



Organic textiles briefing paper

The textile standards were launched in February 2003. This briefing sheet provides some information on organic textiles and the new standards.

The Soil Association believes that it is vital that organic standards are kept high and enforced effectively. We aim to ensure that Soil Association standards meet consumer expectations, reflect the best sustainable practice and become the benchmark for organic production globally.

The textile industry is one of the most polluting, using chemicals that are dangerous to human health and wildlife. Around a quarter of the world's insecticides are used to grow cotton¹ and at least 8,000 chemicals are used to turn raw material into clothes, towels, bedding and other items that we buy.²

Many of the chemicals used are acutely toxic, and are classified by the World Health Organisation (WHO) as moderately hazardous to extremely hazardous. Some of the most widely used chemicals (such as organophosphates, pyrethroids, carbamates and organochlorines) have been associated with cancer, birth defects, and also have hormonal and reproductive effects - for example, male fish have started to develop female characteristics. In humans, pesticides could be linked to lower sperm counts.

Insect pests have developed resistance to many pesticides, causing farmers to spray more chemicals to little effect. Around 150 grams of pesticides and fertiliser are used to grow the cotton for one T-shirt – the equivalent of one cup of sugar.

According to the WHO, 20,000 deaths occur in developing countries each year from poisoning by agricultural pesticides used on crops, of which many, due to their relative toxicity, can be attributed to cotton. In Benin in West Africa, 24 people died as a result of poisoning from cotton pesticides in 2000 – this included 11 children under the age of 10.

But there is a better way – organic.

The Soil Association's standards for organic textiles

The Soil Association launched standards covering organic textiles in February 2003. They have taken two years to develop and have been compiled by a committee of experts drawn from amongst others the clothing manufacturers and retailers, chemists, organic farmers, pesticides researchers and certification bodies.

The standards cover the processing and manufacture of all natural fibres including leather and skins. The manufacturing of organic textiles uses methods that ensure minimal damage to humans and the environment. All inputs must be assessed on their biodegradability and their toxicity to fish, algae and water fleas. In addition, inputs are not allowed if it is suspected, or proven, that the chemicals or processes used can cause cancer, birth defects or changes to reproductive organs. Suspected or proven allergens are also banned.

The conditions under which organic fibres can be grown are covered in existing organic standards.

The use of herbicides is prohibited and artificial pesticides are severely restricted. All animals will be reared to organic standards and no genetically modified (GM) inputs are allowed.

Other organisations certifying organic textiles

A number of other organisations currently certify organic textiles, but the Soil Association is the first UK certifier to do so.

Other labels you might see on textiles include KRAV (Sweden), Demeter (Germany), IVN - International Association of Natural Textile Manufacturers (Germany), SKAL (Holland). There are other labels such as Agrocél (India) which are trade organisations as opposed to independent certifiers.

In developing our standards we reviewed all those currently available to ensure we captured the best and most appropriate standards from elsewhere. In particular we worked within the criteria laid down by IFOAM regarding toxicity (to humans and wildlife) and biodegradability when deciding which chemicals and processes are acceptable. IFOAM is the International Federation of Organic Agriculture Movements – an international umbrella organisation for organic standards. The Soil Association is the only UK certifier that is accredited by IFOAM.

For a garment to be labelled organic by the Soil Association, raw materials must contain at least 95% organic materials – excluding accessories such as buttons and zips. The remaining 5% can be made up of a limited range of non-organic fibres if insufficient organic material is available. If an item contains 70% - 94% organic materials by weight, it must be labelled “made with xx% organic materials.”

Fibres from in-conversion crops can be used to reach the minimum level of organic material required as long as this is clearly labelled on the product. However, fibres from in-conversion animals cannot be marketed as organic.

Where to buy organic textiles

The Soil Association has produced a list of companies selling organic textiles – we believe that this is the most comprehensive directory available. This is available from www.soilassociation.org/textiles or by calling us on 0117 914 2444.

Quality

Organic cotton is often handpicked as opposed to commercial cotton, which is harvested by machine. This is partially because chemical defoliants, which strip plants of their leaves, are banned in organic cotton production, and partially because organic cotton is often grown on a smaller scale. Handpicking is more accurate and allows workers to select the best quality cotton.

Price

Organic textiles do not always cost more than those that are mass-produced. Although farmers get a premium for the crop, there are fewer middlemen, so savings can be made at this level. We compared the price of an organic cotton baby grow, an adult's T-shirt and socks with similar quality on the high street and found that the organic clothes were similarly priced.

The problems with conventional cotton

A number of factors have led to various problems with conventional cotton farming. Conventional cotton tends to be grown on a vast scale as the only crop (monoculture), it is not rotated with other crops, and the same types of pesticides are used repeatedly – this causes the pests to become resistant to the chemicals that are meant to kill them.

The regular use of synthetic fertilisers and lack of organic matter in the soil can cause a reduction in

the soil's fertility. Cotton production can also require vast amounts of water, particularly in the huge irrigated cotton fields of Sudan, Australia and the US. Heavy use of pesticides is an inevitable consequence of the widespread cultivation of cotton and monocultures.

All wild cottons are drought-tolerant with no serious pest problems and are found in dry areas of parts of Africa, Asia, Australia and America. However, commercial cotton has been bred for higher yields and to grow under a range of climatic conditions and is now grown as far north as Ukraine and as far south as Argentina. Therefore cotton is now exposed to a range of environments with no inherent ability to resist alien pests and diseases. No longer grown as a hardy perennial shrub, commercial cotton is cropped during its most vulnerable stage - the first year of growth. As a result, commercial cotton is attacked by more than 46 different pests from 32 different countries - most losses are due to six different species of bollworm.

GM cotton

The same companies selling chemicals to use on cotton are now developing GM cotton – which is resistant to herbicides or insects (mainly Bt cotton). Monsanto is the main developer of GM cotton globally and other companies generally license the technology from this company.

GM cotton is grown commercially in the USA, Mexico, Argentina, China, India, Indonesia, Australia and South Africa. In the USA and South Africa three-quarters of the cotton area is planted with GM crops.

GM cotton has met with considerable resistance from farmers in developing countries, including India and Indonesia. GM cotton fields have been destroyed and many demonstrations have taken place. Concerns over safety and corporate control over crops have been the dominant message.

The same problems are emerging with GM cotton as with other GM crops: the use of sprays is not necessarily reduced, pesticide resistance is a possibility, as is contamination.

Organic pest control

Organic farmers around the world are showing that there is no need to rely on dangerous chemicals.

Black ants keep caterpillars and other pests under control in Uganda. The ants are collected by farmers among the leaves below banana trees. They are transferred to the cotton field where two ants patrol each cotton plant, eating flies and almost any other insects they encounter, including the major cotton pests, bollworms and budworms. Okra is grown nearby to attract away cotton stainers – one insect that the ants don't attack. The Ugandan for organic cotton is pamba nginigini - pamba means cotton and nginigini are the predatory black ants.

In other countries, mixtures of natural soap, chilli and extracts from local trees are used to repel pests, which can then be eaten by chickens or other birds. Insect traps can be used to detect when levels of infestation are rising, allowing farmers to time their applications to gain the best effect.

How farmers benefit from organic cotton

Research by the Pesticide Action Network in sub-Saharan Africa (Benin, Senegal, Tanzania, Uganda and Zimbabwe) found that most farmers reported less illness during the rainy season after switching to organic cotton growing. Field observations confirm that organic cotton fields have significantly higher numbers of insect species than conventional ones, especially those that are beneficial.

Farmers say that they do not have to get into debt when growing organically and report that soil fertility is improved, and some farmers report higher incomes.

Case studies of villages growing organic cotton in Benin and Zimbabwe – provided by the Pesticide

Action Network – are available from the Soil Association.

Processing of conventional textiles

Large amounts of water, energy and chemicals are used at the different processing stages. Inputs required for processing usually find their way into the local waste water systems, resulting in highly contaminated effluents. Most effluents from cotton processing arise in the finishing stage and are characterised by their highly polluting load, high solid content and high temperature. In Sweden, for instance, every kilogram of textiles manufactured uses almost half a kilogram of chemical, most of which ends up in waste water.

A Danish study looked at 22 textiles of various fibres to assess the volume of chemicals in the textiles and the environmental risk from the chemicals when clothes are washed. Of the 27 substances found, 12 had adverse effects on the aquatic environment, and 10 could pose a risk to consumers. Of an additional 190 chemicals carriers, anti-wrinkle agents and biocides were the most hazardous to aquatic wildlife. The most dangerous to human health were carriers, biocides, fluorescent whitening agents and fixatives.

Inputs not allowed under Soil Association standards

Chemicals and processes are assessed for their effects on human health and wildlife and how quickly they biodegrade. Inputs are not allowed if it is suspected, or proven, that the chemicals or processes used can cause cancer, birth defects or changes to reproductive organs. Proven or suspected allergens are also not allowed.

A number of inputs are specifically prohibited including:

- Fluorocarbons
- Halogenated flame proof agents
- Halogenated anti-moth agents
- Heavy metals (excluding iron)
- Organochloride carriers
- Other chlorinated compounds
- Pyrethroids
- Chlorinated or perborate bleaching agents

Natural dyes from plants or insects that have been organically produced must be used where available in sufficient quality and quantity. AZO dyes are not allowed as some are carcinogenic. Some have been banned in Germany (which had to prove to the World Trade Organisation that they were damaging to health). Some Chinese factories have now stopped using them as a result of the pressure from Germany.

Petrochemical-derived plastic should not be used where an alternative exists.

Justification must be provided for the use of some non-organic fibres, such as where products cannot be made without their inclusion e.g. socks and tights.

GM products or products derived from GMOs are not allowed.

Labelling

We recommend that products show the country of origin of the raw material and the countries where the processing and manufacture were carried out. The label must enable the identification of the final manufacturers by their name or licence number or by another code that is identifiable to the certification body. It must also identify the certification body and provide information about the fastness of the dyes, and shrinking where applicable.

The market for organic textiles

- Sales of organic cotton have reached an estimated £20 million in the UK. ³
- In the USA, growth of organic textiles increased by 28% - the biggest growth area was in women's clothing - which grew by nearly 40% in 2003 ⁴
- Organic textiles are expected to grow by 16% between 2004 - 2008 ⁵
- Over the last two years, sales of organic and environmentally-friendly textile products have increased by 20 per cent in the UK. One in three UK consumers is making a lifestyle choice and purchasing eco-friendly products.

Actions – what you can do

- Buy organic textiles.
- Ask your favourite clothes shops to stock organic items.
- Ask retailers whether their clothes contain GM cotton.

We'd like to know how you get on. Please contact Alissa Cook in the Policy Department on 0117 914 2433 or acook@soilassociation.org

How can I support the work of the Soil Association?

The Soil Association is a membership charity, we urgently need your support to continue our work. As public support for the Soil Association continues to grow, our ability to influence the thinking and policies of government and big business grows with it. In this way we help to develop a truly healthy and sustainable future. Join us today and help us to continue campaigning for sustainable agriculture and organic food. You can join the Soil Association on our website, over the phone or by writing to us.

1 Allen Woodburn Associates Ltd

2 William McDonough and Dr Michael Braungart

3 Soil Association's Organic Food and Farming Report 2004

4 OTA's manufacturer Survey, 2004

5 OTA's manufacturer Survey, 2004

Further Reading

Organic Cotton: From Field to Final Product (Pesticide Action Network UK, 1997)

Genetically Modified Cotton: implications for small scale farmers (Pesticide Action Network UK, 2002)

Organic Cotton Production in Sub-Saharan Africa (Pesticide Action Network UK, 2002)

The International Market for Organic Cotton and Eco Textiles (Pesticide Action Network UK, 2002)

Genetic modification – making cotton more sustainable? A review of GM cotton development (Soil Association, 2003)

Please see the Soil Association website library, <http://www.soilassociation.org/library>, for more information

Soil Association Campaigning for organic food and farming and sustainable forestry

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