



FABRIC AWARENESS

INFORMATION BOOKLET

A collaborative, educational
endeavour thanks to SHRUB's
Sustainable Fashion Working Group.



INFORMATION BOOKLET

Have you ever wondered about the textiles your clothes are made from? Do you know which fibers are natural and which are synthetic?

This booklet should help you to learn a bit more about different kinds of fibres and the pros and cons of each. There is a lot more information out there than just in this book so feel free to do your own research and make your own decisions about what you want to support/ buy.

THE MOST SUSTAINABLE TEXTILE IS THE ONE YOU ALREADY HAVE!

NOTE ON TEXTILE RECYCLING

Textile recycling, which is being spoken about widely, requires all of the individual fibre types to be separated out. This means that items made of a single fibre type are much easier to recycle than those made from a blend. If natural and synthetic fibres are mixed, they cannot be recycled as there is currently no way of separating out the fibres. This commonly happens with natural fibres being mixed with elastane to make them stretch.



WWW.SHRUBCOOP.ORG



[INSTAGRAM.COM/SHRUBCOOP/](https://www.instagram.com/shrubcoop/)



[FACEBOOK.COM/SHRUBCOOP/](https://www.facebook.com/shrubcoop/)

[TWITTER.COM/SHRUBCOOP](https://twitter.com/shrubcoop)



NATURAL VS SYNTHETIC

The first distinction to make in fabrics is whether they are natural or synthetic. All fabrics require some processing, however this distinction tells you whether the raw materials came from plants and animals or from oil/plastics.

NATURAL FABRICS


- Bast fibres (hemp, linen, jute)
- Cotton
- Silk
- Wool
- Cellulosics (fibres made from plant cellulose)

SYNTHETIC FABRICS

- Polyester
- Polyamide (nylon)
- Acrylic

WHICH TO CHOOSE?

In order to choose what fabrics you want to use, you will have to decide which aspects of sustainability you want to focus on. For natural fibres, the water, pesticides and human labour of crop growth are one of the main things to consider. Once made, natural fibres have a lower environmental impact. By contrast, synthetic fibres often have much lower water and energy requirements, however often harsher chemicals are used and the microfibres they shed are becoming an increasingly big environmental concern.





NATURAL COTTON



Cotton is a well known natural fabric, often found in T-shirts as well as many other items.

PROPERTIES

Absorbent, breathable, washes easily, slow to dry, resists static electricity build up, wrinkles easily, may shrink unless preshrunk, can fade in sunlight.

SUSTAINABILITY INFORMATION

- Cotton needs a lot of water to grow, and in some places water is diverted away from local communities in order to feed cotton crops.
- The World Health Organisation has recorded thousands of cancer related deaths and miscarriages among people who work in the cotton industry. This is largely due to the pesticides used on large scale farms.
- Organic cotton uses a lot less pesticides, however it does require a lot more water and land to produce the same quantity as non-organic growing methods

THINGS TO LOOK OUT FOR

Rain fed cotton (no water is being diverted to crops)

Organic cotton (uses less pesticides)

Fairtrade cotton (should protect worker's rights)

The Better Cotton Initiative

Cotton Made in Africa

REEL cotton Programme



NATURAL

LINEN AND HEMP

The title 'LINEN AND HEMP' is written in a large, bold, black, hand-drawn font. Above the word 'LINEN' is the word 'NATURAL' in a smaller, black, sans-serif font. The background is a light beige color with a faint, repeating pattern of small, stylized floral or leaf shapes. There are several decorative illustrations: a purple flower with five petals and a green stem with leaves on the left; a blue flower with five petals and a green stem with leaves on the right; and a small blue flower with five petals and a green stem with leaves on the far right.

As bast fibres, linen and hemp are similar in terms of sustainability . They are generally accepted to be two of the most sustainable fabrics.

PROPERTIES

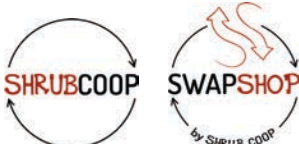
Comfortable, breathable, absorb and lose water rapidly, strong, durable, wrinkles easily, becomes softer with use, resistant to moths. To protect these fabrics, it is recommended to hand wash or dry clean them and avoid tumble drying.

SUSTAINABILITY INFORMATION

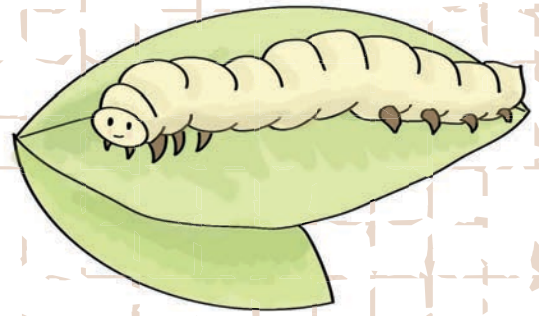
- Can grow in poor quality soil and don't need a lot of water or pesticides. Both plants return nutrients to the soil.
- In linen, every part of the flax plant is used (seeds, oil, wood varnish, paper, and animal food/ bio material)
- As long as these fabrics aren't dyed, they remain fully biodegradable
- Dyeing these fabrics can be water and chemical intensive

THINGS TO LOOK OUT FOR

You can look out for organic or fair trade labels



NATURAL SILK



Silk is produced by silkworms, with the silk we use as a textile coming from the cocoons these worms make.

PROPERTIES

Lightweight, breathable, smooth, soft, very strong but can be ripped easily, good insulator (cool in summer yet warm in winter), absorbent but dries quickly, some resistance to wrinkling.

To look after it, silk should be hand washed or dry cleaned. It may shrink after washing, but will return to size after ironing (which should be done while the fabric is still damp).

SUSTAINABILITY INFORMATION

- Many of the traditional methods of harvesting silk involve killing the silkworm while it is still inside this cocoon.
- Most silk comes from worms living on mulberry plants which don't need much water or pesticide use.
- It requires a lot of resource input to turn silk into a textile
- The silk industry has often been associated with child labour
- In order to be spun into a fibre, silk needs to be weighted. This is a process that uses metallic salts which are carcinogenic and leak into waterways.

THINGS TO LOOK OUT FOR

Citrus fibre silk - a silk like material being produced from waste orange pulp.

Eri silk, Ahimsa silk and silk noil - all made without any intentional harm to the silk worm

Both fairtrade and organic certifications aim to ensure responsible production of silk.





NATURAL WOOL



Traditionally, most of the wool/ animal hair textiles we use comes from Sheep. These can either be fine and soft, like cashmere, or coarse and more hard wearing.

PROPERTIES

Warm, durable, very absorbent and slow drying, breathable, good elasticity and resilience, odour and fire resistant.

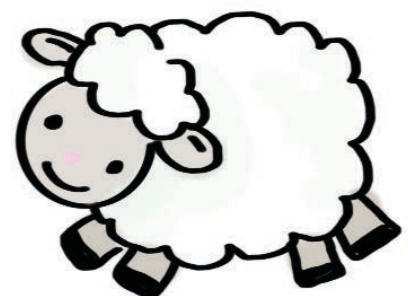
Cannot be washed at high temperatures as it will shrink.

SUSTAINABILITY INFORMATION

- The animals wool comes from are associated with gas emissions and land and water use.
- Many breeds of sheep are bred exclusively for wool so we cannot consider it to be a byproduct.
- There are animal welfare concerns around the conditions the sheep are kept under.
- Wool is one of the most recyclable materials and can be naturally waterproof
- Some of the wool alternatives (Yak/Alpaca hair) can be more sustainable due to different herding styles.

THINGS TO LOOK OUT FOR

Wool that is collected rather than sheared
Virgin, Lamb and Merino wool all come from Sheep
Cashmere, Mohair, Yak and Alpaca are all hair fibres with similar properties but come from different animals.





NATURAL

LEATHER



Leather is treated animal skin that is often used for shoes and bags.
It is very durable and hard wearing.

PROPERTIES

Durable, water resistant, insulating

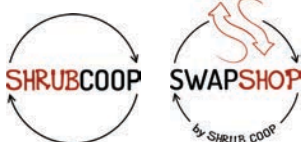
SUSTAINABILITY INFORMATION

- Keeping animals causes deforestation and takes away the possibility of farming the land to grow food. There are also water and gas emissions associated with both keeping the animals and turning the skins into leather.
- Since most farmers profit or make money from selling leather, it cannot be considered a by-product.
- Most tanning processes use Chromium which can be carcinogenic. There is also the potential for lead and arsenic to leak into local waterways.
- Leather may not be biodegradable depending on the way it is treated.
- Many of the vegan substitutes are actually made from plastic and therefore have their own environmental impact.

THINGS TO LOOK OUT FOR

Pinatex: A synthetic leather created from banana leaf fibres (unfortunately not biodegradable).

Vegetable tanning processes: Only uses natural resources and creates biodegradable leather.



NATURAL

CELLULOSES

RAYON, VISCOSE, TENCEL, LYOCCELL, ACETATE, CUPRO, MODAL

These are textiles made where the source fibre is cellulose, usually from trees or bamboo.

PROPERTIES

The properties depend on what kind of fabric is trying to be replicated, however, in general, these fabrics are very breathable and not very warm or stretchy. They will often be used to replicate linen or cotton.

SUSTAINABILITY INFORMATION

- Note: The specific raw material and chemical process used will impact sustainability.
- Often the chemicals used aren't recaptured and can leak into water sources.
- As a raw crop, Bamboo is very fast growing and requires little extra water or fertilizer.
- Wood pulp can be used which, if coming from reclaimed sources, can be a way of recycling this waste product.

THINGS TO LOOK OUT FOR

LENZING AG are one of the main producers of cellulosic fibres and try to make their production methods as sustainable as possible.

Lyocel, produced by LENSING, has a chemical recapture rate of around 99%. These garments are also claimed to be biodegradable.

Rayon: As an older production method, Rayon production is associated with a lot more chemical loss. This is the method used to produce modal and viscose.

Some of these methods blend natural fibres with synthetics so not all cellulosic fibres are biodegradable. Modal is an example of this.



SYNTHETICS

POLYESTER

Commonly used for Fleeces.

Used for sewing thread as it is strong.

PROPERTIES

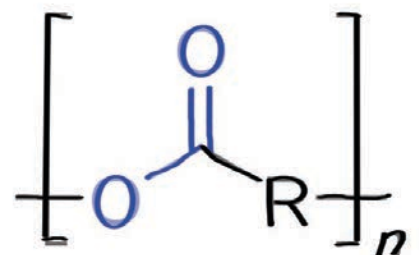
Strong, lightweight, quick drying, stain resistant, doesn't wrinkle. 100% polyester can cause static.

SUSTAINABILITY INFORMATION

- Main source material comes from oil
- Dyes used are called disperse dyes and are toxic to most plant and animal life.
- Takes up to 200 years to breakdown, releasing microplastics in the process.

THINGS TO LOOK OUT FOR

Recycled polyester



SYNTHETICS

NYLON/ POLYAMIDE

Nylon was the first ever lab made fibre and was originally introduced to be a replacement for silk. Most sewing thread is made from nylon.

PROPERTIES

Strong/ hard wearing, lightweight, easy to wash, quick drying

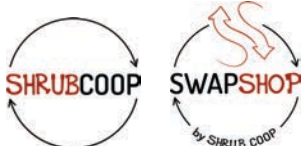
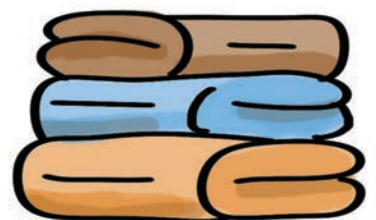
SUSTAINABILITY INFORMATION

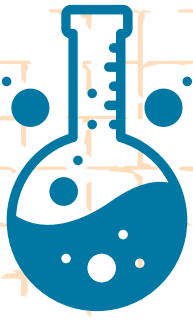
- The raw material used to create Nylon is oil
- The methods for producing Nylon create Nitrous Oxide, a greenhouse gas.
- Water and energy intensive production
- Nylon is essentially a plastic and therefore will never degrade in a safe way.

THINGS TO LOOK OUT FOR

Recycled Nylon

ECONYL: Nylon produced from 'waste' nylon. Claims to be infinitely recyclable.





SYNTHETICS

ACRYLIC

Acrylic is a warm fabric, often used in jumpers, carpets or furry linings.

PROPERTIES

Not very breathable, stretchy, warm

SUSTAINABILITY INFORMATION

- There are reports of acrylic potentially being carcinogenic.
- It is not biodegradable and releases microfibres.
- Many toxic chemicals are used in the process to create acrylic.
- Acrylic can be coloured during its production, meaning that harmful dyes don't need to be used.

THINGS TO LOOK OUT FOR

Acrylic is often used as a wool substitute, or is blended with wool. This changes how easy it is to recycle the garment and prevents it from biodegrading.

This often happens with elastane too.

