Emerging Uses for Cotton

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Cotton, fondly referred to as “white gold,” has been a mainstay on the High Plains of Texas for many generations. The economy of the High Plains is heavily dependent on cotton and its allied industries. Cotton grown on the High Plains is an export commodity and hence the global economy affects this region. As China is the leading importer of U.S. cotton and its manufacturing and economic decline hits the U.S. cotton industry, it is an important task for our industry to increase cotton’s demand and consumption. This can be achieved by finding new and alternative uses for cotton.

Cotton as an Industrial Fiber
A sustained effort by the U.S. industry has made cotton a household name and a preferred wearable fiber. But in the recent past, due to competition from polyester and economic competitiveness, its share has declined. New opportunities are needed to find high-performance and value-added applications such as sportswear for the white fluff.

BP Oil Spill and Cotton as Oil Sorbent
Sometimes, calamities and disasters can lead to some positive news. An upsurge in interest to use cotton for oil spill applications happened after the BP oil spill incident. Five years ago, the Deepwater Horizon spill accident that lasted for 87 days, resulted in the spilling of 4.9 million barrels of crude resulting in environmental and human disasters. The environmental cleanup industry began looking for new and ecological friendly materials to contain the spill. Luckily cotton in its natural form could fit that bill as it could absorb
crude oil and separate water and oil. Texas Tech University seized that opportunity and started looking into cotton as a natural sorbent for crude and other oils. A project funded by U.S. cotton producers showed that one gram of natural cotton can absorb 50 times its weight higher than synthetic fiber. More importantly, cotton being a natural material can biodegrade, thereby avoiding environmental contamination. Due to agronomic conditions on the High Plains, 10-15% of cotton produced falls into the low micronaire, discounted type. Surprisingly, this low micronaire cotton absorbs more oil than better cotton. This created new and value-added applications for discounted cotton from our region. This cotton can be used to protect the environment and enhance human health.

**New Consumer Applications**
With the advent of non-traditional manufacturing technologies such as nonwoven manufacturing, new consumer oriented products such as baby wipes and hygiene products from cotton are evolving. Costco’s Kirkland wipes are a classical example for such products. These days, consumers prefer cotton in baby wipes due to its skin friendliness and environmental sustainability.

After hurricane Katrina, the United States Department of Agriculture invested heavily to find alternative uses for U.S. cotton to increase its consumption. The USDA laboratory in New Orleans has the state-of-the-art wipe making machine that can be used to develop cotton-based wipes that find a lot of applications in consumer, hygiene and medical sectors. Interestingly, cotton in its cleaned unbleached form was successfully developed into high performance wipes.

**What’s Next?**
The U.S. cotton industry over the years has done well to improve yield and quality. With cotton now trading at 67 cents per pound, it is important for our industry to find new and value-added applications. This will certainly increase its consumption, which in turn will lead to positive economic ripple effects in the high plains.

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