

Natural selection

Since the 1960s, synthetic fibres have caused natural fibres to lose a lot of their market share. While synthetic fibres certainly offer new and different attributes for the textile sector, the United Nations General Assembly and its Food and Agriculture Organization (FAO) has deemed 2009 the International Year of Natural Fibres in a bid to raise awareness and stimulate demand for natural fibres.

The campaign also seeks to promote the efficiency and sustainability of the natural fibres industries, to encourage appropriate policy responses from governments to the problems faced by those involved in producing natural fibres and to foster an international partnership among the world's natural fibres industries. It launched on January 22 in Rome.

Market share

When natural fibres are mentioned, the first that springs to mind is cotton, the overwhelming giant in this category. Executive director at Cotton Council International (CCI), Allen Terhaar believes: "The International Year of Natural Fibres will bring well-deserved attention to the importance of all natural fibres, especially cotton." However, the International Cotton Advisory Committee predicted toward the end of 2008 that global cotton mill use will drop 1% in 2008-09 to 26.2 million tonnes because of slower global economic growth and higher cotton prices compared with polyester.

Research presented at the RITE Group conference on sustainable textiles at the end of 2007 by Dr Bob Kirkwood, technical director at fibre manufacturer Invista, showed that cotton was the second highest produced fibre (after polyester), accounting for 38% of the total fibres market. Although the conference took place at the end of 2007, it seems there have not been any major changes. Wool was a long way behind with just a 2% share, while others appear even further down the list. The UN seeks to change this. In terms of plant fibres, its campaign will focus on abaca, also know as Manilla Hemp, coir, cotton, flax, jute, ramie and sisal. Animal fibres will include alpaca, angora, camel, cashmere, mohair, silk and wool.

Helping people

Although not all natural fibres can compete with polyester and cotton in terms of market

Natural fibres such as wool can be used in sportswear, as in Australian Wool Innovation's Merino Perform range.

Australian Wool Innovation

share, millions of people across the world are employed either directly or indirectly by the natural fibres industry, whether by producing, transporting or processing the raw materials or by weaving them into fabrics for apparel and other uses. According to the UN, global natural fibres production is worth around $40 billion a year with 25 million tonnes of cotton and 2.2 million tonnes of wool being produced each year.

"Cotton represents roughly 80% of all natural fibres consumed globally, generates hundreds of billions of dollars of economic activity and employs hundreds of millions of people from field to fabric," Mr Terhaar says. "Although cotton is already a key economic contributor worldwide, we hope that the attention that the IYNF will bring to natural fibres, cotton, and US cotton in particular, will enhance both the textile sector's and consumers' appreciation for natural fibre and stimulate demand."

The natural fibres industry provides a living for many smaller-scale producers. The UN claims that 20 million people in west and central Africa are employed in the cotton sector, while 11 million small-scale jute farmers are working in Asia. It also mentions the many silk producers in Thailand, llama herders in Peru and corn producers in Sri Lanka. "In raising awareness of natural fibres we expect that consumer demand will increase. This would benefit farmers who produce these fibres – some being very poor farmers in least developed countries," says Brian Moir, senior economist FAO, trade and markets division. The FAO suggests that the INYF could go further than simply promoting the use of natural fibres, it could also have a major impact on production and, by consequence, employment levels across the globe.

One of the chief objectives of the campaign, according to the UN, is to improve the lives of the poor working in the natural fibres industries. It believes that one way of doing this is to find new markets or uses for natural fibres or their by-products, especially those produced by small-scale farmers. Projects set up by inter-governmental groups such as the Common Fund for Commodities (CFC) can help here. The CFC supports activities that are designed to enhance the social and economic development of commodity producers, especially in the natural fibres industry.

In Tanzania, the CFC financed a pilot electricity plant that runs on bio gas generated from sisal waste. Farmers can choose whether to sell their waste to the plant for cash or trade it for a share of the electricity. A project financed by the fund in the Philippines has shown the commercial viability of producing fibre boards made from coconut fibre without the use of chemical additives, while another project in Brazil is investigating the potential market for building boards made from sisal fibre rather than from dangerous asbestos. If successful, the new product could lead to increased demand for sisal.



THTC's tracksuits, belts and t-shirts are made from 55% hemp and 45% organic cotton.

Will Whipple/THTC

Protecting the environment

The environmental impact of the campaign may also be significant. According to the UN, the natural fibres industry contributes to a greener planet and could play an even larger role with better farming and manufacturing policies. It hopes to promote greener and more efficient agricultural techniques for growing natural fibres. One technique is integrated pest control, through which farmers study the ecology of their fields throughout the growing season. They learn how to judge when insect populations are in balance and synthetic pest control is not necessary which, over the cropping year, saves the farmer money and offers environmental benefits.

Recent results from the Global Lifestyle Monitor, a joint study by CCI and Cotton Incorporated that researches global consumers' shopping habits shows that global consumers identified cotton as the most environmentally-friendly fibre compared with synthetics and other natural fibres. "Cotton is a natural, renewable and biodegradable resource, and is the largest natural fibre in the global fibre, textile and apparel economy," says Mr Terhaar.

However, other research shows that cotton production consumes large volumes of water and can create other environmental problems. Producing some other types of natural fibres, for example linen and organic cotton, may cause less environmental damage. However, because, comparatively, they are currently grown in such small quantities, the benefit to the environment is minimal. "While it's interesting that other sources of fabric and fibre have become more available, including bamboo, Lyocell, soy and

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hemp, we need to measure the impact of the whole apparel supply chain," said Mr Kirkwood at the Rite Conference. "These innovations, at the moment, are really making very little difference across the piece." Perhaps the UN's campaign could help to start tipping the balance here.

What consumers want

According to the GLM study, consumers prefer to buy products containing natural fibres. The research showed that 64% of consumers would pay more for clothing made from natural fibres, such as cotton, than for clothes made from synthetic fibres such as polyester. Furthermore, global consumers strongly associate cotton with positive attributes such as being soft, breathable, comfortable and fashionable.

Demand for athletic wear made from natural fibres also appears to be rising. Research from Cotton Incorporated published in January revealed that 56% of female respondents prefer to wear cotton when participating in athletic activities. This response was 12 percentage points higher than when the same question was asked in 2006. "Comfort is certainly the number-one consideration for women when choosing athletic apparel, but they are also looking at functionality and that is either in the performance attributes or the design of the garment," says Melissa Bastos, manager of market research at Cotton Incorporated.

Mr Terhaar agrees. "As a natural fibre, cotton has characteristics that no synthetic fibre can mimic," he says. "Cotton fabric 'breathes' better and offers supreme comfort, from sheets to denim to athletic wear," he says. "In terms of technical attributes, cotton fabrics are finished in many ways and can offer special characteristics such as durable press, water repellency, flame resistance and shrinkage control. Cotton's attributes as a rapidly renewable natural fibre, combined with consumers' preference for cotton, make it a viable option for textiles and apparel both now and in the future."

Room for improvement

Another objective of the International Year of Natural Fibres is to encourage innovation. According to the UN, the natural fibres industry is a dynamic sector and plenty of new research is being produced into fresh uses for natural fibres and new innovations that can be achieved. According to the Cotton Incorporated study, the most popular performance features among women were easy-care (64%), wrinkle resistance (61%), stain resistance (56%), stretch (53%), fade resistance (52%) and odour resistance (40%); these figures reflect the percentage of female respondents who say that they are likely to pay more for clothing that boasts these features over garments that do not.



The International Year of Natural Fibres aims to raise awareness and stimulate demand for natural fibres.

Cotton Council International

The UN is encouraging producers to continue to commit time and money to research into technical innovation. It mentions areas such as self-cleaning wool and silk fabrics, finer jute yarns for clothing and wool blends that keep wearers dry even during strenuous activity. It also claims that the breeding of new cotton varieties that produce non-toxic seeds could open the way to producing additional food for people while increasing returns to cotton growers.

The organisation suggests that research into producing more drought and insect resistant natural fibre plants is needed. It adds that: "Greater international cooperation and exchange of ideas" across natural fibres industries could lead to the development of better processing technologies and, ultimately, improved products. According to the UN, the INYF "brings together producers and consumers of all natural fibres" for the very first time and could offer the sector the chance to claw back some of the market share it has lost.

Mr Moir points out that improvements in natural fibre production have already started to bear fruit. "Technological advances have allowed natural fibres to continue competing effectively with synthetics, e.g. improved washability of wool clothing," he says. "The more industrial fibres (sisal, jute, etc.) have benefited more from seeking new applications where they are not directly in competition with synthetics.

However, Mr Moir makes it clear that synthetic fibres will always continue to be widely used. "Natural fibres have advantages over synthetics in some applications, while in others synthetics have advantages. Certainly, natural fibres could never take over from synthetics"; the world could not markedly increase production of these fibres while continuing to feed its people."

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