Several times last year industry figures, in conversation with this magazine, put forward the idea that organic cotton harms the environment more than conventional cotton, because of the amount of water required to produce the crop. This article presents an alternative view.



Organic cotton: "a revolution waiting to happen"

How did the notion circulate that organic cotton was more harmful to the environment than ordinary cotton? Lord Peter Melchett, himself an organic farmer on 360 hectares in the east of England and the former executive director in the UK of campaign group Greenpeace, says he has no idea how this became such a commonly held view, but he says it's a misconception.

Non-organic cotton is by far the largest user of pesticides in the textile industry, he claims, with "some of the most dangerous pesticides on the market" featuring prominently in its production. He adds: "When cotton is grown organically it is substantially cheaper to produce because there are no pesticides, no expensive sprays, involved and, on the whole, yields are similar or higher."

Instead of pesticides, organic cotton farmers use crop rotation to keep pests at bay. Peter Melchett explains that crop rotation also controls weeds and natural diseases, saying that the ability to combat them is "inherent in diversity".

On the subject of water-use, he points out that cotton (of all kinds) is always a water-hungry crop, but not to the same extent as rice, sugar or coffee. However, his belief is that organic cotton should use less water than its non-organic cousin. "Organic soil retains water better than non-organic," he continues. "Organic crops have to scavenge for nutrients and will work harder than non-organic to get water that's under the soil."

A cotton field in the US. Labour costs there make it difficult for farmers to produce organic cotton at a price the market will pay.



Sports and outdoor brands including Patagonia and Nike are at the top of the list of users of organic cotton.
Nike

But he says that producing organic cotton, or organic anything, is far from straightforward. There is little scientific research on the subject, with the academic community only beginning now to turn its attention to organic farming. And the techniques organic farmers are using have only been developed in the last 50 years. He becomes annoyed when critics talk about the organic movement taking farming back 1,000 years. Organic food producers use modern thinking, he insists; they don't grow food the way people did in the eleventh century.

"But scientific research is the key to it all," he says again. "That will provide the answers to the very big, institutionalised, economic and political interests that have become entrenched in promoting non-organic cotton. Anyone in doubt about this should talk to farmers, and farmers' families, to see what they have to say."

His own passion for organic is immediately evident, but he puts his points across gently—he is no forceful tub-thumper. Nevertheless, he is clear about one thing: in the long term, organic will be "the only viable option" for farmers of cotton or any other product.

Even putting natural fibres to one side for a moment to look at food, the argument is still interesting. "We have a surfeit of food in the world, but huge problems in distributing it fairly, leading to the levels of hunger we still see in some parts," he explains. "Also, in the developed world, there continues to be a huge amount of worry surrounding how we produce and

The world's top-ten organic cotton producing countries

1. Turkey
2. India
3. China
4. Syria
5. Peru
6. United States
7. Uganda
8. Tanzania
9. Israel
10. Pakistan

Total amount of organic cotton produced in 2007: 57,931 tonnes.





Not organic, but cleaner at least

While we wait for the supply of organic cotton to pick up, a middle-road alternative has begun to become available.

Growers in the San Joaquin Valley in California have been involved for some years now in an initiative called the Sustainable Cotton Project (SCP). It's run by a not-for-profit organisation that wants local growers to cut down on chemicals.

A marketing consultant working on the project, Lynda Grose, explains that going organic would not be a viable option in this part of the world at the moment. She teaches sustainable fashion design at the California College of the Arts in San Francisco, and helped design a line of organic cotton clothes for Esprit in the early 1990s, so her credentials as an organic enthusiast are not in doubt. But she says that California cannot produce organic cotton at a price the market will pay. "Our labour costs are too high," she says.

Farming communities in San Joaquin are under pressure to improve their industry's record in polluting the land and the atmosphere. Chemicals are often applied by the crop-spraying method in California and the consequences seem clear.

distribute food with, for example, high levels of diabetes and obesity as a consequence."

Then there is the problem of climate change. Carbon is king, Lord Melchett insists, and it will continue to have an important impact on global warming and the geo-political situation of the world. We are right to look for ways of reducing the emissions that result from the way we travel and the way we run our homes and offices, but the agricultural sector is also "a huge contributor", he points out.

Using his own country as an example, he says agriculture contributes only 0.7% of the UK's gross domestic product, but 10% of its total carbon emissions. There is little in the air so far—other than some proposed dietary changes—in terms of ideas to alleviate the problem of methane from livestock, but the other big component of agriculture's contribution, nitrous oxide-based fertilisers, will become less of a problem if organic farming spreads.

"Organic is not niche, or fringe," Lord Melchett goes on. "It's a revolution waiting to happen." And if demand for organic cotton increases, it will encourage healthier levels of diversity across the range of crops that participating farmers produce. He points to Ethiopia and says a programme there of conversion to organic methods is already helping the country—so afflicted by famine within living memory for most of us—produce more food and achieve greater "food stability".

Demand for organic cotton is growing. Organic Exchange—a campaign group based in Berkeley, California, whose aim is to promote the production and use of organic cotton in the textile industry worldwide—said in a report towards the end of last year that the market for finished goods made from the fibre went past $1 billion in 2006 and would, probably, reach $1.9 billion in 2007. Its projected figures are that this figure will rise to $3.5 billion this year, $4.5 billion in 2009 and $6.8 billion in 2010.

It's important to point out that Organic Exchange includes products for the home in this, as well as apparel. Nevertheless, when you look at the names of the retailers that are selling most organic cotton products to the public, anyone in

"San Joaquin has the third-worst asthma rate in the US," Ms Grose says, "and there are, apparently, higher rates of cancer in rural areas that produce cotton. Our project centres on Firebaugh, a small town of 6,000 people near Fresno. The local doctor has spoken widely about high levels of asthma, cancer and so on."

Air pollution is another serious consideration. It's a problem that famously afflicts California's major cities and has led to stringent legislation governing sectors such as transportation.

Sadly, Lynda Grose reports that some of the toxic substances farmers have used to treat their cotton crops have shown up in analyses of air quality across a wide area of California, including—most alarmingly of all, perhaps—in the Yosemite National Park.

It is in the face of all this that the SCP is seeking to encourage cotton producers to reduce their use of toxic chemicals. Using cotton that is genetically modified (GM) to withstand the threat of at least some pests and diseases is the standard way of dealing with this problem in California. Ms Grose puts the proportion of California's total cotton output that carries the GM label at 61%.

Her project seeks to offer a halfway house between organic cotton and conventional (chemical?) cotton, but without dabbling in the still-controversial GM.

"We don't use GM seeds," she explains, "because the market can react negatively to that. Plus, many of the farmers we're working with grow some organic crops and wouldn't want to compromise them by using GM elsewhere on their land. We do use organic compost on the cotton and we encourage beneficial insects, such as ladybirds, to breed and feed on some of the pests that threaten the cotton plants."

Another part of the plan is to plant other crops deliberately to draw pests away. Aphids, it seems, will leave cotton alone if they have tasty alfalfa to munch on instead.

Collectively, San Joaquin farmers have already set aside 800 hectares for the sustainable cotton project. They're calling the fibre they're producing 'cleaner cotton'. Ms Grose claims that we can tell from books such as 'The Omnivore's Dilemma' by Michael Pollan that consumers now want to look at "the whole system" behind what they're buying, and not just the end product.

The Pollan book is principally about food—it claims that nothing will ever taste the same to the reader after its hard-hitting analysis of the food production industry—and concludes that people's food choices are changing landscapes across the world. Fibre follows food, Lynda Grose claims, which means the textile and finished apparel choices consumers make can also change the face of the earth.

An outdoor apparel brand based near San Diego, prAna, which specialises in clothing for yoga and climbing, has become the first to sign up for 'cleaner cotton'. It launched a T-shirt in the fibre at the Outdoor Retailer event in the autumn and will make it available to consumers from this spring.

"These T-shirts are going to command the same price for prAna as T-shirts made from imported organic cotton," Lynda Grose says. "American Apparel, the largest T-shirt manufacturer in the US, is showing some interest too. This is great news, because the more people we get involved in cleaner cotton, the more chemicals we'll take out of the atmosphere."

the sports apparel market would be encouraged: Nike and Patagonia are both in the top five, along with Wal-Mart, Coop Switzerland and German mail order retailer Otto.

The organisation's executive director, LaRhea Pepper, says that consumers are putting more and more pressure on retailers and brands to "step more lightly on the planet" and sellers see products made from a type of cotton that helps farmers keep their soil rich, and avoids harmful chemicals, as a positive contribution to this effort.

At the moment, the amount of organic cotton produced across the world—almost 58,000 tonnes in 2007—is tiny compared to conventional cotton, which has a global output of around 25 million tonnes a year. This means consumers and retailers that might like to use organic cotton in their products often find it hard to secure supply.

But it's consumer demand that is the key. If the public wants more organic cotton, and is prepared to pay a premium for it, farmers around the world will devote more land and production effort to bringing it to market.



Organic baby clothing on sale in a Wal-Mart store. The retailer is in the top-five users of organic cotton.

Wal-Mart