

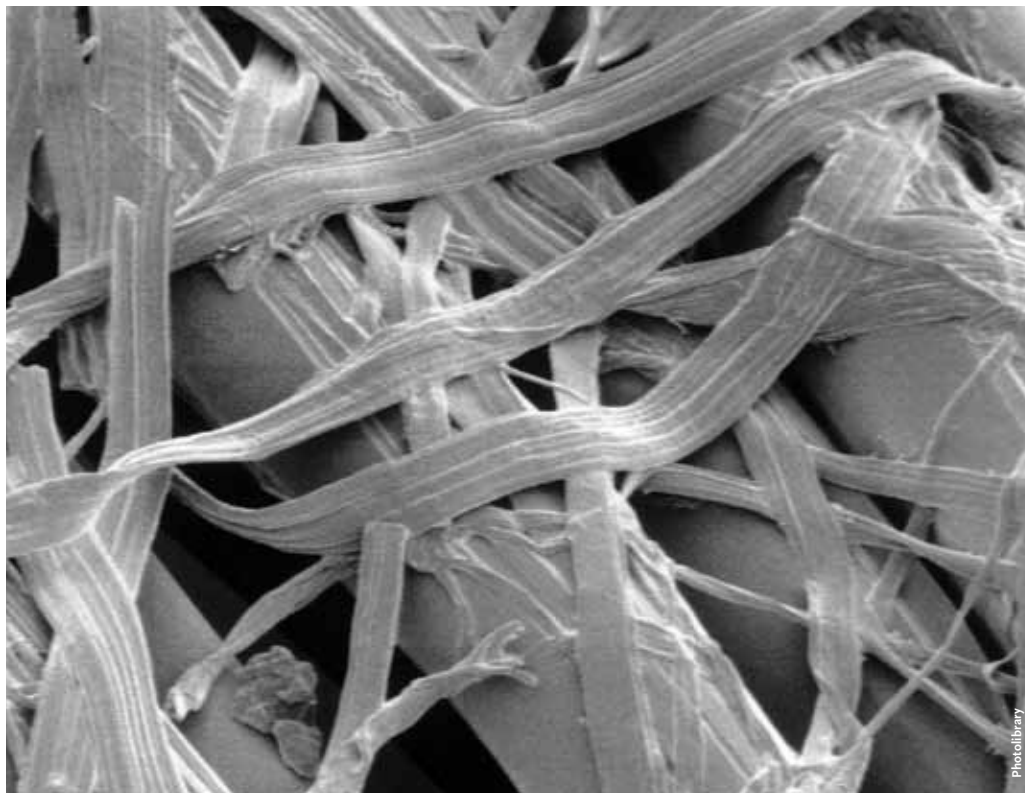
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Towards a Green Wardrobe

Sustainable style's growing trend



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► The cotton fibre grows on the seed of a variety of plants of the genus *Gossypium*. Of the four cotton species cultivated for fibre, the most important are *G. hirsutum*, which originated in Mexico and produces 90% of the world's cotton, and *G. barbadense*, of Peruvian origin, which accounts for 5%.

◀ Hemp fibre is obtained from the bast of the plant *Cannabis sativa* L. It grows easily without agrochemicals and captures large quantities of carbon. Production of hemp is restricted in some countries, where the plant is confused with marijuana.

◀◀ Flax fibres obtained from the stems of the plant *Linum usitatissimum* are used mainly to make linen. The plant has been used for fibre production since prehistoric times. It grows best at northern temperate latitudes, where moderately moist summers yield fine, strong but silky flax.

Did You Know?

Organic first

Levi Strauss began experimenting with organic cotton and recycled denim in the early 1990s. Levi Strauss was the first the global apparel company to implement Global Effluent Guidelines for strict wastewater guidelines that all processors must meet and later developed a comprehensive Restricted Substance List.

www.levistrauss.com/Citizenship/Environment

The ecological movement for textiles started as early as the beginning of the 90s with Levi Strauss' organic cotton and water management initiative (see Organic first box). It wasn't until recently however, that other major players in the fashion industry decided to make a paradigm shift that is now stirring consumer interest in significant ways. They include the likes of more large-scale retailers such as GAP, Wal-Mart and H&M.

Despite the effort, there remains a great deal of work to be done when it comes to educating and convincing the public on environmental issues and the importance of their active participation as consumers in the global market.

Most people don't feel that they can make a difference, being one out of 6.7 billion, mostly because the accumulative effect of decisions they make that affect the supply chain is not an immediate or apparent one. Some even think of environmental sustainability as a passing fad or marketing ploy.

Unfortunately, environmental sustainability is not only a grave issue, but it is one that is worsening with continued neglect and ignorance. The commonly held belief that no one cares about environmental issues because there are real and more urgent problems that require our attention cannot be a more ironical one – how can we be too busy trying to stay alive to care about staying alive? This only reaffirms that we are dangerously limiting our perception. This in turn affects the grounds for setting priorities to what is immediately present.

We have to go beyond our own limitations and boundaries – be it personal, racial, social, political, or economical – and realise that we are really one species

living on one planet. We cannot continue consuming our finite resources as if there are no consequences to our actions. Some doubt if such drastic changes to our lifestyles and consumer habits is absolutely necessary.

According to current facts and estimations provided by environmental scientists (bbc.cpdn.org), “this here and now” is the pivotal point for humankind and its future generations. Choose to ignore the problems now and it may be too late when we realise where we are headed.

Let us evolve. The solutions to our global problems will not come easy; we will need to take incremental steps in order to find the right answers. In the textile industry, there are many improvements to supply chain processes that have yet to be made – from fibre production to the making of yarn, the weaving of yarn into textiles to the dyeing and printing applications that modify the appearance of textiles, and economising the usage of these textiles in cutting and sewing to the minimisation of water and electricity that consumers use to maintain their apparel.

As consumers, we have yet to develop the ability to tell viscose apart from cotton, let alone to consider how we can alleviate global apparel supply chain issues. To confuse things even further, technical terms like “ecological” and “organic” are used interchangeably whenever the topic of “green” textiles comes up in conversation. There are also multiple eco-certification bodies that certify textiles based on varying sets of criteria. So how does the average consumer make sense of all of this, so that they may make better consumer decisions? First and foremost, we need to distinguish the difference between various eco-jargon in reference to typifying fibres and textiles. They include:

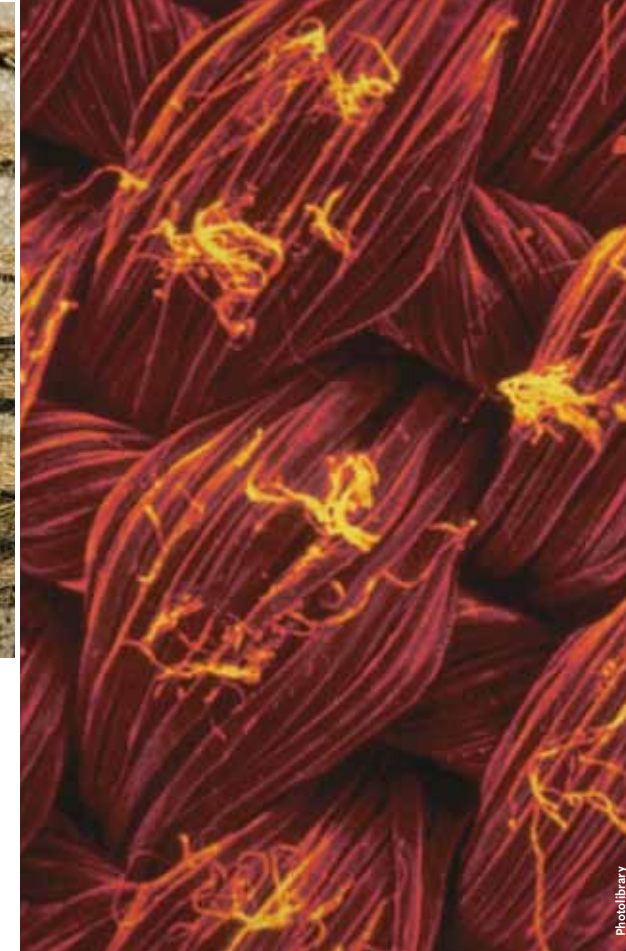
► Coir is extracted from the tissues surrounding the seed of the coconut palm (*Cocos nucifera*). Among vegetable fibres, coir has one of the highest concentrations of lignin, making it stronger but less flexible than cotton and unsuitable for dyeing. The tensile strength of coir is low compared to abaca, but it has good resistance to microbial action and salt water damage.

▼ Sheep (*Ovis aries*) were first domesticated 10 000 years ago. They currently number about 1 billion head, in 200 breeds worldwide. Sheep are shorn of their wool usually once a year. After scouring to remove grease and dirt, wool is carded and combed, then spun into yarn for fabrics or knitted garments.

- **Sustainable.** Textiles and fibres that are not just environmentally friendly, but also produced in socially responsible ways
- **Ecological.** Textiles and fibres produced with a focus on the environmental aspect of textile production
- **Organic.** Textiles and fibres made from any crop cultivated using organic principles of agriculture, such as organic manure and bio fertilisers, and without pesticides, chemicals, and synthetic fertilisers
- **Recyclable (Biodegradable).** Textiles made from natural and synthetic fibres that are biodegradable or can be broken down into smaller particles for the purpose of recycling, thereby creating a closed-loop production cycle
- **Natural.** Textiles made from natural fibres that are easily renewable within a short-term period, thereby reducing the exploitation of finite resources
- **Ecological Processing.** This refers to the wet processing of textiles using environmentally friendly agents and methods that reduce chemical input and harmful effluent disposal, such as peroxide bleaching, natural dyes and azo-free dyes

With a basic understanding of key terminology associated with “green” textiles, we can now broach the topic of the classification of ecological textiles. In essence, there are four categories of eco-textiles.

- **Organic.** Organic Cotton, Organic Wool, Organic Silk, Hemp, Ramie, Jute
- **Manmade.** Corn-based, Soya-based, Coconut-based, Milk protein-based, Lyocell, Seacell, Modal
- **Recycled (Biodegradable).** Recycled Polyester (PE or polyethylene, PP or polypropylene, PLA or polylactic acid, PET or polyethylene terephthalate), Recycled Cotton



◀ Silk is produced by the silkworm (*Bombyx mori*). Fed on mulberry leaves, it produces liquid silk that hardens into filaments to form its cocoon. The larva is then killed, and heat is used to soften the hardened filaments so they can be unwound. Single filaments are combined with a slight twist into one strand, a process known as filature or “silk reeling”.

▼ Jute is extracted from the bark of the white jute plant, *Corchorus capsularis*, and to a lesser extent from tossa jute (*C. olitorius*). Dubbed the “golden fibre”, it is one of nature's strongest vegetable fibres and ranks second only to cotton in terms of quantity produced.

- **Natural.** Cotton, Wool, Silk, Linen, Hemp, Ramie, Jute

With a plethora of weaving, knitting, and finishing options that vary from one supplier to another, each category of eco-textiles can be radically different in texture, weight, colour, design and quality. Very often, textile manufacturers blend fibres from different categories with one another or even regular fibres to achieve the needs and price points of their clients, whose profile can range anywhere from apparel retailers to fashion designers and textile traders.

Some suppliers even require that their organic cotton fibre suppliers remove crop-eating pests from the plots by hand in order to meet eco-certification standards that are stipulated by their clients. Due to the extra labour associated with producing some of the ecological textiles, their selling prices are normally 30 to 50 percent higher than producing regular fabrics.

However, as consumer awareness increases and demand for ecological textiles multiplies, the costs will gradually lower over time. It is therefore imperative that end consumers make purchasing decisions that propel the industry to move towards affordable sustainability. **AG**

* The definition and categorisation of eco-textiles is based on information presented by Dr. Charu Jain of Gap International Sourcing Pte Ltd in a Singapore Fashion Week Eco Conference held in October 2007. The eco-textiles listed in each category serve only as examples to help facilitate familiarity of each sample group. The full range of eco-textiles is not limited to the examples provided here.

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