This factsheet informs you about the environmental issues of the production of cotton and wool fiber ready for spinning. It provides you a range of concrete actions for using more environmental and animal friendly cotton and wool.

THE TEXTILE CASE
Cotton and wool are the most used natural fibers in textile production. Cotton is the main raw material of most textile retailers in the fashion sector. Other natural fibers that are used to a much lesser extent are flax (linen), silk and hemp. The production of cotton fibres involves growing, harvesting and ginning. The United States, China, India, Pakistan and Uzbekistan are the major cotton producing countries. The most used wool is sheep wool. The production of wool fibres involves the breeding of the sheep, shaving and washing of the raw wool. Australia, New Zealand, South Africa and Uruguay are the largest wool exporting countries.
THE ENVIRONMENT ISSUE ...

... cotton
The impacts of cotton production on the environment vary based on cultivation practices and local conditions. During the production of cotton, the major use of water for irrigation can salinize the soil (impregnate the soil with salt), deplete the water resources and turn areas into deserts (see also the factsheet on ‘Water use’). Furthermore, cotton production is responsible for 8-10% of the global use of pesticides. In developing countries, around 50% of all pesticides are used for cotton cultivation. The large amount of pesticides and fertilizers that are necessary to maintain the high cotton yields, seep into the ground and can pollute the groundwater and surface water.

Other important negative environmental impacts from the cultivation of cotton:
♦ Cotton is often grown in huge monoculture fields. Lack of crop rotation exhausts the soil, which results in erosion, drought and salinization. New large-scale cotton fields result in a significant loss of biodiversity.
♦ Genetically modified cotton varieties are widely used to increase yields, because they create a resistance to specific diseases or pesticides. In some countries, including many European countries, genetic modification (GM) is a controversial issue, and not yet approved for cultivation. But, already about half of the world cotton production is GM cotton. <<Cleaner, greener cotton, WWF, 2008.pdf>> and click here.

... wool
Wool has several positive environmental characteristics. It is a renewable source of fibre, it is a long-life fibre and it will biodegrade in soil without harm to the environment. But there are also negative impacts on the environment that you need to know about:
♦ Most toxic pesticides to control pests in wool are already banned. Australia (an important producer of wool) uses mainly organic biodegradable substances. However, during transport, harmful chemicals are still used against moths and fungi. These residues are largely washed out, but will also partly be left behind on clothing.
♦ The production of wool requires a lot of land. A maximum of five sheep can be raised per acre. However, the land on which sheep graze is generally less suitable for other agriculture. Depending on the original biodiversity value, grazing sheep may lead to a loss of biodiversity and erosion of the soil.
♦ Mulesing of a Merino sheep is common practice in Australia as a way to reduce flystrike (myiasis). This involves the removal of strips of skin with wool from around the breech. Mulesing is a controversial topic from an animal welfare point of view and is being phased out in New Zealand.
♦ Sheep, like cows, contribute to the emission of methane, an important greenhouse gas. Methane from sheep and cows is considered to contribute considerably to climate change.

What can you do?
☞ Consider cotton and wool alternatives, either organic, improved or non-cotton/wool
☞ Know the preferences of your market “What do your clients expect”
☞ Follow the discussion on fibre sustainability
☞ Do the Made By/ MODINT fibre benchmark and strategy training
THE SUPPLY CHAIN APPROACH
You can manage the environmental impact of cotton and wool by making a different choice in fabric or a specific choice for cotton and wool with a reduced environmental impact.

First, you should realize that other fibers (like manmade fibres) may have other environmental disadvantages (like the depletion of non-renewable resources). The second choice for most companies is to talk to suppliers about environmental issues when buying cotton or wool.

The use of cotton and wool labeled with ‘Organic’ or ‘Fair Trade’ is the logical step. An option for cotton is to use cotton from the BCI initiative (Better Cotton Initiative). These labels and initiatives provide a clear picture of the environmental (and in many cases social) requirements that the materials meet and they guarantee these criteria are met. The origin of certified cotton and wool can be fully traced throughout the supply chain (the cotton is ‘identity preserved’). This does increases the cost of the material.

At the moment, organic cotton still accounts for only less than 1% of world production, but the production area is growing fast. Products using certified Fair Trade cotton are also entering the market. See sustainable cotton on the shelves, a handbook for the mainstream retail.

What to focus on and how to improve?
There are three ways of managing environmental issues:
A. Product design and fabric selection
B. Screening, selecting and working with suppliers
C. Informing the consumer about why they can buy organic textile
What can you do?
- Be aware of the environmental and ethical issues concerning cotton and wool.
- **Designers and product managers**
  - Make well-considered choices for (certified) cotton and wool and shift to organic or ‘improved’ cotton and wool.
- **Sourcers and supply chain managers**
  - You select suppliers of CMT, fabric and/or yarn. You can make an impact on the environment through the right supplier choices. Ask the supplier for his environmental policy and sustainable fabric options.
  - When using Merino wool, ask suppliers about alternatives to current mulesing practices and be aware because not all alternative practices are favorable.
  - Check if suppliers are aware of the issue and what measures are being taken to improve on this or ask for a certificate, like the certificate from **the Australian Wool Testing Authority**.

**B. Screening, selecting and working with suppliers**
An important choice is to work with suppliers on making steps. There are basically three ways to do this:

1. **Choose suppliers with a credible certificate.**
2. **Check supplier’s policy and performance.**
3. **Work with suppliers on improvements.**

**B1. Choose suppliers with a credible certificate**
There are certificates that focus on a more sustainable production of (especially) cotton and wool. There are also textile labels that describe requirements for the used materials. This is a selection:
- **GOTS (Global Organic Textile Standard)**
  A textile product that carries the GOTS label grade ‘organic’ must contain a minimum of 95% certified organic fibers. A product with the label grade ‘made with organic’ must contain a minimum of 70% certified organic fibers. The GOTS standard also includes requirements for the other steps in the supply chain, like the wet processing phase. The label is relevant for both wool and cotton.
- **OE 100 and OE Blended (Organic Exchange 100 and Blended)**
  The OE 100 is used to track and document the purchase, for handling and use of 100% certified organic cotton in yarns, fabrics and finished goods. The OE Blended describes the steps that are required for a textile mill to receive organic certification for goods that have only a certain percentage of organic fibre. This label is limited cotton. The website provides a membership and marketplace facility. In 2009 C&A became the number one organic cotton retailer before Nike.
- **IWTO (International Wool Textile Organization)**
  This organization modified its definition of organic wool by aligning it to the GOTS processing standard. They also unveiled a new IWTO standard for ‘Eco-wool’, which is based on the EU Eco-Label guidelines.

What can you do?
- Begin with checking if your suppliers are certified or plan to work on it. In sourcing and buying, keep a keen eye for suppliers that are already certified by one of the above certificates.
B2. Check supplier’s policy and performance
Ask your suppliers of yarn, fabric or clothing to provide information on the claims they make on sustainability issues. Ask yourself whether the information is reliable enough to make decisions on. Independent information might be most reliable but “who is the sender”? You can always consult a MODINT CSR manager on their opinion.

What can you do?
- **Check the suppliers sustainability report** and/or ask relevant questions.
  - Does the supplier have a policy on sustainability with regard to wool and cotton?
  - Is this policy translated into specific targets on the sustainability of these materials?
  - Does the company use internationally recognized initiatives and labels, and to what extent?
  - Is the percentage of labeled products monitored and reported on?
- **Verify the answers** to these questions, preferably through:
  - A signed policy – preferably part of an environmental management system (ISO-14001)
  - A verified CSR report including specific environmental impact data
- **Ask for specific information** about environmental impact on production methods and measures. It is important that this information can be considered reliable (‘no easy way-out on serious questions’!).

A supplier may also be able to show its actions on promotion of organic cotton or wool through its active involvement in one or more sustainability initiatives. Examples of initiatives with a focus on cotton or wool are:
- **BCI (Better Cotton Initiative)**
  The Better Cotton Initiative (BCI) aims to promote measurable improvements in the key environmental and social impacts of cotton cultivation worldwide to make it more sustainable (economically, environmentally and socially). The focus of the initiative is the mainstream market. It provides a guarantee of BCI cotton up to the level of the cotton bale (no consumer label).
- **BMP Cotton**
  The Better Management Practices Cotton initiative from Australia focuses on the reduction of water use and use of chemicals and on the conservation of healthy soils. The initiative provides a BMP label, ensuring traceability and compliance to the BMP requirements. BMP Cotton can be purchased at several registered Australia-based and internationally operating cotton suppliers.

Members of the BCI include producers, retailers (H&M, IKEA, Marks & Spencer, C&A (Cotton Connect etc.) and brands (Adidas, Levi Strauss & Co, Nike, etc.). Better Cotton is expected to enter the market at the end of 2010.
Cleaner Cotton
Cleaner cotton is an initiative from California for farmers that wish to make the transition to organic cotton. This initiative uses up to 73% less chemical inputs than regular cotton. The website lists some suppliers of fibre, yarn and fabric.

Organic Exchange
Organic Exchange has a proven approach that delivers economic, environmental and social improvements to the textile value chain.

What can you do?
To take a serious step in working on your sustainability throughout the supply chain, you can:
- Join an initiative yourself, or
- Work with suppliers that joined one of these initiatives
- Use publicly available tools and measures (see websites)

B3. Work with suppliers on improvements
Apart from a screening and selection of suppliers, your company can also actively work with suppliers to map and minimize their environmental impact in the production of cotton and wool. Below you’ll find a selection of tools to assess the environmental impact of cotton and/or wool:
- Sustainable cotton on the shelves; a handbook for the mainstream retail
  The handbook ‘Sustainable cotton on the shelves; a handbook for the mainstream retail’ (Oxfam Novib, VGT, De Bijenkorf, HEMA, WWF, CREM, 2009) provides practical guidance in the shift to more sustainable cotton. It provides practical information on the environmental and social impact of cotton production, on labeling initiatives, on dilemmas a retailer may face and on ways to work with the supply chain.

What can you do?
- Explore the above tools to get insight and start to shift your cotton & wool choices to be natural and sustainable.

OE will help advance the sustainable development of textiles by creating a specific community of practice, a set of standards and product integrity resources, and systems that support the distribution of knowledge and positive change across the global textile value chain.

You can get a digital copy of the handbook for free by sending an e-mail to info@crem.nl

- The cotton footprint (the Sustainable Cotton Project)
The Center for Sustainable Economy and the Sustainable Cotton project have adapted the Ecological Footprint tool to measure the impacts of cotton production. This tool takes into consideration where the cotton is grown, how much water and energy is required, chemical inputs, transportation, and waste disposal. The Fiber Footprint Calculator compares the footprint of conventionally grown cotton with BASIC or organic in California so that growers can make informed choices.
C. Inform the consumer
The most explicit option for consumers to contribute to a reduced environmental impact of cotton and wool is to buy certified products. At the same time an increasing number of retailers and brands is sourcing organic cotton either for blending in their collection or offering an organic line. The handbook ‘Sustainable cotton on the shelves; a handbook for the mainstream retail’ provides some practical guidance on cotton strategies and communication with the consumer.

What can you do?
- Inform consumers about buying certified products
- Use the handbook ‘Sustainable cotton on the shelves; a handbook for the mainstream retail’

“One essential condition for sustainable cotton to gain a place of choice in consumer’s wardrobe is to be as desirable, as fashionable and as functional as any other garment. Consumers sometimes have actually no idea that the stores they walk in have gone through many efforts to make their products sustainable. Some brands such as Expresso or Imps&Elfs prefer to keep the shopping experience of their consumers light and fun. They do not to use sustainability as a selling point, it is just a bonus” (from ‘Sustainable cotton on the shelves; a handbook for the mainstream retail’).

... GET INFORMED, AWARE, INSPIRED AND CHALLENGED!
- **Designers/ Product managers**
  - leave room in your design for sustainable and certified fibre and fabric choices
- **Buyers/ Sourcers/Product managers**
  - explore and purchase fabrics/garments with more sustainable or organic cotton or wool
  - aim on certified and other initiatives
- **CSR and Supply chain managers**
  - select suppliers or discuss with suppliers on use of more sustainable or organic cotton/wool variants or alternatives
  - aim on certification or co-operation with initiatives
- **Management**
  - develop a structural sustainable or organic cotton and wool strategy
  - train and inform employees
  - set targets (priority) and provide means (budget)

This series of factsheets is produced by MODINT and CREM in co-operation with VGT, CBW-MITEX, MADE-BY and Solidaridad, supported by VROM and AgentschapNL. – version: October 2010
The information in this factsheet is composed with utmost care based on public available information. Any liability cannot be claimed on the composers. The information is a selection of the most relevant according the composers. This is a first public version of the factsheet series, all users are invited to give comments and suggestions for improvements via csrcheck@modint.nl.
You can indicate yourself as user also via csrcheck@modint.nl (subject: factsheet user) in order to get a notification when a new version of factsheets is available.