

The Evolution of Cotton - Part Two

In part one of this series on the evolution of cotton, we explored how a fiber with origins traced to multiple ancient civilizations has firmly established itself as a global phenomenon, peerless in its comfort, performance, and versatility.

In this second installment, we'll look at the ways that cotton continues to expand its vibrant, positive influence in our lives, continuing to be a source of sustainable innovation for manufacturers and consumers alike.

A Clear Choice

Over the last seven decades, cotton and other fibers have proliferated in the marketplace as options for clothing, furniture, and bedding, as well as nonwoven wipes, diapers, and feminine hygiene products. As cotton has benefited from technology in its processing, [researchers have developed a wide variety of synthetic fibers since the late 1800s](#). These fibers originated with viscose rayon and moved into nylon and polyester, and later still with market entries like acrylic, Kevlar®, and spandex. While each of these products has seen it fulfill a certain niche, few have achieved the ubiquity of cotton.

But polyester fiber of the 1970s had serious flammability issues, which brings up another point of consideration. With every generational shift in preferences toward one or more artificial fibers and the new possibilities each brought to the marketplace, either in style, cost, or both, there seems to be a pendulum swing back to cotton. Whereas cotton took a backseat in the 1970s with regard to fashion apparel, it rebounded during the 1980s and 1990s. While fashion often dictates such society-wide swings in favor of certain fibers and fabrics, there's more to explain the repeated swings back to cotton.

While people might get excited (temporarily) over the newness of a fiber, consumers perceive cotton to be safer. It's safe because it's natural, and it's safe because we've all had cotton goods that performed well and did so over time. It's pure, it's natural, and it comes from the earth. We all see cotton, therefore, as a safe investment where you get what you think you're paying for on the front end, with many seasons and years of happy returns on that investment.

On top of that practicality, there's also an overlay of quality. While many artificial fibers can be expensive, very few can escape the perception that they can feel unnatural compared to cotton. From polo shirts to oxfords and twill, to exquisite furniture coverings and bed and bath linens, cotton is the fiber of [choice for the discerning consumer](#). Then, there are the real performance issues to consider, and the fact that man-mades are usually part of some kind of trend that fails to outlast its 15 minutes of fame, whether it's the disco clothing of the 70s or the activewear of late.

And while we may get excited in the general public over artificial textile advancements, especially those of reconstructed natural fibers, we can and do always go back to the safety of

cotton.

In a Word, Sustainable

As if consumer preference for the natural and clean weren't enough impetus for manufacturers to come back to cotton versus man-made fabric, sustainability is the tipping point for many. Cotton is available in two main varieties: conventional and organic. In our minds, these two varieties are both sustainable, and for different reasons.

Modern history has been defined in part by humankind's quest for a more sustainable way of life, in order to preserve and conserve our natural environment. Farmers are the original conservationists, protecting their land and water supply. Perhaps no other crop is more illustrative of continuous improvement efforts among members of an agricultural supply chain than cotton.

While organic cotton is a product with sustainability as its first priority, with its commitments to non-genetically modified seeds, as well as eschewing chemical fertilizers, insecticides, and herbicides, the more common conventional cotton itself has seen tremendous advancements in the last generation. Conventional cotton actually leverages genetic modification not only for increased yield on less acreage --an economic benefit for the producer--but also for a better environment. Hardier plants, able to better withstand elements and pests, mean less "bottle" farming with decreased chemical outlay and water usage. According to metaanalysis of farming data, [pesticide use alone has dropped by 37 percent](#), while [GMO seeds have enabled producers to conserve 50 percent of the water outlay](#) prior to the GMO era beginning in 1996.

Cotton farmers are well along the path to sustainability, in some ways leading the global agricultural community to new standards of environmental protection. [According to Cotton Leads](#), a joint initiative of the United States and Australian cotton industries, the cotton community in the USA has made huge strides in sustainability metrics, a validation of every stakeholder in the supply chain committing to continuous improvement. These metrics include the following improvements over the 35-year period between 1980 and 2015:

- Land use has decreased by 31%
- Irrigation water use has decreased by 82%
- Energy use has decreased by 38%
- Greenhouse gas emissions has decreased by 30%
- Soil loss has decreased by 44%

Now, more than ever, the cotton industry is leading the way in sustainability for fiber production, with countries like the USA and Australia setting the global standard for excellence.

A Look to the Future

Cotton has always played a critical role in the development of civilization, and it surely always

will. The industry continues to grow year over year, buoyed by demand across the globe. Today, cotton is growing and expanding its global influence on the way we live, driven by two factors: technology and sustainability. In our next installment, we'll take an in-depth look at processing, everything that happens between the grower and the consumer. Artificial fibers such as viscose have many phases of processing from the original raw material source, trees, to their final state as a fiber unlike cotton. Cotton, however, retains its natural character.

Perhaps the heaviest influence of sustainability and technology, with apologies to organic farmers and developers of GMO seeds, is in the processing of cotton. The processing phases, too, are precisely where we see not only the capable production of a variety of cotton products, but the possibilities for greater innovation that strengthens cotton's grip on our imagination.

It's taken civilization thousands of years to reach our current relationship with cotton, and like almost any great product, we haven't begun to think of all of its potential applications. As long as some of us dwell on advancing the human condition, so, too, will cotton advance.