



Organic Linen Fabric & Sustainability

With the increasing need for sustainability in fashion, fabrics like linen have become of great importance. From its natural color and aesthetic to its sustainable and functional properties, linen is here to stay. Moreover, organic linen fabric serves as an even better eco-friendly fabric option compared to the regular type.

Woven from the fibers of the flax plant, linen is one of the oldest fabrics in the world^[3], and ancient civilizations all around the world have used this fabric.

Manufacturers generate this fabric for various products, including clothing items, underwear, bedding, curtains, and bath towels. In this article, we explore organic linen, from details of its origins down to fabric comparisons.

What is Organic Linen?

Linen is one of the oldest existing textiles. The textile industries in various countries have been making use of flax fiber for ages^[1]. We obtain linen from flax grown for harvest. Farmers extract flax fiber from the skin of the plant's stem, which begins the process of creating linen.

Linen is a lightweight and robust fabric. When in its natural form and untreated with dyes, it is entirely biodegradable. Flax for linen can grow without using pesticides, herbicides, and other toxic chemicals. It can also thrive on just rainwater and no irrigation presenting many benefits over less sustainable crops.

Although people consider linen to be an eco-friendly material, its manufacturing processes determine the sustainability of the end product. This is why using 100% organic linen is fast becoming a better sustainable option.

Linen that is considered 100% organic does not require the use of toxic substances like pesticides. The manufacturing process also omits harmful and synthetic substances and dyeing processes.

Look for certified organic linen

A prominent certification to determine the 100% organic nature of fabrics is the [GOTS certification](#) which indicates that such fabrics and products are free of pesticides, harmful dyes and follow an environmentally friendly process. Thanks to this certification, it is now easier to identify organic and sustainable fabrics.

Linen is a natural fiber, similar to conventional or organic cotton. However, harvesting and producing it takes a longer time than cotton because it can be challenging to weave the fibers. We can compare linen's properties to those of cotton with both regarded as durable and high moisture-absorbent fabrics. On the other hand, the finished material feels stiffer and crisp compared with cotton.

Linen is a versatile material, and brands use it for fashion fabrics, home fabrics, and even canvas. Manufacturers use this fabric for products such as clothes, underwear, curtains, tablecloths, window treatments, bed sheets, towels, and upholstery. In addition, linen also proves a popular fabric for clothing brands' summer collections because it is lightweight and absorbs moisture from the body, helping the body stay cool.

How is Linen Made?



Organic linen is made from flax. Photo Credit: Photo by Renee Thyne from Pexels

This section breaks down the steps to transform a flax plant into useful fiber for fabrics.

Planting the Seeds

Flax plants are often ripe for harvesting after growing for about 100 days. Farmers typically do not require irrigation because they can rely on rainwater for the flax plant to grow and develop. Also, they don't need to use pesticides.

Growth and Harvesting

In recent times, manufacturers sow seeds with machines. Sometimes, the farmers use herbicides and pesticides when planting to prevent reduced yields. However, organic linen farming does not require any of these. Farmers know that the plant is ready for harvest when it turns yellow and the seeds are a visible brown color. They can harvest flax crops either manually or by using machines.

Fiber Separation and Retting

After harvesting, the manufacturers pass the stalks through a machine to remove the seeds and leaves. Then, they separate the outer stalks from the woody interior. Finally, they immerse the stalks in water to bind the fibers together. Natural retting takes place in tanks, pools, or on the field. Large-scale producers can use an alternative chemical method to accelerate the binding process during retting. However, this alternative is harmful to the environment.

Breaking

The next stage is breaking up the decomposed stalks to separate the fibers from the woody parts. Next, manufacturers use rollers to

crush the flax stalks and then use rotating paddles to separate the outer and inner parts.

Combing and Spinning

Manufacturers then comb the fibers into thin strands and then prepare them ready for spinning. Next, they connect the combed fibers to devices. Through this, the resulting strings are ready for spinning. The spinning process involves twisting the strands together to form yarns. The manufacturers often dampen the yarns while spinning, which helps to ensure that there are no fly-away strands. Also, it ensures that the yarn is smooth.

Drying

Finally, manufacturers dry the yarn ready to be woven. They then dye and treat the yarn, making the fabric suitable to make consumer products. Some of these products include apparel, bed sheets, curtains, and many other items. It is important to note that organic linen does not require dyeing. This is because of its natural color. If at all the manufacturers use dyes, they incorporate natural ones that are not toxic to the environment and people.

History of Linen

We can trace the history of linen fabrics a long way back in time. A group of paleobiologists and archaeologists discovered flax fibers of more than 34,000 years old, indicating that linen is one of the world's oldest existing fibers and fabrics^[2].

In ancient civilizations, people credit Egypt and Egyptians for linen use. They used this fabric to make clothing and also to wrap mummies. Due to the dry climate in the region, it was possible to preserve linen cloth and textiles in the tombs. These types of fabrics were also suitable for the area because of the hot climate.

Linen fabrics have breathable, light-weight, and moisture-absorbing properties. People have also discovered linen housewares, dresses, and tunics in Pharaoh's tombs. In addition, Egyptians sometimes used this fabric as a bonafide currency. The Egyptians' role in linen use cannot be denied; however, the Babylonians are also credited in history with commencing the linen trade.

As the use of linen continued to grow in the Middle East, the Western region began to take notice of this fabric. In Europe and other parts of this region, brands mostly used the material for sleepwear, underwear, towels, bedding, and many other household pieces. In Europe, Ireland became the center of linen production, with linen fabric popular throughout the colonial era. However, as cotton manufacturing became more accessible and cheaper, the role of linen in the textile economy in Europe declined.

Settlers brought linen to The Americans. At this time, the British still dominated the cloth trade and exported the fabrics to their colonies. The industrial revolution brought about cheaper and easier ways to produce cotton. In the United States, cotton manufacturing kept on growing. Linen manufacturing could barely catch up with cotton. As a result, linen fabrics quickly fell out of fashion.

However, in recent times, people have rediscovered linen as a sustainable and luxury fabric. As a result, sustainable [and ethical brands](#) now release linen collections for customers to shop from.

How Sustainable is Organic Linen?

One of the flax plants benefits is that it traps huge amounts of carbon dioxide from the environment. One hectare of flax retains 3.7 tons of CO₂ every year. Naturally, this plant produces optimal soil quality, which helps to increase the returns on the following crops.

Flax preserves land and requires minimal water to grow. It helps to protect water resources as rainwater is sufficient for its growth. Therefore, it doesn't require irrigation.

Unlike regular linen farming, where farmers may use synthetic inputs, the organic type doesn't need these. It means farmers grow it without herbicides, fertilizers, regulators, and fungicides when it is certified organic. Organic production ensures no residue of these products in the soil or on the finished material.

The plant is also zero-waste because manufacturers can use every part of it to make various products. For example, flaxseed oil, linseed oil, and flaxseed food products. As a result, when farmers pick the plant, its various parts are useful, thereby preventing waste. However, of course, the actual sustainability can vary based on how much reuse occurs.

Like natural fibers, linen fabrics are fully biodegradable and compostable. Linen will decompose in compost, provided it is not

mixed with toxic chemicals or synthetic fibers. During the retting process, some manufacturers of regular linen use chemical processing to speed up the process. This causes drawbacks in the realm of sustainability.

Organic Linen Fabric Pros and Cons

Pros

- **Moisture-Absorbing:** The plant fibers have a great ability to absorb moisture or water because of the high amount of [pectins](#), which are the components that hold the fibers together. These pectins give linen fabrics their heat-regulating properties. This is why brands often use this fabric for summer clothing. It can withstand high temperatures.
- **Biodegradable:** 100% organic linen is biodegradable and compostable. This means that even when linen fabrics have served their purpose, they don't contribute to pollution.
- **Durable:** These fabrics are strong and will last for a long time. This durable quality prevents these fabrics from producing lint. Also, linen remains strong even when wet while getting softer with each wash. Therefore, it is one of the sturdiest fabrics.
- **Versatile:** Manufacturers use linen for a variety of purposes. Its sturdy quality makes it ideal for making upholstery and industrial pieces. Aside from this, linen is popular in cloth-making. We can also find it in household pieces such as towels, bedding, curtains, and napkins.

Cons

- **Time-Consuming:** Converting the fibers to fabrics requires several steps - typically a lengthy and time-consuming process.

Since this fabric isn't as common as cotton, it usually comes at a higher price. The lengthy and manual processes that manufacturers require also contribute to the expensive price tags.

- **Prone to Wrinkling:** Linen fabrics wrinkle easily. This can pose an inconvenience, especially with linen apparel. As a result, it requires more ironing.

Brands that Use Organic Linen

Coyuchi



Photo Credit: Coyuchi

This brand uses eco-friendly materials to make a variety of bed, bath, and apparel pieces. Coyuchi offers organic linen napkins, pillowcases, and bedding sets. It also offers luxurious organic cotton bedding, towels, sheets, [non-toxic rugs](#), duvet covers, sleepwear, and babywear.

[Shop Coyuchi](#)

LinenCasa

LinenCasa offers 100% linen bath towels, kitchen towels, blankets, throws, napkins, runners, and placemats. The brand specializes in stonewashed linen, which you can wash in regular washing machines and wear without ironing. The fabric is locally grown in the country of Belarus, and it is Oeko-Tex Standard 100 certified.

[Shop LinenCasa](#)

Bhumi



Featured best-selling Linen Night Shirt. Credit: Bhumi

This Australian brand offers premium, sustainable, and ethically-made organic cotton clothing, bedding, and bath pieces. Bhumi also provides luxurious 100% linen sheet sets that adhere to fair trade practices.

[Shop Bhumi](#)

Vildnis

This is a sustainable and ethical fashion brand that identifies [environmentally-friendly fabrics](#) for its apparel. These fabrics include organic linen, organic cotton, seacell, recycled merino wool, and Tencel Lyocell. Vildnis sells various pieces, including dresses, tops, trousers, jackets, and swimwear. Most orders are

processed the same day and ship carbon-friendly, including offsetting where applicable.

[Shop Vildnis](#)

GOTS Organic Linen vs. Regular Linen

The Global Organic Textile Standard (GOTS) certification guarantees fabrics' sustainable production. Therefore, this ensures that the fabric does not contain toxic dyes and goes through a chemical-free production process.

On the other hand, regular linen fabrics can sometimes contain chemicals and synthetic materials. Some manufacturers also use pesticides and herbicides during the growth process.

Organic Linen vs. Hemp

Both fabrics are lightweight and breathable. Also, they both come from plants that have low water requirements. The main difference between these two is that [hemp fabric](#) has longer fibers which makes it more durable.

Organic Linen vs. Cotton

Linen is a more robust and more durable fabric compared with cotton. The cellulose fibers are stronger and wrapped tighter than those in cotton. This boosts its longevity and strength. Linen also has better temperature-regulating properties that help the body stay cooler.

In terms of sustainability, producing cotton requires more water. Also, organic linen doesn't require synthetic substances during farming. On the other hand, organic cotton is more sustainable than regular cotton. However, organic cotton usually requires more land to grow to produce a yard of fabric.

Conclusion

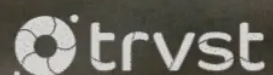
Organic linen is a versatile fabric and is considered one of the most sustainable materials. Eco-friendly brands are now using it as a sustainable alternative to conventional cotton.

From outerwear and undies to bed, bath, and household pieces, you can find this ancient fabric bought up to date in various leading clothing & textile lines. Sometimes just swapping out your choice of garment for a more sustainable option can make a positive change.

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Sources & References:



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Jen's a passionate environmentalist and sustainability expert. With a science degree from Babcock University Jen loves applying her research skills to craft editorial that connects with our global changemaker and readership audiences centered around topics including zero waste, sustainability, climate change, and biodiversity.

Elsewhere Jen's interests include the role that future technology and data have in helping us solve some of the planet's biggest challenges.



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