Clothing made from bamboo fibre (mechanically processed bamboo, not viscose made from bamboo plants) does exist and does work, contrary to what you might have thought in the wake of the false claims of some apparel brands. It's another example of how far the sustainability debate in the clothing and textiles supply chain has been stretched.

The sustainability agenda widens

Earlier this year the US Federal Trade Commission (FTC) warned a large group of retailers that they must stop putting bamboo on the labels of clothing and other textile products made from viscose (rayon) rather than from genuine bamboo fibre.

"We need to make sure companies use proper labelling and advertising in their efforts to appeal to environmentally conscious consumers," said the director of the FTC's bureau of consumer protection, David Vladeck. "Rayon is rayon, even if bamboo has been used somewhere along the line in the manufacturing process. While we have seen action by some retailers to correct mislabelled clothing and textile products, our hope is that these warning letters will serve as a wake-up call to all companies, regardless of their size."

Commenting on the FTC announcement, the chief executive of specialist fabric and yarn producer Cocona, Brad Poorman, said: "Most 'bamboo' textile products, if not all, really are rayon, which typically is made using environmentally toxic chemicals in a process that emits hazardous pollutants into the air. While different plants, including bamboo, can be used as a source material to create rayon, there is no trace of the original plant in the finished rayon product."

He said retailers and clothing manufacturers should only be able to claim their clothes have the eco-friendliness and functionality of bamboo (including anti-microbial properties) if they are made directly from bamboo fibre, often called mechanically processed bamboo. He said companies involved need to carry out scientific tests and analyses to show if the material really is bamboo fibre. "Relying on other people's claims is not substantiation," Mr Poorman said. "The seller is responsible for making truthful disclosures about the fibre content."



Ivee's black Kayla tunic bamboo/cotton/spandex.
IveeStyle

Radio active

Earlier this year, UK consumer Alice George became so concerned about the way clothes, including yogawear, carrying bamboo labels were being marketed, she got in touch with a BBC radio programme to complain. She said: "I feel the way bamboo products are being marketed is worthy of investigation. Bamboo products are increasingly popular. They're marketed as green, and claims are often made about bamboo's antimicrobial properties. As the owner of several bamboo items, I was really impressed by how soft they remained, but eventually I did become a little suspicious. A little research, and I was shocked to discover that, apparently, so-called bamboo fabrics are actually a type of viscose. The bamboo is broken down using strong chemicals, the cellulose is extracted and then regenerated into fibres. I think there is some serious mis-selling going on, and some 'green washing'. This is particularly annoying for people like me who are trying to be green but also want to know exactly what they are buying."

The BBC invited Rob Harrison from a magazine called *Ethical Consumer* to give a response to this, but he just said there was nothing particularly sustainable about the way fabric is made from bamboo, once it has been processed, compared to other manmade fibre. He said: "It's a chemically manufactured product that uses strong chemical solvents like sodium hydroxide and carbon disulfide. There are known health risks for the workers at factories that manufacture it. In theory, it could be sustainable, but at the moment there's no verification system and no guarantee to consumers that it's not a damaging process that they're supporting."

The founder of an apparel company called Bamboo Clothing, David Gordon, also took part in the programme. He freely admitted that the products his company sells are made from bamboo viscose, but argued that the "number-one thing about ethical clothing" is being transparent and letting people make up their own minds. "We're really proud of what we're doing with bamboo clothing," he said, "and the key is in the growing [of the bamboo plants]. The processing is not as green as I would like it to be, but on the growing side, the bamboo doesn't require any pesticides or fertilisers at all, and it's also grown in areas where you can't grow anything else. On top of that, the water usage that you have, for example, in the growth of cotton, is non-existent with bamboo. Bamboo tends to grow in tropical areas and can just take the water that falls."

He said one of the strongest arguments for using bamboo as a source of viscose fibre is that the yield, which he put at ten times that of cotton. "In a world where land resources are becoming more and more scarce," Mr Gordon continued, "you're suddenly getting ten times more yield from the acreage. Taken as a whole, we believe bamboo is a good news story as an eco-friendly product. I think this whole debate over bamboo labelling will be dead in 12 to 18 months. This has already happened with Modal, which is a similar product, but one that they're already making in a completely green way. Bamboo is following in its footsteps."



Bamboo fibre can produce garments that are super soft, and with high levels of moisture and odour management. Garments made from viscose derived from bamboo cannot claim the same qualities, but because bamboo is one of the most sustainable crops in the world, these clothes can still lay claim to being green.

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Biodegradability

The president of Canadian green clothing company Fashion and Earth, Adrian Desbarats, has added his voice to the argument by backing the action of the FTC on bamboo clothing, but questioned its decision on the biodegradability of clothes made from bamboo rayon. In its ruling the FTC implied that claims of biodegradability were among the qualities that clothing manufacturers and retailers using viscose should leave alone.

"For the most part, I am very pleased with the FTC ruling as it will help bring accountability and credibility to this fledgling industry," Mr Desbarats said. "However, I do question the claim regarding biodegradability. In one press release the commission says these rayon products are not biodegradable because they will not break down in a reasonably short time after customary disposal. From the perspective of an environmentally concerned consumer I would find that remark confusing."

He explained that research at the University of Seoul in Korea tested rayon, cotton, linen and acetate-based fabrics. All of these cellulose based fabrics were biodegradable and the rayon

showed the highest level of biodegradability. "I'd say rayon could be classified as biodegradable," Mr Desbarats said. "So, I would refute the FTC comments and say 'yes' bamboo clothing textiles are biodegradable."

He went on to point out that Fashion and Earth never claims its products are biodegradable. He said: "To make that claim would seem to convey the message—hey, go ahead and throw out that shirt, it'll break down anyway. Not the kind of message we want to promote. Let's do our part to keep our clothing in use as long as possible by handing them down, trading them up, giving them to charity, and so on."

Broader horizons

Meanwhile, the Organic Exchange has been looking at ways of extending its influence in the organic fibres sphere. The organisation was established in 2002 with the aim of increasing the production and use of organically grown cotton. Its reports are widely read and it organises a popular global conference once a year (the 2010 event will be in New York on October 27 and 28). Its OE 100 standard is used to track and document the purchase, handling and use of 100% certified organic cotton fibre in yarns, fabrics and finished goods, while its OE Blended standard does the same for certified organically farmed cotton fibre in blends. It has also recently taken over the Global Recycled Standard from Control Union.

However, the organisation decided towards the end of 2009 to expand this vision to include other organic fibres such as wool, silk and hemp. While schemes such as the Better Cotton Initiative already exist in the cotton sector, the Organic Exchange feels that more needs to be done to ensure other fibres are grown in a sustainable way and to increase the production volumes of such fibres.

Programme director for the Organic Exchange in Europe, Andy Salm, points out that when the organisation started up, sustainability was a very small part of most brands' sourcing ideas and using organic cotton was a relatively easy way of becoming a more sustainable brand. "As things have developed, sustainability has become a far more integral part of the plan; for many brands it is now at the core," he says. While organic cotton will remain at the heart of the organisation's strategy, it is now looking at a range of other fibres and "interrogating" them to find out whether they are produced under sustainable circumstances.

For example, it is now looking closely at fibres such as polyester and viscose, which are important elements within the textile supply chain. "For polyester there has been a huge increase in the use of post-consumer waste," Mr



Fashion & Earth Cami tank top – 95% rayon from bamboo/5% spandex.

Fashion & Earth

Salm says, "while in viscose you get fibres like Tencel." Tencel, he adds, is a much studied and appreciated fabric. "It would be one of the fibres we would recommend to blend with organic cotton because the wood pulp comes from sustainable forests, and it uses an almost completely closed-loop system. I think around 98% of the chemicals used are reclaimed and reused, so the environmental impact is virtually zero. And performance-wise it fulfils all the requirements our members are looking for."

Sustainability shift

Most of the Organic Exchange's members, who come from right across the supply chain and include many major brands, are already involved in sourcing a range of sustainable fibres, prompting it to widen its approach. "We were receiving requests to convene around a broader agenda, looking at organic cotton and other fibres. We've been through a major process of re-examination, developing a strategy to widen our agenda to include other sustainable fibres with organic cotton still at the core. We're taking lessons from cotton and applying them to the wider sustainable fibre arena," reveals Mr Salm.

According to Mr Salm, there has already been a significant shift in terms of its conference topics since the broader outlook was introduced. "There's a lot more emphasis now on getting speakers who can talk about sustainability in a much more general way in terms of fibre development and fibre processing," he says. "We're also discussing issues such as climate change, power usage, carbon footprint and water usage. The brands we work with are really

concerned about this; many are measuring, for example, the amount of carbon released during the production of a T-shirt, or are telling the story of their reduced water footprint."

Members of the Organic Exchange have, according to Mr Salm, "already started on their sustainability journey". However, it is constantly reaching out to brands and retailers that have not yet started to incorporate sustainable methods into their supply chains. "Sustainable practice is going to become mainstreamed and essential to any business that wants to remain credible in the current marketplace," he says. "Consumers are becoming more and more concerned, not just about where a particular garment was sourced from, but that the company they're supporting is following ethical standards.

"A number of brands are leading the field in terms of sourcing organic apparel and are not charging a premium on it. In stores like C&A you can purchase an organic cotton T-shirt for the same price as a standard cotton one. The brands themselves are playing a key role; they're leading the charge."

Greater transparency

One problem the organisation has come up against is something widely known as "green washing". However, Andy Salm makes it clear that brands who try to jump on the green bandwagon without actually adopting a more sustainable approach will run the risk of totally losing their credibility. "Interrogation of the supply chain and demand for transparency have become more vigorous," he claims.

He names Nike as one of the companies that is leading the way in terms of transparency. It has published the names of all of its manufacturing partners and its restricted substances list, among other things. It has been using a 5% blend of organic cotton in its products for some years and recently committed itself to increasing this to 10% in all of its cotton-containing garments by 2015. "People have different strategies; some go for a percentage of their range at 100% organic cotton, but there are considerable cost implications. Nike, in order to control cost, started with a blend. It used 9,603 tonnes of organic cotton in 2009," Mr Salm says.

And other brands have been quick to follow suit. Mr Salm gives adidas as an example, as the sportswear brand only started using organic cotton in a major way in 2008. It is now the 11th biggest user of organic cotton globally. He says: "C&A are leading the field, they were the biggest user of organic cotton globally for the first time in 2009 [taking the top spot from Wal-Mart, which was the top user in 2008]. Of specific interest to the sports industry, Nike was second and adidas was 11th."

Responding to questions over how sustainable cotton, even organic cotton, is, Mr Salm says: "Cotton generally is a fairly thirsty crop but we must remember that the majority of cotton is rain fed, not irrigated. Where irrigation methods are used we use vigorous methods to ensure the methods of irrigation are sustainable. An organic cotton farmer would not engage in flood irrigation [in which there is little or no control over water distribution] for example.

"As the Better Cotton Initiative takes off there seems to be quite extensive use of drip irrigation. There has been a significant increase in the recycling of post-consumer waste and cutting-room waste. When companies do this they have a huge impact as they don't have to grow it themselves. Some manufacturers are using thousands of tonnes of post-consumer or cutting-room waste per year." He adds that there has been a huge increase in the amount of organic cotton used in footwear, bed linen, towels and even mattresses. "The trend will continue strongly. We're predicting that retail sales of organic cotton products will have increased to $6 billion by 2012," he says.

In terms of other organic fibres, he says that there is a bit of organic wool about at the moment and that the organic silk market is growing quite strongly. Hemp, he says, has huge potential for the future as the quantity of fibre yielded per hectare is much greater than that of cotton. "It has been ignored over the years in terms of technological advancement but I think this will change. You can get much finer counts now and hemp garments can have the hang and drape of fine cotton," he says.

The sustainability circle, then, appears to be growing wider all the time.



The Nike Sportswear tee is made from 100% organic cotton and the Nike Sportswear logo uses eco-friendly inks.

Nike