



July 12, 2010

The Next Generation of Fabric Hails From Hemp

By: Kelly Drennan



Over the past few years we have witnessed the exponential growth of sustainable fabrics. And we are all aware that this is a movement and not a trend. Organic cotton, hemp, tencel, recycled polyester and organic wool are gaining popularity, evidenced on the international runways and in fashion media. By now most of us are familiar with the advantages of sustainable fabrics that includes fewer toxic chemicals, reducing the amount of textiles dumped into our landfills, and producing in a closed loop environment.

But consumers are still largely dependent on non-sustainable fabrics like Polyester, Lycra, Spandex and Gortex to name a few. These fabrics hold properties that we

have grown to view as necessities, like stretch, durability and price. So how do we discover a sustainable alternative?

CRAiLAR® Organic Fibers is touted to be the *foundation* of the first truly sustainable yarn in the apparel industry, and poised to become the revolutionary next step in sustainable fibers.

CRAiLAR is developed by Naturally Advanced Technologies (NAT), in collaboration with the National Research Council of Canada. It is an ingredient, much like Lycra or Gortex, except that it is completely sustainable. NAT's hope is that apparel companies who currently use common blends like cotton/lycra, will shift to using a cotton/CRAiLAR blend. If blended with other sustainable fabrics, this new technology could have a significant impact on the apparel and textiles market as a whole.

The fibers are made from hemp stalk, which is not commonly used in apparel because of its rough texture and stiffness. The all-natural CRAiLAR process transforms the rough hemp stalk into a velvety-soft, yet strong and durable, textile fiber. The enzymes used in the process are all natural and GMO free, and the result is a fabric that is soft and supple like cotton, and has the same performance traits, so it is cool and comfortable to wear year-round. NAT claims that it is even better than cotton because it reduces shrinkage and has more tensile strength than cotton. It looks like cotton, dyes like cotton, fits the same and washes the same.

Hemp is known to be one of the most sustainable, renewable, and environmentally friendly crops that requires no irrigation, chemical fertilizers and pesticides. It can grow to 14-feet in just a few months, producing multiple yields within one year. While many plants deplete the surrounding soil of vital nutrients, hemp is beneficial to soil, and actually improves its condition. Industrial hemp absorbs carbon dioxide – the most prominent greenhouse gas in the Earth's atmosphere – at five times the rate of the same acreage of forest.



The problem that hemp faces is that it cannot be grown in certain countries, including the United States where it is illegal. While more hemp is exported to the U.S than to any other country, the United States Government does not consistently distinguish between marijuana and the non-psychoactive *Cannabis* used for industrial and commercial purposes. Some states have defied Federal law and made the cultivation of industrial hemp legal. These states – North Dakota, Hawaii, Kentucky, Maine, Maryland, Montana, West Virginia, and Vermont – have not yet begun to grow hemp because of resistance from the federal Drug Enforcement Administration. CRAiLAR Organic Fibers are sourced mainly from Canada as well as a few other countries in Europe where its growth is not illegal.

CRAiLAR is currently undergoing approval for third party GOTS certification, however NAT does claim that the entire life cycle can be certified organic, making it eco-friendly from beginning to end.

It is too early to know what the cost implications of CRAiLAR are at this stage, but recent trials sponsored by Hanesbrands Inc. reveal that blending it with cotton significantly reduces manufacturing costs by reducing shrinkage and improving dye uptake. The resulting savings could bring the final cost closer to that of regular cotton, as opposed to the premium paid for organic cotton (which in some cases is as much as 60 percent higher).

NAT's intent is to make CRAiLAR Organic Fibers a household brand name. They've already teamed up with Patrick Yarns, a world leader in the manufacturing of high-performance industrial yarns, who has successfully blended CRAiLAR with a number of natural and synthetic fibers.

I am impressed with this new technology, and I love the fact that it is derived from hemp. However, it really comes down to what CRAiLAR is blended with because that will determine the overall sustainability of the garment. If it is blended with conventional fabrics, then it really is only a slight improvement. And then there is that argument that any change is good change. However, if blended with organic cotton, tencel and other sustainable or certified organic fabrics, then the final product definitely meets my standards and gets a full thumbs up.

[Click here to see CRAiLAR on EcoSalon](#)