

April 25, 2024

## **FiberTect Wipe Mind to Market**

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

As the Intergovernmental Negotiating Committee is convening in Ottawa, Canada, April 23-29, 2024 to come-up with a treaty on plastic pollution, a walk down the memory lane on how cotton-based technology helps to clean up oil pollution will be an interesting exercise.

FiberTect wipe depending on the types of fibers used enables applications in environmental protecting, military and human health is a model for the translational research.

Fibertect decontamination wipe with cotton layers was selected by Cotton Incorporated as one of the seven technologies to showcase advanced applications of cotton.

As part of "Innovation: Teaching an Old Plant New Tricks," Cotton Incorporated sponsored this initiative way back in 2010.

FiberTect developed at Texas Tech University, which has become a commercial technology saving lives, enhancing human health and protecting the environment is a story to showcase, "Mind to Market."

Paul Budline Productions of Princeton, NJ masterfully developed the video.

<https://www.youtube.com/watch?v=dTyxGMWrA1M>

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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](#)  
textiletechsource.com

## 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 6<sup>th</sup> 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.

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# 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)

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 10<sup>th</sup> 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 5<sup>th</sup> 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>



## 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 2<sup>nd</sup>, 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.

26<sup>th</sup> year journey begins and continues--