

Bamboo Clothing

benefits



Bamboo is one of the world's most sustainable resources.

Bamboo fiber is a revolutionary new fabric that has unparalleled advantages, including strength, versatility and luxurious softness. In a relatively short time, clothing made from bamboo fiber has made it to the top ranks of eco-friendly choices.

Environmental benefits of bamboo

- **Cleans the air.** Bamboo gives us clean air to breathe, consumes carbon dioxide and, because bamboo forests are so dense, returns 30% more oxygen to the atmosphere than trees. Some bamboo sequester up to 12 tons of carbon dioxide from the air per hectare.
- **Requires less energy, water to grow.** It takes much less energy to grow and sustain bamboo than other similar trees and plants used for fiber production. Bamboo plantations require very little maintenance. Bamboo also requires very little water and can survive drought conditions as well as flooding.
- **Reclaims land.** Because of its rapid growth and root structure, bamboo can, in a very short time, reclaim land destroyed by overgrazing and over-building and clean the soil of toxins.
- **Can be grown without pesticides.** Bamboo can be grown without pesticides or chemicals because of its own anti-bacterial agent.
- **Can be harvested sustainably.** Bamboo is one of the fastest growing plants on the planet, making it a high yield renewable resource. It can be selectively harvested annually and is capable of complete regeneration without need to replant.
- **100% biodegradable.** Unlike synthetic fibers which incorporate petroleum additives, bamboo clothing is safe for municipal disposal programs, whether by landfill or incineration.

Bamboo fibre is made by pulping the grass until it separates into thin threads of fibre, which can be spun for weaving into cloth. Bamboo fibre resembles cotton in its un-spun form, a puffball of light, airy fibers.



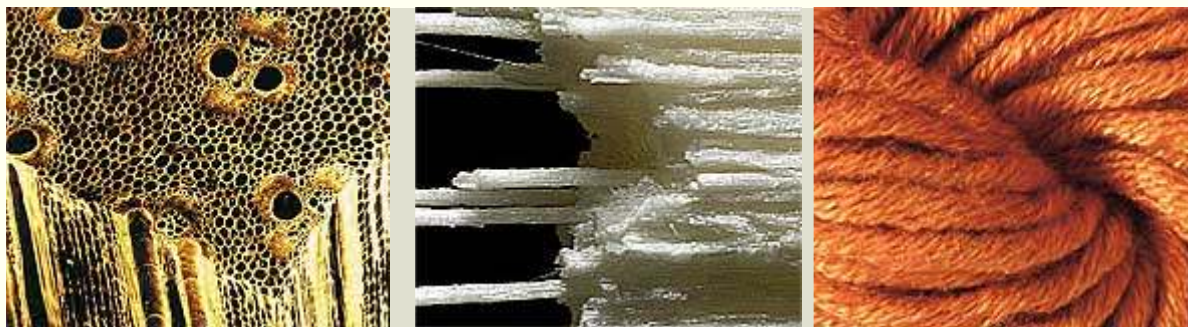
Benefits and Features of bamboo fiber clothing and textiles

Bamboo fabric is created from bamboo pulp. The fabric is bleached without the use of chlorine. Bamboo fabric is easy to dye and is done so without the use of harsh chemicals, using methods which require less water than conventional dyeing methods.

Bamboo fabric is used for a range of clothing, such as shirts, dresses, socks and slacks, and because of its antimicrobial properties, is ideal for active wear. Bamboo is often blended with 30% cotton to add structure to garments. Bamboo is also used for sheets and pillowcases, because its smooth fiber lends a satin feel; bamboo sheets also feel warmer in winter and cooler in summer. As an added benefit, bamboo products are often less expensive than their cotton, silk or rayon counterparts.

- **Naturally soft.** Bamboo apparel is softer than the softest cotton, and it has a natural sheen like silk or cashmere. Bamboo drapes like silk or satin, yet is less expensive and more durable. Bamboo/Organic cotton blends are also extremely soft but heavier in weight.
- **Allergy reduced.** Bamboo's organic and naturally smooth fiber properties are non-irritating to the skin, making it ideal for people with skin sensitivities or other allergies and dermatitis. Some people can still experience chemical sensitivities, however, depending on the manufacturing process used to produce the fiber.
- **Thermal regulating.** ensuring that you are warm in the winter and cool in the summer. Bamboo clothing's excellent wicking properties also make it ideal for warm summer days.
- **Absorbs moisture.** A cross-section of bamboo fiber reveals various micro-holes, allowing bamboo cloth to have superior absorption. This allows bamboo cloth to absorb and evaporate human sweat rapidly. Bamboo fiber is four times more absorbent than cotton.
- **Breathable.** The porous qualities of bamboo fiber account for its breathability; clothing made of bamboo resists clinging during hot weather or exercise.
- **Anti-bacterial.** Bamboo fabric contains a naturally occurring anti-microbial agent, kun, that prevents bacteria from cultivating on it, which means it helps keep you odor free.
- **UV protection.** Bamboo naturally provides added protection against the sun's harmful UV rays.

Because of its anti-bacterial and UV resistant properties, bamboo fiber clothing is particularly well suited for performance and exercise wear.



images from left: bamboo fiber cross-section; detail of fiber strands; spun yarn ready for weaving

Textile Development

Several different manufacturing processes can be used to convert bamboo from the plant to the woven fabric, with varying environmental costs. Mechanical methods which crush the bamboo into pulp are the least harmful but the most expensive. More often, chemical processes are used which can pose threats to workers at processing plants and the immediate environment around processing facilities.

The chemical processes which cause environmental concern center around the use of solvents which 'cook' the bamboo leaves and stems into a solution from which the fibers are drawn. A common method called 'hydrolysis alkalization with multi-phase bleaching' is not considered sustainable or environmentally supportable.

Because the market appeal for bamboo clothing is growing, manufacturers are working to process bamboo fiber using methods that are certifiable and environmentally benign. These newer processes include closed-loop systems such as the lyocell process used in making Tencel, and processes using safer solvents such as acetic acid.

Because most bamboo fiber production is in China, it is difficult to monitor the manufacturing processes. As consumer interest for bamboo fiber builds, however, it is likely to apply more pressure for transparency among manufacturers. Eco-certification programs can help to insure that the manufacturing and finishing processes are healthy. Look for certification from an independent and reliable certification company such as Oeko-Tex, Soil Association, SKAL, KRAV or similar organic or sustainable certification body.

Caring for bamboo clothing and textiles

In general, bamboo fiber clothing can be machine washed in cool water with mild soap on the gentle cycle. Manufacturers often advise against using fabric softeners or bleach. Although shrinkage is minimal with fabrics made of bamboo, it's best if garments can hang to dry. (Bamboo clothing dries faster than most other fabrics.) Because bamboo clothing is naturally wrinkle-resistant, ironing is not always required.

Because bamboo fiber is often blended with other fibers (e.g. cotton, lycra, spandex, polyester) for different textiles, however, be sure to refer to the manufacturer's guidelines on the garment for recommended cleaning procedures.

* Windward Apparel recommends all printed garments be washed inside out.

