

# OregonBusiness

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## Hemp Startup Weaves Its Way into Flax

*By: Jacq Lacy*

Portland-headquartered Naturally Advanced Technologies announced this week that it will begin using flax to make organic thread with the same patented technology the company uses to process hemp.

Unpredictable floods in Pakistan and a drought in Russia worsened the skyrocketing prices of cotton. NAT's strategy is to revive the use of flax to keep prices low for textile manufacturers. It plans to process the flax using its patented Crailar technology, which enzymatically removes the compound that binds the outer fibers together, leaving the material smooth, separate and soft.

NAT CEO Ken Barker believed that his company's Crailar organic hemp-cotton blend would compete against organic cotton, but he could not have predicted the success of flax. Barker's company works on renewable and environmentally sustainable biomass resources made from hemp and other bast fibers. It has been selling its Crailar hemp products, but Barker sees a greater future in flax.

Founded in 2006, NAT is a publicly owned company. The company has raised approximately \$6 million from investors and holds a twenty-year patent for Crailar, established three years ago. Barker says the team continues to update its intellectual property in collaboration with the National Research Council in Ottawa, Canada.

The company only employs 14 people currently in Portland, Vancouver, Washington, and Kingstree, South Carolina, but Barker said that the new South Carolina factory would require 20-40 new employees. As the flax industry grows NAT expects to set up two new facilities per year starting in 2011. The facilities will most likely be built near flax fields in North Dakota and Canada, in addition to in South Carolina, Barker said.

Portland will continue to be the center of what "we do from a brand, marketing and investor relations perspective," says Barker.

Although Barker would not disclose profit numbers, he said that margins are very healthy.

After April test runs in Germany with Hanesbrands, the company decided to pursue a new flax-cotton combination. The Crailar process takes raw bast fibers and transforms the fiber into sustainable and organic thread for industrial and fashion uses. Currently, NAT is making the flax fiber in South Carolina and considering planting organic flax on organic cotton farmland, possibly adding a rotational crop for southern farmers.

If the U.S. had legalized hemp production, hemp might have been a flourishing industry in the U.S., as it is in Canada and Europe, says Barker. However, politicians have been sitting on this legislation. The company is not shying away from hemp, but Barker believes the flax industry will grow more quickly than hemp in the next few years. "The opportunity is in flax," he says.

### Why Flax?

#### **Less expensive**

Cotton is priced at \$1.26 per pound and hemp costs between \$1.25 and \$1.50 per pound. The Crailar flax-cotton blend can be sold for \$0.80 to \$0.90 to textile manufacturers. It is below the dollar barrier. Previously, the consumer had to make a financial sacrifice to purchase sustainable, eco-friendly products. No longer, Barker said. The price will allow companies from WalMart to Adidas to give its customers sustainable thread.

**Cotton-like feel**

In 2005, the U.S. Department of Agriculture conducted a study to see if flax made denim was more comfortable for summer months. The results gave promise to the apparel industry and the enzyme process of the Crailar technology removes the creasing and hard feel of normal linen. Even so, the product still wicks moisture and has a high tensile strength. The new thread makes clothes indiscernible to the touch from cotton, says Barker.

**Locally grown**

Unlike hemp, farmers may legally grow flax in the U.S., eliminating transport-related costs, pollution and waste. NAT's 40,000 square foot South Carolina facility, used to conduct the USDA tests in 2005, has 300 acres of flax fields adjacent the factory.

**Grows quickly**

Through the Crailar process NAT can process twice as much fiber per acre compared to hemp. In South Carolina the company densely plants the crops to produce a taller thinner fiber suitable for cotton-like products.

**Versatility**

The new fiber had to be a plug and play for the cotton industry, Barker said. Both the hemp and flax yarn are spun on traditional cotton equipment.

In addition to planting and harvesting its own organic crop in South Carolina and possibly Texas, NAT plans to utilize wasted flax stalk. Right now NAT has access to two million acres of crop per year in North Dakota, and in the Canadian provinces Manitoba and Saskatchewan where flax is grown for its oil. In the past, the flax stalk has been burnt or buried. Barker hopes to use the wasted coarser fiber of the flax stalk to make pulp for non-woven heavy industry wipes. Barker plans to process the unused stalk close to the farms in North Dakota and Canada initially, and then move further processing closer to spinning mills in North and South Carolina.

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