

Organic textiles taking off

Eco-friendly fabrics are popular, but not all are truly green

By Jessica Kellner

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Big changes are afoot in textiles. In the face of chemical-heavy production practices, along with runoff and air pollution, the textile trade is rapidly expanding its earth-friendly options.

According to the U.S. Market for Organic and Eco-Friendly Home Textiles report by Specialists in Business Information, organic and eco-friendly textile sales have seen double-digit growth in the past several years, and the industry projects further growth through 2010. Globally, sales are expected to expand from \$1.1 billion in 2006 to \$6.8 billion in 2010.

The rapid growth of organic textiles sales may be due in part to the introduction of organic lines by popular retailers such as Target, Ralph Lauren Home and Bed Bath & Beyond. By responding to consumer demand for organics, these powerhouse players have helped increase attention, awareness and distribution of these products to the marketplace.

But where there's money to be made, clever marketing and greenwashing can often confuse the issue.

Organic cotton

One of the fastest growing markets in sustainable textiles is organic cotton. "Organics are grown without herbicides or pesticides and processed without bleach or

chemical dyes," said Rowena Finnegan, founder and owner of sustainable furniture company and design consultancy Eco-terric. "Conventional cotton farming uses 25 percent of the pesticides used globally. Pesticides get into the groundwater, which isn't good for the planet or for the end user."

Demand from retailers and consumers, along with the advent of organic lines among major manufacturers, has driven sales of organic cotton over the past few years.

While the USDA does certify some organically grown cotton, it does not certify finished cotton products, so organic cotton textiles may be finished using harsh chemical dyes. Joanna Notkin, founder and head designer of LooLo Textiles, a sustainable textile and home decor company in Toronto, said it's important to ask the right questions and to recognize that there are many degrees of eco-friendliness. "There's a scale of green," she said. "Some people might have pillows that are organic cotton but ink that's not."

Wool

Wool presents its own issues. It is usually produced without injuring sheep, but the animals may graze in pesticide-ridden pastures, and the wool may be dyed with high-impact chemicals.

Jamie Bainbridge, director of materials research for Nau, an outdoor clothing company with environmental ethics, said wool presents some dilemmas. "It's challenging because you have to think about the whole lifespan of the animal and who it's being raised by — there are a lot of issues

to solve," she said.

Hemp

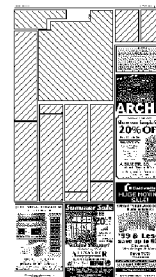
The hemp plant is naturally resistant to weeds, has a relatively short growing time and produces strong fibers for textiles. However, according to an article published by the Reason Foundation, a public policy research and education organization, the process of turning hemp fibers into fabric is more energy-intensive than the process used for cotton.

It's difficult to fully estimate hemp's potential because growing it is illegal in the United States — although related to the marijuana plant, industrial hemp is a different, nonintoxicating variety — so selective breeding and high-tech fiber production has been limited. Hemp cultivation bans in the United States also mean that all hemp products in this country were shipped from abroad. China is the world's greatest exporter of hemp textiles, but they are also produced in Canada and throughout Europe, South America, Asia and the Middle East.

Recycled polyester

Made from recycled PET bottles (plastic water or soda bottles), recycled polyester diverts waste from landfills. Mechanically recycling polyester — chopping up water bottles, melting them down and extruding the product into yarn — is a relatively low-energy process. Chemically recycled polyester, on the other hand, requires the complex process of breaking down fibers and rebuilding them into a polymer.

Still, there are advantages to



this, Bainbridge says. "With mechanical recycling, you can't take a piece of colored plastic and put it into the feed. You can only use clear water bottles and uncolored industrial waste," she said. "With chemical recycling, you can take a used garment, a water bottle and post-industrial waste, throw them into the hopper and remake polyester out of it."

Recycled polyester comes with its own set of challenges. Like new polyester, it is often manufactured using antimony, a carcinogen that can end up in textile mill wastewater if the mill doesn't employ a closed-loop system.

But PET recycling also helps keep plastic bottles out of landfills and reduces the amount of petroleum that would be used to produce new polyester fibers. Outdoor clothing manufacturer Patagonia, which has offered recycled polyester fleece since 1993, estimates that its product had kept 86 million plastic bottles out of landfills by 2006. Additionally, the energy required to recycle PET into new polyester is far less than the energy required to create new polymers, and the process uses fewer land and water resources than organic cotton.

New technologies for cleaner manufacturing are being put to use, and these better polyesters can be recycled. In 2001, Victor Innovatex, a textile manufacturer based in Quebec, introduced Eco-Intelligent Polyester, which is produced and dyed with environmentally safe ingredients.

Bamboo

Bamboo fabrics have gained a

lot of attention in recent years, and many manufacturers have added them to their lines. Bamboo fabrics are silky, naturally antimicrobial and antifungal. However, many question the environmental integrity of bamboo processing, as well as the possible exploitation of the agricultural product since demand has spiked.

Needing very little water and few pesticides, the bamboo plant is unquestionably green. It reaches maturity in two to five years, and bamboo forests help prevent soil erosion, improve soil quality and retain water in the watershed. Unfortunately, in some parts of Asia, growers are clear-cutting trees to grow bamboo on monoculture plantations, eliminating biodiversity.

Processing bamboo into fabric requires chemicals to break down the woody pulp into a material for spinning yarn. More traditional bamboo processing doesn't involve as many chemicals but requires more time, energy and water. Manufacturers are working to find more ecological ways of transforming the stalks into workable fibers.

Oeko-Tex provides certification for bamboo textiles that are free from harmful substances, and the Forest Stewardship Council certifies bamboo forestry practices, so better bamboo is in the future.

Soy

In a process similar to recycled polyester manufacturing, soy textiles are created from tofu manufacturing waste, which is then liq-

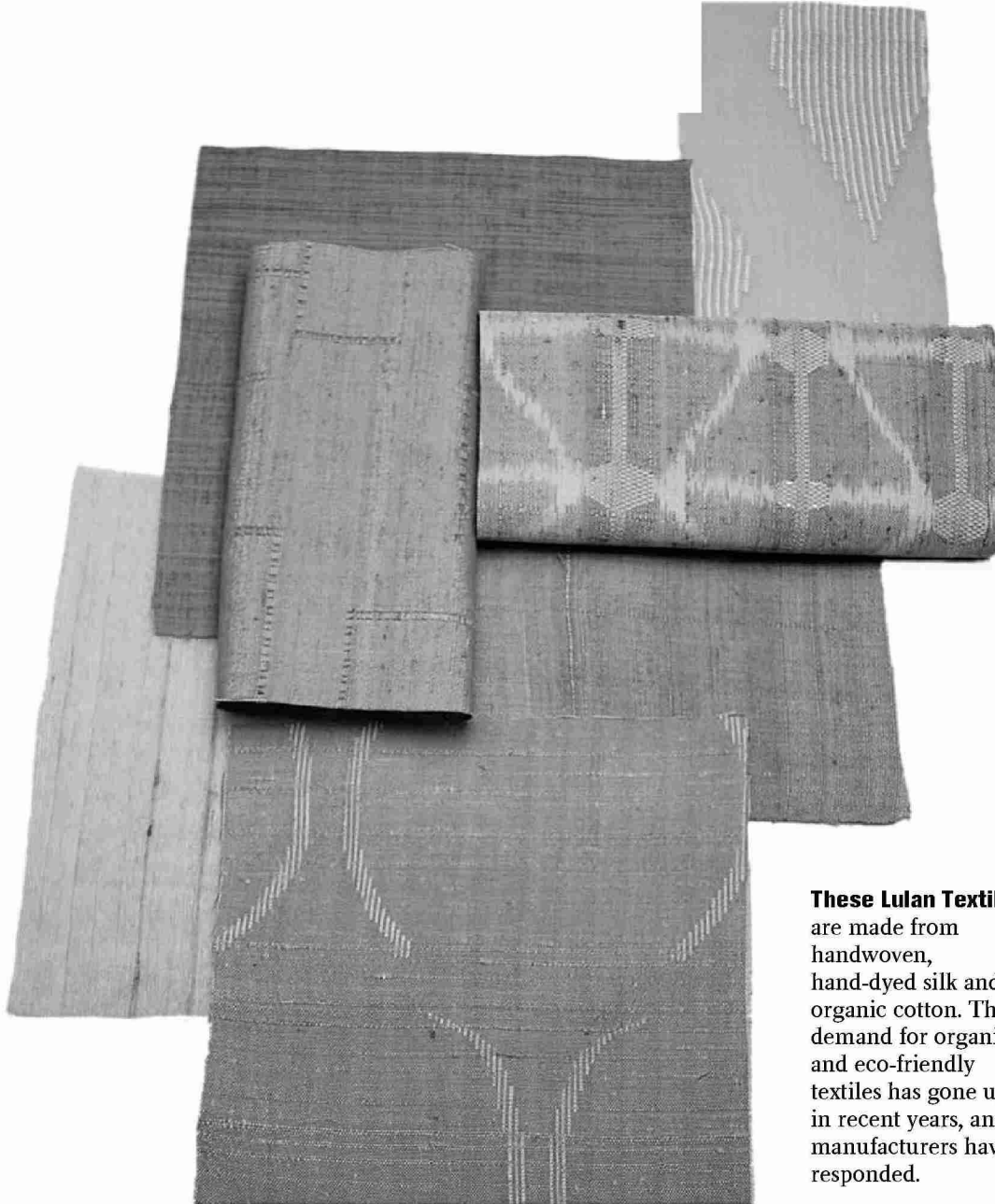
uefied and spun into yarn. Soy fibers are often more expensive than other eco-friendly options.

Soy fabric is a semi-green product. It uses food industry waste by-products that would otherwise be thrown out. But soy farming has led to a number of environmental concerns. When soy is not organically grown, it's often heavily treated with pesticides or grown from genetically modified seed. It can be difficult to find out about working conditions where soy is grown and processed. Look for fabrics made from soy that have third-party certification.

Cellulose textiles

Textiles made from wood fibers, or cellulose, go by names such as rayon, acetate, viscose, lyocell, Tencel and Legna. Various manufacturing processes are used to turn the wood pulp into textile fibers. Cellulose-type textiles are basically biodegradable, and many companies claim that the forests are sustainably managed, but few manufacturers have obtained third-party certifications through recognized agencies.

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These Lulan Textiles are made from handwoven, hand-dyed silk and organic cotton. The demand for organic and eco-friendly textiles has gone up in recent years, and manufacturers have responded.

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