets for their products, as well.

Ramkumar, S

From: Matt Carey <mcarey@rodmanmedia.com>
Sent: Friday, February 03, 2017 9:18 AM
To: Ramkumar, S
Cc: Karen McIntyre; Tara Olivo
Subject: Re: TexSnips: Indian Company Launches Environmentally Friendly Oil Sorbent

Ram, nicely written!

Can you tell me anything technical about this product? Fiber blend, process, structure etc? Will the manufacturer sell it as a roll good to converters around the world or only as a fully converted product?

I am sure Tara would like to do a Cameo on them. I copy her above.

NONWOVENS
INDUSTRY SINCE 1970

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On Feb 3, 2017, at 10:05 AM, Ramkumar, S <s.ramkumar@ttu.edu> wrote:

Indian Company Launches Environmentally Friendly Oil Sorbent

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, February 3, 2017)-South India based maritime services company has launched environmentally friendly and biodegradable nonwoven oil sorbents.

There has been a recent incident of oil spill on the shores of Bay of Bengal in India at Ennore port affecting the marine life and the pristine beaches of Marina, in Chennai, India. In the early morning hours of January 28th, an LNG tanker ship and a petroleum tanker collided at Ennore port resulting in spill. Reports indicate that this may have affected the marine life, resulting in dead turtles and oil-laden hatchlings washed ashore.

To aid the clean-up activities, government agencies and NGOs are working diligently.

Indian Cotton Crop Estimated to be 34.1 Million Bales

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, January 24, 2017)-India is estimated to produce 34.1 million cotton bales (170 Kgs each), this season (October 2016-September 2017).

Mumbai-based Cotton Association of India (CAI) yesterday, released the estimate, as the country was experiencing steady increase in cotton price. The total available supply this year will be 40.4 million bales.

While there will be slight increase in crop production this year by about 300,000 bales against last year, organized sector mill consumption will decrease and will be about 25.6 million bales. Last year, mills' estimated consumption was about 27.5 million bales. The current year will end with a surplus of about 11.4 million bales.

Given that production will remain almost same as last year, with the expected lower consumption, based on demand-side economics, price should not see steady rise. However, the lack of supply during the current peak arrival timeframe is the main cause for such price volatility.

Nayan Mirani, the President of CAI has stated that the arrivals during this season are estimated to be lower than those during the same timeframe last year. There is a consensus among marketers and mill people that farmers are stockpiling kapas cotton to realize more value, which is resulting in drastic price fluctuations.

Another issue that is causing concern among mills in the State of Tamilnadu is the quality of cotton due to some mix up with comber noil and other waste cotton, according to a technical source from a reputed spinning mill. The quality issue is also affecting the price situation in India, added the source.

The southern state of Tamilnadu is home for over 2000 spinning mills and has to depend on other states for its cotton supply.

Steady Rise in Indian Cotton Prices

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, January 23, 2017)-Indian cotton prices are seeing unusual rise during the current peak arrival season.

While, cotton production all over the world is on the rise, the cotton situation in India is getting serious attention due to steady rise in prices.

Spot prices of Sankar-6 and MCU-5 varieties are about Rupees 42,500 and 44,000 respectively per candy (355.6 Kilograms).

Currently, it is peak cotton arrival season in India, but the arrivals have been lagging behind what it was during the same period last season. While flowering was not that good, weather could not be blamed, as it has been reasonable for cotton during the growing season. The volatility has been attributed primarily due to trading issues and Indian government's recent banknote demonetization policy.

Three different sources who are into cotton marketing, purchasing and spinning expressed the same reasons for the sudden increase in cotton prices.

The general manager of a 65,000 ring spindle mill in South India, stated that his company procures about 40,000 bales (170 Kgs each) of cotton each year at an overall price tag of about Rupees 60 crores (Rupees 600 million). The variation of about Rupees 1000 per candy in a day, can result in lot of economic upsets for mills in India. Since December, the price has increased by about Rupees 4,000 per candy.

A source familiar with marketing, stated that arrivals have been about 150,000 bales per day (1.5 lakhs bales per day), which is less by 50,000 during the peak arrival timeframe. Normally, the arrivals are about 200,000 bales per day (2 lakhs bales per day). Cotton farmers are reluctant to trade on credit and expect to be paid in currencies, which is currently difficult in India. Additionally, they are in a way waiting to sell cotton so that they could realize higher prices, the source stated.

The view from the spinning mills is that yarn prices are stable and there is demand for yarns and made-up goods such as bedspreads in export markets. This increases the demand for cotton and hence there is increase in the price of cotton.

It looks like cotton price come this March is going to be steep when the peak arrival season ends in India. Overall, the agriculture market is expected to be bullish in the coming months.

Ramkumar, S

From: suresh.joshi@kotakcommodities.com
Sent: Tuesday, January 24, 2017 6:17 AM
To: Ramkumar, S
Subject: TexSnips: Steady Rise in Indian Cotton Prices
Attachments: Kotak Commodities Advertisement.pdf

Dear Mr. Seshadri Ramkumar

Many thx for your messages with valuable information from time to time ,really which help us about the development & research take place at your end & world over.

We too are in textiles & agri biz since last 88 years including in other commodities (Kotak Commodities),equity market (Kotak Securities)

& finance (Kotak Mahindra Bank) But principle company still fully active with all textiles raw materials up to finished thru our network in India & overseas .

Sharing the following information for your ready reference .

India looks to technical textiles as \$17bn 'sunrise sector' Nation aims to boost sector's manufacturing, export earnings in 'Make-in-India' initiative (Source: Kiran Sharma, Nikkei Asian Review, january 23, 2017)
Technotex 2017, an international conference on technical textiles, will take place in Mumbai in April.

Kotak Group
established in 1927
Nerlon House
Worli, Mumbai, India

Cotton Industry Begins this year with Optimism

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, January 20, 2017)-Higher production world over and increasing demand is the state of the cotton industry.

On the day of inauguration of the 45th President of the United States, cotton industry people gathered in Lubbock, USA for the Plains Cotton Growers' cotton meeting.

2016 has been phenomenal for cotton production in the High Plains of Texas and the production in this region is expected to be about 5.05 million bales. This will be the fourth largest cotton crop produced ever in the High Plains of Texas. Technology adaptation and efficient production practices by the producers are some of the reasons for such high production. Australia is also having a good crop, so far.

While the cotton production is high around the globe, interest in cotton is also high among manufacturers. Mills are buying, stated one merchant who attended the meeting.

To a room full of stakeholders, "the crop has been phenomenal," stated Steve Verett, Executive Vice President of Plains Cotton Growers, Inc. No one would have anticipated such a crop in September, added Verett.

While production has been climbing up, cost of production is on the increase, which is a concern among producers.

With regard to sales, there is interest among global buyers for U. S. cotton. There has been good export sales this week, commented one exporter. The trend seemed to be that, with high production, demand is also high. Given this scenario, it is expected that cotton will trade in 68 to 70 cents range this year.

Antibiotic Spider Silk Developed

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, January 19, 2017)-An interdisciplinary work has resulted in functionalized artificial spider silk using E.coli bacteria.

Scientists at the United Kingdom-based Nottingham University have utilized a concept called “click chemistry,” to synthesize antibiotic spider silk. Professor Neil Thomas of the School of Chemistry collaborated with life scientist Dr. Sara Goodacre and her team in the research. Recombinant silk fibers functionalized with levofloxacin was able to retain its antibacterial activity by slow release for up to five days after functionalization.

According to Professor Thomas, the biocompatible fibers can find applications in tissue engineering and biomedicine. The structure serves as scaffolds for cell growth and provides antimicrobial properties due to the presence of antibacterial agents, by slow release mechanism.

A chance meeting between chemist and scientists from SpiderLab resulted in antibiotic recombinant silk fibers, using “click reaction” technique. The work involved the synthesis of silk protein in a bacterium, where an amino acid not found in protein was added. This amino acid has an azide group, which helps with the click reaction resulting in the functionalized artificial silk.

The research was funded by the United Kingdom’s Biotechnology and Biological Sciences Research Council and has appeared in a recent issue of the online journal Advanced Materials.

Ramkumar, S

From: Samrat Mukhopadhyay <samrat@textile.iitd.ernet.in>
Sent: Thursday, January 19, 2017 9:06 PM
To: Ramkumar, S
Subject: Re: TexSnips: Antibiotic Spider Silk Developed

Ram, Thats amazing... this news I am hearing for the first time :)

Rgds,

Samrat

Professor Samrat Mukhopadhyay
Indian Institute of Technology
New Delhi, India

Antibiotic Spider Silk Developed

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Seshadri Ramkumar, PhD, FTA (Honorary)

Professor, Nonwovens & Advanced Materials Laboratory Texas Tech University Lubbock, TX, USA Tel (Main Office): (001) 806 742 4567

Fax: (001) 806 885 2132

E-mail: s.ramkumar@ttu.edu

Website: <http://www.tiehh.ttu.edu/sramkumar>

Wearable Cotton Sensors Developed

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, November 29, 2016)-Conductive cotton fabrics have been developed into flexible wearable strain sensors.

A team of scientists from the UK-based Cambridge University and Jiangnan University in China has used modified graphene to develop wearable cotton smart textiles.

Based on Cambridge Graphene Center's Dr. Felice Torrasi's graphene ink chemistry for wearable electronics, the international team deposited the modified graphene on to cotton fabrics, using vacuum filtration. This process enabled modified graphene inks to adhere strongly to cotton fibers. Heat-treating the coated cotton fabrics enhanced the conductivity and made it durable even after several washes.

According to Dr. Torrasi, using modified graphene inks make the process cheap and environmentally friendly and more importantly, the modified graphene is chemically compatible with cotton. Cotton strain sensors were able to detect up to 500 motion cycles even after ten wash cycles.

According to researchers, this research can create new high performance wear, sports textiles and fashionable wearable electronic textiles.

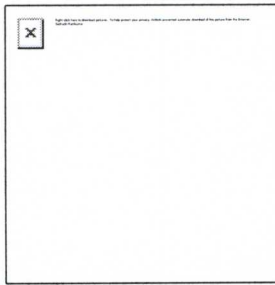
The research, which has appeared in a recent issue of journal Carbon, is being commercialized by Cambridge University's commercialization unit.

Ramkumar, S

From: Emerson Tucker <emerson@emerson.com>
Sent: Wednesday, November 30, 2016 11:13 AM
To: Ramkumar, S
Subject: Wearable Cotton Sensors Developed

Ram, Are you involved in this project? Very interesting article. Hope you and your family are doing fine.
Emerson

Wearable Cotton Sensors Developed



November 29, 2016

By: Dr. Seshadri Ramkumar

*Comment by Mr. Emerson Tucker
Former Engineer, PCCA, Lubbock
Involved with the development of
HVI testing of Cotton fibers.*

Ramkumar, S

From: VENKATACHALAM A <venkatachalama@bitsathy.ac.in>
Sent: Tuesday, November 29, 2016 9:40 PM
To: Ramkumar, S
Subject: Re: TexSnips: Wearable Cotton Sensors Developed

Dear Dr Ram,

Thank you for an excellent information towards textiles value enhancement.

By the by how are you and your family.

AV

On Wed, Nov 30, 2016 at 1:01 AM, Ramkumar, S <s.ramkumar@ttu.edu> wrote:

*Prof. A. Venkatachalam
Former, Head, Dept of Textile Technology,
PSG College of Technology
Coimbatore, India*

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By: Seshadri Ramkumar, Texas Tech University, USA

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According to researchers, this research can create new high performance wear, sports textiles and fashionable wearable electronic textiles.

China to be Key Player in Cotton Market in the Current Scenario

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, November 16, 2016)-China will be a key player in the cotton market in the current situation after the recent U.S. Presidential election.

It is no surprise that China's economy has been slowing in the recent past. In addition to this factor, all eyes will be on the United States and China trade relations. United States' new administration's policy on China trade will significantly impact the U.S. agricultural export trade, according to Marci Rossell, former CNBC chief economist.

Dr. Rossell visited Lubbock yesterday to keynote at an economic luncheon hosted by Lubbock Economic Development Alliance. In speaking to a packed room at The Overton Hotel, Rossell presented four economic related scenarios with varying degrees of probabilities as a result of the recent election.

There is a 25% chance that U.S may likely impose 35% tariff on Chinese goods, resulting in varying consequences to the U.S. economy and in particular to the agricultural export sector, as 25% of U.S. soybean gets shipped to China. As China is a valued customer of U.S. cotton, in a question from this scribe on the impact for the U.S. cotton industry, on the sidelines of her presentation, Rossell, pointed out that it depends on how the new trade relationship will proceed. If tariff scenario happens, then cotton may be in rough spot. However, Rossell pointed out that probabilities and estimates don't mean anything these days after what has happened in the recent political elections in the United States. Rossell also pointed out that the slow growth situation in China has already been factored into the current cotton market conditions.

Steve Verett, Executive Vice President of Lubbock-based Plains Cotton Growers, Inc., in reacting to Russell's economic picture stated, "U.S. agriculture has long relied upon robust export marketing conditions, particularly in the cotton industry where a significant amount of our raw product is exported. Our markets continually evolve so we can remain viable and meet consumers' demands. As consumer preferences and trends change from year to year, the agriculture and export market sector will continue to adapt in order to maintain a strong and viable market for our growers."

Rossell urged the best way forward is to reach out to elected representatives and reason with them the importance of sound policies towards trade with Mexico and China.

A useful takeaway message from Dr. Rossell's talk is that economic literacy is needed to move the industry and economy forward.

Prescription for Technological Development

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, November 14, 2016)-Unstoppable technological growth will lead to improvements in lives. Lord Matthew Ridley, a Conservative hereditary peer in the United Kingdom's House of Lords visited Lubbock last week to lecture in Texas Tech's Free Market Institute lecture series.

While talking about his book, "The Rational Optimist," he provided many tips about innovation and technological growth.

Rising a question, why innovation comes from humans and not rabbits, Lord Ridley presented interesting facts about innovation and technological growth.

Although, there can be no one set model or prescription for technological development, some points are worth knowing, to aide innovation and growth.

Technology output is always a combination of many technologies such as computer technology involving hardware and software components. He cited PillCam Colon Capsule as a classical example of mingling of the minds of gastroenterologist, imaging and manufacturing technologists.

Innovation is "trial and error."

Invention is simultaneously, as with the case of 23 inventors coming up with the light bulb concept such as Joseph Swan from the UK, but it was Thomas Edison from the United States, who commercialized the concept first before other inventors.

Technological growth is normally gradual, but progress in technology is unstoppable.

Supporting free market concept, in answering a question from this scribe on Brexit, he pointed that he favors Brexit as it will enable more global trade outside the EU framework.

According to Lord Ridley an important activity that happened during the years 1750 and 1850 was many countries became richer which has laid the foundation for technological growth.

Take home message from Lord Ridley's lecture was market always leads in innovation and governments play the catch-up game.

Future Fibers Hub in Australia

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, October 31, 2016)-Australian government is supporting University-Industry collaborative hub to develop value-added future fibers.

Australian government's research council has supported the creation of Aus\$13.2 million hub with the support from Deakin University and industry partners. The center is part of the Institute of Frontier Materials at Deakin University in Geelong, Australia.

The hub will enable Australia to be a leader in fiber research and development and will also support Geelong to be a hub for future advanced fiber manufacturing.

Apart from Deakin, Swinburne University of Technology and leading industry partners are involved in this effort. The hub will be led by Professor Xungai Wang, Director of the Institute of Frontiers Materials at Deakin.

Within a span of less than 20 years, Deakin has emerged as an international player in high performance fibers research and development. This scribe has witnessed its growth from its nascent stage when Dr. Wang moved to Deakin from the University of New South Wales around the turn of this millennium. This scribe visited the then just commenced fibers research program at Deakin University in Geelong in 2001, while participating in the 81st World Conference of the UK-based Textile Institute, which was held in Melbourne.

The hub will focus on priority areas such as nanofibers and short polymer fibers, cheap and light carbon composites and high performance fibers for biomedical applications.

According to Deakin's Vice-Chancellor, Professor Jane den Hollander, the hub's fiber development effort will focus human tissue engineering, safer clothing for sport activities and lightweight carbon composites for automotive application.

Indian Cotton Association Opposes Buffer Stockpiling Scheme

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, October 27, 2016)-Cotton Association of India opposes the creation of buffer cotton stock system.

Yesterday, Mumbai-based Cotton Association of India (CAI) made its position known on the buffer stock in India. It is against Cotton Corporation of India stockpiling 7 to 8 million bales (170 Kgs. each) by procuring during peak arrival season to sell to user mills during May to September time frame.

According to CAI, this scenario will need huge investment by the public sector Cotton Corporation of India and also it will incur losses due to price fluctuations. CAI in citing the China reserve policy, India should learn from China and should not venture into the reserve situation for cotton surplus country like India.

In speaking with this scribe, a source, active in cotton trade stated that with the new season showing good promise in terms of arrival now and production estimate, stockpiling is not necessary. Rather, textile mills should take advantage of the prevailing low prices and procure cotton and stockpile themselves. Textile mills should approach banking sectors for financial options.

In the recent past two months, prices have come down by about 20-25 percent as much as Rupees 12,000 per candy (356 Kgs.). Among other factors, no new commitment from Pakistan due to uncertainties there is aiding the price decline.

The cotton market source stated that the recent positive estimate by India's Cotton Advisory Board for the new season should be taken into account. In this situation, creating buffer stock is unnecessary. However, when the prices decline further, to support farmers, Minimum Support Price scheme should be used, as India is currently doing for pulses.

CAI has urged the Indian government not create the buffer stock scheme for cotton. However, this may lead to a difference of opinion among textile mills.

Ramkumar, S

From: Guruprasad <guruprasad.rg@gmail.com>
Sent: Friday, October 28, 2016 3:46 AM
To: Ramkumar, S
Subject: Re: TexSnips: Indian Cotton Association Opposes Buffer Stockpiling Scheme

Dear Sir,

Greetings. Regular updates on cotton and industry information from you through TexSnips is very informative and useful. Thanks a lot.

Wishing you and your family a Happy and Prosperous Deepavali!

warm regards,
R. Guruprasad

--

Dr.R.Guruprasad, M.Tech.,Ph.D (IITD)
Scientist - MPD
Central Institute for Research on Cotton Technology (CIRCOT)
Adenwala Road, Matunga
Mumbai - 400019
Fax: 022-24130835
Mobile No.: 98929 75336

On Thu, Oct 27, 2016 at 9:16 PM, Ramkumar, S <s.ramkumar@ttu.edu> wrote:

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According to CAI, this scenario will need huge investment by the public sector Cotton Corporation of India and also it will incur losses due to price fluctuations. CAI in citing the China reserve policy, India should learn from China and should not venture into the reserve situation for cotton surplus country like India.

Indian Cotton Crop on the Rise Amidst Acreage Reduction

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, October 25, 2016)-India expected to produce 35.1 million bales (170 Kgs each) this season beginning in October.

Yesterday, India's official body, Cotton Advisory Board met in Mumbai and decided on this year's first estimate of cotton production. This meeting was the first official meeting of this new season that began, October 1st.

The new season's production estimate is 1.3 million bales higher than the last year's crop estimate of 33.8 million bales. Total cotton supply will be 41.1 million bales, with an opening stock of 4.3 million bales. The opening stock for last year beginning in October 2015 was 6.6 million bales. Mill consumption is expected to be about the same as last year.

Exports this year will decrease from that of last year and it is pegged at 5 million bales.

Total acreage will be about 10.5 million hectares this season, which is a reduction of about 1.4 million hectares from the last season ending in September 2016.

Amidst acreage downfall, the increase in output will be due to increase in yield. This trend is evident in all major cotton producing zones. All India average yield is estimated to be 568 kilograms per hectare. Northern zone comprising of Punjab, Haryana and Rajasthan will see a significant yield increase with an average yield of about 668 kilograms per hectare. This will be about 210 kilograms increase per hectare compared to the last season.

Recycled Fiberboard and Pulp Could be Sources for Electricity

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, October 24, 2016)-Recycled cardboard fibers and pulp, when developed into triboelectric generators can produce electricity.

Researchers at the University of Wisconsin-Madison are advancing the field of “roadside energy harvesting” by getting help from recycled paper boards and pulp based cellulose nanofibers.

Integrated triboelectric fiberboards were developed using cellulose nanofibers triboelectric generator embedded in fiberboards developed using recycled paper boards, using cold press method. Triboelectric phenomenon is similar to the production of static charges on textiles. Cellulose nanofibers were produced using commercially available bleached eucalyptus pulp.

Dr. Xudong Wang of the Department of Materials Science and Engineering at the University of Wisconsin-Madison collaborated with USDA’s Forest Products Laboratory, Madison in developing the electricity generator. The research has shown that such triboelectric generators could produce electricity to charge light bulbs and batteries.

The team demonstrated that electric power necessary to charge up to 35 green LEDs, can be generated when a person stepped on to the fiberboard, as if walking. The mechanical energy is then converted into electrical energy.

The next phase of the research has to focus on increasing the conversion efficiency of mechanical energy to electrical energy. The research has been published in a recent issue of Nano Energy.

From: Karupannan k.p [mailto:karupannansf@gmail.com]

Sent: Tuesday, October 25, 2016 1:59 AM

To: Ramkumar, S <s.ramkumar@ttu.edu>

Subject: Re: TexSnips: Recycled Fiberboard and Pulp Could be Sources for Electricity

My Dear Professor, Greeting. Very Warm Greetings, How are you, I am Extremely Happy to see your Research Ideas for Research Scholar in the area like Recycled Fiberboard and Pulp Could be Sources for Electricity and Global Cotton Demand is on the Rise are very interesting and informative.

It will be very useful for the Textile Research scholar. I am very happy for your interest and keeping on mailing me then and there.

K. P. Karupannan (Retired May 30, 2016)

Head of the Department, Textile

Nachamuthu Polytechnic College

Pollachi, India

Global Cotton Demand is on the Rise

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, October 19, 2016)-Cotton consumption this year will be highest in six years. Total global consumption will be about 112 million bales (480 lbs. each).

Dr. Gary Adams, President and CEO of Memphis-based National Cotton Council spoke yesterday to a room full of attentive audience at Bayer Museum of Agriculture in Lubbock, TX. The meeting was organized by Lubbock Chamber of Commerce to highlight the economic impact of cotton to Lubbock and High Plains region. In welcoming the gathering, Steve Verett, Executive Vice President of Plains Cotton Growers stated that the meeting is a way of celebrating agriculture, as harvest nears in High Plains.

Adams stated that although, cotton use is on the growth side, it will be 12 million bales lower than the peak consumption experience a decade ago. Among other factors, competition from synthetics with excess capacity of polyester is an important factor influencing the cotton market.

Citing the latest USDA report Adams pointed out, United States is expected to produce 16 million bales, which is three million more than the 2105 crop. Globally, production will see an increase of six million bales over last year. Even with this increase, the crop output is expected to lag consumption by nine million bales.

In talking about China, Adams stated, “world needs China’s consumption of cotton to maintain a growth path.” In speaking about competition to cotton from synthetics, China alone has the capacity to produce manmade fibers equivalent to two and half times global cotton output in one single year, stated Adams.

The key to stay ahead is to innovate and adapt new technologies. Dr. Adams praised the U.S. cotton industry for making efforts in the past two decades to reduce environmental footprint and produce quality cotton, which is wanted by global textile mills.

Ending his speech with an optimistic note, Dr. Adams, stated that 20 million bales production is not a thing of the past in the United States and he expects the repetition soon.

Ramkumar, S

From: Norma Ritz Johnson <Norma.Johnson@lubbockbiz.org>
Sent: Thursday, November 03, 2016 5:25 PM
To: Ramkumar, S; Stevie Poole
Cc: Eddie McBride; steve@plainscotton.org; maryjane@plainscotton.org; kody@plainscotton.org; shawn@plainscotton.org; gadams@cotton.org
Subject: RE: NCC Chief on Global Cotton Demand

Thanks, Dr. Ram! I am impressed to see how far your write-up of Gary Adams' presentation to our luncheon has gone!

Mrs. Norma Ritz Johnson
Executive Vice President
Lubbock Chamber of Commerce

From: Ramkumar, S [mailto:s.ramkumar@ttu.edu]
Sent: Thursday, November 3, 2016 10:58 AM
To: Norma Ritz Johnson <Norma.Johnson@lubbockbiz.org>; Stevie Poole <Stevie.Poole@lubbockbiz.org>
Cc: Eddie McBride <Eddie.McBride@lubbockbiz.org>; steve@plainscotton.org; maryjane@plainscotton.org; kody@plainscotton.org; shawn@plainscotton.org; gadams@cotton.org
Subject: NCC Chief on Global Cotton Demand

Hi Norma, Further to the discussion in Chamber's Ag Committee meeting this morning on harvest luncheon, the Lubbock Chamber hosted speaker luncheon is getting attention.

Importantly, Gary's speech will be read by mills, the user community.

The editor of Greenville, SC based etextilecommunications newsletter has picked up the column on the speech. This newsletter is an off-shoot of Southern Textile News, which was a textile paper for many years and so mills do get this newsletter.

I told Stevie that I will forward the November 1st link to that newsletter. Here it is:

<http://www.etextilecommunications.com/110116ramglobal-cotton-demand-on-rise>

Kindly,
Ram

Seshadri Ramkumar, PhD, FTA (*Honorary*)
Professor, Nonwovens & Advanced Materials Laboratory
Texas Tech University
Lubbock, TX, USA
Tel (Main Office): (001) 806 742 4567
Fax: (001) 806 885 2132
E-mail: s.ramkumar@ttu.edu
Website: <http://www.tiehh.ttu.edu/sramkumar>

October 19, 2016

Ramkumar, S

From: Ketan Jariwala <ketanjariwala62@yahoo.com>
Sent: Wednesday, October 19, 2016 10:35 AM
To: Ramkumar, S
Subject: Re: TexSnips: Global Cotton Demand is on the Rise

Thanks, good information as gujarat is promoting cotton base chain up to garments

Sent from Yahoo Mail on Android

On Wed, 19 Oct, 2016 at 18:39, Ramkumar, S
<s.ramkumar@ttu.edu> wrote:

Ketan Jariwala
Industrialist from Surat, India.

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Dr. Gary Adams, President and CEO of Memphis-based National Cotton Council spoke yesterday to a room full of attentive audience at Bayer Museum of Agriculture in Lubbock, TX. The meeting was organized by Lubbock Chamber of Commerce to highlight the economic impact of cotton to Lubbock and High Plains region. In welcoming the gathering, Steve Verett, Executive Vice President of Plains Cotton Growers stated that the meeting is a way of celebrating agriculture, as harvest nears in High Plains.

Adams stated that although, cotton use is on the growth side, it will be 12 million bales lower than the peak consumption experience a decade ago. Among other factors, competition from synthetics with excess capacity of polyester is an important factor influencing the cotton market.

Citing the latest USDA report Adams pointed out, United States is expected to produce 16 million bales, which is three million more than the 2105 crop. Globally, production will see an increase of six million bales over last year. Even with this increase, the crop output is expected to lag consumption by nine million bales.

In talking about China, Adams stated, "world needs China's consumption of cotton to maintain a growth path."

Ramkumar, S

From: Hake, Kater D. <KHake@cottoninc.com>
Sent: Wednesday, October 19, 2016 2:35 PM
To: Ramkumar, S
Subject: RE: Hi from Ram

Ram
Thanks for sharing these write-ups. They are a quick and easy way for us to stay in touch with cotton activities. Your ability to contribute to cotton's success on multiple levels continues to be incredible. Thanks for all the time you put into making cotton a success.
Kater

*Dr. Kater Hake
VP Research for Agriculture &
Sustainability
Cotton Incorporated, USA*

From: Ramkumar, S [mailto:s.ramkumar@ttu.edu]
Sent: Wednesday, October 19, 2016 3:25 PM
To: gadams@cotton.org
Cc: steve@plainscotton.org; Hake, Kater D.; shawn@plainscotton.org; Eddie.McBride@lubbockbiz.org; maryjane@plainscotton.org
Subject: Hi from Ram

Hi Gary, It was indeed nice listening to cotton market info from you yesterday. Cotton Grower carried my write-up and hope I reflected your views as correctly as I can.

Here it is in case you have not seen it already.

<http://www.cottongrower.com/cotton-news/global-cotton-demand-consumption-on-the-rise/>

Kindly,
Ram

Seshadri Ramkumar, PhD, FTA (*Honorary*)
Professor, Nonwovens & Advanced Materials Laboratory
Texas Tech University
Lubbock, TX, USA
Tel (Main Office): (001) 806 742 4567
Fax: (001) 806 885 2132
E-mail: s.ramkumar@ttu.edu
Website: <http://www.tieh.ttu.edu/sramkumar>

Bioinspired Athletic Swim Suits

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, October 14 2016)- The development of next generation swim suits gets inspiration from beavers.

A team of researchers from Cambridge-based Massachusetts Institute of Technology (MIT) in the United States and visiting scientists from France took inspiration from semiaquatic rodent beavers to derive a mathematical model which could be used to develop swim suits and functional coating processes.

Beavers keep themselves dry and warm with the help of furs arranged in two forms with guard hairs repelling water and preventing its penetration to the under layer and the skin. The team endeavored to get greater understanding of the engineering mechanism behind this natural process in beavers.

Not only, the team got the inspiration from nature, the research grew out of an interaction with an international wetsuit maker, Sheico Group. Professor Anette Hosoi of Mechanical Engineering at MIT lead a team of students to Taiwan and while interacting with Sheico Group was asked about using biomimetic approaches to find solutions to problems in developing future swim suits.

Graduate student Alice Nasto fabricated the beaver fur structure using polydimethylsiloxane. These fabricated hair structures were plunged into silicone oil so that video images of trapped air can be obtained clearly. This experiment showed that spacing between hairs and speed of plunging played important roles in determining the amount of air trapped. This led to a mathematical model, which can predict the air layers around furs and hairs.

According to Professor Hosoi, this model will enable designers to know if the fur structure they are designing will trap air or not. Jose Bico of Paris states that understanding air trapping mechanism is also important in industrial coating applications, such as dip coating.

Biomimetic and wearable technologies have potential but their practical applicability and economics aspects need careful study to make commercially successful products.

Indian Textile Industry Demands Support for Cotton Stability

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 30, 2016)- Indian textile industry has made a call to the government to provide support mechanism to counter high volatility in cotton prices.

A group of 26 textile associations representing spinners and exporters such as Tirupur Exporters' Association is insisting the government to support the industry by providing a safety net with the aim of maintaining price stability.

Yesterday, a 19 member delegation of the industry met with the Union Textile Minister, Mrs. Smriti Irani in New Delhi and requested government's intervention to control the volatility and maintain supply stability.

According to Coimbatore based, The Southern India Mills' Association (SIMA), the crisis occurs during the off season, from May to September. As the Indian cotton year begins on October 1st, 80% of the crop arrives during November to March, which puts strain on the spinning mills to procure cotton at high cost, as financial institutions offer only three month credit facility. Mr. Senthilkumar, Chairman of SIMA, has stated that the Indian textile industry is in a recession due to tariff barriers and weak demand for cotton yarn in domestic and foreign markets.

The industry has demanded that government direct the Cotton Corporation of India (CCI), a state supported cotton marketing agency to procure 7 to 8 million bales, during the peak season as Indian cotton prices are lower than those of international markets, during this period. According to the plea by the textile associations, CCI should then sell the stock to actual end-users during the high volatile crisis period, from May to September. In addition to CCI procuring cotton during high arrival period and selling during volatile season, the industry has insisted the government to help maintain, 25% stock-to-use ratio. The industry claims, the current ratio in India is only 12 to 15% which is far less than the world's ratio.

The cotton end-user industry insists that as 80% of textile manufacturing units are small to medium scale, a support mechanism is necessary. There is no parity between the increase of cotton price and yarn price and so the spinning mills incur losses due to price variations, according to SIMA.

There has been a counter argument prevailing for a while, as to why Government should stockpile and then sell at a later date. The textile industry has to come up with a workable solution on their own. The new Indian cotton season beginning tomorrow will be keenly watched as there are a lot of uncertainties both from production and marketing aspects.

Fabric Harvests Energy from Sun and Motion

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 21, 2016)-Georgia Tech researchers report the development of micro-cable textile that harvests energy from sun and mechanical motion.

The team led by Professor Zhong Lin Wang, Regents Professor in the School of Materials Science and Engineering at Georgia Tech, reports the development in a latest issue of the journal Nature Energy.

Solar cells made from polymeric fibers were woven into fabric with triboelectric fibrous nanogenerators using a common weaving method. According to the researchers, the tribogenerators use triboelectricity and electrostatic induction phenomena to generate energy from movements. For harvesting energy from sun, photoanodes that could be woven with fibers were used.

According to Professor Wang, the hybrid power textile could charge devices using the simple wind blowing on a sunny day. Also, the whole smart textile structure will be cost effective as the electrodes are made using low cost manufacturing process, said Wang.

With regard to applications, Professor Wang envisions that the fabric that is 320 micron thick with woolen yarns can be integrated with other structures such as wearable garments. These smart textiles can power electric watches and charge a cell phone.

With increasing number of research groups working on wearable textiles, it clear that this field offers enormous research potential. The next step should be to improve these technologies so that they can find practical usage. To make this happen, from textile applications point of view, attributes such as cost, wearability, comfort, washability, durability and appropriate practical applications have to be looked into, if wearable textiles are going to be commercially viable and adopted widely by consumers.

Stanford Scientists Develop Skin Like Fabric

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 2, 2016)-A team of multidisciplinary researchers at Stanford University has developed skin-like fabric material that cools the body more efficiently.

In today's Science journal, the researchers from Stanford report that they used nanoporous polyethylene to develop a textile material which aides radiative cooling while maintaining breathability, wicking and necessary mechanical strength.

According to the report in Science, the researchers have also devised an instrument to simulate skin temperature. The use of nanoporous polyethylene fabric resulted in the lowering of skin temperature by about 2.7 degree centigrade when compared with another commonly used next-to-skin fabric.

According to Yi Cui, an associate professor of materials science at Stanford and the lead author of the study, the fabric effectively cools the person, which makes cooling the building unnecessary thereby saving energy.

Nanoporous plastic textile transports the body heat as infrared rays due to the nanostructured polyethylene. Researchers modified the polyethylene material that is commonly used in battery development which enables it to be opaque to visible light but transparent to infrared rays so that the heat can be dissipated.

According to Professor Shanhui Fan, professor of electrical engineering at Stanford, who co-authored the study, this research can lead to the development of new materials that can trap or let go infrared radiations.

The research is multidisciplinary one involving photonics, nanotechnology and chemistry. Indeed, it shows that new developments in advanced textiles can come from schools that are nontraditional textile strongholds, reflecting the nature of the next phase of textile research and development.

Next Year's Indian Cotton Crop to Remain at Current Level

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, August 30, 2016)- Indian cotton crop for the next season beginning in October will remain at the same level as the current year.

Yesterday, Mumbai-based Cotton Association of India (CAI) released the first estimate for the next year's cotton crop beginning on October 1st. For the 2016-17 (October to September) new season, India is estimated to produce 33.6 million bales (170 Kgs each).

CAI has estimated current year's crop production to be 33.8 million bales, which tallies with the recent estimate by Indian government's cotton advisory board.

However, there will be acreage reduction of about 10% next year, which will be offset by increase in productivity, according to CAI.

Interestingly, next year's domestic consumption is expected to remain at same level of about 30.8 million bales. CAI estimates, imports next year will rise slightly and the total import is estimated to be about 2 million bales as against 1.5 million bales, this year.

Although, not provided by CAI, an analysis of the cotton supply and demand situation pegs India's current year cotton exports at 6.8 million bales. This will leave an opening balance of 4.4 million bales for the new season beginning, this October.

This morning's interesting telephone conversation with an experienced cotton analyst from India revealed that India might import more than what is reported if China reverts back to improving its inventory during next season or if the weather situation is not favorable. With China starting to import, if India has to maintain its current export level or enhance it, certainly its stocks will be lowered. These situations may lead to a tight supply situation during the second half of the new cotton season, according to the analyst.

According to a media report, Nagpur based, India's premier cotton research institute, CICR has estimated that next year's crop will be only about 30 million bales due to fly infestation, monsoon pitfalls and production shifts to other crops such as pulses and oil seeds.

Nano Textiles to Analyze Sweat for Health Monitoring

By: Seshadri Ramkumar, Texas Tech University, USA

(Bengaluru, India, July 21, 2016)-A collaborative research at University of Pennsylvania and Drexel endeavors to develop wearable textiles that monitor wearer's health by analyzing sweat.

The project incorporates nano yarn structures that can be knitted to form comfortable fabrics. The nano yarns in the fabric, by chemically analyzing the sweat from the wearer changes its color as a way to monitor the wearer's health condition.

According to the researchers, the nano yarns should resemble spiracles which are in the abdomen of insects or xylem in plants. These tiny pore structures modeled after biological beings will enable transport and make the fabrics comfortable. Nano structures are coated on their inside with chemistries which can change color based on sweat analysis.

The team envisions using fluorescent dyes and coloring changing liquid crystals to impart functionality.

The project involves the groups of Professors Shu Yang and Randall Kamien from University of Pennsylvania and Genevieve Dion from Drexel University. The Keck Future Initiative has supported the work, which has so far resulted in hand knitted braid involving function nano yarns to analyze sweat.

It is becoming apparent that wearable textiles is a multidisciplinary field and more and more such developments are coming from nontraditional textile R& D base.

Indian Government to Sell its Cotton Stock

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, July 16, 2016)-Government of India today directed the Cotton Corporation of India to sell its entire cotton balance stock to offset the abnormal price rise.

Indian mills are importing cotton predominantly from African countries to sort out the current crisis situation.

Government of India's undertaking cotton marketing entity, the Cotton Corporation of India (CCI) has been directed to sell its stock to micro, small medium scale (MSME) spinning units. CCI will sell the cotton it procured through the minimum support price scheme to domestic MSME spinning units.

Leading spinning associations such as the Coimbatore based The Southern India Mills' Association (SIMA) have thanked the Ministry of Textiles, India for acceding to its request to support the spinning industry. Based on the current situation, SIMA hopes that the government in future will sell only to domestic end-users such as spinning units and not to international marketing companies.

In the present situation, spinning mills are facing crisis as they have excess capacity due to lack of yarn exports to China and abnormal price rise in the recent three months.

In a telephone conversation this morning with this scribe, a general manager of a leading cotton spinning mill in Aruppukottai, South India stated that China is not importing coarse count yarns. Adding to this problem, cotton price has shot up mostly due to stockpiling which has artificially inflated the price in the domestic market. Another source stated that the landed price of imported cotton is six rupees per kilogram less than the domestic price. Given that rainfall has been generally good in most parts of the country, price rise is not justifiable, according to the source.

Mr. M. Senthilkumar, Chairman of SIMA stated that in the next three months, cotton imports may well exceed 1.5 million bales (170 Kgs each), as mills have contracted with companies from Australia and African countries. This is a significant development given that India became a leading cotton producing country recently.

Ramkumar, S

From: D.Somasundaram <d.soma@siplec.com>
Sent: Monday, July 18, 2016 2:06 AM
To: Ramkumar, S
Subject: Re: TexSnips: Indian Government to Sell its Cotton Stock

Dear Prof. Dr. Ramkumar,

Thanks for your periodic update on cotton scenario, which is highly informative to us.

Best regards,
D.Somasundaram
QA department,
Siplec (a group of E.Leclerc)
Chennai-India

On 17/07/16 7:46 PM, Ramkumar, S wrote:

Indian Government to Sell its Cotton Stock

By: Seshadri Ramkumar, Texas Tech University, USA

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Indian Spinning Association Endeavors to Calm the Stormy Cotton Situation

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, July 15, 2016)-The Southern India Mills' Association based in Coimbatore has called for calmness among spinners in India in the wake of the downward cotton production estimate.

To offset the abnormal rise in price in domestic markets due to speculation, SIMA's Chairman Mr. M. Senthilkumar has suggested larger mills to opt for imports to normalize price situation in India.

On July 13th, India's Cotton Advisory Board revised this year's production to be 33.8 million bales (170 Kg each). This estimate is 1.4 million bales less than the February estimate and substantially lower than the production in the past two seasons.

The Southern India Mills' Association (SIMA) in reacting to the downward estimate has requested mills not to panic and resort to rush purchase as the prices have risen abnormally high by about 44 percent since April. According to Mr. Senthilkumar, price rise has been due to speculation that acreage would drop but the area under production will be good enough for a comfortable supply situation.

According to SIMA, drastic increase in price in the domestic market will negatively impact the Indian textile sector as the international cotton price is over 10 percentage lower than Indian price levels. The domestic cotton price is making the situation uncompetitive for the Indian spinning and textile sectors, and would negatively impact the export of textile goods.

Analyzing the cotton price situation from spinners point of view, Mr. Senthilkumar pointed out that while clean cotton price has increased over Rupees 40 per kilogram, yarn price for 40 Ne count has disproportionately risen only by Rupees 6 to Rupees 23 per kilogram, in the past three months.

In order to provide a stable price situation, SIMA has appealed to the Indian Government to consider "Cotton Price Stabilization Scheme." It has also requested the government for additional support programs such as 5 percent interest subvention for cotton purchase during the peak season (October to April), increasing credit limit from three months to nine months and reducing the margin money requirement from 25 percent to 10 percent.

With the ICE December contract at 74 cents and significant reduction estimate of India's production, all eyes are on what will be the actual production in the United States this fall.

Indian Cotton Crop Production to Decline

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, July 13, 2016)-Cotton Advisory Board of India in a meeting today has provided a revised estimate for this year's cotton supply and demand situation in India.

The provisional estimate released today has put India's crop production to be at its lowest production in five years since the crop year 2011-12.

This year, India is estimated to produce 33.8 million bales (170 Kgs each), which is significantly lower than what it produced in the past two seasons. During the 2013-14 year, India produced 39.8 million bales and during this last season, which ended in September 2015, India produced 38.6 million bales.

Today's revised estimate is lower than the February estimate of 35.2 million by 1.4 million bales.

To meet the demand of 37.6 million bales, which will be slightly higher this year than last year, India will use its stock. As a result, its closing stock this year will be 4.3 million bales as against last year's 6.6 million bales.

As production is showing a declining trend in the recent three years since 2013-14, export is project to be 6.8 million bales as against higher numbers during the three crop years 2011-12 to 2013-14.

Ramkumar, S

From: Steve Verett <steve@plainscotton.org>
Sent: Thursday, July 14, 2016 12:39 PM
To: Ramkumar, S
Subject: Re: Reuters - Cotton Wednesday

You bet!

Thanks
Steve

Steve Verett
Executive Vice President
Plains Cotton Growers, Inc.
4517 West Loop 289
Lubbock, Texas 79414
steve@plainscotton.org
806-792-4904 Voice
806-792-4906 Fax

On Jul 14, 2016, at 9:00 AM, Ramkumar, S <s.ramkumar@ttu.edu> wrote:

Steve, I hope my TexSnips gave exact bale # instead of percentages referred in Reuters column. If you want more numbers, please let me know.

Kindly,
Ram

From: Steve Verett [<mailto:steve@plainscotton.org>]
Sent: Wednesday, July 13, 2016 12:03 PM
To: Ramkumar, S <s.ramkumar@ttu.edu>
Subject: Fwd: Reuters - Cotton Wednesday

Ram

Hope all is well. Just wanted to see if your information concurs with this report.

Thanks
Steve

Steve Verett
Executive Vice President
Plains Cotton Growers, Inc.
4517 West Loop 289

Indian Textiles Sector Strengthened with Cabinet Level Minister

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, July 6, 2016)--- Ministry of Textiles in India has a new Cabinet Level Minister.

Indian Prime Minister Modi reshuffled his council of ministers and with this change, textile ministry benefitted with the arrival of a cabinet ranked textile minister. Additionally, the textile ministry also got a Minister of State, deputy to the cabinet minister.

India may be one of the few countries that has an independent textiles ministry. Historically, the ministry was always led by a cabinet ranked minister. The current reshuffle of yesterday has empowered the ministry by having a ministerial position that has a seat in the Indian cabinet. Prior to this situation, in the recent past few years, textiles ministry had only a Minister of State with independent Charge.

Prime Minister Modi has been emphasizing the importance of strengthening the manufacturing sector in India, with his “Make in India,” initiative. Textiles is an important sector in the manufacturing industry and the recent ministry change by the Prime Minister signals his support for the textiles sector in India. India’s textile sector is the second largest employment generator next only to agriculture.

Recently, Prime Minister Modi’s government unveiled a special assistance package to support employment in the textiles sector and boost garment exports, with aim of reaching US\$30 billion in next three years.

Mrs. Smriti Zubin Irani, took charge as the cabinet level minister for textiles today, while Mr. Ajay Tamta took charge as the Minister of State. Until the recent cabinet change, Mrs. Irani was serving as Union Minister for Human Resources Development. After assuming the leadership role, Minister Irani expressed her interest to bring more youngsters into the textiles field and strengthen Prime Minister’s Make in India initiative by scaling-up textile manufacturing in India and enhance its exports.

July 6, 2016

Comment from Professor
Jayashree Venkatesh, India

Ramkumar, S

From: Jayashree Venkatesh <venkatesh.jayashree@gmail.com>
Sent: Wednesday, July 06, 2016 2:58 PM
To: Ramkumar, S
Subject: Re: TexSnips:Thankyou-JV-ATM-BUB

Prof.Seshadri Ramkumar

Thankyou for the informative mails you send.

Your mails provide update on recent developements related to textiles,markets and govermenet decisions.
You provide us snippets both pertaining to national and international issues.

We look forward to your mails.

Thanks and regards

Dr.Jayashree Venkatesh

Department of Apparel Technology and Management

Bangalore University,Bangalore.

Mobile:9448303730

On Wed, Jul 6, 2016 at 10:36 PM, Ramkumar, S <s.ramkumar@ttu.edu> wrote:

Indian Textiles Sector Strengthened with Cabinet Level Minister

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, July 6, 2016)--- Ministry of Textiles in India has a new Cabinet Level Minister.

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Prime Minister Modi has been emphasizing the importance of strengthening the manufacturing sector in India, with his "Make in India," initiative. Textiles is an important sector in the manufacturing industry and the recent ministry change by the Prime Minister signals his support for the textiles sector in India. India's textile sector is the second largest employment generator next only to agriculture.

India Aims at US\$30 Billion Garment Export

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, July 5, 2016)--- Government of India recently announced a scheme targeting at its garment export to reach US\$30 billion in three years.

Prime Minister Modi's government recently unveiled a scheme with an annual outlay of about US\$890 million (Rs.6000 crores) that will enable the country to reach US\$30 billion in garment export in three years.

The scheme is labor friendly and empowers women and underprivileged working in the garment and allied sectors. In three years, the initiative is expected to attract additional investments worth US\$11 billion and will provide 10 million new jobs.

An important aspect is that the garment exporting units will enjoy 5% additional duty drawback which will boost the competitiveness of Indian exports in foreign markets. This initiative will cost the government about US\$800 (Rs.5500 crores) annually. As a first of its kind, units will be able to obtain refund for state levies that were not included in the computation before.

Garment sectors are set to benefit tremendously with this scheme. According to the government, this scheme will result in social transformation by uplifting women in rural areas as 70% of the workforce in the garment sector are women.

Computer Screens from Smart Fabrics

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, July 1, 2016)--- Scientists from UC Berkeley and Google have utilized fabrics made using color changing smart threads to develop computer screens.

According to researchers from the School of Information at the University of California, Berkeley, fabric based computer display technology called Ebb was developed in partnership with researchers from Google. The project was termed Ebb because the color changes patterned the ebb and flow of tides.

Ebb technology consists of conductive yarns with thermochromic paint coating. With the passage of electricity, due to heat generated, threads change their color.

The research team conducted focus sessions with a group of people that included fashion designers. The feel of the fabric and not being plastic appealed to the group, who were involved in providing feedback about the smart fabric computer display screens.

The research team was led by graduate student Laura Devendorf and involved researchers from UC Berkeley's School of Information and Google's Advanced Technology and Projects' (ATAP) Project Jacquard. Project Jacquard focuses on developing wearable textiles with sensors and LEDs and at the same time giving them the comfortable tactile feeling.

Although it may be while to see Ebb based clothes as display screens on computers in stores, the project has shown light on what consumers feel on soft fabric based computer displays.

Project Jacquard is experimenting with number of techniques to create wearable technologies.

There is surely a growing interest in research and product development activities in wearable textiles. Developing fabric computer screens is an interesting advancement in the field of smart textiles.

Ramkumar, S

Comment by Larry Montague
President, Technical Association of

From: Larry Montague <LMontague@tappi.org>
Sent: Sunday, July 03, 2016 2:36 PM
To: Ramkumar, S
Subject: Re: TexSnips: Computer Screens from Smart Fabrics

Pulp & Paper Industry
Celebrated 100th year
in 2015

Nice!

Sent from Larry Montague TAPPI

On Jul 3, 2016, at 10:49 AM, Ramkumar, S <s.ramkumar@ttu.edu> wrote:

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There is surely a growing interest in research and product development activities in wearable textiles. Developing fabric computer screens is an interesting advancement in the field of smart textiles.

Seshadri Ramkumar, PhD, FTA (*Honorary*)
Professor, Nonwovens & Advanced Materials Laboratory
Texas Tech University

Indian Association Wants Cotton Free Trade

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, June 23, 2016)---Mumbai based Cotton Association of India wants free trade in cotton.

The Cotton Association of India with over 400 members representing all walks of cotton trade such as merchants, brokers, spinning mills is opposed to all measures that negatively affect free trade in cotton.

On June 22nd, reacting to media reports from Pakistan about the opposition from All Pakistan Textile Mills' Association (APTMA) to export cotton from Pakistan to India, Dhiren Sheth, President of CAI urged the Government of Pakistan not to support the call for export ban by APTMA.

In a statement from CAI, Dhiren Sheth expressed that if issue for APTMA was the elimination of import duty on cotton, it has to be addressed directly as a separate issue.

CAI has expressed strongly that it is opposed to measures hurting free trade such as import duty and has warned about the serious repercussions on the cotton trade and textile industry in Pakistan and India if APTMA's push becomes a reality.

In speaking with this scribe, this morning from India, a source very familiar with this situation stated that although India is a leader in cotton production and is expected to export about 6 to 6.5 million bales (170 Kgs) this season, India needs to import little quantities of short staple from Pakistan and long staple from United States, Australia and Egypt to cater to the needs of its diverse spinning sector. In commenting on the end-uses of short staple cotton imported from Pakistan, the source said those cottons are spun into yarns that go to developing industrial application products such as coverall and wrapping bags.

According to CAI, Pakistan has imported over 2 million bales of cotton from India this season, as it needed due to the failure of its crop at that point of time.

In addition to the need based on specific end-uses for cotton from Pakistan, India wants to import cotton from Pakistan due to the current tight supply situation for its domestic mills.

Reply Reply All Forward Chat

Re: TexSnips: Indian Association Wants Cotton Free Trade

06-25-2016

projects [projects@glosterjute.com]

To: Ramkumar, S
Cc: dcb [dcb@glosterjute.com]

*Comment from
Mr. Baheti, MDA
Gloster Jute Mills, on
the banks of River Ganges
(Hoogli), Calcutta, India.
He reads Texsnips regularly.*

Saturday, June 25, 2016 2:05 AM

DEAR DR. S.RAMKUMAR,

THANKS INDEED FOR THE PERIODICAL UPDATES.

REGARDS

D.C.BAHETI
MANAGING DIRECTOR

----- Original Message -----

From: Ramkumar, S
To: Ramkumar, S
Sent: Friday, June 24, 2016 2:43 AM
Subject: TexSnips: Indian Association Wants Cotton Free Trade

Indian Association Wants Cotton Free Trade

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, June 23, 2016)—Mumbai based Cotton Association of India wants free trade in cotton.

The Cotton Association of India with over 400 members representing all walks of cotton trade such as merchants, brokers, spinning mills is opposed to all measures that negatively affect free trade in cotton.

On June 22nd, reacting to media reports from Pakistan about the opposition from All Pakistan Textile Mills' Association (APTMA) to export cotton from Pakistan to India, Dhiren Sheth, President of CAI urged the Government of Pakistan not to support the call for export ban by

Update on Indian Cotton Sector

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, June 14, 2016)---Indian government executed largest ever minimum support price (MSP) scheme through Cotton Corporation of India during the 2014-15 cotton season.

On June 10, Indian Union Textiles Minister, Honorable Santosh Kumar Gangwar stated that the above MSP program was carried out to safeguard the interest of Indian cotton growers. The scheme was implemented in 11 cotton growing states.

8.6 million bales (170 Kgs each) were procured through the MSP scheme during the 2014-15 season up to March 30, 2015.

MSP scheme is being executed during the current, 2015-16 season and up till now; about 900,000 bales (170 Kgs each) have been procured. Cotton Corporation of India operates over 340 procurement centers in 11 cotton producing states.

In the 2014-15 season, India became number one in cotton cultivation with 32.05 million acres under cotton cultivation. In the previous season (2013-14), India had 28.99 million acres under cotton cultivation.

Four Decades of Random Walks in Sustainable Textile Processing

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, June 8, 2016)- Sustainable textile processing research has been undertaken way back in the 1980s and has led to significant cost savings in the textile industry.

Professor Fred L. Cook, who has recently retired from fulltime teaching at Atlanta, Georgia-based Georgia Institute of Technology after four decades of distinguished career there, highlighted some of his key research accomplishments in energy savings and materials conservation in the 2015 Olney Medal address at this year's international conference of the American Association of Textile Chemists and Colorists (AATCC) in Williamsburg, Virginia. There were over 250 people in attendance at the international event.

Olney Medal, awarded by AATCC was established in the year 1944 is the highest research award in the field for lifetime work in textiles and polymer chemistry. The medal for the year 2015 was awarded to Professor Fred Cook for his four decades of research in sustainable textile processing.

While sustainability has become a new paradigm in manufacturing these days, Fred Cook has looked into this aspect for enhancing the profitability of the textile industry way back in the early eighties. In 1982, Cook and his colleagues published their work on single step (desizing-scouring-bleaching) process for cotton blends. That work not only showed technical progress but also showcased Cook's effort to translate the laboratory research from academia to practice.

Professor Cook's research has been model for mission linked research and industry collaborations, which were pioneering efforts some thirty years ago. Collaborations with industries such as Southern Mills and Shaw Industries have led to projects such as waterless dyeing of nomex, efficient printing process for nomex fabrics, acid dyeing of nylon carpets, etc.

Apart from his efforts in engaging with industries, another hallmark of his research has been to utilize technologies in other fields for the benefit of the textile sector. He and research student Kishor Gupta used vacuum flash evaporation technique to recover and reuse PVA, a common sizing chemical used in the industry. This technique results in zero liquid discharge and is cost effective.

Professor Cook has not only contributed to the research and development in the textiles field, but has also helped many to spread their wings in the field, including this scribe, who had the opportunity to first meet Professor Cook on a boat ride in Switzerland some twenty year's back during an international event sponsored by the leading spinning machinery company, Rieter Group.

06-13-2016

Comment by Jack Daniels, AATCC

Ramkumar, S

From: Jack Daniels <danielsj@aatcc.org>
Sent: Monday, June 13, 2016 10:01 AM
To: Ramkumar, S
Subject: RE: TexSnips: Four Decades of Random Walks in Sustainable Textile Processing

Hi Ram,

Just back in the office from vacation with the family. Thanks for preparing the great article on Fred!

Jack

John Y. Daniels

Executive Vice President

AATCC | Association of Textile, Apparel & Materials Professionals

1 Davis Drive | PO Box 12215 | Research Triangle Park, NC 27709-2215 | USA

Office: +1.919.549.3522 | Fax: +1.919.549.8933 | Headquarters: +1.919.549.8141

E-mail: danielsj@aatcc.org | www.aatcc.org

From: Ramkumar, S [mailto:s.ramkumar@ttu.edu]
Sent: Wednesday, June 08, 2016 4:38 PM
To: Ramkumar, S <s.ramkumar@ttu.edu>
Subject: TexSnips: Four Decades of Random Walks in Sustainable Textile Processing

Four Decades of Random Walks in Sustainable Textile Processing

By: Seshadri Ramkumar, Texas Tech University, USA

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Scientists Develop Nanocellulose Filter to Remove Viruses from Water

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, June 3, 2016)- Scientists at Uppasala University, Sweden in collaboration with German virologists have developed cellulose nanofiber sheets to remove viruses from water.

Nanocellulose filter paper termed as “mille-feuille filter,” have layered structure resembling French pastry mille-feuille, will be able to remove even small sized viruses. This new structured nanocellulose sheets are affordable filters that not only can remove viruses but also can have long life, according to Uppasala University.

Earlier in 2014, the researchers presented filters that can capture large sized viruses such as influenza virus.

Compared to tea bag kind of cellulose filters, these French pastry structured filters have pore structures that can filter viruses that are normally resistant to physical and chemical countermeasure processes

Uppasala team was led by Professor Albert Mihranyan and collaborated with virologists from Charles River Biopharmaceutical Services, Cologne, Germany.

According to Mihranyan, their goal is to develop filter paper that can remove viruses from water as easily as brewing coffee.

06-03-2016

Comment by Professor Fred Cook of Georgia Tech - 2015 AATCC Olney Medal Winner - 40 years at Georgia Tech

Ramkumar, S

From: Cook, Fred L <fred.cook@gatech.edu>
Sent: Friday, June 03, 2016 4:00 PM
To: Ramkumar, S
Cc: 'Fred Cook'
Subject: RE: TexSnips: Scientists Develop Nanocellulose Filter to Remove Viruses from Water
Importance: High

Thanks for the link, Ram, appears to have good potential if they can scale up.

FYI, I'm officially retired from GIT/MSE full-time as of June 1, but will continue as part-time Faculty Emeritus, so I'm keeping my office, email, phone, etc., intact, at least for the short term. My home email address is [REDACTED] my home phone # is [REDACTED] and my cell # is [REDACTED] please stay in touch and keep sending these excellent sci-bits, thanks! Fred

From: Ramkumar, S [mailto:s.ramkumar@ttu.edu]
Sent: Friday, June 03, 2016 4:29 PM
To: Cook, Fred L
Subject: RE: TexSnips: Scientists Develop Nanocellulose Filter to Remove Viruses from Water

Hi Fred, Hope you and your wife are all keeping well.

Here it is:

<http://www.uu.se/en/research/news/article/?id=6660&area=2,5,10,16&typ=artikel&lang=en>

They have first developed the filter in 2014.

Have a great weekend.

Kindest personal regards,
Ram

From: Cook, Fred L [mailto:fred.cook@gatech.edu]
Sent: Friday, June 03, 2016 3:26 PM
To: Ramkumar, S <s.ramkumar@ttu.edu>
Cc: 'Fred Cook' <fred.cook@mse.gatech.edu>
Subject: RE: TexSnips: Scientists Develop Nanocellulose Filter to Remove Viruses from Water
Importance: High

Very interesting, Ram, can you give me the reference for the original paper or release that the blurb came from?? Thanks and have a great weekend! Fred

From: Ramkumar, S [mailto:s.ramkumar@ttu.edu]
Sent: Friday, June 03, 2016 4:06 PM
To: Ramkumar, S
Subject: TexSnips: Scientists Develop Nanocellulose Filter to Remove Viruses from Water

Tea Bacteria Modified to Produce Cellulose

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, May 31, 2016)- A team of scientists and students at Imperial College London have engineered bacteria found in green tea to produce cellulose that can find applications in filtration and textile industry.

The team at Imperial College London has developed DNA tools to engineer a specific strain of bacteria found in fermented green tea to produce modified bacterial cellulose. This technique also enables to incorporate proteins and other biomolecules to the bacteria.

Among many different potential applications, protein incorporated bacterial cellulose filter can be used to target contaminants in water supplies. An interesting application is developing sensors using cellulose material that can detect biotoxins, based on color change.

Undergraduate students specializing in synthetic biology led this research effort according to Imperial College. This study is one of the first to use synthetic biology to engineer the ways in which materials are produced.

Michael Florea, who led the project while carrying out undergraduate studies at Imperial College stated that the study shows bacterial cellulose production can be genetically engineered and proteins can be woven into the cellulose, which has not been possible before.

According to researchers, the next step is to collaborate with NASA scientists to manufacture new materials on Mars using these engineered microbes. Other applications are envisioned in fashion and textile industry.

The research work has been published in the recent issue of Proceedings of the National Academy of Sciences, USA

Metal Detectable Nonwovens Developed

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, May 20, 2016)- Nonwoven substrates with impregnated particles that can be detected by metal detectors developed.

A team of three researchers at ITW Pro Brands, have developed technology to incorporate stainless steel particles into spunmelt nonwovens that can find applications in food packaging sector.

Regular spunbond wipes, caps and gowns that are used in food packaging lines have the possibility of getting mixed with the food packages and products, while used. However, having these wipes that can be detected by metal detectors that are already in place in food packaging machines will solve the problem and help with reducing health risks and legal issues, stated Karen Mertins .

Karen Mertins, a chemist with ITW Pro Brands presented the patent pending technology at the recent NET Inc event during the PaperCon conference, this week in Cincinnati, Ohio.

Bob Martin, Emily Aldridge and Karen Mertins are the three named inventors on the patent pending technology.

The technology displays collaborations with polymer technology companies and nonwoven roll goods manufacturer.

Initial trials were conducted at the Social Circle-GA based Standridge Color Corporation. To further develop the product, Karen Mertins' team collaborated with Fitesa to develop the wipes. They used Fitesa's 1 meter Reicofil spunmelt line in its plant in Peine, Germany.

In talking with the scribe at the event, Mertins advised that they have used 16 micron size stainless steel particles from Eriez Magnetics of Erie, PA to develop the spunmelt wipes.

The inventors are also looking into developing x-ray detectable textile materials.

This year's NET Inc event of the TAPPI focused on innovations in nonwovens technology from fibers to processes and was held at the Duke Energy Convention Center in Cincinnati, Ohio.

Wearable Cooling Vest Advancement

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, May 12, 2016)- Wearable nanoarray embedded personal cooling vests are on the horizon.

A team of researchers at the Pennsylvania State University (Penn State) led by Qing Wang, professor of materials science and engineering has created nanowire material that could cool with electric field which is safe for humans. Such nanoarrays are lightweight and flexible enough to be embedded in firefighter gears, athlete dresses, etc.

The nanoarrays are made up of ferroelectric barium strontium titanate, which can cool to about 5.5 degree Fahrenheit using 36 volts. Ferroelectric polymers used earlier by others require electric field that are not within the safety limits for human beings.

The researchers state that just a 500 gram battery can power the nanoarrays for two hours, which is sufficient for people who do moderate exercise. An important advancement with this wearable technology is that it does not require regeneration of coolants and hence avoids ozone depletion.

The US National Science Foundation research at Penn State showcases further advancements in the field of wearable textiles. Wearable textiles field is getting considerable attention in the United States with the recent creation of US\$17 million public-private partnership consortium at Cambridge, MA-based Massachusetts Institute of Technology.

April 28, 2016 (Evening)

Dr. Robert Fraley, Chief Technology Officer, Monsanto
U.S. National Medal of Technology + World Food Prize

Ramkumar, S

From: FRALEY, ROBERT T [AG/1000] <robert.t.fraley@monsanto.com>
Sent: Thursday, April 28, 2016 5:42 PM
To: Ramkumar, S
Subject: Re: Cotton Grower (Leading Cotton News Outlet) carries story on Monsanto's Visit to TTU

Nice meeting you--great article! All the very best. Robb

Sent from my iPhone

On Apr 28, 2016, at 3:20 PM, Ramkumar, S <s.ramkumar@ttu.edu> wrote:

<http://www.cottongrower.com/cotton-news/monsantos-fraley-stresses-need-for-science-education/>

Monsanto's Fraley Stresses Need for Science Education

By: [Dr. Seshadri Ramkumar](#) | April 28, 2016

Communicating science and training next-generation STEM graduates are just as important as doing the science.

That was the message from Robert Fraley, chief technology officer at Monsanto, during a discussion April 27 at Texas Tech University.

Fraley and a team of other Monsanto executives spent time with researchers and students to talk about the importance of science, communicating science and training the next generation workforce with science and technology education.

"Science is core for new technology," stated Fraley. "It is insufficient if people do not understand."

Fraley emphasized the need for multidisciplinary knowledge in the future R&D industry – not only geneticists, but also people who are trained in social sciences, statistics and data analytics.

Quipping that he will 94 years old in 2050 when the world is projected to have 10 billion people, he said, "Farming has to be smarter, better and different."

Fraley's group was one of the first teams in the world to successfully put a gene into a plant that resulted in technologies such as Bollgard and Roundup Ready, which enhanced the production and yield of cotton in the United States and other countries throughout the world.

Ramkumar, S

From: FUCHS, DANIELLE M [AG/1000] <danielle.m.fuchs@monsanto.com>
Sent: Friday, April 29, 2016 7:55 AM
To: Ramkumar, S
Subject: RE: Cotton Grower (Leading Cotton News Outlet) carries story on Monsanto's Visit to TTU

Thank you for sharing this with me. This is a great piece. Hope all is well.

Danielle Fuchs

Technology Communications Manager
(d) 314-694-2091 | (c) 636-634-1996
danielle.m.fuchs@monsanto.com
Twitter: [danielle_fuchs](#)

From: Ramkumar, S [mailto:s.ramkumar@ttu.edu]
Sent: Thursday, April 28, 2016 3:20 PM
To: Ramkumar, S
Subject: Cotton Grower (Leading Cotton News Outlet) carries story on Monsanto's Visit to TTU

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Ramkumar, S

April 28, 2016
Mr. Ashok Kulkarni, FTI
founding CEO of Premier's Non-university
Unit, Karnataka

From: ashok kulkarni <arkku70@hotmail.com>
Sent: Thursday, April 28, 2016 9:07 AM
To: Ramkumar, S
Subject: Re: TexSnips: Monsanto Technology Leader Talks about Future

You have been sending excellent information
Which are increasing our knowledge and also we can learn lot of new things

Keep it up Dr seshadriramkumar.

Regards
Ashok kulkarni

Sent from my Samsung Galaxy smartphone.

----- Original message -----

From: "Ramkumar, S" <s.ramkumar@ttu.edu>
Date: 28/04/2016 19:29 (GMT+05:30)
To: "Ramkumar, S" <s.ramkumar@ttu.edu>
Subject: TexSnips: Monsanto Technology Leader Talks about Future

Monsanto Technology Leader Talks about Future

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 28, 2016)-Communicating science and training next-generation STEM graduates are just as important as doing science stated Robert Fraley, Chief Technology Officer at the agriculture biotechnology giant Monsanto.

Yesterday, Texas Tech University, hosted a team of six Monsanto executives lead by Robert Fraley. Fraley, a much accomplished scientist with World Food Prize and US National Medal of Technology engaged the whole afternoon with researchers and students to talk about the importance of science, communicating science and training next generation workforce with science and technology education.

Quipping, he will be 94 years in 2050 when the world will have 10 billion people, Fraley stated, farming has to be smarter, better and different.

Being a technology leader in an agriculture company, Fraley emphasized the need for not only geneticists, but also people who are trained in social sciences, statistics and data analytics, emphasizing the need for multidisciplinary knowledge in the future R & D industry.

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Science is core for new technology, it is insufficient if people did not understand, stated Fraley.

Robert Fraley's group was the first team in the world to put a gene into a plant that resulted in technologies such as Bollgard and Roundup Ready, which basically enhanced the yield of cotton in countries like India, which became the world number in cotton production last year.

Twenty five percent of Monsanto's R&D budget is set aside for collaborations involving start-ups, academia and small businesses.

This March, Monsanto broke the ground for a \$140 million cottonseed production facility in Lubbock to be operational in Summer 2017, will cater to the cotton seed requirement of the whole United States.

Ramkumar, S

April 28, 2016
Mr. Ashok Kulkarni, FTI
founding CEO of Premier's Non-university
Unit, Karnataka

From: ashok kulkarni <arkku70@hotmail.com>
Sent: Thursday, April 28, 2016 9:07 AM
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Subject: Re: TexSnips: Monsanto Technology Leader Talks about Future

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Regards
Ashok kulkarni

Sent from my Samsung Galaxy smartphone.

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Date: 28/04/2016 19:29 (GMT+05:30)
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Subject: TexSnips: Monsanto Technology Leader Talks about Future

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India Not to Provide Export Subsidies for Cotton

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 27, 2016)-India is not user of export subsidies for cotton according to Government of India.

Today, Ministry of Commerce and Industry of India provided clarification with regard to export subsidies for cotton.

Since India did not have export subsidies during 1986 to 1988, which is the base period per the Uruguay Round Agreement on Agriculture (AOA), India is not entitled to export subsidies. However, subsidies to reduce the cost of marketing, transportation costs, handling and processing costs are permitted without circumventing the export subsidy reduction commitments.

Developed nations have agreed to eliminate export subsidies based on the Nairobi Ministerial Decision on Cotton and Export Competition, which was adopted on December 19, 2015. This agreement will enable developing countries to eliminate export subsidies by January 1 of 2017.

Government of India opines that the Nairobi Decision on elimination of cotton export subsidies will be good for Indian cotton exports as it will provide a leveling platform since India is not entitled for the export subsidy provision.

India has pushed for the adaptation of Nairobi decision, which will prevent dumping of subsidized cotton in India, according to Ministry of Commerce and Industry, India.

Germany Establishes New Carbon Fiber Research Center

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 22, 2016)-Saxony region in Germany will have a new advanced center for carbon fiber research.

The Technical University of Dresden (TU Dresden) will establish this center to focus on carbon fiber R & D and develop a wide array of applications in functional materials.

TU Dresden will bring the resources and expertise of the Institute of Lightweight Structures and Polymer Technology and the Institute of Textile Machinery and High Performance Material Technology in establishing the new center called “Research Center for Carbon Fibers Saxony (RCCF).”

One particular emphasis of this new center will be on transferring research knowledge to the industry. Germany has for a long time now, emphasized the importance of applied research with funding support from partner industries with the establishment of a number of Fraunhofer Institutes that focus on a myriad of technical fields such as polymer research in Postdam-Golm, composites, wood research, etc.

An overarching goal of the center is to make Saxony a high tech cluster for lightweight carbon manufacturing. Towards this goal, initial step will be to commission a carbon fiber manufacturing plant, this June.

According to Professor Chokri Cherif, Director of the Institute of Textile Machinery, necessary machinery are already in place and the center will set new standards in both fundamental and applied research in carbon fibers.

Clothing for Children with Autism Developed

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 21, 2016)-April is the national autism awareness month in the United States. Texas Tech University researchers are contributing to the fight against autism.

A team of researchers at Texas Tech University (TTU) have developed special clothing to help children with autistic disorders.

According to latest statistics from the US Centers for Disease Control and Prevention (CDC), based on data from 11 communities, 1 in 68 children aged 8 years, have autism spectrum disorder (ASD). CDC data shows that in the US, the economic cost per year for children with the autism disorder can be as high as US\$ 60.9 billion. It is critical to develop medical and non-medical countermeasures to combat the disorder.

TTU's project on sensory clothing is led by Su Shin, associate professor of design involves Kristi Gaines, professor of interior design and undergraduate researchers. The clothing incorporates air pumps to control pressure, patterned structures in pockets to calm children with ASD. Researchers designed clothing with hoods that can provide acoustic insulation to protect the ears of children from unwanted external noise.

According to the researchers, based on the feedback they have obtained, organic bamboo fabric was the most preferred and wool clothing was least liked by the children, who used the clothing.

Adding gadgets to provide functionality and enhance comfort is becoming a norm these days in the next-generation clothing. Hopefully, with the investment of US\$317 million to create the revolutionary fabric institute in the United States, new wearable electronic textiles that have unimagined functions may be on the horizon.

Semiconductor Superhydrophobic Fabrics Developed

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 19, 2016)-Australian researchers have developed semiconductor superhydrophobic functional fabrics.

A team of Australian researchers from Queensland University of Technology, RMIT University and two CSIRO units have developed functional fabrics that are semiconductors and could repel oil and water. The fabric separated crude oil, olive oil and dichloromethane from water.

The scientists used silver interwoven nylon fabric and coated copper on to it, to start with. This semiconductor fabric undergoes immediate chemical reaction when coated with a chemical solution of tetracyanoanthraquinodimethane referred to TCNAQ. This process creates charge transfer complex of copper and TCNAQ, which results in nano rough surfaces all through the fabric making it superhydrophobic.

According to the lead scientist of the study, Anthony O'Mullane, associate professor at the Queensland University of Technology, the fabrics are multifunctional, antibacterial and semiconductive. O'Mullane stated, "Because it is semiconductor, it can interact with visible light to degrade organic pollutants."

Researchers claim that a variety of applications are possible such as separating water from industrial sludge, decontaminating water and killing bugs.

According to the researchers, the next step is to test the scalability and mechanical robustness of the coated fabric.

Traditional Nonwoven Materials are Better Tissue Scaffolds

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 12, 2016)- Nonwoven substrates made using spunmelt and carding processes are cost effective to develop tissue scaffolds.

A team of researchers from the University of Missouri-Columbia and University of North Carolina (UNC)/North Carolina State University (NCSU) have found that nonwoven substrates produced using the above traditional methods provided viable tissue scaffold medium compared to electrospun nanofiber webs.

Professor Elizabeth Loba, who is currently the Dean of Engineering College at the University of Missouri undertook the study while associated with UNC/NCSU with Dr. Stephen Tuin and Professor Behnam Pourdeyhimi of The Nonwovens Institute at NCSU.

Electrospinning field has exploded since the early 1990s due the efforts of Dr. Jayesh Doshi, Founder of Chattanooga, TN-based eSpin Technologies and Professor Darrell Reneker of the University of Akron. Many industries around the world are working towards improving this method to make it scalable to produce cost effective nanowebs.

Loba and her team used carding and spunmelt technologies to develop polylactic acid scaffolds to grow human stem cells. These scaffolds showed that stem cells grown on them were healthy after three weeks and could grow into fat and bone tissues. In addition to being effective media to grow stem cells, the cost of these media is relatively cheaper to electrospun nanowebs.

According to Loba, small piece electrospun webs could cost between US\$2 to US\$5, whereas, the cost of traditional media ranges between US\$0.30 to US\$3.00

According to the team, the next step is to evaluate the performance of scaffolds developed using spunmelt and carding techniques in animals in vivo.

Ramkumar, S

April 11, 2016
Monday, Early AM

Comment by Dr. Kater Hake
VP, Agricultural & Environmental
Research

From: Hake, Kater D. <KHake@cottoninc.com>
Sent: Monday, April 11, 2016 1:07 AM
To: Ramkumar, S
Subject: Re: Importers Prefer US Cotton for its Quality

Cotton Incorporated

Thank you Ram.

You are an excellent contributor to our industries success in so many different ways.

Kater

On Apr 11, 2016, at 12:03 AM, Ramkumar, S <s.ramkumar@ttu.edu> wrote:

Kater, Here is my Column. Thanks for the quote.

Kindly,
Ram

Importers Prefer US Cotton for its Quality

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 10, 2016)-Turkey prefers US cotton for its quality and will be the top importer this year.

On Friday, April 8, producers from the High Plains of Texas gathered in the Lubbock Memorial Civic Center for the 59th annual meeting of the Plains Cotton Growers, Inc.

David Wasserman of the non-partisan The Cook Political Report provided keynote on what is going on in the US Presidential election, particularly on the primary season. The highlight of the meeting was a presentation on the cotton industry situation by Reece Langley, Vice President-Washington Operations of the National Cotton Council.

Langley who has two degrees from Auburn University presented the shift that is happening in the US cotton export landscape with brief statistics on the global cotton industry.

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On Friday, April 8, producers from the High Plains of Texas gathered in the Lubbock Memorial Civic Center for the 59th annual meeting of the Plains Cotton Growers, Inc.

David Wasserman of the non-partisan The Cook Political Report provided keynote on what is going on in the US Presidential election, particularly on the primary season. The highlight of the meeting was a presentation on the cotton industry situation by Reece Langley, Vice President-Washington Operations of the National Cotton Council.

Langley who has two degrees from Auburn University presented the shift that is happening in the US cotton export landscape with brief statistics on the global cotton industry.

In the current marketing year, China will no longer be the top importer of US cotton. Turkey will be the top importer, which will be followed by Mexico and Vietnam as other leading importers of US cotton. These three countries combined will constitute over 45% of US cotton exports.

The export situation has dramatically changed since 2010-12 timeframe, when China was the top importer with about 42% of US exports. Currently, only about 5% of US cotton export is expected in the China market. As is evident, economic slowdown in China and the huge cotton reserves it holds are major reasons for the shift. Langley stated China has over 50 million bales in stocks and within few weeks China will announce its decision on the stocks.

In the current season, US will be the leading exporter with 10.2 million bales (480 lbs. each) in the export sales expected, followed by India and Africa Free Zone each at 4.4 million bales. Australia is expected to export 2.5 million bales.

Smart Textiles Devices will Double in Twelve Months

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 6, 2016)— Smart textiles that have devices embedded in them will double in every twelve months.

Cambridge, MA-based Massachusetts Institute of Technology (MIT), which led the effort to create a public-private partnership consortium Advanced Functional Fabrics of America Alliance (AFFOA) hosted the launching event on April 1, wherein Defense Secretary Ashton Carter made the announcement of the creation of AFFOA with US\$317 million commitment to create a textile revolution in the United States.

Speaking at the event as the host, Dr. Rafael Reif, the 17th President of MIT stated that in an industry that is yet to be invented, the number of devices in fiber will double in every twelve months. He christened this growth curve as “AFFOA Law” modeled after Moore’s Law, which the semiconductor industry uses to gauge its growth. Although, it is indeed premature and quite early to predict how the smart textiles industry will evolve, at least it creates an optimistic mood in the textile sector that badly needs growth and increase in job numbers.

Professor Yoel Fink, who is the principal lead in the consortium effort at MIT, echoes President Reif’s sentiments that the functions in a fiber will grow in a similar fashion as was the case with computer chips.

Textile industry has activities to look forward to with the creation of AFFOA institute. One immediate need is to precisely define what exactly are smart fabrics? Although not precisely defined, textiles with functional characteristics such as phase change materials, textiles with electronics, etc., are all considered as smart textiles, these days. Other tasks will be to establish standards, solving problems such as cost and durability issues, etc.

By formally bringing, workforce solution groups and R & D people together, AFFOA has sent a signal that it will endeavor to create a new textile sector that will have advanced products and good job prospects.

AFFOA law may be an ambitious target during the initial phase of the new textile revolution, but certainly growth in the textile sector is expected to happen.

04/1/2016
Steve Warner was former
President of IFAI

Ramkumar, S

From: Steve Warner <steve.m.warner@outlook.com>
Sent: Friday, April 01, 2016 10:49 AM
To: Ramkumar, S
Subject: RE: TexSnips: United States Commits US\$317 Million for Advanced Textiles Development

Thanks, Ram. Good job on reporting this first!

Steve

Steve Warner

Publisher

BeaverLake6 Report

Email: beaverlake6@hotmail.com

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Website: www.beaverlake6.com

From: s.ramkumar@ttu.edu
To: s.ramkumar@ttu.edu
Subject: TexSnips: United States Commits US\$317 Million for Advanced Textiles Development
Date: Fri, 1 Apr 2016 14:10:44 +0000

United States Commits US\$317 Million for Advanced Textiles Development

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 1, 2016)— A private-public collaboration will invest US \$317 million towards developing next generation textile industry in the United States.

According to a just released statement from the U.S. Department of Defense, a consortium of 89 universities, industry and non-profits organized Cambridge, MA-based Massachusetts Institute of Technology (MIT) will form the "New Revolutionary Fibers and Textiles Manufacturing Innovation Hub."

A non-profit vehicle Advanced Functional Fabrics of America Alliance that has the consortium members involving Universities like MIT, Cornell, University of Tennessee-Knoxville and leading industry partners will be leading the charge of the innovation work and will be managed by the U.S. Army.

U. S. Department of Defense will invest US\$75 million and there will be huge contributions from non-federal entities that is about 3 times the size of U.S. government's investment in the next generation fiber-textile chain research. The total effort is estimated to be worth about an investment of US\$ 317 million.

Leading technology giants such as Bose, Intel and many textile innovative companies are involved in this effort.

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The new revolutionary fiber institute is the sixth manufacturing innovation hub initiative by President Obama administered through the U.S. Department of Defense. These institutes are aimed at developing high-tech sectors in the U.S. to enable U.S. to be competitive, especially in the manufacturing sector.

India Develops First Indigenous Composites Sonar Dome

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 31, 2016)— Indian defense minister recently unveiled first indigenous sonar dome made using composites manufactured in India.

On March 29th, Indian Defense Minister Mr. Manohar Parrikar dedicated to the nation, first sonar dome that was manufactured by an Indian company, Kineco, Ltd., based in Goa. The unveiling of the new capability took place at the 2016 Defense Exposition in the holiday sea resort town, Goa in Western India.

According to India's premier defense research organization, DRDO, sonar dome is a protective cover to protect high-end and sensitive equipment in surface war ships.

DRDO's laboratory in Pune, India has developed the composite technology for sonar domes. Pune laboratory has come up with two processes to develop the composite domes: 1) Vacuum Assisted Resin Transfer Molding and 2) Resin Film Infusion technologies.

Vacuum assisted molding technique was used to develop large composite structure that was needed to develop sonar domes. DRDO-Pune laboratory has transferred the technology to Kineco, Ltd in Goa.

India now joins the select group of nations that have the capability to develop large composite structures with complex geometry and acoustic transparency, according to Government of India. India hopes to use the composite technology to develop ship hulls and multiple aerospace structures.

March 31, 2016, Thursday
Comments from Dr. Paul Sawhney 78 years

Ramkumar, S

Subject: FW: FYI of ARS-USDA, New Orleans
Importance: High and
Dr. Robert Monticello,
International Antimicrobial Council
Washington, DC

From: Sawhney, Paul [mailto:AP.Singh@ARS.USDA.GOV]
Sent: Thursday, March 31, 2016 10:01 AM
To: Ramkumar, S <s.ramkumar@ttu.edu>
Cc: Bechtel, Peter <Peter.Becht@ARS.USDA.GOV>
Subject: RE: FYI
Importance: High

EXCELLENT, DR. RAMKUMAR. I knew it all along and even had informed you of my excellent impression about your timely and uninterrupted superb TexSnips. I am glad to know that Dr. Monticello of Washington-DC-based Antimicrobial Council has also recognized your brilliance in what you always do for the scientific community, worldwide. In my opinion, you are an unsung hero among the top US scientists and orators!

Best regards, as always,
Paul
+++++

From: Ramkumar, S [mailto:s.ramkumar@ttu.edu]
Sent: Thursday, March 31, 2016 9:36 AM
To: Sawhney, Paul
Subject: FYI

Dear Dr. Sawhney,

As you are a good reader of my columns and comment on those, please see a note from Dr. Monticello of Washington-DC based Antimicrobial Council.

I am glad my write-ups are getting some attention.

Kindly,
Ram

From: Robert A. Monticello, Ph.D. [mailto:ramphd@amcouncil.org]
Sent: Thursday, March 31, 2016 9:26 AM
To: Ramkumar, S <s.ramkumar@ttu.edu>
Subject: RE: TexSnips: Marketing Consistency Important for Businesses to Succeed

Hello Dr. Ramkumar,

I hope you are doing well. It has been a few months since we last met at AATCC.

I have been reading with pleasure your TexSnips and have been forwarding to my clients. They have found it very informative and helpful. Thanks for sending those out.

I also wanted to give you a little more information, possibly a topic for one of your TexSnips. The International Antimicrobial Council (IAC) has just started a new verification program for antimicrobial treated articles. We are getting a lot of interest from various textile brands and retailers that have been frustrated with inconstant antimicrobial test results from laboratories from around the world. These laboratories may be very good at testing the physical properties of textiles but they are often not microbiologists and, up until now, there hasn't been anyone able to certify these laboratories for proficiency. The IAC Certification and Verification program is an extremely useful tool that allows brands and retailers the confidence that they are getting proper test results and it allows the test labs training and certification on the latest antimicrobial test methods available for textiles.

I would be happy speak with you directly if you would like to make this a topic for one of your TexSnips. I have attached the latest IAC Newsletter and an article that came out in January on this program.

Best regards,

Bob

Robert A. Monticello, Ph.D.
International Antimicrobial Council
1629 K Street, Suite 300
Washington, DC 20006
ramphd@amcouncil.org
Office: 202-600-7711
Mobile: 989-615-0031



Nonwoven Innovations to be Featured at the TAPPI Conference

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 30, 2016)— TAPPI will have its Nonwovens International Conference this May in Cincinnati, which is the home of the consumer goods giant, Procter and Gamble.

The conference will focus on innovations from fiber to nonwoven fabrics with key presentations from global business leaders. The nonwovens conference, which is organized as part of the PaperCon Mega Conference will kick-off with a high powered keynote speech on marketing by Ken Schmidt, former Communication Director of the legendary motorcycle company, Harley-Davidson.

Greg Bunker, Global Business Director for Adhesives and Functional Materials at Dow Chemicals will be keynoting on innovations for the growth of the nonwoven business. A particular focus of Greg's talk will be on using innovation as a key tool to cope with the ever changing market place, which is particularly helpful for the nonwoven industry dominated by single-use consumer goods that has shorter life cycle.

This year, the conference will feature two tutorials that will focus on nonwoven processes and filtration. These tutorials are a good way of learning for new comers to the field of nonwovens.

Nonwoven Technologists and Engineers Division (NET) at TAPPI provides a platform for academics, industry personnel and students in the field to network for advancing the science and careers. And certainly this year's conference has plenty to offer for people in the nonwovens and technical textiles field, said Maureen Nunn, Chairman of the NET Division at TAPPI.

Interesting and new topics such as sustainable fibers and processes like eco-friendly dyeing of cellulose nanofibers, novel antimicrobial finishing of cotton nonwovens, PLA co-polymer meltblown nonwovens, bi-component electrospun battery separator substrates, to name a few are on the agenda.

This year's emphasis has been on novelty in terms of technology and products such as sustainable products for new applications. Topics will cover the developments in natural fibers, polymers, binder additives to benefit the nonwovens sector.

TAPPI nonwovens conference will take place from May 16-18 in Cincinnati, OH. More details can be found at: <http://www.papercon.org/program/netinc-nonwovens/>

Marketing Consistency Important for Businesses to Succeed

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 30, 2016)— For business start-ups, it is important to settle on a marketing strategy and stick with it.

In a discussion today during the business networking, 1 Million Cups Program in Lubbock, TX, Brad Johnson, who has been in real estate business for 17 years stated, consistency in marketing is necessary for businesses to succeed.

Today, Ryan Hannsz, a brand new entrepreneur, who has started a pest control business, “Basic Pest Control” just last week spoke about his business interest and plans for future at the 1 Million Cups Program.

Learning from other businesses, Ryan plans not to “up-sell” his services. In other words, not over selling the business to customers is how Ryan plans to differentiate his service from his peers in the field. Ryan provided useful tips for business aspirants that include keeping a problem at hand simple, and solving that problem effectively. Customers should not be scared away by making their problem look complicated.

Making the problem look simple or basic and providing right solution at the right cost should be the basic nature of any business, particularly the service sector such as plumbing or pest control.

For small business owners and entrepreneurs, getting good help with book keeping and seeking help from agencies in their community such as Small Business Administration are just as important as their products and services emphasized, Jennifer Horn, Director of Entrepreneurialism at Texas Tech University.

Proactive measures such as regular touch base with customers, good people skills and not up-selling the product capabilities and services are some basic necessities for business to succeed.

Proactive Measures to Combat Likely White Fly Infestation in India

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 29, 2016)—Government of India is taking proactive measures to combat likely white fly infestation in cotton producing Northern States in India.

Last year, excessive damage occurred to cotton crop in the Northern States of Punjab and Haryana.

According to a latest estimate by Mumbai-based Cotton Association of India, the northern zone consisting of the states of Punjab, Haryana and Rajasthan is expected to produce a total of 4 million bales (170 Kgs each) this season (October 2015-September 2016) which is less than the last season's (2014-15) production of 5.4 million bales.

The Central Agriculture and Farmers Welfare Ministry of India issued directives related to planting cotton in Rajasthan, Punjab and Haryana, according to a statement from the government on March 28th.

Government of India has stipulated the sowing timeframe in the beginning of April in the three states where the likelihood of white fly infestation is high. Ministry of Agriculture has directed farmers to use only certain seeds and monitoring the movement of pests has been highly recommended. Timely use of pesticides to combat the infestation has been advised.

Particular emphasis this year is on the timely sowing of seeds in early April.

The research arm of the Ministry, Indian Council of Agricultural Research is helping farmers in selecting suitable seeds and a list of pests resistant seeds has been provided for the benefit of farmers.

Resale Textile Business Offers New Scope

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 28, 2016)— Reselling fashion and branded textiles offers new opportunities for small businesses and entrepreneurs.

In the West, particularly, where garage and yard sales are common, extending this concept to re-sell high fashion and branded items may offer good scope for starting new business ventures.

Speaking at a recent 1 Million Cups Program in Lubbock, coordinated by Texas Tech University and volunteer members of the Lubbock 1 Million Cups Program, Shawn Anglin, owner of Lubbock based Culture Clothing made a presentation on his successful business venture that re-sells branded clothes and accessories.

Growing slowly but deliberately, watching cash flow to inventory levels and being consistent in details are important mantras for any business to succeed according to Shawn Anglin.

In a question from this scribe on what values his re-sale textile business can provide to the customers, Shawn answered, it is the cost of branded goods that matter the most. Re-sale branded items have discounted price, which is what the customers care. Additionally, having a wider basket of fashion and branded goods provides good shopping experience to customers.

Important tips to increase sales in re-sale business is being very mindful of inventory levels, not spreading too thin and having targeted marketing strategies. Good shopping experience in a good location and providing cost savings to customers can increase traffic flow and sales, said Anglin.

Not only re-sale textile business is an attractive business proposition, it is sound environmentally as textiles get recycled from one customer to the other without being thrown on to dump yards quickly.

White House Announces an Ambitious Diaper Program

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 24, 2016)— President Obama recently announced a pilot program to enable low-income families to procure diapers more effectively.

President Obama has requested US\$ 10 million to test ways to make diapers available to families in need, which has to be approved by the U.S. Congress.

According to the White House, lowest income families with babies pay 14 percent of their income on diapers. This can work out to about US \$936 for diapers per child per year. The White House stated, one in three U.S. families struggle to provide diapers for their babies.

Citing his personal experience of buying case after case of diaper, while his daughters were babies, President Obama has initiated the ambitious program involving diaper manufacturers, retailers, government and non-profits.

The pilot program has evolved out of a research by Dr. Megan Smith, assistant professor of psychiatry at New Haven based Yale University. According to Smith, some families spend 50 cents per diaper if purchased in neighborhood stores and the lack of diapers is one of the leading causes for stress in young mothers.

The White Program is aimed at enhancing the health of babies and mothers by making diapers available easily, especially for low income U.S. families. The program aims to make diapers an absolute necessity and not an optional material.

Diaper manufacturers certainly have a major task ahead in providing cost effective diapers without comprising quality.

Product Differentiation a Key Strategy to Succeed in Business

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 23, 2016)— In a crowded market space with established key players, differentiating products and educating them to customers will be a successful business strategy.

On a windy day today, a group of entrepreneurs and people with business interest gathered for the weekly 1 Million Cups Program in Lubbock, coordinated by Texas Tech University and active volunteers of the Lubbock 1 million cups activity.

Josh Holder and his wife, Angie Holder, who are the co-owners of Victory Fitness Ranch, a wellness center made their presentation about their new fitness venture which they co-own along with another business partner on a 9 acre campus in the suburb of Lubbock on High Plains of Texas.

Although, fitness business has become crowded, their marketing strategy focused on differentiating their business from their competitors. They focus of key Kaizen principles such as taking small problems to solve and focusing on them. As a key product differentiation, Holders not only focus on fitness and diets as part of wellness program they offer, they cultivate good habits to think well, creating positive attitudes in their clients. Another product differentiator in their business is their resort type of setting for their fitness operation, giving feel good ambience to their clients.

It is clear from the business model of Holders that it is not necessary to have disruptive technology to have a successful business, which is good take home message for manufacturers like textiles and nonwoven fabrics.

As long as businesses can differentiate their products from their competitors and market them highlighting those attributes, it will be beneficial. For example, cotton industry can promote the benefits of cotton's biodegradability as a key differentiator compared to synthetics in single-use textile products as a way of marketing to customers.

Marriott Hotel Chain to Offer Customers Made in America Terry Products

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 21, 2016)— Marriott will become the first hospitality company to offer its customers, bath terry towels and mats that are made within the boundaries of the United States using home grown cotton.

United States has been long importing textiles and apparel goods from low cost wage countries like Bangladesh and Vietnam, as it shifted away from low-end manufacturing industries. However, the United States is focusing on high-end textile manufacturing sectors such as industrial textiles and nonwovens.

Marriott International with reported revenues of more than U.S. \$ 14 billion last fiscal year, announced recently that it will use bath terry fabrics made from U. S. grown cotton and manufactured in the United States. Marriott has entered into a partnership with Standard Textiles to develop these goods to be used in its 3,000 U.S. hotels.

“We believe our guest will appreciate knowing that even simple items they use every day in our hotels represent progress for the U. S. economy,” said J. W. “Bill” Marriott, Jr., the Executive Chairman of Marriott.

Standard Textile will manufacture these goods in its Thomaston, Georgia and Union, South Carolina plants in the U.S. It is reported that this new program will create 150 new jobs at these locations.

The use of home grown cotton has brought cheers to U.S. cotton producers. Steve Verett, Executive Vice President of Lubbock, TX based Plains Cotton Growers, Inc., said, “From a cotton producer perspective, this is excellent news. Anything we can do to increase demand for our product certainly will benefit our producers. We appreciate Marriott International for recognizing the importance of supporting the U.S. cotton and textile industry. It is significant for a major hotel chain like Marriott to make this commitment, and we hope others will follow. ”

Marketing Tips from High Plains of Texas

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 3, 2016)—High Plains of Texas is known globally for its cotton industry. Efforts are underway here to grow new industries and develop entrepreneurs.

A group of likeminded people with interest in entrepreneurialism and developing businesses in Lubbock, Texas are organizing the weekly 1 Million Cups Lubbock program to kick start start-ups and businesses in the High Plains. 1 Million Cups is a US nationwide educational program for prospective and budding business people developed by Kansas City based Kauffman Foundation.

On March 2nd, Kelly Martin, a licensed professional counsellor briefed the audience about how she created The Playroom Lubbock, a play therapy based counselling service offered to needy children and adolescents. Apart from going over the business plan that has enabled her to have a business with 20 clients in 8 months or so, a valuable marketing tip Kelly Martin gave may be of immense help to budding business people.

A major hurdle that deters young people in venturing into being an entrepreneur is how to go about marketing the products and services. In a question by this scribe Ms. Martin provided her own example of how her company started promoting about the services The Playroom Lubbock will provide even before the company actually became fully operational with a brick and mortar structure.

Apart from flyers and advertisements, it is the face to face briefing and promotional efforts well in advance to prospective buyers before the products are out there to be sold are some sage advice in growing a business.

Planned and well thought out marketing even before a company begins its operation to provide goods and service to customers will be of help to budding entrepreneurs and small business sector.

Korean Team Develops Superbug Resistant Fabric from Bacterial Pigment

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 1, 2016)—An industry-academia team in South Korea has effectively used pigment from bacteria found in nature to develop superbug resistant fabrics.

A team of institute-industry partners affiliated with Ulsan National Institute of Science and Technology (UNIST) involving Korean Institute of Ceramic Engineering and Technology, industrial partner, Yeejoo Company and UNIST has used bacterial pigment “Violacein,” to impart antimicrobial properties.

Violacein, an indole derivative is a violet pigment made by naturally occurring bacteria such as those belonging to genus such as Chromobacterium. Violacein has been reported to have antimicrobial and antiparasital properties in microbiology related literature.

The bacterial pigment was coated to the fabric and has been reported to have good efficacy to MRSA and multi drug resistant Staphylococcus aureus. The coated fabrics inhibited the growth of MRSA and other supebugs by 99.9 percentage, according to UNIST. The work could be first of its kind to effectively utilize bacterial pigment as a coating agent on fabrics to impart antimicrobial properties. The Korean team has developed prototype face masks and they are currently being put to use in a local hospital in Ulsan city, South Korea.

UNIST is a young national University in South Korea with emphasis on science and technology established in the year, 2007 in Ulsan city.

India to Produce Less Cotton this Year Compared to Last Season

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, February 29, 2016)—India is expected to produce less cotton this season ending in September, 2016. This year, India will produce about 3 million bales less than last year.

Globally, commodity market is not doing well, with cotton being no exception. On Friday, New York Cotton Futures witnessed a steep slide resulting in lowest value since January. In the case of oil, more supply and weak demand is causing global concerns. The demand situation is similar for cotton with not much buying by China, the world's leading importer. Additionally, cheap oil price impacts polyester raw material costs that have direct influence on the consumption of cotton by spinning mills.

On Saturday, Mumbai based Cotton Association of India presented its latest cotton production number for this season (October 2015-September 2016), that shows India will produce 35.3 million bales (170 Kgs each) this year. This estimate is 3 million bales less than last year's production estimate of 38.3 million bales.

A striking point is that, this season India has an opening stock of 7.36 million bales as against 5.39 million bales in the last season that began in October of 2014. This year, as the mill consumption is expected to remain at the same level, less production this year will somewhat offset the excess opening stock.

According to a reliable cotton source in India, deficit rainfall in the Kharif season, which is the main cotton growing season stretching between June and September in India, has resulted in less cotton arrivals in the new season. While it is too early to predict, according to sources, cotton production in the next season (October 2016 to September 2017) may see an uptick and could reach about 38 million bales. The market will also see an uptick in the next season with price expected to be about Rupees 34,000 to 35,000 per candy of 356 kilograms.

Price of Sankar-6 cotton today ranges between Rupees 32,500 and Rupees 33,500 per candy of 356 kilograms.

The decrease in production in India might stabilize the Indian market along with uptick in buying from Asian countries such as Pakistan, Bangladesh and Vietnam, stated the cotton source, optimistically.

Novel Insecticide Coating Technique Developed

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 7, 2015)-----A team of European and African researchers has developed an efficient insecticide coating technique for bed nets that provides higher mortality for vectors like mosquitoes.

A process that uses electrostatic charge to enable the binding of variety of insecticides such as pyrethroids and nonpyrethroids on a variety of substrates like nets and blankets has been developed. The charge remains long standing and helps with the binding of insecticides without any additional carrier.

Results showed that pyrethroid resistant mosquito strains Anopheles from Africa had greater mortality rate for electrostatic bonded insecticide nets compared to standard deltamethrin treated nets. The electrostatic treated nets gave higher efficiency at reduced insecticide concentration and reduced exposure time compared to standard insecticide coated nets.

Electrostatic coated insect repellent net is one more addition to the number of electrostatic textile products such as cleaning wipes and filters. Mosquito repellent nets and blankets are important inventory for defense, medical and first-aid personnel who serve in war theaters, conflict zones and tropical climates.

The work titled, "Electrostatic coating enhances bioavailability of insecticides and breaks pyrethroid resistance in mosquitoes," has appeared in a recent issue of the United States' Proceedings of the National Academy of Sciences.

Bayer CropScience Invests in Seed Innovation Center

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 2, 2015)—Today, Bayer CropScience opened a new Seed Innovation Center in the Texas Tech University campus in Lubbock. The innovation center will host Bayer's global cotton business, state-of-the-art research laboratories and green house to support research in cotton, soybean and wheat.

Bayer CropScience is world's number one cotton seed producer. It invests US\$ one billion in crop science R & D. Ten percent of its gross sales goes back into research. The 100,000 square- foot innovation complex costed about US \$16 million and will have about 100 employees.

The greenhouse can hold 30,000 mid-size cotton plants and 7,500 full size soybean plants. The Seed innovation Center has growth rooms for plant cells and state-of-the-art molecular biology laboratories.

According to Adrian Percy, Global Head of R&D, Bayer CropScience, the center will focus on improvements in cotton varieties, introducing new traits and improve other aspects like herbicide tolerance, etc.

The new innovation center is a good showcase for ongoing collaboration between Bayer and Texas Tech University, said, Texas Tech alumnus Mike Gilbert, Global Head, Breeding and Trait Development at Bayer CropScience. The collaboration has been ongoing for over 15 years with Bayer beginning its cotton seed business in Lubbock, Texas in 1998 with just three employees. Today, Lubbock is the global headquarters for Bayer's cotton seed business.

Today's opening ceremony in Lubbock attracted a large gathering that included policy makers, leaders in the Lubbock community, cotton researchers and key cotton industry leaders like cotton producer Dale Swinburn of Tulia, TX, Kater Hake, Vice-President Agriculture Research at Cotton Incorporated, Cary, NC and Steve Verett, Executive Vice-President for the Lubbock based Plains Cotton Growers.

FiberMax and Stoneville cotton seeds are the two well- known brands of Bayer CropScience.

Wearable Electronic Textiles Gets Boost from the US Department of Defense

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, August 28, 2014)--Smart and wearable textiles sector will get a boost with the U.S. Department of Defense funding.

Today, U. S. Secretary of Defense, Ash carter announced the creation of National Manufacturing Innovation Institute for Hybrid Electronics.

According to U. S. DoD, "FlexTech Alliance," a consortium of 96 companies, 41 universities, 14 state and local organizations, 11 laboratories and non-profit organizations will establish the institute with huge funding from the U.S. Department of Defense.

The United States' Defense will provide US \$75 million for the institute, which will be established in the Silicon Valley. In addition to the government's commitment, private and public sector partners are contributing huge dollars, which has exceeded or matched the government's support, according to Secretary Carter.

According to Secretary Carter, "our troops will be able to lighten their loads with sensors and electronic gear embedded in their clothing." Many different applications involving hybrid electronic technologies include intelligent bandages and smart textiles.

This innovation institute is part of President Obama's program to create a number of manufacturing innovation institutes to boost the manufacturing sector in the United States.

Bulletproof Clothing from Corn

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, August 27, 2015)—Cornstarch solution can be a potential candidate for next-generation bulletproof clothing and impact materials.

Research in Professor Eric Brown's laboratory at Yale University has shown a unique property of cornstarch-water mixture that responds to impacts well. Upon impact, it cracks resembling solids and then it returns to fluid state. This phenomenon is understood as "shear thickening."

Shear thickening fluids have been researched over a number of years for its impact resistance properties. However, Yale group is using a biomaterial and has observed this phenomenon.

Eric Brown of the Mechanical Engineering and Materials Science at Yale, has summed up the material's advantage as "Crack a helmet; you have to get a new one. But it was to be made from self-healing material?"

The research is yet to fully explain how upon impact, the material behaves like a solid and quickly returns to the fluid state. The answer hopefully will lead to the development of environmentally friendly high impact resistant materials such as bulletproof vests.

First Estimate of New Season Indian Cotton Crop Released

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, August 25, 2015)---Indian cotton crop for the new season (2015-16) beginning this October is estimated to be 38 million bales of 170 kilograms each.

The first estimate was announced yesterday by Mumbai based Cotton Association of India (CAI). The new season's crop will be less than this year's estimate by 275, 000 bales (170 Kgs. each). Acreage is expected to be lower, while higher yield is expected.

According to CAI, the opening stock will be about 7.9 million bales, which will be higher than this year's opening stock.

Total domestic consumption is expected to increase by 5 million bales. Consumption in organized mill sector will be about 28.5 million bales as against 27.8 million bales, this year.

In recent days, cotton price is showing an upward trend in India. With the latest estimate showing a slight decline in production and projected surplus of about 14.57 million bales in the new season (October 15-September 16), it will be interesting to see how the market reacts.

One Indian cotton bale weighs 170 kilograms.

Nanocellulose Offers Immense Scope for Advanced Composites

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, August 20, 2015)---Herty Advanced Materials Development Center (HAMDC) at Georgia Southern University recently opened Advanced Chemical Processing facility that can help with the development of high performance and bio-based materials like nanocrystalline cellulose.

According to a release from Herty, the new center will be able to process materials ranging from minerals to polymers that have many advanced applications in automotive and aerospace industries.

Dr. Omar Ali, Director BioProducts at Herty stated, “nanocellulose has strength similar to Kevlar and is a promising biomaterial for advanced composite applications in the automotive and aerospace sectors.

The new facility has 500 L reactor that can be used for mixing, can undertake multicomponent reactions and has superior drying capability. The new reactor offers a powerful platform for giving the U.S. industry innovative materials from plastics to specialty coating, stated Walter Chappas, Herty’s advanced materials group director.

Nanocellulose is strong, renewable raw material that can be used to develop advanced composites. In recent years, there is a growing interest in this material and organizations such as the Technological Association of the Pulp and Paper Industry (TAPPI) is providing many platforms to support the growth of the material.

According to FP Innovations, by 2020, the North American market for nanocellulose will be about US\$250 million.

Chinese Import Decline Hits the Indian Spinning Sector

By: Seshadri Ramkumar, Texas Tech University, Lubbock, USA

(Lubbock, USA, August 10, 2015)—Cotton spinning sector in India has been hard hit by declining yarn exports.

Cotton spinning mills in northern India are planning to shut down one day a week. According to Chandigarh based Northern India Textile Mills' Association (NITMA) that has 98 member mills that includes leading names such as Vardhaman and Trident, etc., excess spinning capacity and decline in exports this fiscal year have resulted in poor cash flow and excessive stocks. In addition to these fiscal matters, textile policies in some southern states and those of Madhya Pradesh and Gujarat are hitting the northern spinning mills hard stated, Mr. Sharad Jaipuria, President of NITMA.

Mr. H. S. Cheema, Senior Vice President of NITMA stated that the spinning sector is under crisis and plans like shutting the production one day in a week are under serious consideration.

In a telephone conversation with this scribe today, Mr. G. Balasubramanian, Secretary General of NITMA stated India has about 10% excess spinning capacity. According to him, "yarn exports have fallen by about 20% year-on-year in the first quarter of this year." More importantly, imports by China have declined by about 30-40% this year creating a greater blow to the Indian spinning industry.

Converting Sector of the Technical Textiles Industry is Needed in India

By Seshadri Ramkumar, Texas Tech University

(Bengaluru, India, July 8, 2015)—Value-addition, product diversification and marketing support are desperately needed for growing technical textiles in India.

The Indian technical textiles sector that includes nonwovens needs focus and should diversify stated industrialists who attended the two day nonwovens training program of the United States based Association of the Nonwovens Fabrics Industry (INDA) coordinated by Tecnitex Nonwovens, Pvt. Ltd., in The Orchid Hotel, Mumbai, India. INDA's program tutored by this scribe was held on July 6-7 in Mumbai.

Participants from leading companies such as Kimberly Clark, Welspun, Johnson and Johnson attended the workshop and participated in interesting discussions to spearhead the growth of the industry.

Currently, the spunbond nonwoven sector is concentrated on packtech and is not performing well in India. According to a source, a few years back, the industrialized state of Gujarat had over 40 spunbond manufacturers. The sector is dominated by Chinese machines and is focused on developing 60-80 GSM fabrics catering to the packaging sector. With fierce competition, the need for new products and new market, some spunbond manufacturers have shut down.

There is an urgent need for product know-how and help with marketing support. Converting sector that can develop products that can be used by consumers is the need of the hour. Indian government should focus of custom duty issues to support

Electrospinning of Viruses

By: Seshadri Ramkumar, Texas Tech University, USA

(Bengaluru, India, July 2, 2015)---Electrospun viruses may be biosensors of the future.

University of California-Riverside researchers Elaine Haberer and Nosang Myung have given new twist to the electrospinning technique. Recent developments in this technology help in developing smoother, uniform fibers at faster and cheaper rates. Electrospun webs can serve as efficient cavities for an optical phenomenon known as, “whispering gallery.” This phenomenon is useful for detecting signals efficiently.

In addition to creating electrospun cavities, the researchers incorporate different viruses while electrospinning. According to Haberer, viruses are proteins so they are stable than enzymes and can pack more biosensor molecules.” Electrospun fibers with viruses serve as better cavities for the whispering galley phenomenon to happen and function as biosensors.

Carpet Waste Finds New Applications

By: Seshadri Ramkumar, Texas Tech University, USA

(Bengaluru, India, June 28, 2015)---With increasing interest in green buildings, a textile waste may be a good candidate.

University of Connecticut researchers are finding new applications for carpet wastes. Particle boards are being developed as a part of a project funded by Carpet America Recovery Effort.

Efforts to find new uses for carpet wastes have been in existence for years now, but developing particle boards using carpet waste and biomass is a new twist according to Professor Richard Parnas of University of Connecticut, who is involved in the project.

The research uses sisal fibers derived from agave and carpet waste, which is an economical route to develop biobased composite boards. This combination helps with getting necessary strength and stiffness that can meet American construction industry standards.

Researchers are planning on a start-up next year in Haiti to develop about 50 million pounds of particle boards especially for European market.

Some years back, Mumbai-India based Central Institute for Research on Cotton Technology has developed particle boards from cotton stalks.

El Nino Weather Good for Cotton

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, May 12, 2015)—High Plains region in Texas is the beneficiary of the El Nino weather pattern, which is promising news for this year's cotton crop.

Justin Weaver, Meteorologist-in-charge of the National Weather Service in Lubbock spoke recently at the Lubbock Chamber of Commerce Agriculture meeting on the weather pattern for the cotton planting season this year. His talk came right after good spells of rain last Monday and Tuesday night that witnessed a downpour equal to all of rainfall of 2011 in one night. Commenting on the recent rainfall, "happy Ag folks around here" stated Weaver.

El Nino, which is the warming of the surface water in eastern and central Pacific ocean will result in good chance of above normal precipitation this planting season and Fall this year. Rainfall, coupled with low temperature, will be beneficial for the cotton crop. According to Weaver, the probability of experiencing extreme hot summer is low unlike 2011 when there was a continuous spell of 30 days of summer with temperature above 100 degree Fahrenheit.

Lubbock and High Plains region in the past week had witnessed over an inch of rainfall with some places reaching as high as 10 inches. Lubbock and the surrounding cotton growing areas are witnessing showers, which have made most of the High Plains to be out of drought condition. Today, only 16% of Texas is in drought situation while California is witnessing severe drought, said Weaver.

Shawn Wade, Director of Policy Analysis and Research at Lubbock based Plains Cotton Growers, Inc., stated that this weather, which is due to El Nino will be beneficial for cotton in 2015. Since, producers have to plant in High Plains by early June, the wet weather might be a concern in some places. Commenting on this aspect Mr. Wade stated, "rains have been beneficial for many areas in high plains and hopefully it will be dried between now and the end of planting period in early June." The rainfall is helping with the soil moisture and it is hoped by the producer community in High Plains that this year's crop will be off to a good start, although it is too early to estimate the total crop and its quality. Depending on the crop being planted in a timely manner and having good weather condition throughout the season, Texas is expected to have more than half of planted acres in the United States. According to Shawn Wade High Plains, the largest cotton producing region in the United States, could have about one third of planted acres in the United States.

Overall the El Nino weather pattern seems to bring positive mood to the cotton producers in the High Plains of Texas. This is a favorable situation for cotton production in the United States.

India Cotton Exports Down From Last Year

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 28, 2015)—Current cotton exports from India are lagging compared to last year.

According to a recent statement from Mumbai based Cotton Association of India, the export demand for Indian cotton is limited at this point.

In a telephone conversation this morning from Mumbai, a source associated with trading mentioned that for the period covering October 2014- March 2015, India exported 3.7 million bales (170 Kgs). But during the same timeframe in the last season (October 2013-March 2014), India had exported around 8.5 million bales. Comparing the two years, it is evident that there is a decline of about 50% in cotton export. In addition to the China factor, the source said, the Indian cotton prices are not competitive enough in the international market, making Indian exports less attractive.

While the export market is not presenting a pretty picture, the domestic market is picking up with cotton prices having an upward trend. According to Aruppukottai-South India based cotton spinning mill with 65,000 spindles, the price of cotton is steadily increasing and it is expected to reach a stable and nominal price soon. In the case of MCU-5 cotton variety, which goes towards spinning medium to fine count range yarns, within one week, there has been significant increase of Rs.1,500 (approx.US\$ 23.78) for one candy (356 Kgs). In speaking with the scribe, this source mentioned that it would be beneficial to both farmers and the spinners if the price for this cotton remains stable at Rs.40,000 (approx.US\$ 634.31) per candy.

The current cotton arrivals in India are basically 3rd and 4th picking, and hence they are not high quality as compared to the arrivals in December and January. Globally, there is a huge demand for quality cotton. Compared to the 1st quarter, yarn demand is picking up due to export demand for weavers and knitters in India. Both the farmers and spinners are expecting the cotton price to firm up soon so as to reach a win-win situation.

The conversion rate used is 1 US Dollar = 63.06 Indian Rupees.

India Promotes Better Cotton Growing Practices

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 24, 2015)—Government of India is promoting good cotton growing approaches to its farmers.

India through its National Food Security Mission (NSFM) is promoting the use of technology to its farmers to enhance the yield and quality in cotton growing states. Measures such as financial and technical assistance are provided for demonstration of high density planting, cultivation of Extra Long Staple and Desi cotton, Insecticides Resistance Management and Online Pest Monitoring. Government of India implements this program through central research institutes and state agricultural universities.

In the largest cotton growing state Gujarat, efforts are underway to improve the quality of seeds and enhance cotton production with the involvement of leading universities in the state such as Navasari and Junagarh Agricultural Universities.

In 2014-15, Government of India has allotted US\$1.89 million for the program according to the Minister of State for Agriculture, India.

Value Addition Needed for Technical Textiles Industry

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 22, 2015)—Converting sector is much needed for growing the technical textiles sector.

Mr. Sushil Kapoor, President and CEO of Technical Textiles Business at SRF Limited, India emphasized the need for value addition in technical textiles sector while speaking at the recent Technotex International conference organized by FICCI with the support from Government of India in Mumbai.

Innovation, competitiveness, scale and collaboration are the key ingredients for the growth of the technical textiles sector. Mr. Kapoor emphasized the need for creating functionality to textiles and delivering technical textiles at correct price point.

Stating that India's per capita consumption is merely 2 Kgs as against 18.8 Kgs in the United States, Mr. Kapoor was optimistic that India provides huge opportunity for this sector. Giving a scorecard of the Indian technical textiles industry, he pointed out the weak links in the sector such as fabrication (converting), pilot R&D facility, standardization and delivery infrastructure.

Fabrication or the converting sector, innovation, developing domestic industry are key towards the growth of the Indian technical textiles stated, Mr. Kapoor.

This scribe has been insisting on the development of the converting sector in India for many years to grow the technical textiles industry, which echoed very well in the presentation made by Mr. Kapoor of SRF.

Globally technical textiles industry is valued at US\$145 billion with an annual growth of 3.6 percent.

Quality is Key for the US Cotton Industry

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 20, 2015)—United States cotton producers are focusing their efforts to deliver quality cotton this year.

Today, being the official start of spring in the United States, a group of cotton producers, researchers, extension specialists, policy staff, industry personnel and bankers gathered in the Lubbock office of Plains Cotton Growers (PCG) to discuss the state of the cotton industry.

Discussions centered around planting intentions, weather, cost of production and market situation. As cotton is now trading in the 60-cent range, there is going to be a shrinkage in cotton acreage. However, the magnitude of reduction in acreage will not be clear for sometime now. The United States Department of Agriculture will release the prospective plantings report at the end of this month. But, the actual scenario of cotton acres on the Texas High Plains will not be clear until May. Countries in the southern hemisphere such as Brazil and Australia are also seeing their cotton acres reduced. This situation could help to offset the existing surplus stock situation.

The group at the PCG meeting felt strongly about delivering good quality cotton. Quality cotton is key for securing good price and market. “Pounds pay the bills, but quality makes the money,” stated one merchant in today’s meeting.

The U.S. cotton industry over the years has invested in research and education programs to deliver quality cotton with increased length and strength and less contamination. Producers emphasized the need to produce quality cotton, which was well supported by the merchants who participated in today’s meeting. From value point of view, longer cotton can provide a price differential of 10-12 cents per pound.

This year, with existing surplus stocks, lower demand for textiles and competition from synthetic fiber, the U.S. cotton producers are focusing their efforts on delivering quality cotton.

United States to Invest in Technical Textiles

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 19, 2015)—High performance fibers and textile manufacturing will receive a boost in the United States.

Yesterday, President Obama launched a competition for the creation of “New Revolutionary Fibers and Textiles-Manufacturing Innovation Institute”. This new initiative, which will result in the creation of the ninth manufacturing innovation institute, is sponsored by the US Department of Defense.

According to The White House, this Revolutionary Fibers Institute will be part of the network of manufacturing innovation and will provide a bridge between industries, academia and R&D institutions in the field of high performance textiles.

Public private partnership model will be followed for the creation of the Revolutionary Fibers and Textiles Manufacturing Institute with the government providing US\$ 75 million. The remaining US\$ 75 million will come from private industries in the form of cash and kind contributions. According to The White House, the institute will focus on fibers and fabrics that fit into the field of technical textiles such as protective textiles, wound care, medical textiles, etc.

According to yesterday’s statement from The White House, currently the US textile industry is adding jobs for the first time in nearly two decades with 45% increase in textile exports since 2009.

A formal notice of intent for this program has been released by the US Department of Defense.

Smart Bandage to Detect Bedsores

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 18, 2015)— A team of scientists from the Berkeley and San Francisco campuses of University of California have devised smart bandages that can detect bedsores early on.

A group of Engineering Professors from the Departments of Electrical Engineering and Computer Sciences and Bioengineering from Berkeley has used flexible electronic approach to device smart bandages that can detect bedsores even before it could be noticed by humans. As the cells die, electrical changes occur, which are detected by the smart bandage. Thin plastic based wearable electronic bandages were tested on the skin of rats, which were able to detect the changes as the skin cells die, which is an indicator of the initiation of bedsores ulcers.

According to University of Berkeley, gold electrodes were printed on to the bandage material, which utilizes impedance spectroscopy to detect cell damages. Dr. Michael Harrison, Professor of Surgery at University of California-San Francisco, a co-investigator of the work stated that the device looks for electrical properties of the cells and evaluates the damage.

According to the research published recently in Nature Communications, the cell membrane is impermeable to electric charges when it is live and in good condition. As the cell starts to die, the electrical signals penetrate through them and functions like a resistor. This concept forms the basis of the smart bandage development.

The smart bandage is now entering a phase of clinical trials. The United States' National Science Foundation funded the study.

Biopolymer Development Recognized

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 06, 2014)— DuPont™ Industrial Biosciences was recognized for its Sorona® biopolymer development with the 2015 Breakthrough Bio-Based Technology Platform award in Amsterdam recently.

According to DuPont™, Sorona® fiber has helped the textiles industry in particular, carpet sector by making carpet stain resistant and softer. Sorona® biopolymer contains 37% of renewable plant ingredients and uses 30% less energy and releases less amount of greenhouse gases compared to nylon 6, stated DuPont™ in a recent news release.

In 2014, DuPont™ established a partnership with India based Vipul Sarees. Vipul makes sarees like chiffon and georgette that have luster and feel like silk. This partnership has enabled consumers to have cost effective sarees that are comparable with costly silk sarees. According to DuPont™, Sorona® fiber showcases sustainability through the entire valuable chain with the use of renewable monomers, energy savings in the processing by having low dyeing temperatures and easy care aspects during usage.

DuPont™ received the award at the 10th annual World Bio Markets Conference held recently in Amsterdam.

Green Blue Jeans Development

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 1, 2015)—A University of California-Berkeley professor is using molecular biology to synthesize an important dye used to color denim.

Professor John Dueber, Department of Bioengineering at Berkeley is understanding the natural pathway in indigo plants and trying to mimic the dye synthesis in the laboratory. In nature, a precursor called “indican” which results in the dye is covered by a sugar coating. When the sugar coating is broken, the coloration happens.

According to Berkeley’s Bakar Fellows feature, Professor Dueber’s laboratory has identified the enzyme that is responsible for the sugar coating in indigo plants. The researchers plan to synthesize the dye using bacteria. By inserting the gene that is responsible for the sugar coat enzyme and using other additional genes, the indigo precursor can be synthesized without using synthetic precursors. Currently used synthetic raw materials are toxic to aquatic systems and result in polluting the environment.

The research is in very early stages and is supported by a five year grant from Bakar Fellowship program.

Blue jeans has been with us for over 140 years and co-invented by Levis Strauss and Jacob Davis in 1873. Globally, the denim industry is valued at US\$ 60 billion. According to Cotton Incorporated, on average, each U.S. consumer owns seven pairs of jeans.

AATCC to Offer Technical Textiles Tutorial

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, February 26, 2014)—American Association of Textile Chemists and Colorists (AATCC) will offer its first tutorial on technical textiles.

AATCC will provide tutorial on the emerging field of technical textiles in the forthcoming International Conference to be held this March in Savannah, Georgia. The tutorial “Technical Textiles 101” will be held in the afternoon on March 24th.

Technical textile is a growth area even in developed economies and its annual growth rate normally stands above the GDP growth rate. AATCC is providing the timely tutorial to educate the beginners as well as those in the field on the technical aspects of different forms of technical textiles, which range from fiber to finished goods.

Important areas that will be covered include nanotechnology, filters, nonwovens, functional finishes, to name a few. In general, the participants will understand the vast scope offered by this emerging textiles sector.

AATCC has been providing such tutorials during its annual conferences as a part of education and outreach to develop the textile industry. In 2013, the tutorial focused on fundamentals of preparation, dyeing and printing and in 2014, the tutorial focused on color choice: an optimization of dye selection and color consistency, colorfastness, color match and cost requirements and best practices for visual and instrumental color.

The annual conference this year will be held in The Hilton DeSoto from March 24 – 26 in Savannah, Georgia. The Technical Textiles tutorial will be held from 2 to 5.15 pm on Tuesday, March 24. Details of the Technical Textiles tutorial can be obtained from <http://www.aatcc.org/ic/events/index.cfm>

Next Phase of Nonwovens Industry

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, February 25, 2014)— Economical and ecological improvements will drive the next phase of the nonwovens sector.

Nonwoven industry is poised for a healthy growth, stated Pierre Conrath, Sustainability and Public Affairs Director at Brussels based European Disposables and Nonwovens Association (edana).

Speakers at today's webinar organized by the Nonwoven Industry magazine with the support of edana, emphasized the need for energy savings, reduction in waste and environmental sustainability for the growth of the nonwovens sector. Dr-Ing Andreas Rosner of Reicofil machinery stated that savings in energy will be an important factor for the industry. Mr. Rosner explained Reicofil's Blue Extrusion process, which the company is advocating for cost savings. According to Reicofil, the leading spunmelt machinery manufacturer, some important attributes such as energy efficiency, reducing environmental impacts, use of ecofriendly materials and developing light weight nonwovens are the key drivers in the nonwoven industry towards economic and environmental sustainability. Rosner remarked that machinery improvements like down-gauging have led to 30% reduction in the weight of top sheet nonwovens, which results in resin savings. Additional developments such as improved secondary extruders have enabled the use of resin waste, which could save about 10% of resin. Rosner pointed out that, improvements in spunmelt machinery and process could lead to energy savings up to 16 percent.

Pierre Conrath of edana also emphasized the importance of energy efficiency and reduction in the use of raw materials for developing nonwoven products. He stated that, the industry has worked diligently to reduce the weight of the baby diaper sold in Europe by 50% in the past 25 years. Today, the average weight of the diaper in EU is just 33 grams as against 65 grams in 1987.

Commenting on the status of the industry Mr. Conrath stated that, the trend is to reduce the weight of the material and increase the surface area of the material. In the recent past, the nonwoven industry in greater Europe has had an annual growth of 3.8% in weight, while in terms of surface area it grew by 5.7 percent. More importantly, according to Pierre Conrath, there is a greater demand for the single use nonwoven industry to be highly sustainable, as it involves huge volume.

In a question on the weight of the material that is feasible these days with high-end spunmelt machinery, Rosner stated that 10 GSM is possible.

Edana will be officially releasing its fourth sustainability report tomorrow.

Australian Carbon Fiber Research Gets a Boost

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, February 24, 2014)— Collaboration between Deakin University and DowAksa will strengthen Australian carbon fiber industry.

Deakin University has a carbon research center with an investment of about 34 million Australian dollars. The new partnership with DowAksa will enable collaborative research and professional exchange opportunities between Deakin and DowAksa, according to Deakin University. The new partnership is termed as “Carbon Nexus.”

According to Professor Jane den Hollander, Vice-Chancellor of Deakin University, the partnership will show how University can play important role in supporting local economy and develop new economic opportunities. The pilot plant at the research center will utilize carbon fibers from DowAksa in developing new projects and products.

According to Derek Buckmaster, Director of Carbon Nexus, carbon fiber research center is working with Carbon Revolution, the first commercial maker of single piece carbon fiber automobile wheels.

According to Deakin University, based on final negotiations between Carbon Nexus consortium and US Department of Energy, a new institute called the Institute for Advanced Composites Materials Innovation (IACMI) is being planned with an expected investment of 250 million US dollars. The new institute is hoped to provide collaboration and exchange opportunities between Australian and American academia and carbon fiber sector.

Revolutionary TTU cotton product could protect troops, clean up oil spills

Posted: Feb 13, 2015 6:57 PM CST

By Patricia Villacin

LUBBOCK, TX (KCBD) -

It starts as cotton straight from the bale, but in less than a minute, it turns into a powerful nonwoven wipe called "FiberTect."

"[It is] fiber that protects, hence the name 'FiberTect,'" creator and Texas Tech Professor of Technical Textiles Seshadri Ramkumar said.

Originally developed to protect the U.S. military from chemical and biological agents, Ramkumar obtained the patent for FiberTect back in 2009 and has been developing the product for the past 15 years. He said FiberTect is the product of a "mind-to-market" process called "translational research."

"Now, the U.S. academia is geared towards more to transferring the research and the knowledge that is developed in the classrooms and the laboratories and see how you could develop products and some useful materials, which will help the society," Ramkumar said. "We did this in a way where we took a product and material that is of strategic importance, economic importance for which Texas Tech is worldly known - cotton."

FiberTect is one of the first Texas Tech products to be commercialized. Ramkumar described it as "platform technology" that can decontaminate everything from small nooks to military equipment and is porous enough to tackle volatile oil spills and toxic vapors, attracting influential customers including the U.S. Department of Defense.

"It can have applications in multiple industries such as oil, and gas, utility, automobile - you name it," Ramkumar said.

The dry absorbent is based on a "sandwich" concept.

"You put those two cotton layers in between this charcoal, which will hold the vapors, and the cotton will take away the liquid," Ramkumar said. "It attacks both liquid and vapor."

Ramkumar's lab is located in the Reese Technology Center, but FiberTect is manufactured in Hobbs Bonded Fibers in Waco. Ramkumar says making FiberTect does not involve any chemicals. It is achieved through a mechanical process called needlepunching.

"The needlepunching is very useful for this because it's highly productive, so the cost of manufacturing is less," Ramkumar said. "[It] basically helps bond one layer into the middle layer."

While the Ramkumar said the road to generate profit for Texas Tech is still a long one, he has high hopes for the future of FiberTect.

Materials Research Gets Boost in the United Kingdom

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, February 6, 2014)— The United Kingdom's government is investing nearly quarter of a billion pound for materials research and innovation.

With academic and industrial partners, Sir Henry Royce institute for Materials Research and Innovation is being established with the funding of 235 million pounds in the University of Manchester. This institute will have satellite centers at other leading Universities in England such as Leeds, Liverpool, Cambridge, Oxford, Sheffield and Imperial College.

According to the statement from the University of Manchester, this investment from the British government is the largest single funding in its history. Some of the objectives of this massive investment in materials research are to enhance the growth of UK's manufacturing sector, undertake research in soft, hard and functional materials.

A significant effort will be to allow industry to work closely with academia. Already the UK government has established National Graphene Institute (NGI) with the funding of about 61 million pound in the University of Manchester to take the wonder material graphene into the next step. NGI building is expected to be finished and occupied in earlier part of 2015.

Current Indian Cotton Selling: A First Hand Look

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, January 29, 2014)—Cotton Corporation of India (CCI) has sold 1,100 bales on the first day of auction creating international curiosity in the past two days.

According to an official notification, CCI initiated electronic auction on January 27th to sell an initial quantity of 5,100 bales (170 Kgs each) at a price higher than the market price from its Adilabad, Warangal and Guntur offices. The initial variety to be disposed is Bunny Brahma (31mm in length), which is normally suited for fine counts.

To capture the Indian cotton situation correctly at this point of time, this scribe spoke to a general manager of a leading 100% cotton spinning mill in South India who is in-charge of cotton procurement, via phone this morning. According to that well-informed source, who wanted to remain anonymous, the main consideration for spinners and cotton merchants is to have the price stability. The excess cotton production in India and the recent China import policy has brought enormous price instability this time, compared to the previous year.

The move by CCI to release cotton from its stock should serve the purpose of stabilizing the cotton price, while the current market price in India is below what the CCI is selling since January 27th and its earlier procurement cost, this season. The expert is of the opinion that CCI would have initiated the initial sell, not only to generate liquidity for its additional procurement, but also to ensure higher prices to the farmers when the Indian market price is trading low.

With regard to the cotton production, India's production for this cotton season is estimated to be 40 million bales (170 Kgs each), which is higher than last year's production. During the months of November '14 to January '15, 70 % of cotton crop, particularly in rain fed areas would have arrived, showing that India is on track to have bumper crop. While this is the situation with regard to production, so far China has not imported cotton from India leading to stock piling and decline in market price in India. Last year, India exported a good quantity of its production to China.

The decline in the market price is not favorable to both producers and spinners, which should have prompted CCI to initiate its first phase of selling for this season said the source. The MCU-5 variety (30 mm length), which is suited for fine counts was selling at a spot price of about Rs. 32,500 (US\$ 529.40) per candy (356 Kgs) on January 27th, when CCI announced its auction. Subsequently, the spot price of this variety has shown some increase, and as of today in Warangal market, the price for MCU-5 is Rs. 34,000 (US\$ 553.83) per candy. Last year, the price went up as high as Rs. 48,000 (US\$ 781.88) per candy.

Furthermore, the current cotton price is not suitable for spinners as it leads to lower yarn prices, while the cost of labor and power is increasing in India. Currently, a 60s Ne cotton yarn sells for Rs. 250 (US\$ 4.07) per kilogram, while the price that is sustainable for the Indian spinning industry is around Rs. 275 (US\$ 4.47) per kilogram, stated the source from South India. Around the same period last year, 60s Ne cotton yarn was about Rs. 295 (US\$ 4.80) per kilogram. Additionally, the technical expert suggested that with the oil price trading in mid \$40 for a barrel, it would put pressure on the polyester industry to reduce its price, further aggravating the situation in the cotton industry. Indian polyester price is expected to further go down South to Rs. 80 (US\$1.30) per kilogram sometime next week, while this price was Rs. 110 (US \$ 1.79) per kilogram last year. Volatility in polyester price will also influence the global cotton price.

From the Indian spinning industry point of view, this latest move by CCI to dispose 5,100 bales should lead to softening the volatility and support spinners to realize adequate value for the yarns. However, the current policy adopted by CCI to sell its cotton is also not well received as it stipulates the minimum amount of deposit money needed to book cotton, say 15 to 20% of the total cotton value.

Gaining price stability and an upward tilt in the cotton price are needed for the economic viability of the Indian spinning sector.

Note: Conversion rate used: 1\$ US = 61.39 Rupees.

Agro Mulch Needed for Improving Agricultural Productivity

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, January 27, 2015)—Technical Textiles are being promoted to enhance the productivity of agricultural sector in India.

In speaking with this scribe recently at the SASMIRA campus in Worli, Mumbai, Dr. S. Raman, a soil and water management specialist who has 32 years of experience in the agricultural sector in the State of Gujarat in India mentioned that in India, awareness on the use of agro mulch is picking up.

Government of India is promoting the agro textiles sector by providing subsidy to boost the usage of agro textiles. According to Dr. Raman, mulching helps to conserve moisture, prevent weeds and better manage the salinity. The use of agro mulch will reduce the negative impact of salinity and enhances the nutrient availability.

Dr. Raman stated that agro mulch goes well with drip irrigation. He further added that companies that provide imported seeds come with technology packages that include mulch and other best productivity improving practices.

Indian Technical Textile Sector is a Sunrise Sector

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, January 26, 2014)—Government of India, Ministry of Textiles is promoting the advanced textiles sector to be a sunshine sector.

In the recently held 7th International “Vibrant Gujarat Summit” at Ahmedabad, Ministry of Textiles of India has made enormous outreach efforts to promote this sector. According to the material released in Vibrant Gujarat Summit, the Indian technical textiles market is expected to reach US\$25.89 billion by 2016-17 from its current size of US\$18 billion with an annual growth of about 20%.

In the past decade, there have been many promotional efforts sponsored by the Government of India to promote this sector. This scribe has been personally involved in promotional and outreach programs supported by the Government, trade associations and the United States based Association of the Nonwoven Fabric Industry (INDA).

For the past eight years, INDA has been delivering its nonwoven training programs in many cities in India. This effort started in January of 2007 in Mumbai. In 2008, this scribe theoretically projected the growth of the Indian technical textiles sector to be in double digit which has been vindicated by the Government’s report. The growth was projected based on GDP growth and has been detailed in the report “India: Rising Opportunities in Nonwovens and Technical Textiles.” Specific schemes of the Government such as the Technical Mission on Technical Textiles, Scheme for Usage of Agrotextiles in North East Region and Scheme for Usage of Geotextile for North Eastern States are providing necessary thrust towards the growth of this sector.

Two major initiatives are needed to further the growth of this sector and should involve efforts to develop the converting sector of the technical textiles industry and building necessary resources for marketing of technical textiles product.

Ford's investment in India to aid nonwoven usage

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, January 23, 2015)- Global automobile giant Ford will invest in a new integrated manufacturing facility in Sanand, India.

Ford will invest one billion US dollars to set up an integrated manufacturing facility, which will produce latest models by June 2015. With the investment of one billion dollars, Ford's total investment in India will be about two billion US dollars.

Sanand's facility will be on a 450-acre campus. The plant will have an annual capacity of 240,000 automobile units. In addition to manufacturing automobiles, the plant will also produce engines with an annual capacity of 270,000.

On an average about 40 pounds of nonwoven and technical textiles are used in modern automobiles, which will enable additional nonwoven capacity utilization in India.

India's First Six Beam Spunmelt Nonwoven Line Comes Online

by: Seshadri Ramkumar, Texas Tech University, USA

(Aruppukottai, India, January 9, 2015)--Trials have begun on India's first six beam spunmelt nonwoven line in Nasik, India.

Global Nonwovens' state-of-the-art clean room production facility that has Reicofil 4S line will begin commercial production this February.

4.2 meters wide six beam line will have an annual production of 18,000 tons and will cater to global hygiene market. The line is capable of producing spunmelt fabrics with weight ranging from 9 to 40 GSM. The average basis weight of the plant will be 15 GSM. There will be very minimal human handling of nonwoven rollgoods during the entire production, with auto dosing and robotic control to meet highest standards for hygiene market according to a reliable source that has first information of the project.

Reicofil 4S technology can make fabrics with weight less than 4GSM, a unique feature. The nonwoven plant is situated in Igatpuri taluk in Maharashtra State, India.

India on a Mission to Surpass China on Cotton Production

by: Seshadri Ramkumar, Texas Tech University, USA

(Aruppukottai, India, January 4, 2015)--India has the largest cotton acreage, which is about 37% of world's cotton acreage.

Delivering the message recently at the 92nd annual meeting of the Cotton Association of India (CAI), Dhiren Sheth, President of CAI stated, "India's cotton production has grown tremendously since 2001-02 and is estimated to be 40.2 million bales (170 Kgs each) in 2014-15. It was just 15.8 million bales in 2001-02."

Additionally, India's cotton consumption is estimated to be 30.6 million bales of 170 Kgs each.

Mr. Sheth in speaking on the growth in production stated that the exponential growth has been possible due to the large scale cultivation of GM cotton, government support and policies to farmers to obtain supportive prices and the encouragement to adopt new agricultural techniques.

With an estimated 40.2 million bales, India is on the verge to surpass China in cotton production soon.

Golden Fiber Gets Face Lift

By: Seshadri Ramkumar, Texas Tech University, USA

(Mumbai, India, December 30, 2014)--Indian Government is working towards increasing the productivity of jute fiber to enhance the jute industry.

According to media reports, Dipakar Mahato, Deputy Jute Commissioner of India delivered the message recently in a Jute Convention organized by the Indian Chamber of Commerce held in Kolkata.

According to Dipankar Mahato, as reported in The Telegraph newspaper, the productivity per hectare can be increased from 2 tons to 3 tons. This will enable to diversify the application of jute in areas such as geotextiles. More importantly, this can help in reducing the cost of jute bags by 25% making it available at Rs. 30 from the current price of Rs. 40. This move will make jute bags relatively competitive with plastic bags that are priced at lower Rs. 20 per bag.

More recently, former Indian President and noted missile scientist, A. P. J. Abdul Kalam has been encouraging India-Bangladesh collaboration to promote jute products with an aim of reducing the use of plastic materials.

Indian Spinning Industry in a Confused State

By; Seshadri Ramkumar, Texas Tech University, USA

(Aruppukottai, India, December 17, 2014)

The current decline in cotton and crude oil prices has created some confusion in the Indian spinning industry.

Mr. S. Velmurugan, General Manager of Aruppukottai based Jayalakshmi Textiles in speaking face-to-face with the scribe pointed out the uncertainty in the spinning sector in India due to the recent volatility in cotton prices. According to Mr. Velmurugan, the decline in cotton prices may lead to decline in yarn prices, which will lead to severe pressure on the spinning sector.

The cost of manufacturing increases due to hike in the power cost in the State of Tamilnadu, India. It will be difficult for the spinning sector to sustain at lower yarn prices. Additionally, the decline in crude oil price will also lead to lowering of synthetic fiber prices. This may again aggravate the uncertain situation.

Mr. Velmurugan expressed that it is important to stabilize the cotton price and safeguard the interests of the state holders in the industry such as farmers and the manufacturers. Jayalakshmi Textiles is a leader in fine count yarns in India with a capacity of 65,000 ring spindles.

Currently, Sankar-6 cotton trades at Rupees 33,200 per candy (356 Kilograms).

Indian Cotton Crop Estimated to be 40.2 Million Bales

by: Seshadri Ramkumar, Texas Tech University, USA

(Bengaluru, India, December 11, 2014)-- Latest crop estimate by Mumbai based Cotton Association of India (CAI) for the new crop year (2014-15) is 40.2 million bales (170 Kgs each).

The new crop year estimate is slightly lower than last year's production estimate of 40.7 million bales.

Gujarat state retains its number one position with a production estimate of 12.2 million bales, which is slightly less than last year's estimate of 12.9 million bales.

The three leading cotton producing states are Gujarat, Maharashtra and the newly formed state, Telengana.

Latest cotton production estimate by the Government of India for the new year is 40 million bales. According to CAI, the available surplus for the 2014-15 year will be 16.8 million bales.

One Indian cotton bale weighs 170 Kgs each.

Indian Government Sets Minimum Price For Cotton

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, December 02, 2014)—Today, Government of India announced the minimum support price (MSP) for Kapas (seed cotton) for the current season (October 2014-September 2015).

According to Government of India release, the minimum support price for Shankar (S-6) grown in Gujarat for quintal (100 Kilograms) will be Rupees 4,000 (US\$65.57). MSPs for the other varieties such as Bunny (grown in Andhra Pradesh) will be Rupees 4,050 (US\$66.39), Bunny (grown in Maharashtra) will be Rupees 4,050 (US\$66.39), H-4/H-6 (grown in Maharashtra) will be Rupees 3,950 (US\$64.75), and J34 (grown in North Zone of India) will be Rupees 3,950 (US\$64.75).

Government of India has fixed MSPs, as the cotton prices in the international market are running lower than the price during the same period in the last year due to estimated lower demand by China and increased supply.

The Cotton Corporation of India will procure cotton at the MSP level from 341 centers distributed in 11 cotton-growing states. Currently, the market prices of cotton in the States of Andhra Pradesh, Telangana and Maharashtra are below the MSP levels.

Recently, Mumbai based Cotton Association of India has estimated the crop for the current crop season (2014-2015) to be 40.55 million bales of 170 kilograms each.

BASF to Invest in New Superabsorbent Technology

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, December 01, 2014)—Ludwigshafen based BASF recently announced its major investment plan in superabsorbent technology, which is worth about US\$625 million.

According to BASF, over the period of next three years, it will establish droplet polymerization capability in its plants world over so that it can maintain its leadership position in superabsorbent polymers.

BASF will launch innovative superabsorbent polymer trademarked as SAVIVATM which is scheduled to be launched at the end of 2016.

SAVIVATM has new liquid distribution system that makes it highly superabsorbent. According to BASF, this product has been tested in laboratories, with tested customers giving positive feedback. Currently BASF markets HySorb® superabsorbent polymers.

The upgradation of existing plants to manufacture SAVIVATM will begin in Europe and will be subsequently followed in BASF's manufacturing plants in Asia and America.

According to BASF, its production capacity for superabsorbent polymers is 590,000 metric tons annually.

Biomimetic Adhesive Tested

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, November 21, 2014)—Biomimetic adhesive inspired by gekco toes was tested recently at Stanford University.

According to Stanford, Elliot Hawkes a mechanical engineering graduate student working under Professor Mark Cutkosky is a part of the team that is developing reusable adhesive which is based on gekco toes' ability to form strong bonds with surfaces and at the same time release with minimum effort.

The team at Stanford developed gekco inspired synthetic adhesives that can share large loads evenly. The team's work has created the adhesive, which is sufficient enough to allow a person to climb a glass wall. According to Hawkes, when this adhesive system was tested, "it's pretty exhilarating to find that one does not slip of from the smooth glass."

The gekco pad has a number of adhesive tiles and each tile has saw tooth polymer structures that are 100 microns in length and whose width is equal to the width of human hair. By releasing the load on and off, the gekco pads get their adhesive mechanism.

According to Professor Cutkosky, his group is working with NASA's Jet Propulsion Laboratory to apply these gekco pads to the robotic arms of spacecraft. The current version of gekco pads can support up to 200 pounds.

The research work has been published recently in the Journal of Royal Society Interface.

World Largest Fiber Reinforced Panel Unveiled

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, November 17, 2014)—Gypwall, world's largest glass fiber reinforced gypsum wall was unveiled recently by Ananth Kumar, India's Union Minister for Chemicals and Fertilizers.

Gypwall is manufactured by FBRL, a Government of India enterprise. Gypwall is 124 mm thick and is water proof.

According to Government of India pressnote, Indian Institute of Technology-Madras has constructed a two storied building using the Gypwall and the construction was completed in 32 days. These panels consume only 50% of energy compared to conventional product and have low CO2 emissions.

FBRL has dispatched about 400,000 feet of prefabricated fiber reinforced Gypwall. FBRL is manufacturing 12 mts X 3 mts sized glass fiber reinforced panels making them the world's largest prefabricated panels.

Maryland Provides Seed Grants for Protective Gear Development for Ebola Healthcare Workers

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, Texas, USA, October 29, 2014)—Johns Hopkins University and the nonprofit global health organization Jhpiego recently hosted Ebola Design Challenge to harness JHU's brain power the develop improved protective gears for health care practitioners who work in the Ebola zone in West Africa.

According to Ann LoLordo of Jhpiego, four Products were selected for funding provided by the State of Maryland's BioMaryland Center to design and develop effective protective gear prototypes.

As stated in the JHU's HUB, the four projects deal with: 1) Cooling of personal protective equipment; 2) Rapid and safe removal of personal protective equipment; 3) Non-personal protective equipment patient isolation units and 4) Low-cost and easy to use protective gear for those who take care of Ebola patients.

The aim of the program is to utilize the seed money to attract commercial partners to take the products developed to the market place.

Jhpiego and JHU's Center for Biomedical Innovation & Design organized the timely design challenge.

Smart Fabrics Sector Offers Vast Scope

by: Seshadri Ramkumar, Texas Tech University, USA

(Bangalore, India, October 21, 2014)---Smart fabrics market is worth 1.6 billion USD, according to IFAI estimates.

Jeff Rasmussen, Market Research Manager at IFAI, USA in speaking recently at the IFAI's Advanced Textile Expo in Minneapolis stated that the annual growth rate of smart fabrics sector worldwide is 18 percent. The market size worldwide for this sector in 2013 was 1.37 billion USD and is projected to be 1.6 billion USD in 2014.

In the United States, safety and protective textiles sector is valued at 4.8 billion USD and is estimated to grow at 6 percent per annum.

Developing nations such as India are promoting investments in technical textiles to increase their Textiles and Clothing sector's value.

China Not a Potential Threat to India in Technical Textiles

By: Seshadri Ramkumar, Texas Tech University, USA

(Mumbai, India October 17, 2014)—Enhancing the market size and the use of technical textiles in India occupied the center stage of discussion in the Techtex India symposium.

The two day Techtex India symposium held at The Lalit culminated today in Mumbai. The event attracted people from wide array of technical textiles sector from India, Germany and the United States.

A panel of distinguished speakers, which included Hendrik van Delden of Gherzi van Delden GmbH, Utkarsh Trivedi of Neo Corp International, V. Jaigopal of Madura Coats, Sanjay Thapliyal of Century Enka and this scribe, Seshadri Ramkumar tackled the important subject of boosting the nascent techtext sector in India.

The outcome of three questions posed by the moderator Mr. van Delden proved beneficial for the Indian technical textiles sector. Apart from export, India should focus on growing the semi durable, hygiene and medical markets, look into new ways of utilizing its fiber resources such as novel high performance blends were the suggested solutions to grow the industry.

The panelists agreed that the labor cost advantage that China enjoyed has eroded. As long as India could be flexible and nimble enough to meet the requirements of its customers, it can compete with China. China, the center of bulk production is no more the preferred sole destination for foreign buyers and hence considering it as a threat is not relevant in the current scenario.

Based on the discussions, according to this scribe, there is optimism with the Indian textile community to diversify into technical textiles. India should focus on value-added textile products.

From: Anil [mailto:anilbjoshi@hotmail.com]

Sent: Tuesday, October 07, 2014 7:07 AM

To: Ramkumar, S

Subject: New contact numbers of A B Joshi, former textile commissioner

Dear Dr Sheshadri Ram Kumar,

Hope this finds you in best of health. I have been keeping abreast with your initiatives at Texas Tech Univ through your e bulletins. Such good work there !

On completion of tenure as Textile Commissioner at Mumbai I moved to Delhi first as Additional Secretary in Ministry of Women and Child Development and on further promotion now as Member of Postal Services Board. My new address etc. are as below:

Office:

Anil B Joshi

Member (Technology),

Postal Services Board, Department of Posts, Room 215, Dak Bhavan, Sansad Marg, New Delhi 110001

Residence:

D 10, Tower 9, New Motibag,

New Delhi 110023

Phone 011 23096078 (o), 09643772010 (M).

Hope to keep in touch. Warm Regards,

Anil Joshi

Former Textile Commissioner

7th October 2014.

Graphene Alternative Discovered

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 30, 2014)–The two dimensional wonder material graphene is getting a competitor.

Recently a group of researchers from the University of Southampton in the United Kingdom have reported a new method to develop an alternative material to graphene.

Southampton University's Optoelectronics Research Centre (ORC) scientists have developed molybdenum di-sulphide (MoS₂) which is claimed to have many properties similar to graphene. Molybdenum di-sulphide is made using combination of molybdenum and sulphur and has extraordinary electrical conductivity and mechanical strength. These materials are known as transition metal di-chalcogenides (TMDCs).

A striking difference between these new material and graphene is that TMDCs can emit light so that they can find application in light emitting devices. According to Dr. Kevin Huang of ORC, they have perfected the technology so that large area ultra-thin films can be developed. This development provides opportunities for these new materials in nanoelectronic and optoelectronic applications.

This new development has appeared in the Journal Nanoscale. UK based Engineering and Physical Sciences Research Council (EPSRC) funded the development.

Modi Promotes Make in India Scheme in New York

By: Seshadri Ramkumar, Texas Tech University, USA (Lubbock, USA, September 28, 2014)

Indian Prime Minister, Mr. Narendra Modi in his maiden visit to United States as the Prime Minister of India touted his government's ambitious plan of "Make in India."

Make in India will support and grow the textile industry and world trade between India and other countries. Good governance and low cost of manufacturing are the keys to attract investments in India, said Modi.

Speaking today in New York's Madison Square Garden to an audience of about 20,000 people, Prime Minister Modi informed that India's three main advantages such as its vibrant democracy, demographic dividend and demand for goods will make India a preferred destination for manufacturing and trade.

Dressed in a designer clothing of pyjama and orange kurta, Prime Minister Modi enthralled the audience and kept them alive throughout his one hour and eighteen minutes extemporaneous speech.

Speaking without notes in Hindi, Mr. Modi charmed the gathering with his humor interludes such as, "India once known for its snake charming is now known for its mouse charming," (IT expertise).

The central message of Prime Minister's speech was his development agenda supported by science and technology and involving people movement.

Certainly, India with a population of 1.25 billion provides ample opportunities for people in manufacturing sectors such as textiles, service and business sectors.

Asia Should Stimulate Cotton Consumption

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 22, 2014)–Asian countries, particularly China and India should boost their cotton consumption.

Mr. Jose Sette, executive director of Washington, DC based International Cotton Advisory Committee (ICAC) speaking today in Mumbai at the 8th Asian Textile Conference stated that although increasing cotton yield per hectare is important in India, China and India should focus on increasing its per capita cotton consumption.

Mr. Sette stated cotton consumption in Asia is below developed economies. The consumption trend does not match up with the growth in the income levels in these countries. Enhancing cotton consumption should be the major focus of the cotton sector.

Currently the per capita consumption of cotton in Pakistan is six kilograms, while it is less than two kilograms in India. According to Mr. Sette, if China and India's consumption matches with that of Pakistan, there will be an additional cotton consumption of at least 12 million tons.

Touching on the hot issue of cotton pricing, Sette stated that high cotton prices are unsustainable if cotton has to be competitive.

The annual growth in cotton consumption is currently at a minuscule rate of 1% per annum and this should be grown at a faster rate, while coffee's CAGR is about two percentage.

Next Generation Space Suit

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 19, 2014)–Muscle coil like stretchable garments made with the help of shape memory alloys may be the space suits for next generation astronauts.

Cambridge-USA based Massachusetts Institute of Technology (MIT) researchers are a step closer to develop active “second-skin” space suits. According to MIT, Dava Newman a Professor of Aeronautics and her collaborators have developed active spring like coils made from shape memory alloys (SMA) that can be used as compression garments that find applications in space suits.

The SMA based skin tight space suits overcome the major drawback in earlier versions of pressurized suits. These SMA materials contract when heated and recover back when cooled. These suits are not dependent on pressurized gas and can be activated with mechanical and electrical pulses. This makes the suit light in weight and would give more freedom for astronauts to move in the outer space during planetary exploration. By plugging into power supply of the space craft, the SMA coils contract when heated with the help of electrical power giving second-skin like atmosphere resulting in light weight skin tight suits. By applying slight mechanical pressure, the compressed suits relax.

The SMA coil design was conceived by Bradley Holschuh, a post-doctoral fellow in Newman’s lab at MIT. According to Holschuh, this design can be used in developing athletic wears and military uniforms. The research at MIT was funded by NASA and MIT Portugal program.

Google Funds 3D Scan Clothing Research

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 12, 2014)–A Cornell University professor will develop a method for 3D scanning of textile materials such as jeans and other soft objects like shoes.

Stephen Marschner, professor of computer science at Cornell University has been funded by Google to have 3D scanning of clothing that will fit against the body of a specific person.

Accordingly to a press release from Cornell, the project funded by Google will involve static scan of soft objects along with dynamic scan of the object in its full shape. The research will start with simple objects such as shoe and a cloth pouch and will eventually move into clothing.

According to Marschner, the 3D scanning system which can acquire realistic model of garments on a large scale can potentially change the online marketing of clothing.



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TECHNOLOGY & ENGINEERING, ENVIRONMENT & POLLUTION, PHYSICS

Soaking up oil spills — with cotton

This low-grade natural material may become a super picker-upper for petroleum

BY [KATHIANN KOWALSKI](#) 8:40AM, SEPTEMBER 4, 2014



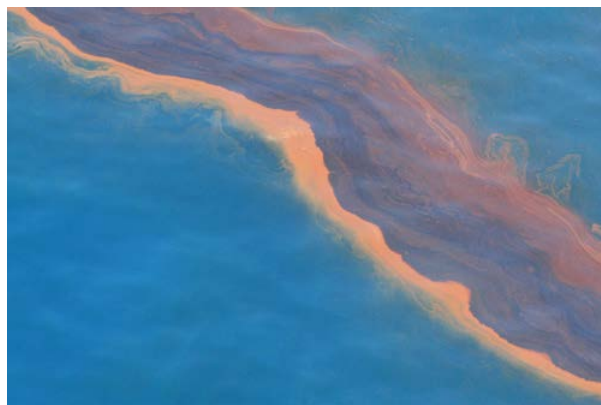
Texas Tech researchers show how well raw cotton (right) absorbs and holds oil (left).

Crude oil is still washing ashore more than four years after the BP *Deepwater Horizon* accident [spilled](#) more than 200 million gallons of this petroleum into the Gulf of Mexico. Fisheries, wildlife and ecosystems could suffer for decades. Now help for cleaning up such disasters comes from a crop people have grown for thousands of years: cotton. But this material is a lot different from the fabric in your favorite tee shirt.

To work well on oil spills, the substance used to pick up the mess — a sorbent — should sop up oil but *not* water. Cotton in its natural form has a waxy coating. As such, it will “absorb oil and repel water,” explains Seshadri Ramkumar. He’s a materials scientist at Texas Tech University in Lubbock.

Just throwing a huge wad of cotton onto a spill isn’t enough, however. Cotton soaks up oil best when it can use three processes at once. In the first — *adsorption* — oil clings to the surface of the cotton fibers. The fibers may also *absorb* oil, bringing it inside the fibers. (That’s the same process by which plant roots take up water from the soil.)

Finally, cotton can soak up oil by letting it flow into channel-like spaces that form between its fibers. This last process is known as *capillary action*. It’s the process by which blood flows into a narrow tube when a nurse pricks your finger for a sample. The tiny spaces between cotton fibers can act like those blood tubes. But in natural cotton, oil can’t get far because the fibers are tangled.



The Deepwater Horizon well spilled more than 200 million gallons of crude oil into the Gulf of Mexico in 2010. This aerial photo of oil floating on the water surface was taken roughly three weeks after the spill began.

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

To untangle them, the researchers card — or comb — the cotton. A carding machine has a cylinder with rows and rows of tiny prongs. The machine pulls the fibers straight so that they all go in the same direction. “It’s just like you’re combing your hair,” explains Vinitkumar Singh. A graduate student at Texas Tech, he also worked on this project.

The researchers stacked up layer after layer of carded cotton. “Everything is in the same direction,” Ramkumar explains. Together, these layers make a batting. It’s similar to the batting used to fill the inside of a quilt. But instead of being stitched or pressed tightly down, the batting for cleaning up oil must stay loose.

Friction between the layers makes them cling loosely together. “It is not a very strong bond,” says Singh. That looseness creates lots of channels into which

oil can flow and collect.

When combined, the three sopping processes let cotton soak up oil quite well. And low-grade cotton that's not mature works about 7 percent better than high-quality mature cotton. The reason: Immature cotton has more wax. Thus, it repels water better. Those young fibers also are finer. That gives them a relatively bigger surface area for adsorption and to form channels for capillary action.

In lab tests, the low-grade cotton batting absorbed 50 times its weight in oil. That's better than what many plastic materials do. And unlike plastics, cotton decomposes naturally when it can't be used any more. Ramkumar and his colleagues at Texas Tech and Cotton Incorporated in Cary, N.C., reported their findings in the July 30 *Industrial & Engineering Chemistry Research*.

Other advantages — and questions

"Cotton is also easy to remove once it's done its job," Ramkumar told *Science News for Students*. Oil-soaked batting will float on water. That's because it has a lower *specific density* than water. With less mass than the same volume of water, this oil helps keep the cotton batting afloat.

Using low-grade cotton for oil clean-ups also could bring farmers more money when

crops don't mature due to drought or other problems. Roughly one-fifth of the cotton grown in Texas, for instance, falls into the low-grade category, Ramkumar says. It usually sells for less money because immature cotton has less cellulose. Fabric mills that make clothing don't want it because this kind of cotton doesn't handle dyes well. But what makes a poor cotton for clothing may prove a superior type for oil clean-ups.

The novel structure of the batting might help it sop up oil better, says Paul



Texas Tech researchers take batting made from raw cotton (top) and lay it atop spilled oil floating on water. When they remove it again (bottom), the oil has left the water and now clings to the batting.

TEXAS TECH UNIVERSITY

Sawhney. He's a textile scientist with the U.S. Agricultural Research Service in New Orleans, La.

But as a cleanup tool, what also will matter is how the batting holds up, Sawhney notes. "Once the oil is in there, you're talking about 50 times more weight," he points out. The batting needs to hold that liquid in. And the batting should stay intact when it's moved and eventually lifted up for removal.

Field tests can explore different ways to ensure that. Lightly needlepunching or stitching the batting's layers together might help, Sawhney says. Encasing the batting in an expandable web is another idea.

But that's how science works. Each advance suggests more questions to explore.

Sadly, spills happen. Indeed, hundreds of gallons of motor oil and hydraulic fluid spilled into the Grand River in Michigan earlier this year. A ship collision spilled oil into the Mississippi River last month. And some 9,000 gallons of diesel fuel spilled into the Ohio River from a power plant near Cincinnati. Accidents can be limited — but never completely prevented. That's why having cleanup tools at hand is important — especially simple, inexpensive and high-performing options, such as raw-cotton batting might offer.



Researchers conduct cotton study

http://www.dailytoreador.com/news/researchers-conduct-cotton-study/article_b602485e-2fea-11e4-bbb6-0017a43b2370.html

McKenzi Morris- Sta[~] Writer

In July, two Texas Tech researchers released their paper on the study of low-grade cotton and its ability to absorb oil.

Seshadri Ramkumar, professor in the Department of Environmental Toxicology, and Vinitkumar Singh, a doctoral candidate in the same department, led the research project, which started in the summer of 2010 after the Gulf of Mexico oil spill, Ramkumar said.

"Every year there are numerous oil spills happening," Singh said. "However, the available technologies to clean up these oil spills are not very good. Currently, the solvents used in the market are made up of plastic, which is not environmentally friendly. There was a need to discover environmentally sustainable oil solvents, which not only clean up the oil spills, but does not add a contaminant to the environment."

Low-grade, unprocessed cotton can absorb up to 50 grams, much more than a commercial absorbents, according to the research paper.

"What we do at Texas Tech is to look into cotton further," Ramkumar said. "We want to increase the value, we want to increase productivity, we want to ynd new uses for cotton that impact human health and human life so that cotton becomes a valuable yber."

The paper has received international recognition in countries such as India and England, Ramkumar said.

"As a university professor it's very pleasing to see your student's research having some kind of impact," Ramkumar said.

Singh said he is pleased with this work because it contributes not only to his yeld, but also to society.

He believes local farmers are his main supporters, he said, because of the way he is furthering the use of cotton.

"Local farmers around Lubbock are the main supporters for my research," Singh said. "In Lubbock you get a high percent of low-grade cotton, so I'm very glad to say my research will help those farmers get a high value for those low-grade products, using this cotton."

The yneness and maturity of the oil ybers were among things tested for absorption, according to the paper.

"The hardest aspect was that you need special techniques to see the materials inside of the cotton to check the absorption," Singh said.

Ramkumar said further research should be done on the subject because they only scratched the surface, and the product needs to be more convenient for the users.

The next step in their research is to test the cotton on an industrial scale and see what to do with the cotton after the oil spill, Singh said.

"We want to appeal more to oil companies, so the product needs to be further reyned," Ramkumar said. "The cost of the ynal product would be reduced for the immediate consumption of the product."

Reliance Forays into Nonwoven Manufacture

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, August 26, 2014)–Reliance Industries of India, the world's largest producer of polyester fiber is venturing into needlepunch nonwoven manufacturing.

According to a reliable source, Reliance Industries is installing two needlepunching lines to develop products that will cater to the automotive sector. The total capacity of the two lines will be 2000 metric tons per annum. The lines will have the capability to produce fabrics ranging from 150 to 1000 GSM.

The nonwoven facility will produce calendared and finished needlepunched fabrics that would be supplied to a Tier I manufacturer. It is hoped that the lines will be commissioned in Ahmedabad, India by October this year.

Chinese Cotton Delegation visits Texas High Plains

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, August 22, 2014)– A team of cotton industry people led by Professor Changhai Yi of Wuhan Textile University, China visited Lubbock today to explore the cotton industry in the High Plains of Texas.

Professor Yi, the Director of Technology at Wuhan Textile University led a team of people involving academics and industry people to gain firsthand knowledge on cotton breeding and applied cotton research. Wuhan Textile University is the only textile university in the world and has 35,000 students making it the largest textile university of its kind in the world.

The team visited Texas AgriLife Research and Extension Center in Lubbock and toured the laboratory of Professor Jane Dever. Dr. Dever gave the tour of her experimental plot and explained to the Chinese delegation her latest research involving next generation cotton with more length uniformity and maturity. The Chinese delegation was impressed with the greenhouse facilities and the shorter cotton plants in the High Plains as compared with those that are in Chinese fields.

The team visited Texas Tech's (TTU) Nonwovens & Advanced Materials Laboratory to see the development of nonwoven cotton products for oil spill and other advanced applications. After observing firsthand the teaching and research infrastructure facilities at Texas Tech University Professor Yi commented "the resources at American research universities are impressive."

The delegation was hosted by the Nonwovens & Advanced Materials Laboratory at TTU.

India to be the World Leader in Cotton Production

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, August 20, 2014)–According to recent estimates by Cotton Association of India (CAI) India’s cotton production for the crop year 2014-15 (October to September) will be 6.74 million metric tons.

CAI predicts that the production estimates for India by ICAC and USDA will be revised upward from their current estimates of 6.04 and 6.31 million metric tons respectively. Furthermore, according to CAI, India’s 2014-15 crop will be substantially higher than its current conservative estimate provided the weather continues to be favorable.

ICAC’s production estimate for China for 2014-15 is 6.22 million metric tons, while USDA estimates it to be 6.42 million metric tons. These figures enable India to become the leader in cotton production for 2014-15 crop year.

Dhiren Sheth, President of CAI stated in a recent release that “it is due to the concerted efforts of all those connected with cotton in India, importantly the farmers, the country is set to achieve this milestone.”

Indian Cotton Production to Reach 40 Million Bales

by: Seshadri Ramkumar, Texas Tech University, USA

(Coimbatore, India, August 14, 2014)---Indian cotton crop to reach 40 million bales (170 kg each) in the new season beginning in October 2014.

Speaking in the just concluded Indian Cotton Federation (ICF) conference in Coimbatore, India, Mr. S. Dhinakaran, Immediate Past Chairman of the The Southern India Mills' Association (SIMA) said India will have good crop this coming season starting this October. Although hopes are high for the crop to pass the 40 million bales mark, it sure that the crop will be 37 million bales at least.

Price volatility is a major concern for spinners in India. Several associations are pleading the State run Cotton Corporation of India to ensure supply through out the year at a stable rate. Mr. K. Thirunavukarasu, President of the The South India Spinners' Association (SISPA) said in the ICF meet that earlier cotton price were season dependent and rate changes were expected at only 4 times in a season. Now, with the advent of technology, the price fluctuations have become a heart breaking event on a daily basis.

With good hopes for the US cotton this year, world's cotton crop will be in bounty this year.

Texas Tech Researchers Discover Low-Grade Nonwoven Cotton Picks Up 50 Times Own Weight of Oil

Nonwoven cotton could become the new picker-upper for oil spills.

Texas Tech University researchers recently discovered that low-grade cotton made into an absorbent nonwoven mat can collect up to 50 times its own weight in oil.

The results strengthen the use of cotton as a natural sorbent for oil, said Seshadri Ramkumar, professor in the Department of Environmental Toxicology at Texas Tech who led the research. The results were published in the American Chemical Society's journal *Industry & Engineering Chemistry Research*.

Ramkumar is a creator of Fibertect®, a nonwoven decontamination wipe developed by researchers at Texas Tech capable of cleaning chemical and biological agents. Vinitkumar Singh, a doctoral candidate working under Ramkumar, performed the experiments in this study. This multidisciplinary project involved scientists from Cotton Incorporated and Texas Tech's Departments of Mechanical Engineering and Environmental Toxicology.

“With the 2010 crude oil spill in the Gulf of Mexico, which resulted in the major spill of about 4.9 million barrels of oil, it became apparent that we needed new clean-up technologies that did not add stress to the environment,” Ramkumar said. “This incident triggered our interest in developing environmentally sustainable materials for environmental remediation.”

In the four-year project, scientists tried to create a fundamental understanding of the effect of fiber structure and basic characteristics of cotton on oil sorption capacity of unprocessed raw cotton. The work also examined the basic mechanisms behind oil sorption by nonwoven cotton webs.

“We believe nonwoven cotton webs as an oil sorbent have tremendous potential for application in real-time oil spill scenarios along with environmental sustainability and commercial acceptability,” Ramkumar said. “In this study, we have used low-grade cotton as well as mature cotton, and it was observed that low-grade cotton performs better than regular mature cotton in the oil sorption capacity. Nonwoven cotton batts consisting of immature and finer cotton fibers showed 7 percent higher oil sorption capacity than cotton batts developed using mature and coarser fibers. Cotton batts could be used to clean up oil spills on land as well as any oil-water system.”

Ramkumar and his researchers are working with Texas Tech's Office of Technology Commercialization to take this new technology into commercial space within a span of 12 months. Recently, there have been some active interests to evaluate our product for further consideration, he said.

“Our research shows cotton as a high-performance fiber that can be deployed to clean up toxic oil spills,” Ramkumar said. “More importantly, the oil sorption by environmentally friendly and natural sorbents like aligned nonwoven cotton made from raw unprocessed cotton and correlation with its characteristics, such as cotton quality, fineness and maturity, are not reported at all to our best knowledge.”

New Indian Budget Promotes Textile Clusters

By: Seshadri Ramkumar, Texas Tech University, USA

(Bengaluru, India, July 11, 2014)—The maiden budget presented by the new Indian government promotes new textile clusters.

The Indian government led by Honorable Prime Minister Mr. Narendra Modi presented its first budget in the Indian parliament yesterday. In the budget presented by the Finance Minister, there is a proposal with an outlay of two billion rupees (US\$ 34 million) to set-up eight new textile clusters. Handloom sector also gets additional push and support.

Garment industry will get a boost with the enhancement of duty free entitlement from 3% to 5% for import of certain items used in the making of garments, based on the value of exports of garments made from them.

Additionally, the efficiency of handling and transporting import and export cargo will be improved as textile exports contribute about 11% of India's total exports.

According to Mr. Santosh Kumar Gangwar, Minister of State for Textiles with independent charge, "the budget recognizes the core strengths of the textile sector with a strong human emphasis."

Indian Railways to Consider Nonwoven Linens

By Seshadri Ramkumar, Texas Tech University, USA

(Bengaluru, India, July 3, 2014)—Indian railways will initiate trial runs of nonwoven beds to enhance the comfort of passengers.

As part of pro-growth and consumer satisfaction agenda, the newly formed Indian government led by Honorable Prime Minister Mr. Narendra Modi will bring several new initiatives in the Indian railways. In order to increase the comfort of passengers, the railways will start doing trial runs of nonwoven bed items in Bengaluru Rajdhani express. According to media reports, the initial trials will use nonwoven polyester items. Based on the feedback, the pilot scheme will be implemented in other high speed Rajdhani rail networks.

Indian railways is a leading railroad network in the world and the use of nonwovens will enhance the market of such items in India.

Indian Textile Exports to Reach 50 Billion US Dollars

By: Seshadri Ramkumar, Texas Tech University, USA

(Chennai, India, June 25, 2014)–Textile exports from India this financial year ending in March 2015 to reach US \$50 billion.

According to media reports in India, Mr. Santosh Kumar Gangwar, Union Minister of State for Textiles, Government of India gave this projection, while inaugurating a garment fair organized by Clothing Manufacturers Association of India (CMAI). Indian textile ministry will support the establishment of 25 to 30 textile parks to boost the production.

According to CMAI president, Mr. Rahul Mehta, textile sector is expected to grow by 12 to 15% in the next five years.

Cotton Cooperative Sells its Textile Division

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, June 9, 2014)–Plains Cotton Cooperative Association (PCCA) has sold its textile and apparel division.

On June 6th Lubbock, Texas based PCCA announced the sale of its textile and apparel division to American Textile Holdings (AmTex), LLC.

AmTex has assumed charge of American Cotton Growers denim mill in Littlefield, TX and cut and sew operation Denimatrix S. A. in Guatemala City, Guatemala.

According to Wally Darneille, PCCA President & CEO, the sale of textile and apparel division will enable PCCA to refocus its efforts on core businesses such as cotton marketing, warehousing and software services for members and customers.

AmTex has been created by Monomoy Capital Partners and Kingsmoor, LLC.

According to Robert Fowler, the new CEO of AmTex, the recent purchase will provide customers unsurpassed quality and proximity in denim manufacturing, which is currently migrating from Asia to the Americas.

With the sale of textiles and apparel division, PCCA returns to its founding core business of cotton marketing, when the cooperative was founded some sixty years ago in Lubbock, Texas.

High Plains of Texas Expected to Plant 4.1 Million Acres of Cotton

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, June 6, 2014)–The recent rains in the High Plains of Texas is positive for cotton enabling good acreage of planting.

According to Shawn Wade, Director of Policy Analysis and Research, Plains Cotton Growers, Inc., in Lubbock, Texas, the region between 1N and 1S of High Plains is expected to plant about 4.1 million acres of cotton. Comparing last year's acreage of 3.7 million in this region, the rains will help enhancing this number by about 10 percent.

In terms of rainfall, although the first 20 days of May has been bleak in High Plains of Texas, recent rains have ranged anywhere from one-hundredth of an inch to 8.5 inches. “We are set up for good situation for cotton due to recent rain, warm temperature and lack of wind”, stated Jason Woodward, a Texas Tech Plant Pathologist who holds a joint appointment with Texas AgriLife Extension, in a recent meeting at Plains Cotton Growers in Lubbock.

In recent years, number of irrigated acres has been declining and majority of cotton grown in High Plains has been dry land. This necessitates the need for rain and good weather. It is hoped by June 10th, cotton would be completely planted in the High Plains of Texas. High Plains of Texas is the largest cotton growing region in the United States.

India Comes Second in Global Textile Exports

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, June 3, 2014)–India's current textile export in the international scenario is US\$ 40.2 billion.

The total global exports in the world trade is worth US\$ 772 billion. India contributes 5.2% to the global textile trade.

India has surpassed countries such as Bangladesh, Italy and Germany coming second only to China in textile exports.

While the global textile industry's growth is about 4.7%, India has registered 23% growth rate which is significantly higher than China's growth rate of 11.4 percent.

India's textile growth has been predominantly due to the growth in its apparel and clothing sectors which collectively has 43% share in India's textile industry. According to a statement from India's Press Information Bureau, Mr. Virender Uppal, Chairman of Apparel Export Promotion Council stated, "the government policy of diversification of market and product base has helped us and we ventured into the newer markets, which paid huge dividends."

Increase in labor costs, noncompliance and safety issues in Bangladesh, recent increase in risks taking aptitude by Indian entrepreneurs and government supportive schemes are enabling India to be a reliable sourcing destination. However, competitive pricing, meeting delivery schedules, better quality and government schemes are necessary towards further enhancing India's export share, stated Mr. Uppal.

The statistics were recently released by UN Comtrade.

Challenges for Nonwoven Materials

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, May 30, 2014)–Three big challenges were highlighted by Dr. Bryan Haynes, Director, Global Enterprise Research and Engineering, Global Nonwovens, Kimberly-Clark for effective utilization of nonwovens in the medical and consumer product sectors.

Dr. Bryan Haynes in delivering his keynote talk at the recent NET Innovation in Nonwovens Conference (NETInc) of TAPPI held in Nashville emphasized the importance of market differentiation; raw material cost and scalability. These major issues have to be taken into consideration by the nonwovens medical and consumer products industry.

Bryan Haynes said by differentiation in product design, developing composites for new functions and creating novel materials, new opportunities will evolve for the nonwoven industry.

Investment in new process technology that could develop new nonwoven products should be the way forward. Although incremental development is good, emphasis should be placed on new and disruptive technologies, said Haynes. Sustainability and recycling should also be taken into consideration. Finally, Haynes commented on the importance of taking laboratory products to commercial reality.

Partnering to develop disruptive technologies should be an important mantra for the nonwovens industry. The keynote session was chaired by Uday Raval, Chairman of NET Division of TAPPI.

Medical Nonwovens Market to Grow at Five Percent Rate

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, May 27, 2014)–Single-use medical nonwovens market, has rebound from saturation level and is expected to grow at about 5 percent.

Dave Rouse, President of the United States based Association of the Nonwoven Fabrics Industry-INDA, in speaking recently in a webinar organized by the Rodman Media Corp., said that due to the Affordable Care Act, Center for Disease Control and Prevention advisories and also payment qualification criteria imposed by private insurers, the disposable nonwoven market is expected to grow at 5% rate. This growth figure is more than the earlier expected growth rate of 2 percentage.

According to Rouse, medical nonwovens in the United States has a share of 9% in the total nonwovens market. Allied product such as absorbent hygiene has 21% share, wipes has 17% share and filtration has 11% share. The Affordable Care Act emphasizes the shift from quantity to quality, which will aid the growth of disposable nonwovens.

Nonwoven products such as underpads, adult incontinent products, face masks, sterile wraps and packages and health care related wipes will be in demand, which will push the sector towards growth trajectory, said Mr. Rouse.

In ending his presentation, Mr. Rouse stated that nonwoven industry should innovate, enhance the value of the overall package of the nonwoven products and should better communicate with stakeholders.

This webinar was sponsored by ANDRITZ Nonwoven and RKW-Group.

Consumer Nanofiber Products A Decade Away

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, May 01, 2014)– Although nanofiber research and development have progressed tremendously in the past two decades, commercial products that appeal to consumers are a decade away.

In his speech this week at the 2014 TAPPI Conference in Nashville, tracing his journey from a chemist to a successful entrepreneur, Dr. Jayesh Doshi of eSpin Technologies, Chattanooga, TN, highlighted the major advantages of nanofiber products in filters ranging from HVAC filters to ChemBio defense products.

Dr. Jayesh Doshi was the first graduate student in the early 1990s in the United States to work on the electrospinning of nanofibers and rejuvenated the interest in this technology for developing nanofibers. Today, his company eSpin Technologies develops a myriad of products that involve wipes, filters, to name a few. In an answer to a question from this scribe, Dr. Doshi stated, “in ten years, we may walk into a retail shop and see products with nanofibers.” Dr. Doshi stated cost is the driver in pushing nanofibers into consumer markets and hopefully within a decade, this may be a reality. According to him, residential air filters with nanofibers will be well accepted before products such as tissue scaffolds.

Dr. Doshi pointed out that the use of nanofibers in filters would result in improving air quality by 40%, lowering energy costs by 8% and there can be a reduction in CO₂ by 6 percent.

Future of Hydroentangled Apparel Fabrics

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, May 01, 2014)– Woven-like nonwoven hydroentangled apparel fabrics are a reality. However, it will take time to penetrate into apparel sector.

Dr. Paul Sawhney, an industry veteran of many decades specializing in natural fiber processing and currently a senior research scientist at the United States Department of Agriculture laboratory in New Orleans showcased his latest developments on hydroentangled apparel fabrics at the TAPPI 2014 Conference in Nashville, Tennessee, held this week.

His laboratory has developed dyed hydroentangled fabrics from pre-cleaned cotton which were able to pick-up uniform dye. In speaking to this scribe, Dr. Sawhney briefed that launderability and durability are not an issue. However, getting the feel or hand similar to finished woven fabrics is still a major challenge for hydroentangled fabrics to penetrate into the apparel sector. Various process variations such as using patterned finishing rolls and chemical treatments can be tried to develop hydroentangled fabrics with good hand, said Dr. Sawhney.

Bulletproof Vests from Stem Cells

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 22, 2014)–A unique property of stem cells that are human master cells has been identified that may lead to wide range of applications such as bulletproof vests and super-absorbent materials.

A team of scientists from the University of Cambridge in England have spotted the property known as auxeticity, which helps in serving as fantastic shock absorbing materials. This auxeticity property results in shrinking when squeezed and expansion when stretched, which is opposite to what is experienced in materials such as elastic tapes that get thinner when pulled.

In a paper published on April 20th in the journal Nature Materials, the interdisciplinary team from Cambridge report that this property is rare in natural materials and features the unique auxeticity phenomenon in the nuclei of embryonic stem cells. According to the authors, these auxeticity materials are highly ordered and can find applications in super absorbent materials such as ballistic shields.

Although it will be a longtime to see human body derived materials to be used in ballistic shield and other advanced materials, this research throws some new information on the biomimetic approach that can be followed by material scientists in developing value-added functional materials.

Environmentally Benign Single Layer Breathable Nanowebs Developed

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 20, 2014)– Single layer breathable nanowebs were developed using green electrospinning process.

A team of interdisciplinary researchers at Texas Tech University involving fiber science, chemistry and toxicology have developed a homopolymer single layer porous nanoweb for bioengineering applications. The process involved water soluble poly (vinyl alcohol) and resulted in the development of standalone nanofiber webs. The process was devoid of any organic solvents and used heat cross-linking to obtain a stronger single layer nanoweb that can be handled for subsequent processes and treatments.

The aim of the relatively environmentally friendly process was to avoid the use of cross-linking agents and functionalizing chemicals to obtain a stronger nanoweb.

Heat cross-linked single layer nanowebs were good enough for handling and testing of their tensile and water transport properties. The nanowebs were approximately 250 nm in diameter.

Nanowebs developed that are devoid of organic solvent residues can find a myriad of applications such as cell and tissue culture scaffolds, protective clothing liners, and air filters.

This work was recently published in the Industrial & Engineering Chemistry Research Journal of the American Chemical Society.

Baby Wipes can Lead to Hand Dermatitis

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 5, 2014)– A preservative that is commonly used in baby wet wipes can lead to contact dermatitis.

Recently, a team of three dermatologists from Skin & Cancer Foundation, Inc. from Melbourne, Australia has reported that methylisothiazolinone, a preservative used in moist wipes could lead to hand dermatitis.

In a recently published letter in the Medical Journal of Australia, the researchers state that the most common source of the preservative that causes contact dermatitis is disposable wet wipes that are commonly used in baby care. Although its effect on baby skin cannot be diagnosed accurately, the authors report that hand dermatitis problem in parents can be attributed to the use of baby wipes.

According to the authors, other sources are make-up removal wipes, shampoos, sunscreens, deodorants, etc.

Textile Industry Follows Labor Economics

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, February 21, 2014)–Textile industry follows labor cost, material price and currency situations very closely.

Recently, Nobel Laureate Vernon L. Smith (2002 co-recipient of the Nobel Memorial Prize in Economic Sciences), while lecturing on the housing bubbles and recessions since 1929 to a standing room only crowd at Texas Tech University commented on the movement of textile industry from North to South in the United States and then now across the oceans.

Professor Smith noted, while he was a student at Harvard University in 1950s, the textile and garment industry in New York and Massachusetts moved to Alabama and other southern states in the United States. This model has become the norm in the labor intensive textile industry, which has now shifted to Southeast Asia.

In an answer to a question from this scribe on China's economy, Noble Laureate said, although he has not followed China that closely, in his many visits to Beijing and Shanghai he has observed many multistoried building infrastructures, which is a sign of liberalization and the growth of export.

It looks like the same dynamic situation, which caused the movement of the United States' textile industry in 1950s is happening in developing economies such as China and India, where the labor cost issue is surfacing and making it hard to compete with other low wage developing nations such as Bangladesh, Vietnam, Cambodia, to name a few.

Comment by William C Smith, Principal at Industrial Textile Associates, Greenville, SC

Don't know if you read my comments on Innovation in Textiles where I said several of the Asian countries have set up operations in the US. The most recent was Keer Group out of Shanghai, investing \$218 million to build a textile plant in South Carolina employing 500. The cost in China, for instance, has risen to the point it is cheaper to spin yarn in the US than in China, and many other developing countries. Several Indian companies are doing the same with employment over 300. But one major factor as well is the trade agreements that let them set up shop here and ship components to Caribbean nations and get favorable consideration, something they cannot get at home. The textile industry, as we once knew it, will never come back in terms of employment and mills, etc. But other forms of textiles, such as nonwovens and carbon fibers/fabrics, things we didn't have much of 30+ years ago, have blossoms (Toray has announced a new carbon fiber plant in SC to product carbon fiber for areas such as aircraft and automotives, wind energy, and the like. It is a different "textile" industry today. And technical textiles are relatively strong.

High-tech Wipe

by: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, February 14, 2014)--Animated video features multifaceted high-end nonwoven wipe.

Today, Washington-DC area based Fist Line Technology unveiled a video that showcases the features and applications of FiberTect decontamination wipe.

The three and half minute video delineates the advantages of dry decontamination against wet technologies. FiberTect wipe comes in different forms such as wipes, pads, mitts and perforated rolls.

The video ends with an effective message, which emphasizes the protective capability of the wipe by stating that the only thing, the wipe cannot wipe is the smile on our face.

The video can be viewed at: <http://youtu.be/LeVvrIBlyiE>

India has Developed Over 250 Cotton Varieties

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, February 11, 2014)–Ongoing efforts by the Indian Council of Agricultural Research (ICAR) has resulted in more than 200 cotton varieties including hybrids that can suit to the requirements of varied climatic conditions of India.

Central Institute for Cotton Research, Nagpur and the All India Coordinated Cotton Improvement Project of the ICAR are developing new production technologies for cotton with focus on basic and applied cotton research.

According to Indian Minister Tariq Anwar, Minister of State for Agriculture and Food Processing Industries, Government of India apart from the aforementioned projects, Indian government is implementing Mini Mission-II of Technology Mission on Cotton in 13 cotton growing states since 2001. This program has played an important role in increasing the cotton yield in India.

Next Generation 3D Printing

by: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, February 8, 2014)--Researchers at Texas Tech University, USA are effectively utilizing nano and microwave technologies to enhance 3D printing.

In a presentation made to a spellbound audience of about 300, at the first ever TEDx event at Texas Tech, Brandon Sweeny a doctoral student of Chemical Engineering at Texas Tech University presented an innovative approach to overcome a major drawback with using 3D printing for developing high strength materials.

Sweeny and his colleagues are using nano sheath-core precursor in 3D printing to develop stronger 3D printed materials. Upon microwaving, the nano sheath heats up quickly giving more interfacial strength. Sweeny and his team have developed 3D bucky balls that are stronger. The researchers have filed a provisional patent for their technology.

The first ever TEDx event was organized today by Dr. Ronald Banister, anesthesiology professor at TTU Medical School in collaboration with Texas Tech University and had a full day of innovative and inspirational talks.

Self-powered Wearable Textiles for Advanced Health Monitoring

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, February 06, 2014)– Textile batteries that can detect bodily fluids and generate power using them may be a reality.

Peter Lillehoj, Assistant Professor of Mechanical Engineering at Michigan State University, East Lansing, MI has received major funding from the United States National Science Foundation for carrying out research in this area.

According to Professor Lillehoj, the textile battery that will be developed will be able to carry out biomolecular detections. The battery will sense bodily fluids such as urine and sweat and these fluids will generate power to operate them.

According to information from National Science Foundation, so far wearable textiles have focused on measuring physiological parameters such as heart rate and the new textile batteries will be able to analyze bodily fluids for transforming health care.

Industrial Hemp Research to be a Reality

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, February 4, 2014)–Growing industrial hemp for research purposes will be legal in some states of the United States soon.

Today, the U.S. Senate passed the Farm Bill approved initially by the U.S. House of Representatives. After three years of discussion, the U.S. Congress voted to send the H.R. 2642 Farm Bill to be enacted into law by President Barack Obama.

The massive 949 pages bill calls for spending of \$ 956.4 billion over ten years and has an important provision for legalizing industrial hemp for research purposes in some states of the United States. Tucked in this massive bill the two page provision on the legalization of industrial hemp research is expected to open-up new markets for hemp in industrial and textile sectors.

The provision states that growing industrial hemp for research purposes will be allowed in the states that permit the growth under its laws and only institutes of higher education and State Departments of Agriculture in those states will be allowed to do research on industrial hemp. It should be emphasized that, according to the provision, the industrial hemp should not have delta-9 tetrahydrocannabinol concentration of more than 0.3 percent of its dry weight.

The legitimacy will enable researchers in those states which will allow growing of industrial hemp for research purposes to develop new products that can cater into new markets such as automotive textiles, industrial wipes, etc.

The bill is expected to receive President Obama's nod soon.

International Team Develops Longer Cotton Fiber

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, February 2, 2014)—An international team involving researchers from the United States and Uzbekistan has developed longer and stronger cotton fiber.

The team used RNA interference (RNAi) technique to knock-down one particular gene and the method enabled longer fiber. The results have been published in a recent edition of Nature Communications.

According to Associate Professor Alan Pepper of Texas A&M University, a co-author of the study, they used a cross between long fiber plant and a short fiber plant and then used RNAi to interfere with a particular phytochrome gene.

According to the researchers, stronger and longer fiber will result in at least \$100 improvement in income per acre.

The team involved scientists from Texas A&M, USDA Laboratory at Mississippi State University and Uzbekistan Academy of Sciences. According to the information available at the US Patent Office, the team has filed for a US Patent.

Smart Clothes for Hip Fractures to have Business Potential

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, January 31, 2014)– Intelligent clothing that can protect elderly people from hip fractures due to fall has been identified as having excellent business potential.

The UK based Royal Academy of Engineering has recognized the commercial potential of this technology as part of its Enterprise Fellowships scheme. As part of this scheme, Dr. Daniel Plant, Director of Armourgel Ltd., London, who is the inventor of this technology will receive £ 85,000 to commercialize this technology.

Armourgel technology absorbs energy and stiffens on impact during fall. Additionally, this technology is thinner, flexible and can be incorporated in to every day garments worn by elders.

Biobased Eco-leather Developed

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, January 30, 2014)–Biomaterials developed from flax, chicken feathers and plant stalks has received high recognition from the U.S. Environmental Protection Agency (EPA).

Recently, Professor Richard Wool of the University of Delaware in the US received the 2013 Academic Green Chemistry Award from the U.S. EPA.

Professor Wool's work avoids toxic precursors and inorganic fibers and has resulted in a number of lignin based alternatives for styrene, isocyanate free foam from plant oils, according to the U.S. EPA. His efforts are paving way for bio-alternatives for adhesives and resins used in developing composites.

A collaborative effort between Professor Wool and Professor Huantian Cao of the University of Delaware has resulted in breathable biobased eco-leather.

Light-activated Smart Curtains

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, January 28, 2014)– Battery less smart curtain is the latest development in smart and intelligent textiles.

The new development is led by Associate Professor Ali Javey of the Department of Electrical Engineering and Computer Sciences at the University of California, Berkeley in the United States.

The research team layered carbon nanotubes on polycarbonate membranes which activate in the presence of light. According to the researchers, the nanotubes absorb light instantaneously and convert into heat. The heat gets transferred to the polycarbonate membrane which results in the expansion of the plastic curtain. The researchers claim that such light activated plastic curtains are easy to make and can be activated using low intensity light. This work has been recently published in the journal Nature Communications.

It is becoming clear that multidisciplinary approaches involving different disciplines such as polymer science, electrical engineering, material science and chemistry, to name a few are needed to develop functional and technical textiles.

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The new development is led by Associate Professor Ali Javey of the Department of Electrical Engineering and Computer Sciences at the University of California, Berkeley in the United States.

The research team layered carbon nanotubes on polycarbonate membranes which activate in the presence of light. According to the researchers, the nanotubes absorb light instantaneously and convert into heat. The heat gets transferred to the polycarbonate membrane which results in the expansion of the plastic curtain. The researchers claim that such light activated plastic curtains are easy to make and can be activated using low intensity light. This work has been recently published in the journal Nature Communications.

It is becoming clear that multidisciplinary approaches involving different disciplines such as polymer science, electrical engineering, material science and chemistry, to name a few are needed to develop functional and technical textiles.

Cotton Seed Company Contributes Huge Funds to Further R&D and Education

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, January 23, 2014)–Bayer CropScience announced today in Lubbock a major gift of US\$ 19.3 million towards cotton research and other projects in the College of Agricultural Sciences and Natural Resources (CASNR) at Texas Tech University. This major gift is expected to receive matching funds from the State of Texas through its Texas Research Incentive Program.

Kent Hance, Texas Tech University System Chancellor today said, the total funding from Bayer is the largest ever for Texas Tech University and its overall worth is about US\$ 54 million. Hance said, "today is historic and important day for Texas Tech University".

Michael Galyean, Dean of CASNR highlighted that in addition to today's gift, Bayer CropScience has already contributed US\$ 8 million for research and development projects that look into the quality and functionality of cotton.

Mike Gilbert, Vice President for Global Breeding and Trait Development, Bayer CropScience said that every year

Bayer invests more than US\$ one billion for research and development. He also stated that today's contribution to Texas Tech University is an example of Bayer's commitment to research and development.

Bayer CropScience belongs to the Bayer Group and has interests in crop protection, seeds and environmental sciences.

Cotton to Penetrate into Diapers

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, January 23, 2014)–Cotton soon will be an integral part of diapers.

A collaborative work between Huntsman Textile Effects and TJ Beall Company will create ecofriendly diapers made out of mechanically cleaned greige cotton, which will form the top-sheet of the diaper.

ULTRAPHIL® CO is a latest development that will utilize Huntsman Textile Effects' ULTRAPHIL® CO technology and TJ Beall's cleaned greige natural cotton fiber, sold as "True Cotton®".

Greige cotton helps with the required hydrophobicity and chemical treatment effect by Huntsman Textile Effects gives the necessary wicking property needed for functional diapers, according to today's press release by TJ Beall Company.

Nonwoven hygiene industry sector is a growth industry even in developed economies, while it is forecast to have an exponential growth in developing economies such as BRICS.

Sustainability both in terms of environment and economy is a major driving force for the growth of the nonwovens hygiene market and the development of cotton based diaper is a step forward in the direction.

European Consortium to Work on Ecofriendly Carbon Fiber

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, January 22, 2014)–A group of 13 organizations in Europe have been funded by European Seventh Framework Program to develop sustainable carbon fibers.

The project known as NEWSPEC involves industries, R&D institutes and Universities from Italy, UK, Germany, Ukraine, Greece, Belgium and France.

NEWSPEC group involves fiber and textile institutes, automotive companies, management consultancy and runs for four years and is expected to end by 31st October 2017.

Project NEWSPEC's objectives involve developing carbon fibers using cost effective polymers such as polyethylene, which can result in 30% cost savings.

A news release from the University of Exeter in the UK, a collaborating partner in the project states that total funding for the project is about ten million euros.

US Cotton Industry Optimistic for 2014

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, January 17, 2014)– Cotton price may help with the uptick in 2014 cotton acres in the United States.

In today's meeting at Plains Cotton Growers in Lubbock, TX there was optimism for cotton planting this year.

The decrease in corn acres this year will result in slight uptake in cotton planting nationwide, although corn will be predominantly replaced by soy beans.

Representatives from seed industry such as Monsanto felt that the demand for cotton seed this year is slightly higher than what it was during the same period last year. The main factor that drives the switching back to cotton is the price and the recent positive export numbers.

Steve Verett, Executive Vice President of Lubbock, Texas based Plains Cotton Growers expressed that he is hoping for more favorable weather in the coming year that will result in more harvested acres in relation to planted acres, providing a positive impact on the High Plains cotton industry.

Ginning of last year's cotton is coming to an end in High Plains of Texas and is hoped to be wrapped-up by next week.

Indian Cotton Arrivals Higher than Last Year

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, January 15, 2014)–Today, Mumbai based The Cotton Association of India (CAI) estimated that the cotton crop for this season ending in September 2014 to be 37.6 million bales (170 kg each).

Dhiren Sheth, President of CAI, stated that one third of the crop for this season has arrived and the crop arrivals as of December 31, 2013 was 11.97 million bales (170 kg each), which is higher than the crop arrivals during December of 2012.

The total cotton supply during this season will be 43.4 million bales as against 42.6 million bales during last year (2012-2013).

CAI noted that the total crop consumption by the organized mill sector to be 26 million bales (170 kg each).

There is a significant increase in the production this year and is estimated to be 37.6 million bales. This is roughly 2 million bales higher than last year's production.

Indian Textile Industry Set to Grow

By: Seshadri Ramkumar, Texas Tech University, USA

(Coimbatore, India, January 7, 2014) --Indian textile and apparel sector is expected to reach a market size of US\$220 billion by 2020 with an annual growth rate of 11 percentage.

Inaugurating this year's Textile and Clothing Association's activities at Avinalishilingam Deemed University in Coimbatore, Dr. K. Selvaraju, Secretary General of The Southern India Mills' Association said China is losing its strength as a low cost manufacturing country, which will enable India to be a textile power house.

According to Dr. Selvaraju, China pays three times the Indian wages and its power cost is 10% higher than India. India has to concentrate on value-addition and focus on processing and other value-enhancement sectors.

India's current textile and apparel market size is US\$90 billion.

Nonwoven hygiene Sector to grow in India

by Seshadri Ramkumar, Texas Tech University, USA

(Aruppukottai, India, December 27, 2013)--Multinationals are planning investments in India due to potential growth in hygiene products like diapers and incontinence products.

Speaking to this scribe recently at the Nonwovens Training Workshop organized by USA based INDA in Mumbai and tutored by this scribe, Ms. Britt-Marie Helmberg, Sourcing Manager at SCA Hygiene Products AB, Gothenburg, Sweden said SCA will invest about Rupees 150 crores in building a diaper plant in MIDC, Ranjangaon, Pune, India. Initially, SCA Hygiene Products Pvt. Ltd., will have one line producing baby diapers. The production of Libero brand diaper will begin in early 2015, according to Ms. Helmberg.

Already, SCA has started promoting its brands in major Indian cities like Mumbai. Another multinational Unicharm is also planning expansion of its hygiene business in India.

Wearable and Flexible Textile Battery Developed

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, December 06, 2013)– Smart textiles containing electronic materials have been talked about for more than a decade. The lack of textile characteristics such as drapability and wash durability has deterred the greater market penetration of electronic textiles.

New research endeavors are ongoing to overcome these practical difficulties. A team of scientists from Korea Advanced Institute of Science and Technology (KAIST) report in a recent issue of Nanoletters, the advancements in textile battery structures which exhibit comparable electrochemical properties with metal foil cells and at the same time have features of textiles. KAIST scientists coated Nickel on to woven polyester fabrics using electroless deposition method. This approach enabled them to have good drapability or in other words folding-unfolding capability enhancing the wearability of such structures. These electronic textiles performed better than aluminum foiled batteries where the battery layer started to disintegrate after single folding and unfolding operation.

Textile structure which is three dimensional (3D) in nature seems to be the key in providing the necessary mechanical robustness and drapability unlike metal foils. The scientists report that 3D textile structures developed could withstand hundred mechanical folding and unfolding cycles. The new findings from the KAIST scientists show that the basic current collector structure, i.e. textile fabrics play an important role in the development of wearable textile batteries. Additionally, the coating technique employed to provide electrochemical characteristics to base textiles also plays a significant part.

Although these new developments push electronic textiles to the next level, the field still offers significant challenges with regard to wider acceptability as day-to-day textile materials owing to cost and performance issues.

Global Demand for Cotton is Good

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, December 02, 2013)– The global demand for cotton all over the world is good, said Wallace Darneille, President and CEO of Lubbock based Plains Cotton Cooperative Association (PCCA).

Speaking today at the 2013 Cotton Achievement Award luncheon in Lubbock, USA Wallace said that the stockpiling of cotton in China has been going on for a while. “It hasn’t been a recipe for disaster”, said Darneille. Although China has started selling its reserves since Thanksgiving Day, Nov 28th, according to Mr. Darneille, China is buying more than selling. Chinese cotton sold now is older crop and of low quality. According to him, China needs to have a measured exit from stockpiling.

Cottons’ demand is good and the price continues to be decent. Speaking to the scribe on the sidelines of the event, Mr. Darneille, who has firsthand insight on cotton market stated China needs to sell its reserves because of its own loan policy.

In his speech, PCCA president emphasized the importance of innovation in the cotton industry which makes the US cotton farmer to produce consistent quality cotton year after year.

This year, the Cotton Grower Achievement Award given by the Cotton Grower magazine went to Floydada, TX based producer Mr. Eddie Smith, who is the 44th recipient of this yearly award.

Sustainable Packtech Regulation in India

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, November 29, 2013)– India and Bangladesh are the leading producers of jute in the world.

India's jute products are predominantly used as packtech materials. Government of India supports this sector by regulating its use in packaging.

Cabinet Committee on Economic Affairs of India has recently approved the mandatory packaging regulation for the current jute year (July 2013-June 2014), according to yesterday's news release from Government of India. The general mandatory regulation stipulates that 90% of food grains produced and 20% of sugar produced have to be packed in jute bags. However, the regulation gives exemptions for the non-use of jute package for items such as export categorized sugar but not exported, sugar with vitamins and commodities that are exported. In general, jute packaging is stipulated for bags that weigh between 25 and 100 kilograms.

According to Government of India, this mandatory regulation will support 370,000 workers in jute and allied mills and 4 million farm families.

Government of India emphasizes that the use of jute in packtech will protect the environment as jute is biodegradable and reusable fiber.

New Biocidal Surface Inspired by Nature

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, November 27, 2013)– The development of broad spectrum and cost effective biocides is a major challenge for the textile and related industries.

A team of Australian and Spanish researchers led by Elena Ivanova of the Swinburne University of Technology, Australia have borrowed inspiration from nature and have developed nano black silicon biocidal surfaces that has shown to have effective biocidal capabilities against Gram-negative and Gram- positive bacteria and endospores.

The team of researchers has reported in yesterday's Nature Communications Journal, the first biocidal activity of black silicon surfaces. These black silicon surfaces have nano-protrusions created by reactive ion etching technique which mimic the nanosurface features of dragonfly wings.

The scientists report that the structure helps with the mechanical biocidal activity which is independent of chemical characteristics. The experiments were verified using Gram-negative and Gram-positive bacteria, vegetative cells and spores of *Bacillus subtilis*. The killing rates reported were about 450,000 cells/min/cm².

The interesting feature of their study is the comparison of biocidal activities of nano black silicon and dragonfly wings which show that they have similar antimicrobial characteristics. Biocidal activities of both nano black silicon and dragonfly wings on Gram-positive bacteria was the highest while biocidal capabilities with spores was the lowest.

These days, more and more scientists are mimicking nature to develop functional properties such as waterproofing, changes in surface adhesion and biocidal characteristics. Textile sector can benefit from these R&D activities in developing next generation functional textiles.

Next Generation Waterproof Materials

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, November 21, 2013)– Biomimetics has been the subject of curiosity recently to develop new materials that could mimic nature for applications varying from medicine to textiles.

A team of United States' scientists lead by Professor Kripa Varanasi from the Massachusetts Institute of Technology (MIT) has today reported a new development in super hydrophobic materials. Publishing today in Nature journal, the scientists demonstrated that they could reduce the theoretical contact time by designing super hydrophobic surfaces which redistributes the liquid so that the surface dries quickly. According to Professor Varanasi, if the liquid drops could be made to bounce faster on the surface it can lead to many applications.

Varanasi's group defied conventional wisdom and showed that by increasing the surface interaction in a specific way, the contact times between the liquid droplets and the surface can be brought down by 40% than the current limiting values.

This new surface technology could be created on fabrics as a replacement for current waterproof coatings whose safety is under examination by the United States Environmental Protection Agency, said Varanasi in a press release from MIT.

The surface texture reshapes the droplets and changes its symmetry so that they can bounce faster according to James Bird, a co-author of the study who is currently with Boston University.

Such new hydrophobic mechanisms will have applications in chemical protective clothing, outdoor and recreational textile structures.

DARPA to Develop Warrior Web Clothing

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, November 19, 2013)—Developing lightweight under-suit to enhance physical performance is a primary focus for the US Defense Advanced Research Projects Agency (DARPA).

At the last week's "Smart Clothes" symposium, which was web cast live and organized by Harvard University's Radcliffe Institute for Advanced Study, Dr. Joseph Hitt from the DARPA made presentation on the Warrior Webs program of DARPA, which was initiated in September 2011.

Dr. Hitt said, soldiers these days carry about 48 kilograms of load, which results in many musculoskeletal injuries. Therefore, lightweight and smart under-suits are being developed to reduce these injuries and enhance the performance of warfighters. This integrated smart suit technology program is a thirty months effort and involves leading universities, industrial organizations and defense contractors such as Harvard University, Stanford University, University of Delaware, SRI International, Boston Dynamics, to name a few.

According to Dr. Hitt, some of the challenges with such new technologies are acceptance by the user, comfort and transport properties and acceptability by the ever changing human nature.

Warrior Web program focusses on three main aspects such as fatigue, form and force.

Radcliffe's "Smart Clothes" symposium also featured talks on topics such as vapor printed devices, exoskeleton natural armors and many smart clothing related emerging R&D activities.

Indian Cotton Crop Estimated to be Higher than Last Year

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, November 12, 2013)– Cotton Association of India (CAI) released its latest cotton projection today for this year's cotton crop for the current season beginning October 1st.

Total production is estimated to be 38 million bales (170 kg each) as against 35.6 million bales for the last year (2012-13). This estimates released by CAI more or less match with the latest estimates from the United States Department of Agriculture (USDA) released on November 8th.

The opening stock for this season has come down and the total cotton supply in India for this season is estimated to be 43.87 million bales. According to CAI figures, there will be an available surplus of 13.8 million bales this year.

India's organized mill consumption will be 26 million bales, which is approximately one million bales higher than last year. Although the production estimate is positive there is a panic in the industry with regard to possible minimum support price operation in states like Andhra Pradesh. This is because of the lowering of seed cotton prices, which has raised the possibility of MSP kicking in, according to a statement by the President of the CAI.

Recently, the USDA estimated India's production for 2013-14 season beginning August 1st to be 37.14 million (170 kg each). According to this estimate, India's production for this year has not changed much as against the last season's (2012-13) production of 36.5 million cotton bales of 170 kilogram each.

UV Fabric Technology is a Spin-off from NASA

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, November 04, 2013)– Many spin-off technologies from space research are helping the society.

Although today, the United States spends less than 0.5% of its federal budget for space, many new technologies come out of space research by NASA and their collaborators.

Brooks Kimmel, a contractor with NASA in his keynote address at the latest IFAI Expo in Orlando gave many examples of how technologies that were meant for space are finding its applications in the society.

According to Kimmel, Polybenzimidazole (PBI) fiber was originally developed for space suits and today it is used in auto racing suits. Tri-axial fabrics developed for space applications today find applications in air craft evacuation slides, life vests, sail cloth for boats, etc. UV fabric technology which is a NASA spin-off is finding many applications such as cooling suits for children who have life threatening sun sensitivities.

In answering a query, Kimmel advised that NASA is constantly looking for new materials for suits such as new materials for emergency blankets, metallized materials, etc. Kimmel pointed out that the current economic situation can be a blessing for new innovations and stated “difficult times are when greatest discoveries most often arise”.

Ingredient Branding in Textile Marketing

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, October 30, 2013)– Ingredient branding is identifying individual components in the final product, which is becoming a powerful marketing tool.

The power of ingredient branding was evident in the keynote presentation made at the recent Advanced Textiles symposium during the IFAI 2013 Expo in Orlando, Florida.

Dina Dunn of Blink, LLC and Denine Woodrow of dp woodrow & company, LLC presented the benefits of ingredient branding. As consumers are more knowledgeable and are engaged with brands, such new efforts in branding and marketing are needed, according to Dina Dunn. In their keynote presentation, many factors that emphasize the advantages of ingredient branding came to light, that include the emotional connection the consumers have with the brands of the ingredient components that make-up the final product. Furthermore, as manufacturers are becoming retailers, in order to product differentiate and out sell the competition, ingredient branding is needed. For example, brands like Gore-Tex that have emotional memory with consumers help with final products.

Ingredient branding is a mechanism to enhance marketability and also help the host brands to differentiate from competitors. In answering a question from this scribe about brand loyalty, Dina Dunn said, “In US people over the past two decades have accustomed to branding and they understand components are important”.

Textile industry can effectively utilize the power of ingredient branding and is already happening in this sector. In products such as socks, brands of ingredients such as antimicrobial components can make a difference. The US cotton industry is effectively utilizing the ingredient brand strategy by identifying the farm from which the bale comes, enhancing the sales-value of US cotton.

Nonwoven Investments on the Rise

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, October 30, 2013)– Owens Corning will invest in a new plant and R&D unit for glass fiber nonwovens in Gastonia Technology Park, North Carolina, USA.

According to Gaston County Economic Development Commission, Owens Corning will have an initial investment of 120 million US dollars and will employ about 110 people. The plant will be constructed by the end of 2014.

Investments such as these echo optimistic sentiments for continued growth in the nonwovens sector. Brad Kalil, Director for Market Research and Statistics of the Association of the Nonwoven Fabrics Industry-INDA recently briefed this scribe about the growth in the housing market, which will aid the nonwoven sector. The investment in the new glass fiber nonwoven plant by Owens Corning signals the confidence in the housing market. There is a growing demand for glass nonwoven products for the building market, according to Arnaud Genis, Group President of Owens Corning's Composite Solutions Business.

The growth in the nonwovens and technical textiles is also evident from the number of exhibitors in the recent Tectextil India show, Mumbai in India. According to Messe Frankfurt Trade Fairs India Pvt Ltd., the total number of exhibitors in the latest show was 182 from 16 countries, which is a 40 percent increase from the 2011 show. This show also attracted over 5500 people. According to the Association of the Nonwovens Fabric Industry, the US nonwoven sector is expected to have a growth of about 4 percent, which is double the size of the expected GDP growth in the United States.

The recent Smithers Apex's report projects the global nonwoven growth of about 7.5 percent per year to reach US \$47 billion by 2018.

Technical Textiles is Having a Steady but Slow Growth

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, October 29, 2013)– Technical textiles is on a steady growth phase although the size has shrunk from its 2008 levels.

Technical textiles market is coming back due to economic revival, said Jeffery Rasmussen, Market Research Manager of Industrial Fabrics Association International (IFAI), USA. Among different sectors of technical textiles, smart and interactive fabrics market is projected to have 20% growth, said Rasmussen in his presentation at the recent Advanced Textiles symposium, in Orlando, FL.

According to Rasmussen, the world market for smart fabrics is projected to be 1.57 billion US dollars. This market has been growing since 2009 at 20 percent per annum. Strikingly, the US growth is about 30 percent and the US market is projected to be 396 million US dollars.

Transportation occupies 42% of this smart fabric market size followed by industrial goods at 21% and then military by 20%. This industry is heavily R&D based and has good growth potential.

According to Rasmussen, although the applications of smart fabrics in advanced sectors such as military is emerging, consumer acceptance is slow.

3D Printed Adsorptive Materials

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, October 28, 2013)– New Zealand’s Ministry of Business, Innovation and Employment has funded University of Canterbury researchers to develop 3D adsorptive media.

Professor Conan Fee and Dr. Simone Dimartino have received about one million New Zealand dollars to develop 3D printed media that find applications in air filters, pharmaceuticals and drug delivery systems, according to a report in the latest edition of Chronicle published by the University of Canterbury.

“Our invention uses 3D printing to reproduce computer-generated models so that we can devise, analyse and optimize new systems on the computer, then actually produce precise copies of these in the real world”, stated Professor Fee in the report published in the Chronicle.

According to the report, 3D printed adsorptive materials can generate business of about hundred million New Zealand dollars a year from applications in purifying proteins.

Additional applications will also evolve in chemical reactions and filtration sectors, according to Professor Fee.

Nonwoven Sector on the Rebound

By: Seshadri Ramkumar, Texas Tech University, USA

(Orlando, USA, October 22, 2013)—The United States' nonwoven sector is expected to grow at 4% per year for the 2012-17 period.

Speaking to this scribe at the Orlando Convention Center during the 2013 IFAI Expo, Brad Kalil, the new Director for Market Research and Statistics of the Association of the Nonwoven Fabrics Industry-INDA said the rebound in the housing market is helping the nonwovens sector.

According to Kalil, the durable sector is expected to grow in the next five year at a rate of 4.8 percent. Disposable sector of the nonwoven industry will grow at a rate of 3.6 percent. Wipes belonging to the disposable sector will grow about 6%. Among different wipes, baby wipes which has huge volume will grow at about 1-2 percent. Household wipes which has high value will grow about 7 percent. Its volume share is also expected to increase.

Commenting of India, Kalil stated, it is a potential market. Since the recognition of India as a BRIC group member in 2001 by Goldman Sachs James O'Neill, India has been potential growth market but has not picked up yet with regard to nonwovens, stated Brad Kalil. Infrastructure, transportation and regulations seem to be barriers for the growth there said Kalil.

India's Cotton Production Increases Amid Acreage Decline

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, October 21, 2013)– The Government of India's recent data shows that cotton planted during this Kharif season (2013 summer sowing) has been 28.34 million acres, while last year's planting was 28.98 million acres.

However, the Cotton Association of India (CAI) today estimated the cotton crop for the new season beginning this October to be 38.1 million bales (170 kg each). Even though there is a slight decrease in the acreage of cotton planted, good rains and technological developments are enhancing the overall production of cotton, as this is evident from the CIA estimates.

"The late rains have resulted in a delay in arrivals of seed cotton. However, the available moisture is likely to help increase the yields and result in a larger than estimated crop. If the monsoon withdraws in the next few days, a better crop can be expected", said Dhiren Sheth, President of CAI.

Gujarat will top cotton production this year with an estimated production of 11.35 million bales as against 8.32 million bales last year. The other states that will have good production are Maharashtra with 7.62 million bales, Andhra Pradesh 6.95 million bales, Haryana 2.26 million bales, Madhya Pradesh 1.78 million bales and Punjab 1.53 million bales. One Indian bale equals to 170 kilogram of cotton.

The total domestic demand will come down this year by 8.3 million bales and is expected to be 30 million bales.

Overall, the supply of cotton will be 43.75 million bales this year (2013-14), which is one million higher than the supply last year (2012-13).

Cotton Leads in Responsible Production

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, October 18, 2013)– United States and Australian cotton industry have joined hands to increase the awareness among manufacturers, retailers, brands and consumers on how the industry leads in responsible production and having a balance of social, environmental and economic sustainability.

Towards this end, a major initiative was launched this week by the cotton industry of the United States and Australia, **Cotton LEADS™** that is centered around five core principles that include: commitment to social, environmental and economic sustainability; a recognition that such an effort requires continual improvement, investment in research and development; a belief in cooperative effort to make cotton competitive in global markets; and the confidence in tracking and traceability of cotton from where it is produced.

In a conference call today, Mark Messura, Senior Vice President, Global Supply Chain Marketing of Cotton Incorporated said, “United States and Australia have worked for decades on this theme and has launched this concerted effort to encourage companies to be a member in Cotton LEADS™ initiative”. Participation in this effort by brands, retailers and manufacturers would mean that they believe and support the five core principles of Cotton LEADS™ initiative for responsible cotton production and would also use cotton as a preferred fiber in their supply chain.

Although this program currently has United States and Australia, Messura hopes that some other countries will also join the effort. Messura clearly stated that the competition to the US cotton industry is not from cotton of other countries but is mainly from synthetic fibers.

The need to have more focused awareness has come because retailers, brands and manufacturers are these days interested in knowing from where their products come and in the case of cotton, how and where they are produced.

Many industrial organizations in the United States and Australia support this initiative such as Cotton Incorporated, National Cotton Council, Cotton Council International, Cotton Australia, Australian Cotton Shippers Association and Cotton Research and Development Corporation, Australia.

Indian Company to Build Cotton Spinning Plant in the United States

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, October 16, 2013)– India based textile manufacturer will build its first U.S. facility to produce carded cotton yarns in the State of Georgia in the United States.

Shrivallabh Pittie Group will build its textile plant in Screven county Industrial Park in the State of Georgia, USA by investing 70 million US dollars.

Governor Nathan Deal of Georgia announced yesterday that the spinning facility will create 250 jobs. The spinning plant will manufacture different counts of carded yarn, with state-of-the-art machinery.

Market opportunity, skilled workforce, accessibility to quality cotton fiber, reliable power supply and world-class infrastructural capabilities have enticed Shrivallabh Pittie Group to invest in its first facility in Georgia said Vinod Pittie, Chairman of Shrivallabh Pittie Group.

Shrivallabh Pittie Group has interest in textiles, finance, retail and real estate and its textile operations are in 13 locations in India, according to a news statement from the Office of the Governor of the State of Georgia, USA.

India Needs Additional Raw Material Sources to Boost its Technical Textiles Sector

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, October 11, 2013)– India has huge potential in technical textiles sector but needs time to mature.

In his address at the recent Tectextil Symposium in Mumbai on October 4, Giuseppe Gherzi, a post-graduate from the North Carolina State University, stated that India is limited in supply of raw materials for boosting the domestic technical textiles industry. While India's PET capacity is good, other technical fibers such as aramids, PPS and flame retardant viscose are basically non-existent.

In speaking to this scribe on the sidelines of the Tectextil symposium, Gherzi stated that raw materials supply will be a barrier for the immediate growth of technical textiles sector in India, while admitting India's huge potential in this sector.

Technical textiles represent 27 % of worldwide textile production. While in Germany, technical textiles contribute about 50% of the total textile production.

According to Gherzi, as of 2012, the volume for global traditional textiles was 59 million tons and the technical textiles volume was 22 million tons. Among the different sectors of technical textiles, composite and nonwovens are expected to grow at 6% per annum, while wovens, braided knitted, yarn type textiles, nets, ropes and carpets are expected to grow at 4% per annum.

In the Indian technical textiles sector, jute acquires the predominant place followed by synthetic fibers such as polyolefines and polyester. While in the worldwide sector, polyolefines and polyester each occupy 25% share followed by glass and jute fibers.

India's technical textiles sector is dominated by packtech followed by clothtech, while in the worldwide market, mobiltech and indutech are the prominent segments.

Nonwoven Capacity Addition in India

by Seshadri Ramkumar, Texas Tech University, USA

(Mumbai, India, October 3, 2013)—Capacity addition is currently taking place in the nonwovens sector in India.

High end nonwoven capacity increases are expected by the first quarter of next year. Two such projects will add nearly 26,500 metric tons of roll goods to the existing nonwoven capacity in India.

Speaking to this scribe on the first day of the TechTextil India exposition in Mumbai in India, executives from Global Nonwovens, Ltd., and Welspun India Ltd., briefed about their new and expansion plans.

Global Nonwovens will bring online its first five bean Reifenhauser spunmelt line by April-May 2014, which will have a capacity of 20,000 MT per year. The company is targeting export markets and hopes with high quality product and cost savings expected due to production in India, they can be attractive in the global market.

Welspun India will add another card to their existing spunlace line to double its production capacity to reach 13,500 MT per year by January-February of 2014.

Hygiene and medical markets are expected to pick-up quite rapidly in India, which is reflected in these nonwoven capacity additions.

Britain to help Garment Sector Safety in Bangladesh

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 15, 2013)— British experts will help to improve safety and building standards in Bangladesh garment sector.

According to Justine Greening, UK's Secretary of State for International Development, British experts will go to Bangladesh and help with the urgent need to improve the safety in garment sector in Bangladesh.

The teams consisting of three UK experts are being sent at the request of Bangladeshi building regulations agency.

The team will examine building standards legislation, scrutinize the current inspection schemes for existing and new garment factories.

The UK team will also investigate how best collaborations can be achieved with private sector and international labor organization to enforce safety standards in Bangladesh.

In July of this year, UK government brought together representatives from Tesco, Marks & Spencer, Arcadia and industries bodies such as Ethical Trading initiative to discuss how UK government can partner with these groups to improve the safety and ethical responsibility of supply chains.

These initiatives are planned due to the tragic incident in Dhaka, Bangladesh this April, where over 1,100 garment factory workers lost their lives.

Indian Cotton Crop gets an Upward Revision

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 12, 2013)—The Cotton Association of India (CAI) revised the 2013-14 season's cotton production upward and is now projected to be 37.5 million bales (170 kg each).

The State of Gujarat is estimated to produce 11.15 million bales putting it at the number one spot. Maharashtra's production is estimated at 7.5 million bales and Andhra Pradesh comes third at 6.75 million bales.

Gujarat maintains its number one position as its production for the current season ending this month is estimated to be 8.32 million bales. The State of Gujarat will have 2.83 million bales increase in production for the next year beginning in October.

The current year's cotton production is estimated to be 35.67 million bales as against the increased estimate for the next year (Oct 13-Sept 14). The current estimates by CAI for next year's crop show an overall increase of 1.83 million bales.

The opening stock for the next season will be 4.25 million bales while the total supply is estimated to be 43.2 million bales. According to CAI estimates, next year's opening stock will be less than the opening stock for the current season ending this September. The total demand for the new season will be 30.1 million bales, which will lead to a surplus of 13.15 million bales.

Dhiren Sheth, President of CAI remarked, "It is heartening to note that crop conditions have improved since last month. A slightly higher crop is therefore estimated for the 2013-14 season compared to the last month. Crop conditions are expected to improve further in September especially if the weather remains conducive. This could improve the crop for the 2013-14 cotton season further".

In August, CAI estimated the cotton crop for the next season to be 37.2 million bales.

This revised estimate is the second estimate for the new crop from CAI and it is well understood that the crop production situation is dynamic and expected to change as the season progresses.

India to Draw Cotton Road Map for Doubling its Production

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 10, 2013)—Indian cotton industry is urged to come up with a possible proposal to develop improved seed varieties and farm practices to achieve high productivity and reduce diseases.

Dr. K. Sambasiva Rao, Union Minister for Textiles, Government of India in a recent stakeholders meeting of the cotton supply chain in New Delhi, has urged the Indian cotton industry to come up with a road map to double its cotton production.

The stakeholders that included Confederation of Indian Textile Industry and The Southern India Mills' Association have urged the need for a transparent cotton distribution policy. The industry requested the government to enhance the working capital availability for cotton procurement during the cotton arrival seasons in order to stabilize the prices.

In the meeting, cotton marketing groups such as The Cotton Textiles Export Promotion Council and Cotton Association of India highlighted the export potential of cotton and cotton based value-added products from India.

The need to improve ginning factories and market yards was also emphasized by the industry.

New Insights on Advances in Fibers, Finishes, Technical Textiles and Nonwovens

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 9, 2013)—Latest information on cutting-edge research in fibers, finishes, technical textiles and nonwovens will be featured in the forthcoming international conference in Mumbai.

United States based American Association of Textile, Chemists and Colorists (AATCC) today announced the final conference program of its international conference in Mumbai to be held on October 1-2, 2013. The conference is jointly organized by Bangalore-India based TecniTex Nonwovens Pvt Ltd.

During the two day packed event, overall 36 presentations will be made. The conference provides plenty of opportunities for the speakers and delegates to interact and network during many interactive/coffee breaks in addition to the two interactive lunch breaks.

The conference will begin on October 1st with a plenary talk on the latest trends in technical textiles, market information and technological developments.

In addition to the plenary talk, three keynote presentations from leaders in the field will be made which includes, multi-functional textiles for military, biax fiberfilm meltblown technology and functional mosquito repellent finishes.

28 oral presentations will be delivered in sessions that will deal with new developments in natural fibers, composites, functional finishes, sustainable textiles, dyeing and finishing, sports textiles, technical textiles and quality control.

The conference will take place at The Orchid, Nehru Road, Vile Parle East in Mumbai. The full conference schedule is available at:

http://www.aatcc.org/events/India_2013_Conference/India_Conference_2013.htm

The conference will provide latest and timely information on value-added textiles spanning the entire fiber to technical textiles supply chain. The organizers hope that the two day event will enable transfer of research ideas and spearhead the growth of value-added textiles sector.

Technical Textiles Sector in India to Reach 26 Billion US Dollars

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 1, 2013)—Indian technical textiles sector is expected to grow at an annual rate of 20% to reach US \$ 26.33 billion by 2016-17.

Speaking yesterday in Mumbai-India at the “Curtain Raiser Ceremony,” for the 2014 TECHNOTEX technical textiles Expo to be held in March next year in Mumbai, Mrs. Panabaka Lakshmi, Union Minister of State for Textiles, India stated that even though this sector is in its nascent stage, it offers enormous growth potential. She expressed the importance for this sector placed by the high level manufacturing committee headed by the Prime Minister of India.

According to a press release from Government of India, technical textiles sector has grown from a size of US \$ 7 billion in 2007-08 to the current size of US \$ 15.2 billion registering an annual growth of 11 percent.

According to media reports, Indian government has planned an increase in the fund outlay for technical textiles sector to over US \$ 117 million for the 12th five year plan period (2012-17).

Indian technical sector encompasses all performance based textiles involving fibers, yarns, wovens, nonwovens, etc., that cater to non-commodity textile applications. It is expected that the employment in this sector will grow at an annual rate of 13% to reach 2.6 million by 2016-17.

Indian Textile Subsidy Scheme gets Approval

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, August 29, 2013)– Technology Upgradation Fund Scheme (TUFS) received approval for its continuation today.

The Cabinet Committee on Economic Affairs of India today approved the continuation of TUFS for the 12th Plan Period, which ends in March 2017. The total budget outlay for TUFS during the 12th five year plan period by Government of India will be about US \$ 2 billion dollars.

For this fiscal year, April 2013–March 2014, Government of India has allocated US \$ 400 million, which provides subsidy for textile industry. During this period the major focus is on weaving.

In order to promote domestic manufacturing of textile machinery, interest reimbursement on imported second hand shuttleless looms has been reduced from 5 percent to 2 percent.

The one-time capital subsidy for new shuttleless looms has been raised from 10 percent to 15 percent. It is hoped that continuation of this TUFS will help with an additional employment development of 15.81 million workers.

The TUFS was launched by Government of India in 1999 and has attracted about half a billion US dollars of investments so far.

Bt Cotton Success in India

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, August 22, 2013)– Bt cotton is the only genetically modified crop that is available for commercial cultivation in India.

According to Mr. Tariq Anwar, Indian Minister of State for Agriculture and Food Processing Industries, 90 % of cotton cultivation acres in the last decade were under Bt cotton. Recently, the minister emphasized that due to Bt cotton, India's cotton production has benefited. And, there is no scientific evidence to show that Bt cotton cultivation has adversely impacted the ecology and human/cattle health.

According to the information given by Mr. Anwar to the Lower Assembly of the Parliament (Lok Sabha) recently, the cotton yield has increased by 30% due to the introduction of Bt cotton.

It is the opinion of this scribe that Bt cotton and hybrid seed technologies have played important roles in enhancing the yield and production of cotton in India.

Government of India estimates that cotton sowings during this Kharif season (summer sowing season starting in July) is about 11.093 million hectares.

Today (August 22nd), the Genetic Engineering Appraisal Committee of India has approved experimental field trials for the purpose of generating biosafety data for genetically modified crops such as cotton.

Cotton Inventory to Prevent Fiber Price Increases

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, August 21, 2013)– High cotton inventories will prevent further increase of cotton and other fibers' price increases.

Today, Austria based manmade cellulose fiber giant, Lenzing Group presented its first half-year results for 2013. The impact of reducing sales price was clearly evident in the declining consolidated sales of Lenzing Group compared with the first half of last year. In its half yearly report, Lenzing Group has reported a 6.8% decline in its consolidated sales compared to first half year of last year. Although fiber shipments in terms of volume were higher, it could not be compensated for the low average selling prices during the first half of 2013.

Lenzing reports that high inventory of cotton and surplus production capacity for viscose fibers in China are responsible for the global decline in the price of fibers. Based on Lenzing's report, the UK based AgriMoney.com has stated that this fiber outlook by Lenzing is adding pressure to the falling cotton futures.

With regard to the global fiber outlook, according to Lenzing, the volume demand for the second half of 2013 will be stable and similar to that of first half. The excess production capacity in the manmade cellulose fiber sector may delay further expansion of projects. This may also necessitate price adjustments for viscose fibers in the coming months.

“Expansion projects for viscose fibers will be implemented if high profitability will be achieved”, said Lenzing's Chief Executive Officer Peter Untersperger. However, he added that large scale investments such as new TENCEL[®] production plant at the Lenzing site will continue as planned.

Lenzing's Fiber Segment's sale for this half was 893 million Euro as against 955.9 million Euro during the first half of last year, which is a decline of 6.5 percent. The average sales price of Lenzing fiber for the 2013 first half was about 1.76 Euro per Kg.

Next Season Indian Cotton Crop to be 37.2 Million Bales

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, August 20, 2013)– The first estimate of cotton for the next season in India (October 2013-September 2014) has surfaced today. The Cotton Association of India (CAI) has projected the first estimate for the new season's cotton to be 37.2 million bales (170 Kg each).

According to Dhiren Sheth, President of CAI, the acreage for cotton for the new season is not expected to change from the current season. But timely rains that are expected will result in higher yields. Good monsoon rains are expected to help with the cotton condition for the new season. According to Dhiren Sheth, Gujarat in western India has seen an increase of more than 10% in acreage, which shows that once again Gujarat will be the number one cotton producing state in India.

Although the overall production estimate for the new season has been released, according to a reliable source, statewide production estimate for the new season has not been prepared yet.

For the current season ending this September, the total cotton supply in India is projected to be 42.39 million bales. The production for the current season is estimated to be 35.57 million bales (170 Kg each).

According to the first estimates released today, the next year's cotton crop will be higher than the present season by approximately 1.63 million bales. It is well understood that this number may change as the new season progresses.

India Assures Cotton to Bangladesh

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, August 19, 2013)—Final draft of the cotton purchase agreement has been exchanged today between India and Bangladesh, whose full details are yet to be released. However, according to prominent media reports, India has assured 2 million cotton bales (170 kg each) to Bangladesh for the 2013-14 cotton season.

In an official press note by Government of India, Union Minister of Textiles for India, Dr. K.S. Rao has stated, “In 2013-14 cotton season, I have assured his Excellency (Mr. Abdul Latif Siddique, Minister of Textiles, Bangladesh) that Bangladesh Textiles Mills would not have any difficulties in sourcing cotton from India.”

A Memorandum of Understanding (MoU) was signed today by the textile secretaries of India and Bangladesh in the presence of textile ministers of India and Bangladesh.

Important features of the MoU include: 1) textile sector collaboration; 2) cotton purchase agreement for Bangladesh textile mills and 3) establishing a successor organization for the International Jute Study Group in Dhaka.

India and Bangladesh account for USD 50 billion dollars of textile and apparel exports and this MoU strengthens the bilateral textile relations between two countries.

India and Bangladesh produce above 90 percent of the world’s production of jute and allied fibers, which justifies the continued presence of the International Jute Study Group in Dhaka.

Textile Subsidy Scheme to Continue

By: Seshadri Ramkumar, Texas Tech University, USA

(Bangalore, India, July 5, 2013)—Technology Upgradation Fund Scheme, popularly known as TUFS will be continued and order will be issued soon, said the new Indian Union Minister for Textiles, Dr. K. Sambasiva Rao.

In an interactive session in Bangalore in the State of Karnataka, Dr. Rao emphasized that the targets set forth in the 12th five year plan will be met by the Indian textile ministry.

Several initiatives such as undertaking new fiber and textile policy, creation of 10 million new employment opportunities, time-bound action plan for modernization of the Indian textile chain to meet domestic and export demands were outlined by the Union minister for textiles.

Dr. Rao urged the entrepreneurs to diversify into the manufacture of technical textiles which has huge potential for growth. The textiles minister requested the industry to build brand equity for the Indian Textiles in the world market. Cotton availability, price situation, lack of skilled manpower and training requirements occupied important part of the interactive discussion with stakeholders.

Indian Technical Textiles Consumption is One Fifth in Asia

By: Seshadri Ramkumar, Texas Tech University, USA

(Bangalore, India, July 2, 2013)--Technical textiles consumption in India is one-fifth of total Asian consumption. However, Asia's consumption is nearly twice that of Europe and North America.

According to Ms. Zohra Chatterji, Textiles Secretary, Government of India, technical textiles sector employs about 800,000 people in India and 55% of employment needs technically skilled manpower. With government schemes, proper standardization and regulations, this sector is expected to have an annual growth rate of 20 percent. Indian nonwoven textile production is just 3% of Asian production.

To boost the growth of the nascent technical textiles sector, Government of India is having programs such as Technology Mission on Technical Textiles, Technology Upgradation Fund Scheme, Scheme for Integrated Textile Parks and Integrated Skills Development Scheme.

Indian Cotton Crop Estimated to be 35.2 Million Bales

By: Seshadri Ramkumar, Texas Tech University, USA

(Bangalore, India, June 25, 2013)—Recent estimates by Cotton Association of India (CAI) put India's cotton crop for the recent season ending this September to be 35.2 million bales (170 Kgs each).

“Looking at the demand for cotton seed, it is likely that cotton is going to see once again good acreage level,” said Dhiren Sheth, president of Mumbai based CAI.

Gujarat state will be the number 1 cotton producing state with an estimated production of 8.5 million bales. Second place in production will be the southern state of Andhra Pradesh, whose crop is estimated to be 7.4 million bales. Maharashtra will come third this year with a projected crop of 7.1 million bales. This is a change from last season, where Maharashtra came second.

Total cotton supply during this season is estimated to be 42.5 million bales. Total demand is pegged at 27.8 million bales. The available surplus this season is estimated to be 14.7 million bales.

One Indian bale is equal to 170 Kgs.

AATCC INDIA CONFERENCE OFFERS INTERNATIONAL PLATFORM

AATCC in collaboration with Bangalore-India based TecniTex Nonwovens Pvt Ltd., is organizing a major international conference in Mumbai October 1-2, 2013. This conference is unique in that it not only provides a platform for cutting- edge technical papers, but also provides excellent marketing and networking opportunities.

Dr. Peter J. Hauser, AATCC President, and Dr. Seshadri Ramkumar, Chairman of AATCC's Materials Interest Group, are serving as co-chairmen of this conference. Mr. Mallyah Marimuthu, Executive Director of TecniTex Nonwovens Pvt Ltd., will serve as the conference coordinator.

"There are many conferences that provide an excellent platform for cutting-edge and high level technical presentations. This event will be different in that in addition to technical knowhow, the global textile industry will benefit from marketing exchanges and interactions," said Dr. Ramkumar.

The conference will cover topics ranging from fiber to fashion, functional finishes to future materials and nonwovens to technical textiles.

"We have had an excellent response so far with regard to technical papers from many well reputed academic institutions as well as the textile industry," states Mr. Marimuthu.

The conference is designed to provide excellent opportunities for international participants to discuss and interact during session breaks and after conference hours. Highlighting the conference will be keynote presentations by eminent industry and academic leaders in each conference session.

The conference organizers are working to attract a large number of industry participants to showcase their products via tabletop displays, product promotional advertisements and short product demos. Sponsoring opportunities are available to advertise in the conference souvenir, showcase products by means of table top displays and banner advertisements in the conference venue.

The conference city, Mumbai, is the financial capital of India and is well connected internationally with excellent hotel and sightseeing opportunities.

Contact Details:

For registration and sponsorship opportunities, please contact Dr. Seshadri Ramkumar via mobile at 91-9940060210 (India) and e-mail: s.ramkumar@ttu.edu and Mr. Mallyah Marimuthu via his mobile at 91 9449835605 and e-mail: info@tecnitex.in

AATCC INDIA CONFERENCE IN MUMBAI OFFERS INTERNATIONAL PLATFORM

By: Seshadri Ramkumar, Texas Tech University, USA

AATCC-USA in collaboration with Bangalore-India based Tecnitex Nonwovens Pvt Ltd., is organizing a major international conference in Mumbai from 1-2 October, 2013. This conference is unique in a way that it not only provides a platform for cutting- edge technical papers; it also provides excellent marketing and networking opportunities.

“There are many conferences that provide excellent space for cutting-edge and high level technical presentations. We are trying something different in this event so that in addition to technical knowhow, global textile industry can benefit from marketing exchanges and interactions,” said Dr Seshadri Ramkumar, co- chairman of the conference.

The conference will cover topics ranging from fibre to fashion, functional finishes to future materials and nonwovens to technical textiles.

“We have had excellent response so far with regard to technical papers from many well reputed industry and academic institutions said Mr. Mallyah Marimuthu, coordinator of the conference and Managing Director of TecniTex Nonwovens Pvt Ltd., India.

The conference is designed in such a way to provide good opportunities to international participants to discuss and interact during break sessions and after - conference hours. The highlight of the conference is keynote talks which will be provided by eminent industry and academic leaders in each session of the conference.

The conference organizers are very keen to attract large number of industry participants to exchange their product details via tabletop displays, product promotional advertisements and short product demos. Sponsoring opportunities are also available to advertise in the conference souvenir, showcasing products by means of table top displays and banner advertisements in the conference venue.

Conference city, Mumbai is the financial capital of India and is well connected internationally with excellent hotel and sightseeing opportunities.

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Subsidy Scheme Needed for the Indian Textile Industry

By: Seshadri Ramkumar, Texas Tech University, USA

(Bangalore, May 30, 2013)--- Technology Upgradation Fund Scheme popularly known as TUFS is needed and has to be implemented in India during this 12th five year plan period, according to The Southern India Mill Owners' Association (SIMA).

Today, Coimbatore based SIMA insisted the need for continuation of the scheme in order for India to double its export and expand its textile business size. SIMA has pointed out that India's global textile share is 5%, which is far less than that of China, which is 34% globally.

Mr. Dinakaran, Chairman of SIMA has highlighted the emerging opportunities for the Indian textile industry due to recent unstable situations in Bangladesh and growing demand for cotton yarn and fabrics in China.

SIMA has pleaded the Union Cabinet Minister for Textiles to quickly announce the continued implementation of the scheme in the 12th five year plan period (2012-17). This will enable the industry to plan additional investments.

West Texas cotton. Now, farmers have a new use for low-end cotton in a very significant way for oil spill cleanup. It's a major discovery from scientific and economic standpoints."

Scientists have done extensive studies on fibers such as barley straw, kapok, polypropylene wool, Ramkumar said. However, big gaps existed in knowledge about their basic crude oil-uptake mechanisms and no data existed on unprocessed raw cotton. His team decided to fill those gaps with research on the oil sorption properties of low-micronaire cotton.

The cotton fibers take up oil in multiple ways, including both absorption and adsorption in which oil sticks to the outer surface of the cotton fiber.

"Our interest was to see how raw cotton straight from the bale picks up the crude oil as well as determining the governing mechanism behind picking up the crude oil," he said. "We show through sophisticated testing that low-micronaire cotton is much finer and can pick up more crude oil. And crude oil is very different from refined motor oil. It's very dense and releases toxic vapors. It's not as easy to get picked up. In contrast to synthetic sorbents, raw cotton with its high crude oil sorption capacity and positive environmental footprint make it an ecologically friendly sorbent for oil spill cleanups."

Laboratory work using crude oil was performed by graduate student Vinitkumar Singh. Both Cotton Incorporated and The CH Foundation contributed funds to this research. For a PDF of this research, contact John Davis.

Find Texas Tech news, experts and story ideas at www.media.ttu.edu and on Twitter @TexasTechMedia.

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TexSnips5/15/2013: Researchers at Texas Tech, Cotton Inc. Find Low-Grade Cotton Offers More Ecologically-Friendly Way to Clean Oil Spills

FOR IMMEDIATE RELEASE

DATE: May 15, 2013

CONTACT: John Davis, john.w.davis@ttu.edu

(806) 742-2136

Researchers at Texas Tech, Cotton Inc. Find Low-Grade Cotton Offers More Ecologically-Friendly Way to Clean Oil Spills

When it comes to cleaning up the next massive crude oil spill, one of the best and most eco-friendly solutions for the job may be low-grade cotton from West Texas.

Seshadri Ramkumar, lead author of the study and manager of the Nonwovens and Advanced Materials Laboratory at The Institute of Environmental and Human Health (TIEHH), said he and his colleagues found that low-micronaire cotton – one of the lowest-quality types of cotton – is most effective at picking up oil. A pound of the low-micronaire cotton can pick up more than 30 pounds of crude oil, and its natural waxiness helps to repel water.

The new study includes some of the first scientific data on unprocessed raw cotton's use in crude oil spills, and was published in the ACS journal *Industrial & Engineering Chemistry Research*.

"In this region, about 10 percent of the cotton grown in West Texas is low micronaire," he said. "It doesn't take a dye well, so it gets discounted. However, because low-micronaire cotton is less mature, it shrinks, and you are able to pack more fiber into a given area. The strength here is that the low-micronaire cotton absorbs the most crude oil. The oil is not only stuck to surface, the oil gets absorbed into the fiber."

Ron Kendall, director emeritus at TIEHH and special assistant to the president, said the Deepwater Horizon disaster emphasized the need for better ways of cleaning up oil spills.

"One of the things we realized from Deepwater Horizon is we didn't have the best tools for cleanup, and the technology wasn't right for the booms," Kendall said. "This discovery that low-micronaire cotton, which is the least valuable cotton, can absorb as much crude oil as it does is a breakthrough discovery. It gives us an excellent tool for cleanup of shorelines, animals and ecologically sensitive areas as well as a new technology for booms that can stop oil sheen moving into wetlands. And it's biodegradable. This is just another added bonus use for low-end

TexSnips5/6/2013: (ENERCON): ATMOSPHERIC PLASMA INCREASES BREATHABILITY OF SPUNBOND NONWOVEN FABRICS

For Immediate Release
Enercon Industries Corporation
Contact: Mark Plantier, VP Marketing
262-250-6070, mplantier@enerconmail.com

ATMOSPHERIC PLASMA INCREASES BREATHABILITY OF SPUNBOND NONWOVEN FABRICS

Menomonee Falls, WI – The Journal of Industrial Textiles has published the results of a study conducted by Texas Tech University and Enercon Industries that determined when spunbond polypropylene nonwoven fabrics are pre-treated with atmospheric plasma it increases the breathability of the fabric.

Atmospheric plasma treatment increases the number of pores and enlarges the pore size of the fabric improving the diffusion of vapor between the filaments in the spunbond structure without compromising the barrier properties. These properties are significant within medical industry when developing disposable medical clothing, such as surgical masks, gowns and drapes.

One of the most demanded properties of barrier fabrics for medical applications is the developments of a low cost non-woven material that is breathable, sterilizable, flexible, and resistant to blood and viral penetration.

Enercon's Plasma3™ is an in-line, dry and continuous surface treatment process for web application. Its treatment techniques provide a fast, efficient and eco-friendly breathability effect on nonwoven/textile surfaces.

Dr. Seshadri Ramkumar's group in the Nonwovens & Advanced Materials Laboratory and colleagues in the Departments of Chemistry and Biochemistry and Mechanical Engineering, Texas Tech University collaborated with Enercon to explore environmental friendly ways to enhance the breathability of nonwoven synthetic fabrics.

To view the full article, visit the Journal of Industrial Textiles (Volume 42 No 4), <http://jit.sagepub.com/content/42/4/501>. Those interested in scheduling an atmospheric plasma lab trial may contact Rory Wolf directly at 1-262 255-6070.

Enercon Industries Corporation, headquartered in Menomonee Falls, WI, is a major manufacturer of equipment for the plastics, converting and packaging industries. The company supplies custom built corona and atmospheric plasma treating systems, as well as induction cap sealing systems.

Indian Cotton Export at Standstill

By: Seshadri Ramkumar, Texas Tech University, USA

(Greenville, SC, April 11, 2013)—Cotton exports from India are at a standstill and the estimated production for this season (Oct 2012-Sep 2013) is 35.1 million bales of 170 Kg each.

Mumbai based Cotton Association of India (CAI) has recently estimated Indian's production for this season. The total cotton supply during this season will be 41.9 million bales (170 Kg each). The domestic consumption will be 27.5 million bales. The surplus for this season will be 14.4 million bales.

Gujarat will be the leading cotton producing state with an estimated production of 8.5 million bales. Andhra Pradesh in South India will be the number 2 with its production estimated at 7.4 million bales. The third largest producer will be Maharashtra with an estimated production of 7.15 million bales.

Exports from India are virtually at a standstill, said Dhiren Sheth, President of CAI.

The total domestic demand during this current season will be 27.5 million bales, which is far less than last year's consumption which was about 38.2 million bales.

The opening stock during this season is expected to be 5.3 million bales.

One Indian bale has 170 kilograms of cotton.

Ecofriendly Filters are on the Horizon

By: Seshadri Ramkumar, Texas Tech University, USA

(Greenville, SC, USA, April 10, 2013)—Recyclability and solid waste issues will pave way for air filters from compostable and ecofriendly materials.

Speaking at the AATCC's international conference here in Greenville, Dr. Gajanan Bhat, Director of the Nonwovens Research Laboratory at the University of Tennessee-Knoxville highlighted the need for sub-micron size filters made from earth friendly materials.

Bhat presented results from his recent study involving Natureworks' polylactic acid (PLA) meltblown webs. These webs have half micron sized fibers; developed using new meltblown dies capable of producing nano and submicron size webs. Collaborative testing with Texas Tech University showed that these PLA webs have about 90% or higher filtration efficiency.

In answering a query on the cost of PLA from Dr. Fred Cook, Past President of AATCC and Professor at Georgia Institute of Technology, Bhat said, value has to be looked into as PLA being compostable are environmentally attractive and price is getting competitive as well. The debate also focused on the use of corn as a fiber source against its use as food.

Submicron dies can be easily adapted in the existing meltblown lines and hence the industry can switch to the production of nano meltblowns that will have enhanced filtration efficiency, said Gajanan Bhat.

“This international conference will provide new marketing opportunities for international players and hopefully will lead to joint ventures and investment opportunities for multi-national companies in India, as India is an emerging economy with sound governance” states Seshadri Ramkumar, co-chair of the conference.

Abstracts for oral and poster presentations are invited from industry, academia and research institutes around the globe. Abstracts should be limited to 250 words and submitted no later than May 15 to Peggy Pickett at pickettp@aatcc.org or faxed to +1 919-549-8933.

The conference will provide ample sponsorship opportunities for the industry to showcase its products and enhance its global image by way of tabletop exhibits, advertisements, etc. For more information on the conference, please contact: Ms. Peggy J. Pickett, AATCC, One Davis Dr., P.O. Box 12215, Research Triangle Park, N.C., USA 27709-2215, +1 919-549-3533.

**Texsnips:International Conference on Advances in Fibers, Finishes, Technical Textiles and
Nonwovens
October 1-2, 2013
Mumbai, India**

AATCC, USA will partner with Bangalore-India based TecniTex Nonwovens Pvt Ltd., in conducting a major international conference on “*Advances in Fibers, Finishes, Technical Textiles and Nonwovens (AFFTTN)*,” to be held October 1-2, 2013 in Mumbai, India. This international conference will focus on emerging themes such as:

- Technical Textiles
- Nonwovens & Composites
- Functional Finishes
- Sustainability across the Textile Supply Chain
- Advancements in Fiber to Fashion
- Testing and Quality Control

The conference will provide an interactive platform for industry, trade associations, academia, policy makers and research institutes across the globe to deliberate on cutting-edge research and share market information. In addition to the oral presentations tabletop exhibits and poster presentations will be showcased during the conference.

Dr. Peter J. Hauser, AATCC President, and Dr. Seshadri Ramkumar, Chairman of AATCC’s Materials Interest Group, are serving as co-chairmen of this conference. Mr. Mallyah Marimuthu, Executive Director of TecniTex Nonwovens Pvt Ltd., will serve as the conference coordinator.

Mumbai is the financial capital of India and a major industrial and trade center. India’s textile industry is a major player in global textile exports. The government of India is providing a major thrust to boost the value-added and technical textiles sector by implementing a National Mission on Technical Textiles. AATCC will hold this international conference in India due to its growing importance and strategic strength in the textile sector.

“AATCC is pleased to join with TecniTex Nonwovens in presenting this international conference. The textile supply chain is truly global in scope and the conference offers an exciting opportunity for textile professionals to network with suppliers and customers from around the world” comments Peter Hauser, AATCC President and conference co-chair.

High Performance Fiber Composite Industry has an Optimistic Future

By: Seshadri Ramkumar, Texas Tech University, USA

(March 22, 2013, Lubbock, TX, USA)—Aviation, aerospace, energy and automobile sectors are the key markets, where high performance fiber composites will find ample opportunities.

Jim Kaufmann, Senior Engineer with Woonsocket, Rhode Island based TEAM, Inc. speaking to a standing room only crowd in the recent Techtexil North America 2013 Conference presented an optimistic view for fiber based high performance composite industry.

He outlined some of the challenges that are faced by the high performance fiber composite industry such as: 1) high manufacturing costs compared to competing materials; 2) high energy costs for heating and curing; 3) high raw material costs and 4) environmental concern.

According to Mr. Kaufmann, fiber based high performance composite industry is competing against “plain old steel”. In his view, lack of good composite materials database has deterred market penetration of the high performance fiber composites to a greater extent.

The high performance composite industry is driven by quantifiable specifications and defined criteria. And, therefore generally good database is important.

Number one market lies in the aviation and aerospace industry and the usage of composites in the automotive sector is growing. Although sports industry is maturing, niche opportunities exist in sports, said Kaufmann.

According to The Freedonia Group, the high performance composites market in the United States is expected to grow by 15 % per year.

Future of Filtration Industry is Bright

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 22, 2013)– Population growth, urbanization, increase in prosperity, scarcity of natural resources, health awareness and sustainability are the key drivers which will dominate the filtration industry of the future.

Dr. John Fitzgerald, Chief Technology Officer of Hollingsworth and Vose in his keynote lecture at the recent Techtexil North American Symposium in Anaheim, California laid out the governing factors that will drive the growth of the filtration industry. “Ideally speaking, we desire 100% filtration efficiency and no pressure drop”, he said.

Filtration media of the future should be more efficient, more durable and should have higher capacity. China and developing nations are the fastest growing markets for the filtration industry while developed nations will have a steady growth pattern, said Fitzgerald. Next generation filtration media should be also multifunctional in that they not only trap particles but also adsorb gases. According to Fitzgerald, Europe leads in setting new standards while United States lags behind Europe in setting and implementing new standards in the filtration sector. Additionally, he added China and other developing nations tend to adopt European standards much quickly.

Urbanization in the developing nations demands new filters to counteract pollution and health problems. Citing China’s story of urbanization, Fitzgerald stated 70% of world’s population will live in the cities by 2050, which will demand developing multifunctional and efficient filters. Apart from particulate filtration, water and gas filtration should also be seriously looked into by the filter media and filter makers, said John Fitzgerald.

Indian Textile Mills Panic with Steep Rise in Cotton Price

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 15, 2013)– Cotton price in India has suddenly and abruptly increased, creating a panicky situation in the spinning sector.

Recently, there have been retaliations by both cotton traders and the spinning industry with regard to the cotton price and supply situation in India. Today, The Southern India Mills Association (SIMA) has strongly demanded for the release of cotton stocks from the Cotton Corporation of India's (CCI) inventory. In a statement released today, Mr. S. Dinakaran, Chairman of SIMA has stated that the inventory held by government owned cotton procuring agencies such as CCI and some major traders is the reason for the sharp increase in the cotton price situation.

Earlier, SIMA has urged the Government of India to intervene and help with the release of stock from the CCI inventory. This plea was strongly criticized by the Cotton Association of India.

Today, the SIMA chairman has stated that with the lack of government action in the past 15 days, the cotton price has increased by Rupees 2500 per candy (or USD 46.35/candy) (1 candy = 355 Kgs).

SIMA has criticized the trading practice by cotton merchants in the last 5 seasons which is resulting in price speculation and artificial scarcity. Sankar-6 variety is now trading about 95 cents/pound which is higher than the international price. Yesterday, the New York Futures settled at 88.54 cents/pound for the December contract.

The volatility in the cotton market is closely watched by cotton producers and traders in the United States and elsewhere. In today's Plains Cotton Growers, Inc. (PCG) meeting in Lubbock, TX, Steve Verett, Executive Vice President of PCG stated "Price volatility isn't good for people growing or using cotton, and what we're experiencing right now is making both producers and users nervous. We saw the effects of two-dollar cotton on textile mills and we don't need to experience that again."

A cotton merchant told this scribe in today's PCG meeting, that this will be another year of price volatility, weather and market uncertainties.

New Technical Textiles Investment in the United Kingdom

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, March 11, 2013)– The University of Leeds in England has received a handsome gift of 1.75 million pounds (about USD 2.6 million) for research and education in health care textiles, according to a statement from the University of Leeds.

The Clothworkers' Foundation has granted this hefty sum in connection with medical textiles for new research equipment, post-graduate education and the appointment of a new endowed professor. The Clothworkers' Foundation has its roots in the Clothworkers' Company which has historically supported textiles research and education at Leeds University with the founding of Yorkshire College of Science in 1874 that led to the creation of Leeds University in 1904.

Leeds University, which is my *alma mater*, from where I received my PhD in 1998 has been carrying out research in nonwovens for several decades. However, a concentrated effort took place in the 1990s with the development of the Nonwovens Innovation Research Institute (NIRI). NIRI has a track record of several technology transfers such as SurfaceSkins™, an antibacterial protection technology.

While the Clothworkers' gift is a welcoming sign, leading scientists in the United Kingdom including 5 Nobel laureates have today expressed their concern about lack of equitable government funding for science in the United Kingdom compared with the other nations in the G8 group. In a letter signed today by 53 leading scientists for The Daily Telegraph, London, scientific leaders in the United Kingdom have urged the government to increase its R&D spending level from 0.6% of GDP to at least 0.8% of GDP, which is the G8 average for R&D spending.

Incentives for the Indian Textile Sector in the New Budget

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, TX, USA, February 28, 2013)—New and continuation of existing incentives feature in the new budget for the Indian textile industry.

India's Finance Minister presented the 2013-14 budget in the Indian Parliament today, which will take into effect on 1st April. Textile sector fared well in this budget and successful schemes are being continued into the 12th Five Year Plan Period ending on March 31, 2017.

This budget provides support for technology upgradation, tackling pollution and boosting competitiveness to the Indian textile sector. Key budgetary support schemes presented in the new Indian budget are: 1) continuation of the Technology Upgradation Fund (TUF) Scheme; 2) Scheme for Integrated Textile Parks (SITP); 3) reduction in the base custom duty for imported textile machinery and parts from 7.5% to 5.0% and 4) extending optional route for central excise duty for the fibers to finished goods value-chain.

The Southern India Mills Associations' (SIMA) Chairman Mr. Dinakaran has hailed the budgetary support for the Indian Textile Industry. In a statement, he stated that, with the continuation of successful support schemes such as TUF and SITP, he hopes India's global share in the textile market will substantially improve. Funds have been also allocated for the National Skill Development Corporation for technical skill upgradation.

Specifically, incentives for the apparel sector to tackle technology weak-links and pollution issues are favorable aspects in the budget. The textile industry is appreciative of the optional route in the central excise duty provided to branded garments and made-ups. Mr. Dinakaran of SIMA has stated that this support will provide a level playing field for the textile value-chain and will make domestic textile industry to be competitive against low wage countries such as Bangladesh.

India employees about 100 million people in various forms related to the textile industry. This number is about 1/3rd of the total population of the United States. Owing to the employment and revenue generation, India has a cabinet level ministry for the textile sector.

Indian Cotton Prices Rise Abruptly

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, February 25, 2013)—Indian cotton prices have increased sharply within the past ten days.

Today, Coimbatore based The Southern India Mills' Association (SIMA) has expressed concern on the domestic price increases in a representation to Indian Union Minister of Textiles, Mr. Anand Sharma.

Mr. Dinakaran, Chairman of SIMA has criticized cotton hoarding by leading traders and price speculation that has led to the sharp price increase in the domestic market. However, he has expressed satisfaction with regard to the stability of global prices and the revival of the Indian textile industry.

SIMA has urged the Union Minister to instruct Cotton Corporation of India (CCI) to release its stocks of long staple varieties like MCU-5 to domestic mills. CCI has recently procured 2 million bales (170 Kg each) of long staple varieties and SIMA urges this stock to be released to domestic mills. SIMA has further urged not to make this stock available to exporters and traders, to have stable domestic availability.

Shankar-6, the benchmark variety's price has increased by 7% since the beginning of February, according to SIMA.

China and Synthetics Influence Cotton Outlook for 2013

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, February 13, 2013)– Cotton is unlikely to reclaim market share unless its price trades below polyester said Gary Adams of Memphis-USA based National Cotton Council (NCC).

However, in the recent months, cotton prices have moderated, which is stabilizing cotton's market share. This will lead to a modest growth in the domestic consumption of cotton in the United States this year, according to Gary Adams. Overall, the global cotton mill use will increase this year by 2.5% from 2012.

According to NCC, China's current cotton policy puts stress on China's textile mills enabling their shift towards synthetics. The uncertainty on the release of cotton from national reserves in China adds to the complexity.

According to NCC, China will continue to build its cotton reserves reaching a level of 38.8 million bales (480 lbs each) on July 31st 2014.

In 2013, NCC estimates outside of China, mill use is expected to increase while production will decrease. Cotton mill use in Pakistan and India will see good growth this year.

The cotton outlook was presented by Gary Adams, Vice President, Economics & Policy Analysis of the National Cotton Council at the council's 75th annual meeting in Memphis recently.

India to Produce 35 Million Bales this Year

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, February 11, 2013)– The cotton crop for 2012-13 season (October-September) from India is placed at 35.375 million bales (170 kgs each).

In a recent estimate, Mumbai based The Cotton Association of India (CAI) has placed India's cotton crop for this season (October 2012-September 2013) to be 35.375 million bales (170 kgs each).

The total supply during this season will be 41.896 million bales (170 kgs each). The domestic consumption is estimated to be 27.1 million bales (170 kgs each).

According to Dhiren Sheth, President of CAI, "Cotton crop looks promising despite reduction in cotton acreage."

Interestingly, for the first time in recent few years, two states, Gujarat and Maharashtra are expected to be the leading states and the cotton production in these two states is estimated to be 8 million bales (170 kgs each). Andhra Pradesh will be the next leading state with an estimated production of 7.3 million bales (170 kgs each).

The opening stock for this season (2012-13) will be 5.32 million bales (170 kgs each). With imports of 1.2 million bales, the total supply will be 41.896 million bales (170 kgs each).

Compared to last year, the total production will come down by 1.95 million bales (170 kgs each).

India Not to Ban Cotton Exports

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, TX, November 26, 2012)—There is no ban on cotton exports from India for the season 2012-13.

According to an official press release, Anand Sharma, Cabinet Minister of Textiles, India, in a written reply today to Lok Sabha, the Lower House of the Indian Parliament stated that there is no ban of cotton exports for this season.

The letter also states that according to Cotton Advisory Board, India will have an exportable surplus of 7 million bales (170 Kgs each). According to the Minister, export registrations till November 5th this year have reached 450,000 bales (170 Kgs each).

According to Government projections, India is estimated to produce 33.4 million bales (170 Kgs each) this season (October 2012-September 2013).

Bangladesh Garment Factory Fire Kills 124 People

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, TX, November 25, 2012)—124 people have been killed in a deadly fire at a garment factory near Dhaka in Bangladesh, late Saturday night, November 24th.

According to All India Radio (AIR), fire engulfed the eight –story building of a garment factory, 30 KMs away from Dhaka, the capital of Bangladesh and has killed 124 people.

Although the exact toll is not clear yet, AIR reports the death toll to be 124, while AP reports it as 112.

Early reports indicate the problem was due to electrical short circuit in the factory. A similar accident in a garment factory near Dhaka in the December of 2010 killed about 25 people.

Garment is the leading export from Bangladesh and the country has over 4000 garment factories.

Bangladesh garment factories cater to Western brands and retail outlets such as Gap, H&M, Wal-Mart, JC Penney, Carrefour, Tesco, to name a few

Flame Retardants Found in Carpets Lead to Brain Developmental Problems in Children

By: Seshadri Ramkumar, Texas Tech University, USA

(November 22, 2012, Lubbock, TX, USA)— Polybrominated diphenyl ethers (PBDEs) persistent in foam furniture, carpets and other consumer products has been linked to neurodevelopmental problems in children, according to a new study from the School of Public Health, University of California, Berkeley.

According to Brenda Eskenazi of UC Berkeley, “even though penta PBDEs are not being used anymore, old couches with foam that is disintegrating will still release PBDEs. These chemicals will be in our homes for many years to come, so it’s important to take steps to reduce exposure.”

Prenatal and childhood exposure to flame retardant compounds are linked to poorer attention, fine motor coordination and IQ in school-aged children, according to University of California-Berkley’s, recent news release.

According to the United States’ Environmental Protection Agency, U.S. manufacturing of pentaBDE and octaBDE were stopped in 2004. However, according to UC Berkley’s new study, even though these forms of flame retardants were banned in several states of the United States, they are still present in the products made before 2004. This could be the reason for the presence of these chemicals in the environment.

Indian Cotton Crop for the New Season to be 35.4 Million Bales

By: Seshadri Ramkumar, Texas Tech University, USA

(November 12, 2012, Lubbock, TX, USA)— The Cotton Association of India (CAI) has estimated the cotton crop for the new season (Oct 2012- Sep 2013) to be 35.4 million bales (170 kg each).

According to the CAI estimates, there will be a decrease of 3 percent in cotton cultivation area this year over the past year. According to the new estimates, the State of Gujarat will tie its number 1 position with the State of Maharashtra. Gujarat will have a drastic decline in cotton production over the last year. The new estimates predict Gujarat to produce 8 million bales (170 kg each) this year against 11.4 million bales (170 kg each) of last year. Maharashtra's production will match with that of Gujarat and will see an increase in production this year.

CAI estimates the total supply for this year to be 41.7 million bales (170 kg each). The demand in the new season is estimated to be 26.6 million bales (170 kg each), which is far less than last year's demand.

India is estimated to have a good surplus of 15.1 million bales (170 kg each). This surplus is about 3 times the closing stock for this past year ending in September 2012.

According to Dhiren Sheth, President of CAI, the association has requested the government to expedite exports and remove the ceiling of ten thousand bales, which an Indian exporter can apply at each time during export registration.

More importantly, the CAI has requested the removal of cotton registration for exports altogether.

Global Composite Market Reaches US \$100 Billion

By: Seshadri Ramkumar, Texas Tech University, USA

(Boston, USA, November 8, 2012)---The global composites market at the end product level is valued at US \$100 billion.

According to Paris based JEC Composites, the global composite industry in volume terms is 8.7 million metric tons (MT). Americas (USA and Canada) is worth US \$35 billion, Europe's market size is US \$34 billion and Asia's size is US \$31 billion.

In 2010 JEC Composite estimated India's size to be 0.3 million MT (or 300,000 tons), China's size about 1.9 million MT and Japan's size to be 500,000 tons.

India's cumulative annual growth is estimated to be 24%, while China's cumulative growth will be about 20%.

The growth in developed economies will be slow while the overall global growth will be about 3 percentage.

Although the composite industry is dominated by carbon and glass fibers, interest is emerging in alternative fibers such as flax and hemp.

Cotton Textile Processing Goes Sustainable

By: Seshadri Ramkumar and Vinitkumar Singh, Texas Tech University, USA

(October 5, 2012, Lubbock, TX, USA)— DuPont Industrial Biosciences reported significant sustainable benefits to cotton textile processing by using bio-based enzymes.

According to a press release (October 3, 2012) from DuPont, the collaborative work with Pacific Textiles Limited, Hong Kong which has an annual production capacity of 87 million kgs, the use of DuPont™ PrimaGreen® enzymes has resulted in drastic reduction in water, energy use and processing time.

Ronald K.K. Chan, Assistant Supervisor at Pacific Textiles has been quoted in the DuPont's press release stating, "the main advantages of using the DuPont™ PrimaGreen® process are savings in processing time and water."

DuPont's earlier collaborative work with Cotton Incorporated found that the use of DuPont's enzyme has resulted in an average reduction of 70 percent water; 33 percent steam and 27 percent energy. According to this work, cotton knitted fabrics treated with bio-based enzymes have good whiteness value, less moles, no changes in the fabric strength and weight.

Results from the collaborative work with Pacific Textiles were presented by John Ranieri, Vice President, DuPont Industrial Biosciences at the recent Sustainable Textiles Conference in Hong Kong.

Cotton Research Celebrated

by: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 19, 2012)—Texas Tech University celebrated cotton research by highlighting unique cotton programs with a video release.

Lubbock in the High Plains of Texas is the epicenter of cotton production and research. High Plains, which produces about 25% of the total US cotton crop, is the largest contiguous cotton patch in the world.

TTU since its founding in the early 1900s has been at the forefront of cotton research. Collaborative research with the industry has significantly enhanced the quality and the yield of cotton produced in United States.

TTU celebrated its achievements in cotton research by declaring this past Saturday's football game as "*Celebrate Cotton: We Clothe America.*" Town & gown and the cotton industry all joined hands in highlighting the general public about the importance of cotton and significance of cotton research.

A video "Texas Tech on Forefront of Cotton Research" was shown to a large gathering, just before the kick-off of the game between TTU and University of New Mexico. The video provides a snapshot of a myriad of research and development activities that is taking place with respect to cotton at TTU.

Video highlights Bayer CropScience, Fibertect[®] innovative technology and denim runway competition.

Bayer CropScience develops, produces, and markets cotton varieties and hybrids throughout the world through FiberMax, Stoneville, and SurPass brands. Recently, Bayer CropScience has provided \$7.5 million to Texas Tech to carry out multidisciplinary cotton research projects.

Mike Gilbert, Vice President of Bayer CropScience said, "We feel this partnership is very important in our mission of providing the very best in cotton seed and trait products to our customers and stakeholders."

Indian Cotton Acreage Expected to Decline Next Season

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 18, 2012)— Indian cotton acreage in the next season (October 2012–September 2013) will be slightly lower than this year.

Speaking at the 53rd general meeting of The Southern India Mill's Association (SIMA), Mr. Dinakaran who was re-elected for the second time as the Chairman, presented Indian cotton scenario, price situation and spinning capacity details. According to Chairman Dinakaran the acreage for the current season ending this month is 30.09 million acres, which is 8% higher than last season. SIMA chairman reported that this situation will change next year with the lowering of cotton acreage. At the same time, cotton consumption in India is expected to marginally increase.

The spinning capacity for 2011-12 is on the increasing trend with the total capacity of 48.25 million spindles and 771,000 rotors. This is of 1.5 % and 5.3 % increase in the spindle and rotor capacities compared to 2010-11.

India's Cotton Advisory Board estimated this season's production to be 35.3 million bales (170 kgs each) and the mill consumption this year to be 23.9 million bales (170 kgs each).

In his statement, Chairman Dinakaran did not exactly estimate the percentage decline in the cotton acreage for the next season (2012-13).

Indian Textile Industry Hard Hit by Power Crisis

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, September 14, 2012)—Diesel price hike by Rupees 5 per liter by the Indian government has received strong reaction from the ailing Indian textile industry.

Mr. Dinakaran, Chairman of The Southern India Mills Association (SIMA) in a press release today has stated, “diesel price hike of rupees 5 per liter in one stroke has come as a rude shock to the ailing textile industry.”

Tamilnadu state, which has 47% of total yarn production, is facing 50% power shortage and the price hike will aggravate the situation. Dinakaran stated that India is at 20% disadvantage in textile business compared to Bangladesh and the power situation will be a big blow for the industry.

SIMA has appealed to the power centers in India such as the Prime Minister to roll back the price hike.

According to SIMA, Indian textile industry employs 91 million people and earned over US\$ 37 billion in 2011-12 and is the single largest foreign exchange earner.

Nonwoven Industry to be 20 Percent of Global Textile Industry by 2017

By: Seshadri Ramkumar, Texas Tech University, USA

(Bangalore, India, September 3, 2012)—Nonwoven sector will have 20% share in the global textile industry by 2017, according to Great American Group.

In a latest report, Great American Group, Advisory & Valuation Services, reported that the nonwoven industry will generate global and domestic (within U.S.) demand. Commenting on the U.S. demand, the report highlights that off-shoring production will be expensive and due to the specialty nature of the industry, this sector is expected to grow even in regions such as the United States where the textile industry is in a decline since the inception of NAFTA in 1994.

Coated and finished fabrics production has shifted from the United States to China and India where labor and production costs are cheaper than developed nations according to the report.

Michael Petruski, Executive VP & General Manager of Great American Group in an e-mail communication with this scribe confirmed that their research forecasts that nonwovens sector will reach 20% of global textile industry by 2017.

Cotton Crop in Better Situation than Last Year

By: Seshadri Ramkumar, Texas Tech University, USA

(August 10, 2012, Lubbock, TX, USA)— Today, the United States Department of Agriculture released its August estimate of world's cotton supply and demand. In general, estimates have been raised from the July level and the world's production is estimated to be 114.11 million bales (480 pounds each), which is up from the July estimate of 113.81 million bales (480 pounds each).

United States is estimated to produce 17.65 million bales (480 pounds each), which is up from 17 million bales (480 pounds each) in July.

High Plains of Texas, the home for world's concentrated cotton production will have 4.1 to 4.2 millions of acres cotton planted this year.

Speaking today at the Plains Cotton Growers, Inc. (PCG) meeting to both domestic cotton experts and international visitors from as far as Pakistan and Japan, Shawn Wade, Director of Policy Analysis and Research for PCG, said abandonment of cotton acres planted this year is currently below the normal range of 18-20%, but that recent weather and ongoing drought conditions are expected to eventually lead to additional acreage abandonment before harvest. He also noted that the percentage of 2012 dry land and irrigated crop acres in the High Plains is expected to mirror the region's historical averages of 45% and 55%, respectively. Cotton experts present today at the meeting reinforced the wide range of cotton conditions that can be found across the High Plains.

“While we expect to harvest a crop that is better than last year overall, it is important to recognize that we still have many areas that are in essentially the same situation as they were in 2011,” stated Steve Verett, Executive Vice President of Lubbock-USA based Plains Cotton Growers, Inc. Verett further stated “if price ratios between cotton and other crops stay at current ratios there will likely be less cotton planted in High Plains in 2013.”

Indian State Maharashtra Bans Bt Cotton Seed

By: Seshadri Ramkumar, Texas Tech University, USA

(August 9, 2012, Lubbock, TX, USA)—The State of Maharashtra in India on 8th August banned Bt cotton seed.

According to the reports in prominent outlets like Times of India and The Hindu, the Government of Maharashtra State in India has cancelled the license of Maharashtra Hybrid Seeds Company (Mahyco) to sell its 12 varieties of Bt hybrid cotton seeds.

The license of Mahyco has been cancelled effectively for allegedly supplying misinformation to the agriculture department of Maharashtra with regard to the seed supply this kharif season (June-September). However, according to The Hindu, Mahyco has not received any communication from the government with regard to the license cancellation.

In an email communication to this scribe, Mr. Kishore Tiwari of Vidarbha Janandolan Samiti, a farmers' support group has welcomed the ban on Bt cotton seed in Maharashtra and he has demanded the ban of Bt cotton seeds distributed by 28 other companies that have sublicensed from Mahyco.

Indian Technical Textiles Industry to Reach US \$ 28.7 Billion by 2017

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, August 4, 2012)—Technical textiles market size in India will skyrocket to US \$ 28.7 billion by 2016-17.

Speaking at an event organized by Ministry of Textiles-India and PSG College of Technology in Coimbatore-India on August 3rd, Ministry of Textiles officials were upbeat about the growth prospects of the technical textiles industry in India, according to media reports.

According to government officials, the market size of technical textiles in India will reach US \$28.7 billion from the current size of US\$ 10.3 billion. Five year's back, the market size of this industry was US\$ 7.6 billion.

Industrial segment of the technical textiles is estimated to grow at an annual rate of 11% and contributes 8% of the total technical textiles market.

In 2008, Texas Tech University's report predicted that India's tech-textiles sector will grow in double digits and the next two decades will witness steady growth. The detailed report, "India Rising: Opportunities in Nonwovens & Technical Textiles," can be found at:

www.tiehh.ttu.edu/documents/News_Release/India_Rising.pdf

U. S. Fiber Giant Invests in China

By Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, July 29, 2012)—INVISTA, owner of Lycra® brand makes its first textile research investment in mainland China.

INVISTA has invested US \$7.3 million in building its first research center, a 3,000 square meter facility in Qingpu, Shanghai district in China. This is the 4th research facility for INVISTA. The other three are located in the United States, Italy and Taiwan.

The China Textile Research Center will speed-up the development of new fabrics and due to its proximity to INVISTA's manufacturing facility and access to large customer base, will enable cost savings for INVISTA, according to a recent press release.

INVISTA is one of the global leaders in the production of nylon and spandex.

Drought Fears Loom at Large in Cotton Growing States in India

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, July 22, 2012)—Drought looms at large in six cotton growing states in India.

According to a latest press release (July 20th) from India Meteorological Department, India's rainfall during this monsoon season (June-September) so far is 22% below long period average.

Northwest and Central India, which are important cotton growing regions have registered 39% and 26% deficient rainfalls this monsoon season so far compared to long period average.

Government of India is alarmed about the lack of rainfall in 6 states that grow cotton that include, Gujarat, Maharashtra, Rajasthan, Punjab, Haryana and Karnataka.

According to reports, Gujarat, the number one cotton producing state, only 35% of land has been sown till date and if monsoon fails in August, crop production condition will be severe.

Indian agriculture depends heavily on monsoon and cotton is planted as a Kharif crop (June/July sowing) in northern states such as Gujarat, Maharashtra, Punjab and Haryana.

Media reports quote Sharad Pawar, Union Agriculture Minister saying that India will take a look at unrestricted export of cotton, wheat and other crops in August if monsoon fails.

India to Continue its Textile Subsidy Scheme

By: Seshadri Ramkumar, Texas Tech University, USA

(July 16, 2012, Lubbock, TX, USA)—Indian government will support the textile industry by continuing its Technology Upgradation Fund Scheme (TUFS) for next five years.

According to Indian media reports, Anand Sharma, India's Commerce, Industry and Textile Minister announced today after the inauguration of Tex-Trends India Expo held in the capital city, New Delhi, the Indian government's decision to continue its popular TUFS scheme in the 12th five year plan period (2012-2017), which began this April.

Government of India has estimated an outlay for this scheme to be \$ 3.17 billion (Rs. 15, 886 crores) for the 12th five year plan period. This is \$ 777.2 million (Rs. 3,886 crores) more than the allocation done during the 11th Five Year Plan that ended in March 2012.

The spinning sector of the Indian textile industry has been successful in utilizing the TUFS scheme and the upstream sectors such as weaving and technical textiles are yet to go on high gear with this scheme.

According to today's press release by the Government of India, Ministry of Textiles is oriented towards making adequate quantities of raw material available to all sectors of the textile industry and increasing the production of fabrics at reasonable prices from the organized and decentralized sectors of the industry.

More recently, Government of India has been urging its textile exporters to look for non-traditional markets such as South America and Africa.

Tex Trends India 2012 is organized by the Ministry of Textiles, India and features over 400 exhibitors and 2000 global buyers. It is organized in New Delhi from July 16-18, 2012.

TexSnipsMay72012:INDA Press Release: Finalists Named for Fifth World of Wipes Innovation Award(tm)

<http://www.inda.org/press/2012/WOW-Finalists.html>

Finalists Named for Fifth World of Wipes Innovation Award™

Attendees at annual World of Wipes® Conference in Chicago in June will vote for the recipient of 2012 Award

CARY, N.C. — May 4, 2012 — Four finalists have been selected to compete for the World of Wipes Innovation Award competition being held as part of the annual World of Wipes (WOW) Conference, set for June 5-7 at the Hotel InterContinental in Chicago, Illinois.

The annual WOW Conference, organized by INDA, Association of the Nonwoven Fabrics Industry, is devoted solely to wipes, with a concentration on substrates, active ingredients, packaging, market metrics, industry challenges and market opportunities, particularly in Asia and Europe. The World of Wipes Innovation Award recognizes and rewards the industry members who bring new and value-added processes and products to the wipes market.

The four finalists, chosen from products nominated by the industry, are:

- **Fibertect® High-tech Nonwoven Wipes, Oil and Vapor Sorbing Wipe, from Hobbs Bonded Fibers.** The multilayered wipe has both absorptive and adsorptive properties, a unique combination that is needed to have both liquid wiping and toxic vapor holding capability. Fibertect's structure gives enough flexibility to vary the fibers in the nonwoven layers and can also be functionalized to achieve antimicrobial characteristics and absorb different chemicals, acids and bases.
- **Raptor SAFE-T® Wipe (Substance Activated Fast Evaluation Technology), from Raptor Detection Technologies, LLC.** SAFE-T Wipes quickly and easily detect explosives and provide a simple colorimetric indicator for the user and are available to military, law enforcement and first responder organizations worldwide. SAFE-T technology uses molecularly imprinted polymers that act as functional sensors to detect multiple explosives in a single wipe.
- **Table Turners® No-Rinse Sanitizing Wipes, from Sani Professional®.** Table Turners No-Rinse Sanitizing Wipes (TTSW) are a total cleaning solution for foodservice operations. The product is EPA-registered and meets guidelines for both front-of-house and back-of-house cleaning and sanitizing of food contact surfaces. TTSW is a cost-saving replacement for the traditional, cross-contamination prone, reusable "rag and bucket" solutions.
- **Clean & Cream® Wet Wipes Cream Dispenser, from Wetnaps Ltd.** Wetnaps is offering wipes with nappy cream all in one package. The wipes travel pack includes a container of baby cream, for quick and efficient baby or cosmetic use. Inside the plastic lid, which covers the wipes exit, there is a compartment with eight grams of cream. The compartment is part of the package and can be refilled until wipes ran out.
- The four finalists will give 10-minute presentations during WOW 2012 and attendees will then vote on the recipient of the 2012 World of Wipes Innovation Award. The Award will be presented during a session on the final morning of the Conference. Full registration for INDA members is \$1350 and \$1895 for non-members. Networking Registration, which allows access to the two evening receptions and table-top displays, is \$595 for INDA members and \$695 for non-members. For more information on the 2012 World of Wipes International Conference: <http://www.inda.org/events/wow12/index.html>

India to Resume Unrestricted Export of Cotton

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 30, 2012)– On Monday (April 30), India has decided to allow unrestricted export of cotton for this marketing year ending in September 2012.

According to a report by the Press Trust of India, Anand Sharma, India's Commerce and Textiles Minister after meeting with the national Agriculture Minister has made the decision to allow fresh registration of cotton for exports.

The Ministry of Agriculture has strongly opposed the government's current export policies of items such as cotton and sugar. The Ministry of Agriculture has had higher cotton production estimate than the Ministry of Textiles.

There will not be any additional restriction on registration for exports and the cotton situation will be reviewed every 2-3 weeks by a special group of ministers, said Anand Sharma.

Today's decision has been arrived because of this year's upward revised cotton production estimate of 34.7 million bales (170 kg each) by India's Cotton Advisory Board.

Today's export decision has received quick and strong reactions from cotton and textiles associations.

The Southern India Mills' Association has strongly opposed the decision by the Indian government and has made a press release today with an appeal to the Prime Minister of India to prevent further cotton exports.

Kishore Tiwari of Vidarbha Janandolan Samiti, a group representing cotton farmers in a communication to this scribe today has hailed the government's decision to allow unrestricted export of cotton.

Indian Cotton Association Opposes Strategic Reserves

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 25, 2012)—The Cotton Association of India (CAI) has strongly opposed the Indian government decision to create a strategic cotton reserve by procuring 2.5 million bales of cotton (170 kg each).

In an official statement released on April 25, 2012 the association has stated “It is disturbing to note that our country is moving back to the pre-liberalized era of late 1980s and early 1990s.”

The CAI has urged the government not to follow the footsteps of China in creating cotton reserves as cotton is readily available in India for the textile mills. According to the CAI, the procurement cost involved in the creation of the strategic reserve that includes the cost of cotton and other associated financial charges would amount to 5,500 crore rupees (US \$ 1.04 billion).

Dhiren Sheth, the President of the Cotton Association of India in his official statement has urged the Indian government not to go ahead in creating the reserves for cotton.

Charged Cotton Contributes to Revenue Growth of Under Armour

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 21, 2012)—Net revenues of Under Armour, Inc. increased 23 % in the first Quarter of 2012 to US \$ 384 million as against US \$ 313 million of the first quarter last year.

New technologies such as Charged Cotton performance wear, ColdBlack, Armour Bra, Charge RC running shoes, etc. have contributed to the enhanced financial performance of Under Armour.

In a statement released on April 20th, Kevin Plank, Chairman & CEO of Under Armour stated, “First quarter results underscore that we bring innovation and value to our product, we win with the consumer.”

Under Armour expects 2012 net revenues in the range of US \$ 1.78 to \$ 1.80 billion.

Under Armour collaborated with U.S. cotton grower funded Cotton Incorporated and released value-enhanced Charged Cotton products.

Baltimore—USA headquartered Under Armour, Inc. is an athletic and performance wear company founded by Kevin Plank, a former University of Maryland football player.

Adult Diaper Industry Set to Grow Exponentially

By: Seshadri Ramkumar, Texas Tech University, USA

(Greenville, SC-USA, April 19, 2012)—Adult diaper industry is a growth sector and will grow exponentially.

Speaking at the inaugural Converting and Bonding Conference organized by the Association of the Nonwoven Fabrics Industry (INDA) in Greenville, SC, USA, David Kassenich, Product Development Manager-Nonwovens of the Paper Converting Machine Company of Green Bay, Wisconsin, highlighted some of the developments that are taking place in the diaper industry. Speaking to this scribe on the sidelines of the conference, Kassenich said, "Look at the United States' Social Security Administration to know how many people are retiring; this will be an indicator for the adult diaper business."

Babies use diaper for 18 to 24 months. In the United States and developed nations, birth rate is declining. At the same time, older people are living longer and have to use adult diapers and incontinence products, Kassenich said.

Diaper industry has to go for "Zero Waste," and controlling waste can save monies for the diaper and converting industry. According to Kassenich, the developments that are on the horizon in the diaper industry are high-tech surfactants, fragrance developments, new substrates, reduced packaging wastes, etc.

Rory Holmes, President of INDA also highlighted the cost savings for the industry by reducing wastes as wastes add up the cost such as the landfill fees.

Cotton Seizes Emerging Opportunities in Nonwovens

By: Seshadri Ramkumar, Texas Tech University, USA

(Greenville, SC, USA, April 17, 2012)—Regenerated and ultra clean cotton find new opportunities in the spunlace nonwovens sector.

Spunlace or hydroentangling is a major process which is used to produce nonwoven wipes these days.

Speaking to this scribe on the sidelines of the inaugural Converting and Bonding Conference organized by the Association of the Nonwoven Fabrics Industry in Greenville, SC, Ginny Casstevens, VP of Sales and Business Development-Americas, Jacob Holm Industries informed about the new opportunities for regenerated (Regen) cotton in the wipes sector.

Jacob Holm Industries with its headquarters in Switzerland is one of the world's leaders in the nonwovens field and has manufacturing plants in Soultz, France and Candler, USA. Candler plant, which is 5 miles to the west of Asheville in North Carolina, USA has a 5 meter wide spunlace nonwoven line and its production capacity is 35 million square meters per month.

When cotton's price skyrocketed over US \$2 two years back, Jacob Holm Industries worked with its partners and utilized regenerated cotton from T-shirt clippings. According to Ginny Casstevens, this could bring down the price of cotton by 50% for its use in the production of baby wipes. Candler plant uses regenerated cotton for 30% of its production capacity. Jacob Holm has perfected the spunlace process to produce 50 g/square meter baby wipes using regenerated cotton, said Casstevens.

Recycled and mechanically cleaned cotton is also finding applications in new wipe products developed by Suominen Corporation, a leader in nonwoven wipe industry.

Cotton's Once Enemy Becomes Best Friend

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 9, 2012)—In a span of one year, Baltimore—USA based Under Armour has 158 active wear products with cotton in its line.

Speaking recently to a large audience with rapt attention during the 55th Annual Meeting of the Plains Cotton Growers in Lubbock—TX, David Earley, Senior Director, Global Supply Chain Marketing for the Cotton Incorporated highlighted how once an enemy of cotton, Under Armour became its best friend and has benefited enormously from the use of cotton in its sportswear and active wear products.

Referring to the 3rd Quarter-2011 financial report of Under Armour, which has increased by 1/3rd compared to the previous year, David Earley in his talk titled, “Enemy Converted”, gave an interesting presentation on how collaboration started between Under Armour and Cotton Incorporated, which has led to positive outcomes for the cotton industry.

In the middle of March 2011, Under Armour launched Charged Cotton® collection and made them available nationwide. In the Fall of 2011, Charged Cotton® Storm collection was released by Under Armour.

According to Morgan Stanley estimates, Charged Cotton® products could contribute \$ 350-400 million in annual sales for Under Armour within next five years.

Consumers are willing to pay \$ 60-100 for Under Armour's Charged Cotton® products as against \$ 40 synthetic counterparts. Cotton is enhancing the performance of wearers and is liked by them, who go back again and buy Charged Cotton® products, said David Earley.

According to Under Armour, “Mother Nature made it (cotton), we made it better”.

Indian Cotton Association Demands Free Cotton Exports

By: Seshadri Ramkumar, Texas Tech University, USA

(April 7, 2012, Lubbock, TX, USA)---Cotton Association of India demands free cotton exports immediately.

A press release issued on April 7th by the Mumbai-India based Cotton Association of India (CAI) has urged the Prime Minister of India, Dr. Manmohan Singh to allow free export of cotton from India immediately.

The Cotton Association of India in its plea to the Prime Minister of India has argued that India even when it was a net cotton deficit country has allowed cotton exports under Open General License (OGL), it is ironical that when India is currently a cotton surplus country, restrictive policies are in place.

Immediate lifting of the ban on cotton export has been demanded and request for cotton export be brought under Open General License without any quantitative and other restrictions has been made by the Cotton Association of India.

Currently, cotton export is put on hold by the Indian government.

India to Build up Cotton Reserves

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, April 6, 2012)--- India will be building its cotton reserves of 2.5 million bales till the next cotton season.

A directive from the Ministry of Textiles, Government of India has instructed the Cotton Corporation of India (CCI) to start procuring cotton to build its reserve of 2.5 million bales (170 kg each) till the beginning of 2012-13 cotton season.

As noted in an official press release from the government dated April 4th, the government has initiated this move due to the slowdown in the textile industry. According to the communique, Indian textile industry is unable to hold stocks beyond 15 days due to tight situation.

The government has undertaken this measure to ensure adequate supply of cotton, maintain price stability and also to protect the interest of all stakeholders in the cotton supply chain, said the government release.

The CCI has procured 11,000 bales of 170 kg each on April 3rd from cotton sales yards or mandis in the State of Gujarat, India's number one cotton producing state.

Agriculture Finds a Friend in Bill Gates

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, January 27, 2012)—Bill Gates in his recent annual letter has alarmed the lack of funding support for agriculture research and stressed the need for innovation in agriculture.

This report comes at a time when drought still prevails in Texas, the largest cotton producing state in the U.S. and India has lowered its cotton crop production for this season.

In the 2012 annual report of the Bill & Melinda Gates foundation, released this month, Microsoft co-founder Bill Gates has mentioned, *“it is shocking—not to mention short-sighted and potentially dangerous—how little money is spent on agricultural research.”*

The report also USDA statistics that there is a dwindling population of farmers in the developed countries like United States whereas in countries like India and Brazil, the percentage of agriculture workforce is as high as 56% in India and 21% in Brazil.

The report points to the lack of funding support for combating the increase in plant diseases and emphasizes the need for more study on the effect of climate change on agricultural productivity.

Bill Gates has insisted that world must invest in new techniques to help farmers deal with weather impacts. He has urged the agriculture community to take advantage of new tools such as genetic engineering to accelerate the pace of plant research.

Bill Gates opines innovation in agriculture and other areas is the key to improve the world. China gets positive note with regards to its effort in educating its farmers.

The annual report focused on three major themes which included Innovation in Agriculture, Global Health and United States’ Education.

“My dad’s a scientist as well, and I’ve talked to him about the Exxon oil spill (of 1989) and how it was cleaned up,” he said. “We really haven’t improved anything since then, so it’s nice being able to improve things that really haven’t been improved on. And it’s good being involved in something that could really help the environment and make a difference in the cotton industry.”

Kitten, who is interested in attending Colorado School of Mines, said he was diagnosed with Hodgkin’s lymphoma last March, and chose to join the team toward the end of his chemotherapy treatment. He said he has been in remission for about four months.

“My dad and my family are farmers, so I’ve always had that tie to the cotton industry,” he said. “Getting the opportunity to come out here really interested me to see the other aspect, not just growing, but also the utilization of cotton. It’s a good way to stay active and get your mind on something else.”

Singh is currently working to prove the superiority of low-grade cotton by testing the crop’s biodegradable ability. When he completes his Ph.D., Singh said he wants to return to Mumbai and share what he has learned.

“I’ve learned much about this industry and I’m sure I will be able to grow my society with the knowledge I have gained here,” he said.

Ram said the team is also working on the commercialization of low-grade cotton, and hopes the industry will use the method in a year’s time.

“My interest is to show, as much as we can, that Texas Tech is a leading research university,” he said. “I want to show the world that the science that is coming out of Texas Tech is top-notch. Nobody would think that you could pick a low-grade cotton and convert it into a very useful and timely product.”

“So far the industry is using plastic material,” Ram said. “Why we have decided to use cotton was for the environmental concerns. Cotton is a natural fiber so it is biodegradable. Not only will the cotton absorb the oil, but if you dump it in a landfill, over a period of time, the cotton will degrade and so it (does not harm the environment), unlike synthetic material, which adds to the pollution.”

Ram and Singh began to test the absorption rate of the crop and discovered one gram of cotton can absorb 50 times its weight in oil, twice as much as synthetic materials.

The reason is because raw cotton has natural wax, which can separate oil from water. By the summer of 2011, Kendall and Kitten joined the team and made another important discovery: cotton absorbs at the same rate, no matter the type of oil.

“They refined this method, after thousands of experiments,” Ram said, “They took motor oil, vegetable oil, diesel oil, etc. and found the same results. No matter the type of oil, one gram of cotton can absorb 50 grams.”

The team then refined the method further, discovering low-grade cotton absorbs at a higher rate than costlier cotton, adding value to the less-expensive crop.

Because of their achievements, Kendall, Kitten and Singh were invited this month to present their findings at the 2012 Beltwide Cotton Conference, one of the world’s leading cotton seminars, in Orlando, Fla.

“(Getting international recognition) is really neat,” said Kitten, a senior at Trinity Christian High School. “It’s a good experience.”

Both students have made presentations at other international conferences, to share their work with others in the industry.

“It was really exciting,” said Kendall, a senior at Coronado High School. “It’s been a great experience to get up there and talk to all those people.”

Kendall said he has benefited greatly from his work with Tech. He received an acceptance letter to the Tech honor’s college, and said he will be attending this fall.

TexSnips27Jan2012: TTU Daily Toreador: Cotton Kings: Researchers test cotton for oil-spill cleanup

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Cotton Kings: Researchers test cotton for oil-spill cleanup

By Caitlan Osborn

News Editor | Posted: Friday, January 27, 2012 12:24 am

With Lubbock being the largest contiguous cotton-growing region in the world, new methods are constantly being developed to bring more life to the industry.

This is the job of Seshadri Ram, associate professor at the Texas Tech Institute of Environmental and Human Health, and his team of researchers, who specialize in nonwoven and advanced materials.

With the assistance of Vinit Singh, a Tech graduate from Mumbai, India, and two high school students, Luke Kitten and Ronnie Kendall, Ram's lab has developed a new use for less valuable cotton.

"You can say Texas produces roughly five million bales of cotton, and most of that cotton comes from the High Plains," Ram said. "So this is a very important region for cotton production."

While cotton is predominately used for denim and other apparels, roughly 8-10 percent of cotton in the Lubbock region falls into the category of low-grade, making it unsuitable as a commodity fiber. The research group is trying to bring more value to this portion of the crop by testing it for industrial use.

"What we thought was, can this cotton be used to develop a product which an industry can use, so that they give you more money?" Ram said. "We're taking a low-grade, less costly product, for which the value is more."

After the Deep Horizon Oil Spill in 2010, Ram and Singh began testing the benefits of using cotton on oil.

Utkarsh Sata, a postdoctoral associate in Ramkumar's laboratory guided Chavda brothers this summer to find added applications for cotton nonwovens.

"I became interested in it a few years back when Fibertect® started getting some recognition," Kendall said. "I get to do some cool things out here which makes it fun to talk about with people and gets some of my fellow classmates interested in it."

Kendall and Kitten still are actively involved in the research. Kitten battled Lymphoma during his participation in the research.

He said doing research out at TIEHH allowed him the opportunity to take his mind off the treatments.

"Going to treatments affected my schedule a lot," Kitten said. "I missed a lot of school and work going to treatments. But everyone here has been very helpful and very supportive."

Kendall and Kitten are currently investigating the oil absorption capabilities of the 2011 cotton crop.

"Ramkumar's research has and is a crucial part of making the world more aware of this fascinating industry," Montague said. "Just about the time we think we have heard it all before, a press release comes out from Texas Tech, with another winning research project that has resulted in a new product line."

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TexSnipsOct242011: Texas Tech University Involves High School Students In Nonwoven Cotton Research

FOR IMMEDIATE RELEASE

DATE: Oct. 24, 2011

CONTACT: Clay Fuchs, clay.fuchs@ttu.edu
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Texas Tech University Involves High School Students In Nonwovens Research

The Institute of Environmental and Human Health (TIEHH) at Texas Tech University has made history for the Technical Association of Pulp and Paper Industry's (TAPPI) nonwovens division due to the university's involvement of high school students in its cotton nonwovens research.

Kahan Chavda, a senior from St. Mark's School of Texas in Dallas; Aarav Chavda, a junior from St. Mark's School of Texas; Ronald Kendall Jr., a senior from Lubbock Coronado High School; and Luke Kitten, a senior from Lubbock Trinity High School, participated in the research.

The research from these high school students contributed to the work on oil absorption by cotton nonwovens and was presented at the leading nonwovens conference in Atlanta.

"This is a very significant achievement," said TAPPI President Larry Montague. "To my knowledge this is the first time that high school students were specifically targeted and brought to an event like TAPPI."

The students not only attended the conference but also participated in the program sessions, as well as interacted with professionals already working in the nonwovens industry.

"In the five years I have been with TAPPI, I have not seen a group like this prior to TIEHH's outreach program," Montague said. "The attendees for this conference were very impressed with how these students dressed and interacted with some of the industry's best and brightest."

TIEHH's research focuses on West Texas cotton, specifically the 10 percent of cotton that, due to the weather in the region, doesn't fully mature and must be sold at a discounted rate.

"What our lab thought two years back was why can't we take this discounted cotton and find new market opportunities for that cotton," said Seshadri Ramkumar, associate professor of nonwoven materials and countermeasures to chemical threats.

Vinit Singh, a graduate student at Texas Tech, found that the discounted cotton absorbs more oil than higher quality cotton, and to prove that he enlisted the help of the high school students to assist in conducting research.

Indian Technical Textiles Sector to Reach \$36 Billion

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, July 27, 2011)—Government of India estimates the Indian technical textiles sector to reach \$36 billion (Rs. 1,60,000 crores) by 2016-17 and the annual estimated growth is about 20%. Indian government is promoting the growth of technical textiles sector by creating new Centers of Excellence and market research and support programs.

Sujit Gulati, Joint Secretary of the Ministry of Textiles India, while inaugurating a one day seminar on technical textiles in the South Indian City, Coimbatore emphasized the need for inter-ministerial coordination involving Ministry of Textiles, Health and Highways to grow the nascent technical textiles sector. The conference was jointly organized by the Confederation of Indian Industry and the Ministry of Textiles in Coimbatore on July 26th, 2011.

During the conference, Anil Joshi, Textiles Commissioner of India emphasized the need for implementing technical textiles to improve the hygiene and medical sector in India.

Govindhan Ramakrishnan, a professor of textiles and a delegate who attended the conference spoke to this scribe from Coimbatore and insisted that market awareness and the knowledge of converted products are essential for the growth of technical textiles sector in India. India offers enormous opportunities for collaborators to conduct knowledge enriching workshops to boost the technical textiles sector.

In December 2011, USA based Texas Tech University and Coimbatore based Kumaraguru College of Technology are hosting an international conference on technical textiles, ATNT-2011. The organizers have provided more information on the international event at www.atnt2011.com

Indian Textile Minister Resigns

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, July 07, 2011)--Mr. Dayanidhi Maran, Cabinet Minister of Textiles, India has submitted his resignation on July 7th.

On Wednesday, July 6th, India's Central Crime Investigating Agency made public the involvement of Maran in the 2G spectrum telecom scandal. This report pertains to Maran's activities while he was the Telecommunications Minister of India, the post which he held prior to his recent post with the Ministry of Textiles in India.

The outcome was expected as the opposition parties have been heavily demanding his resignation.

Indian Prime Minister is expected to shuffle his cabinet early next week and hopefully a new minister for the Ministry of Textiles will be named. India is one of the few governments that has a cabinet level independent ministry for textiles.

Textiles are Part of Support Mission to Libya

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, July 1, 2011)—The United Kingdom is providing body armors and uniforms to the National Transitional Council (NTC) of Libya.

According to a communication released on June 30, 2011 by the Foreign & Commonwealth Office of the United Kingdom (UK), U.K. has provided 5,000 sets of body armors, 6,650 police uniforms and 5,000 high-visibility vests and t-shirts to the NTC of Libya for use solely by civilian police force.

Foreign Secretary of the U.K., Mr. William Hague has been quoted in the communication mentioning that he had informed the British House of Commons on May 16th about the United Kingdom government's support to the Libyan people.

TexSnips: Customs Duty Slash to benefit Indian Textile Industry

By: Seshadri Ramkumar, Texas Tech University, USA

(Lubbock, USA, June 26, 2011)--Indian textile industry will benefit from the slashing of the customs duty on crude oil and petroleum products.

On June 24th, Indian Government's Empowered Group of Ministers slashed the customs duty on crude oil and other petroleum products which will result in the price reduction of synthetic fibers. "This will definitely benefit the textile industry", said Mr. J. Thulasidharan, Chairman of The Southern India Mills Association (SIMA). In a statement released on June 25th, Chairman Thulasidharan hailed the slashing of the customs duty and the reduction in the central excise on diesel. The customs duty slashing should enhance investments in the technical textiles sector in India.

There have been severe and wide spread criticisms by the consumer groups, industrial associations such as SIMA and opposition parties on the price hike in kerosene, diesel and liquefied petroleum gas which are the basic fuel products the Indian consumers use on a daily basis.

It is anticipated that the synthetic fiber manufacturers in India will be able to pass on the duty reduction benefits to the Indian textile industry.

