



Factsheet - Organic Cotton

What is organic cotton?

Organic cotton is grown using methods and materials that have a low impact on the environment. Organic production systems replenish and maintain soil fertility, reduce the use of toxic and persistent pesticides and fertilisers, and build biologically diverse agriculture. Third-party certification organisations verify that organic producers use only methods and materials allowed in organic production. Organic cotton is grown without the use of toxic and persistent pesticides and synthetic fertilisers. In addition, regulations prohibit the use of genetically engineered seed for organic farming.

Are chemicals used in the processing?

Yes, and anyone who claims otherwise is giving a false picture. The good news is that far fewer chemicals are used than in conventional cotton processing. According to the terms of the Global Organic Textile Standard (GOTS) the following chemicals are just some of those allowed in organic cotton processing: ammonia, ammonium hydrogen sulphate, sodium sulphate, hydrogen peroxide bleaches, sodium hydroxide (caustic soda) and sulphuric acid. Sodium hydroxide and sulphuric acid are the same chemicals used in the processing of bamboo fibre. During the mercerisation process (a process which makes the cotton stronger, smoother, and shinier and allows it to take dye more readily, whilst also reducing shrinkage) the cotton fibres are immersed in a sodium hydroxide bath and then into a sulphuric acid bath to neutralise the acid. Although sodium hydroxide and sulphuric acid are unpleasant chemicals, when they react together a neutralisation reaction occurs and the products are sodium sulphate salt and water which are both non-hazardous. The chemicals are used in a controlled environment inside the factory and many factories use a closed-loop process meaning the chemicals are not allowed to escape into the environment.

What dyes are used?

Natural mineral dyes and dyes from organically grown plants should be used. These dyes need chemicals called mordants to bind. The following list of mordants are just some of those allowed according to GOTS: aluminium potassium sulphate, ammonium hydroxide, sodium hydroxide (caustic soda) and sulphuric acid.

What are the benefits of organic cotton over conventional cotton?

Although chemicals are still used in the processing of organic cotton, the chemicals are used inside the controlled environment of the factory and far fewer chemicals are allowed (over 8000 chemicals are used in conventional cotton processing compared to less than 200 in organic cotton processing). Organic cotton is also grown using far fewer pesticides. Conventionally grown cotton is considered the world's 'dirtiest' crop due to its heavy use of insecticides, the most hazardous type of pesticide to human and animal health. Cotton covers 2.5% of the world's cultivated land yet uses 16% of the world's insecticides, more than any other single major crop. The pesticides sprayed onto conventional cotton are used out in the open rather than in the controlled environment of a factory, and according to the World Health Organisation there are 20,000 deaths a year from pesticide poisoning, many of those attributed to cotton farming. The Environmental Protection Agency considers seven of the top 15 pesticides used on cotton in 2000 in the United States as "possible," "likely," "probable," or "known" human carcinogens. Unfortunately cotton is a vulnerable crop with many insect pests such as aphids, boll weevils, caterpillars and boll worms and even organically grown cotton needs some pesticides. GM cotton is not allowed to be called organic. Because pesticides are usually produced from petro-chemicals, reducing pesticide use reduces the amount of greenhouse gases released into the atmosphere.

There is currently over 31 million hectares of land under conventional cotton using 30 million Kg of pesticides each year. For every 100 thousand hectares of this land converted to bamboo, hemp or organic cotton, we eliminate about 100 thousand Kg of pesticides, reduce green house gas output by approximately 2 million Kg and save lives.