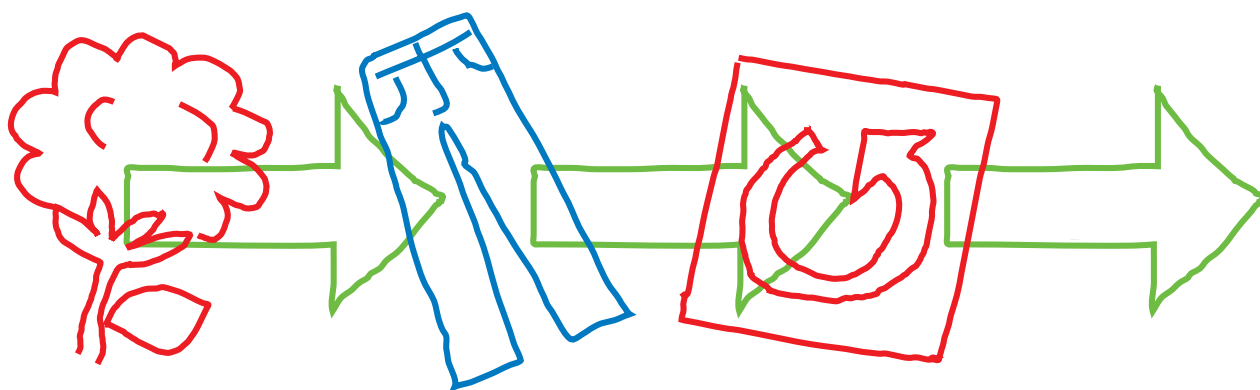


# Companion Guide to The Crop to Swap Video



For many people, our choice of clothing reflects our personality and our lifestyle choices. More and more, we're starting to think about the environmental and social implications of our wardrobe. What really goes into making the clothes we wear? What are they made of, who made them and how were they made?

To explore the issues, let's have a look at the life of a pair of jeans, from crop to swap.



Major  
Sponsor



Supporting  
Sponsors



# The crop and the farm



Jeans are made from denim, a fabric woven from cotton.

Cotton makes up 40% of the world's fibre market. Synthetic fibres, such as polyester and nylon, make up 55% of the market.

Cotton fibre comes from the boll (or seed pod) of cotton plants. Cotton is grown in about 100 countries across the globe, however three quarters of the world's crop is grown in just four countries: China, India, the USA and Pakistan<sup>1</sup>.

Australia is the world's eighth-largest producer with around 300 farms, averaging 362 hectares in size.

Cotton production methods vary considerably across different countries and growing conditions. Over 90% of the world's cotton farmers live in developing countries<sup>2</sup>. The average cotton farm in India is 2.4 hectares and uses relatively low levels of technology, while, the average cotton farm in the USA is 1,241 hectares and, like Australia, uses relatively high levels of technology<sup>3</sup>.

It takes about 6 months for cotton to grow from a seed into a mature plant. The plants grow to about waist high and have long taproots that grow as deep as 1.5 metres. Just over half of the world's cotton-growing area is irrigated and it produces about three-quarters of the world's cotton harvest<sup>4</sup>.

After harvesting, the cotton bolls are taken to a gin, or processing plant, where the cotton fibres are separated from the seeds.

## How does the environmental footprint of cotton compare to other fibres?

Comparing the environmental footprint of different fibres can be a complex issue, because so many social and environmental factors are involved in their production including water use, greenhouse gas emissions, competing land uses and pollution issues. Different fibres also have different properties that may make them more suitable (and thus more durable) for different purposes.

In general, however, synthetic fibres have a larger environmental footprint than cotton. This is because they are made from non-renewable resources (e.g. petrochemicals<sup>6</sup>) and use a lot of chemicals in their production. Recycled synthetic fibres, however, like polyester fleece fabrics made from recycled drink (PET) bottles, have a much lower footprint than synthetics made from virgin materials.

Organic cotton has a much lower footprint than conventional cotton as it is grown without synthetic fertilizers or pesticides. 'Alternative' fibres like hemp and bamboo also have a lower footprint than conventional cotton, partly because these crops require far fewer pesticides and less water.

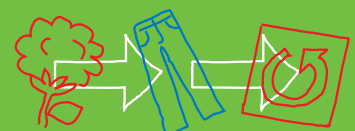
Every kind of clothing has an environmental footprint, no matter what kind of fibres or fabrics are used. That's why reducing and re-using are so important.

### The footprint of a pair of jeans

Like *any* product, the creation of a piece of clothing requires inputs of natural resources, energy and human labour, and often creates unintentional by-products such as chemical pollution and greenhouse gas emissions.



The production of an average pair of jeans will require over 6,000 L of water and over 37.7 kg of carbon dioxide emissions<sup>5</sup>. It will generally involve the use of numerous chemical inputs in the form of pesticides, fertilisers, bleach, dyes and fabric finishers.



## How we can help reduce pesticide use

Most cotton crops are grown 'conventionally', using pesticides to control insect and weed pests. 11% of the world's pesticides, or 25% of those used in the USA, are used in cotton production<sup>7</sup>. These chemicals are purposefully designed to be biologically harmful - the pesticide Aldicarb, commonly used on cotton, is so potent that one drop absorbed onto human skin is lethal<sup>8</sup>. The use of pesticides is a risk to human and environmental health. Unsafe exposure is reported to be a serious, widespread risk to the health of many cotton workers in developing countries<sup>9,10</sup>. Pesticide contamination can spread beyond the farm by the wind or water run-off<sup>11</sup> and even as residue on farm products. The Environmental Justice Foundation cites one university study which found that 'hazardous pesticides applied during cotton production can also be detected in cotton clothing'<sup>12</sup>.

By reducing the quantity of unnecessary clothing we buy, and by re-using clothes that are in good condition, we can lower the need for pesticide use.

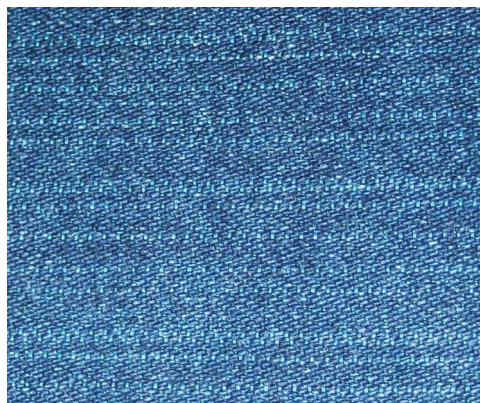


Spraying pesticides in a cotton field in India

We can also look for clothes made from organic cotton, which is grown without synthetic chemical inputs such as synthetic fertilisers and pesticides. This significantly reduces the environmental impact of cotton production and supports the health of farm workers. Currently only 0.03% of global cotton production is organic, but demand is growing quickly<sup>13</sup>. Jeans made from organic cotton can now be found in some of our major retail chains – ask at your local store or search online.

## From fibre to fabric

The multi-stage process of turning raw cotton fibres into cotton yarn is called spinning. The spinning process begins with carding, where pieces of leaves, stems and short fibres are removed, and the remaining loose fibres are straightened and aligned to form thin strands called slivers.



Closeup of denim

Several slivers are twisted together to form yarn. Yarn that is destined for denim will often be bleached and dyed at this stage using synthetic indigo dyes. Natural indigo dyes do exist but they tend to be used only by artisans and niche garment makers. The yarn may need to be dipped in the indigo dye up to 16 times to achieve the right colour<sup>14</sup>. Traditional blue denim is made by interweaving natural-coloured yarn with indigo-dyed yarn to give a characteristic diagonal ribbing pattern.

Most denim fabrics then undergo a variety of finishing processes such as brushing, singeing and hand-picking away loose fibres for a clean, even finish. They are often repeatedly washed and dried to manage rigidity and shrinkage. The fabric is then ready to be made into jeans.



# From clothing factory to clothing store

Most of the jeans we buy in Australia are made in China<sup>15</sup>. Other major producers of garments include India, Bangladesh, Mexico and Vietnam. A typical clothing factory uses an assembly line of workers, each performing a stage of the manufacturing process such as sewing on the back pockets, attaching rivets or hemming the legs. About 96% of the weight of a pair of jeans is cotton<sup>16</sup>.



Sewing jeans in a factory in Dhaka, Bangladesh

After the jeans have been made, they are generally treated in various ways to give it a fashionably faded, 'distressed' look. The jeans may be sprayed with chemicals to bleach, make creases permanent, ensure the fabric is wrinkle-resistant and add water repellancy or extra softness<sup>17 18</sup>. Some jeans are not washed at all, while others may be washed up to 32 times to increase the pre-worn look. Stone-washing, a common technique, involves washing jeans in an industrial washing machine with pumice or rocks. Workers may also sand the thighs, crotch and knees, and rip or tear the jeans.

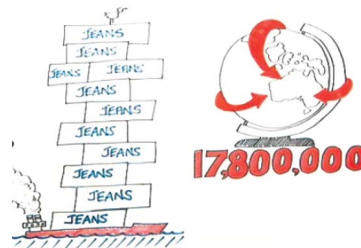


Sanding jeans to produce a worn look



Spraying jeans in a factory in Fumian, China

Finally, the jeans are packed and shipped to markets all over the world. In 2009, 17.8 million pairs of jeans were imported into Australia<sup>19</sup>.



## Wearing and caring

Most of the energy and water used during the lifecycle of jeans actually happens after we take them home from the store, in washing and drying<sup>20</sup>. While this might come as a surprise, it also means that we have another opportunity to minimise our environmental footprint, by choosing low-impact ways of caring for our jeans. In a nutshell:

### Low impact (good)

- Only wash when necessary
- Wash in cold water
- Use water-efficient washing machine
- Use enviro-friendly laundry detergent
- Hang them up to dry
- Don't iron them

### High impact (bad)

- Wash after every wear
- Wash in hot water
- Use water-hungry machine (eg top loader)
- Use conventional laundry detergent
- Put them in a clothes dryer
- Iron them
- Get them dry-cleaned



# What to do when it's time to say goodbye

Sometimes we no longer want a piece of clothing that's still in good nick – maybe we've outgrown it, downsized our wardrobe or it was an unwanted present. So what should we do with it?



When we really think about all the resources that go into a pair of jeans or other clothes, we realise just how valuable they are. Extend the life of your clothes by swapping, donating or converting them.

## Swap It

Swap Parties are a great way to pass on unwanted but good quality items, and to update your wardrobe without it costing the Earth. There are many types of Swap Parties, some run by commercial organisations and others by community groups, charities or workplaces.



Swappers at Newtown's Big Aussie Swap 2009

At a Swap Party, everyone brings along good quality items they no longer want - things like clothes, books, CDs/DVDs, toys or sports equipment. They hand their items over to the host who exchanges each item for a token. When the swapping begins, each token is exchanged for something that was brought by someone else.



Swappers at Moonee Valley's Big Aussie Swap 2009

For more information on Swap Parties, including resources on how to host a Swap Party, or to find a Swap Party event, check out our Big Aussie Swap page (<http://recyclingweek.planetark.org/bas>).

### Hosting Your Own Swap Party

**What is a Swap Party?**

Swap Parties are the latest way to update your wardrobe or cupboard without buying new things. At a Swap Party, a group of people get together to swap items - from clothes to toys, books to sports equipment. The phenomenon became famous with glamorous 'swapping parties' of high-fashion clothes, but the concept is simple and can be adapted to suit any group of people and product. It's fun, free and green. You just:

1. Bring along good quality, clean items you no longer want.
2. Register each item in exchange for a token.
3. Browse what others have brought.
4. Then swap your tokens back for new items.

Swap Parties make acquiring new things into a fun, interactive event, which also reduces the environmental impact through recycling products. Swap Parties are really adapted to suit any type of swap items and group of people.

• friends and family at home  
• colleagues at work  
• weight watchers groups  
• sports clubs  
• play group or pre-schools.

In fact, any type of gathering! Check out the case studies of preschool and family swap parties held over the last year at [RecyclingWeek.PlanetArk.org/Involvement/swap.cfm](http://RecyclingWeek.PlanetArk.org/Involvement/swap.cfm)

**Environmental benefits**

Recycling takes items you have finished with and puts them back into circulation. By passing your clothes, accessories or other materials from landfill the conserving resources and reducing greenhouse gas emissions.

Reusing a product, rather than buying a new one, reduces the demands for water, energy and raw materials. This reduces the impact on the environment.

Ready to recycle? Our steps make it easy to host your own Swap Party...

**Swap Party Options**

- Go for the simple clothing and accessories or select out

**Mums & Bubs**

- Pregnancy clothes
- Kids clothes
- Kids toys & books
- Kids sports gear

**Sporty**

- Sports gear
- Clothes
- Tools

**Stylish**

- Smart office wear
- Upmarket casual clothes
- Wedding outfits

**Bonanzal**

- Clothing
- Belts, bags, shoes
- Jewellery
- Cookbooks & novels
- CDs or DVDs



## Donate It

Give your good preloved clothes to friends, family or a charity. To find a local charity that accepts donated clothing, ask your local council or check [www.recyclingnearyou.com.au](http://www.recyclingnearyou.com.au). If you want to take your clothes to a charity's clothing bank, look for the accreditation label from the National Association of Charitable Recycling Organisations (NACRO) and the 'Charity Operated' label. Clothing banks without these labels are commercially operated.

## Convert It

Seen those bags made out of worn jeans? Skirts made out of halter-neck dresses? Cushion covers made out of just about anything? There are many fun and creative ways to convert used clothes into something else, and it's a great option for clothes that are too worn to swap or donate.

Whatever you do, don't send them to landfill. Once in landfill, organic material such as cotton, wool and hemp will break down without oxygen (anaerobically) to produce methane, a greenhouse gas that has 20 times the global warming potential of carbon dioxide. It's also a bad idea to put them in your recycling bin. Clothing and other textiles are a major contaminant in recycling sorting stations (Material Recycling Facilities) because they get caught in the machinery.

# Other tips for reducing the environmental footprint of our wardrobes

## Think Twice About Passing Fads

The smallest footprint of all comes with reducing the amount of unnecessary clothing we buy. Resist lightning fads, and buy well-made clothes that won't wear out quickly.

## Go organic and choose low-impact fibres

Look for:

- Clothes made from organic cotton or from other low-impact natural fibres such as hemp and bamboo
- Clothes made from recycled materials. Some warm fleeces, boardshorts and rash vests are made from

100% recycled PET bottles - look in camping stores and surf shops.

- Clothes made from reclaimed/recovered fabrics, such as reclaimed cotton.

You can even buy clothes that are made from low-impact fibres *and* certified Fair Trade.

Try searching for potential suppliers on the **Green Pages** listings ([www.thegreenpages.com.au](http://www.thegreenpages.com.au)).

Some major retailers also sell one or more lines of organic clothing – ask at your local store.

## Support Workers Rights

Many clothes are made by factory workers in developing countries, or in the homes of pieceworkers in Australia and overseas. Show your support for fair working conditions – including fair rates of pay and safe working conditions - by buying from **Fair Trade** ([www.fta.org.au](http://www.fta.org.au)) or other ethical suppliers. Be aware that a garment made from organic cotton doesn't necessarily mean that it wasn't made in a 'sweatshop'. If you're not sure about a product, don't be afraid to ask the store/supplier for more information.

For a list of manufacturers and retailers that have made a commitment to support ethical clothes production, visit **Ethical Clothing Australia** ([www.ethicalclothingaustralia.org.au](http://www.ethicalclothingaustralia.org.au)). Contact any of your favourite stores that don't already stock ethical trade products and encourage them to change.

## Keep an eye on how you wash and dry

Choose low-impact cleaning and drying methods whenever you can (see page 4).

## References

References are available at <http://recyclingweek.planetark.org/bas/croptoswap.cfm>

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