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Cleantech Textile Startup Scores Deal With Hanes

By Emma Rich

Naturally Advanced Technologies says its proprietary Crailar process produces cotton-like material without the pesticides or water requirements.

Portland, Ore.-based Naturally Advanced Technologies (TSXV:NAT) is preparing for trials later this year with Hanes that could prove its proprietary Crailar technology could be used to replace cotton with hemp.

NAT said it received a purchase order from Hanes for 10,000 pounds of its Crailar fiber to be delivered in the first quarter of this year.

The Crailar process is based on enzymes that break down the lignin in hemp. The fibers are cleaned and separated, giving them the appearance and texture of cotton.

"There has not been technology that has been readily able to clean fiber to a level where it could spin in a cotton spinning system," NAT CEO Ken Barker told the Cleantech Group. "Hanes is interested to see if we could move from a niche to a mainstream solution."

NAT bought a global, exclusive license to the technology from the National Research Council of Canada. Crailar improves the properties of hemp without chemicals, as some other methods do, Barker said. The growing of hemp is still banned in about 37 U.S. states, which limits the supply but not the demand for the end product, Barker said.

Hemp is well-poised to meet the massive global demand for textiles because it grows quickly—about 14 feet in five months. Hemp doesn't need pesticides or herbicides to grow, and its water needs are much lower than cotton, which requires 700 gallons per ton, Barker said.

"Hemp truly is a super-plant," Barker said. "Water use is going to become even more important in years to come."

Crailar also results in less shrinkage than cotton, which can result in savings for manufacturers, Barker said, citing tests that showed a 20 percent blend of Crailar could reduce shrinkage of a garment by 50 percent. And hemp is about 20 percent more effective at using dyes than cotton, which reduces wastewater and costs, he said.

The next hurdle is for NAT to prove the fibers can be used interchangeably in a cotton-spinning system. Last year, NAT completed tests at North Carolina State University that proved the technology worked for spinning 500 to 100 pounds at a time.

The deal with Hanes is expected to test bigger quantities. NAT plans to prepare 10 tons of fiber to be split amongst the two companies with which it has joint development agreements: Hanes and Georgia Pacific Consumer Products.

"This purchase order allows Hanes to contribute to the development costs we've been bearing," Barker said. "This truly is a quantity specifically chosen to do final testing of our bulk commercial capacity."

NAT expects to complete product runs in March in Germany, with equipment ready for production in the U.S. by the end of the third quarter or start of the fourth quarter this year.

NAT's commercialization plans call for the company to deliver 200,000 pounds of fiber a week to its customers. To put that in context, Barker said Hanes uses about 2 million pounds of cotton a week just for socks.

Barker expects Crailar to be used as a 20 percent blend in T-shirts and up to 100 percent for carpets because of the material's added durability. Barker wants Crailar to be known as an ingredient brand, such as Lycra or Gortex.

In the short term, Barker sees Crailar competing with organic cotton on price and for customers.

"Today, organic cotton cannot keep up with demand from retailers such as WalMart," he said.

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