



Earth911

[How to Recycle](#)

[Where to Recycle](#)

How & Buy Style & Fashion

Reading time: 4 mins

Shopping for Plant-Based Leather



By [Gemma Alexander](#)

© JAN 16, 2023 [plant leather](#)



Whether it's the cool factor of a stylish leather jacket, or the practicality of a good hiking boot, giving up leather can be a bigger challenge than switching to a [vegetarian diet](#). Some brands are making [sustainability stylish](#), but finding a durable, functional replacement for leather products is still a challenge. Plant-based leathers show real promise, but most of them remain in development. We have done the searching for you. We found a few brands that have broken out of the testing phase to offer plant-based leather products.

Why Replace Leather?

In addition to significant ethical concerns surrounding animal agriculture, [leather](#) has a tremendous environmental impact. Leather can be made from the skins of [many different animals](#), including some endangered or threatened [wildlife species](#). But the vast majority of leather products use cowhide. [Cattle growing](#), whether for meat, dairy, or leather, is among the most carbon-intensive forms of agriculture. Grazing operations and [CAFOs](#) contribute to [deforestation](#) and

What Do You Think?

Are you considering moving because of climate change?

- No
- I'm researching my options to decide
- Yes

[NEXT *](#)

* By clicking "NEXT" you agree to the following: We use cookies to collect your survey answers. If you would like to continue with this survey, please read and agree to the [CivicScience Privacy Policy and Terms of Service](#)

[desertification](#) as well. While most hides used for leather ^{CLOSE} are a [waste product](#) of the meat industry, their processing more than makes up for any mitigation of the impacts of animal agriculture.

To turn animal skin into leather requires a chemical process called [tanning](#). The most commonly used industrial tanning method is based on chromium, a heavy metal that is dangerous to both humans and the environment. One square meter of hide produces [16,500 liters](#) of wastewater containing chromium, sulfates, and pathogens. It affects tannery workers' health and pollutes water sources in leather-producing communities, which are largely [located in](#) countries with weak environmental protections.

Plant Leathers

Most vegan leather products are made from plastic, which has its own serious environmental impacts. The best leather alternative would be both animal and petroleum free. So far, few plant-based leathers are commercially available, and none have been studied through life cycle analysis. Most of the plant leathers that are currently available still do not perform as well as leather. For example, the pineapple leaf-based [Piñatex](#) still requires a synthetic coating for waterproofing and durability (although some brands, like [Allbirds](#), have developed a bio-based polyurethane for that purpose). But manufacturers are constantly working to improve their products and many more plant-based leather-like fabrics [are in development](#).

Purchasing the products that are available so far will help establish that there is sufficient market demand to continue work on development of a sustainable, plant-based leather alternative that truly performs as well as leather. And if you work in the fashion industry or make your own clothes, most of the textiles listed here are available directly from the developer or from [online specialty vendors](#).



Manufacturers are working on a variety of leather-like fabrics made with apple-peel waste, cactus, fungal mycelium, and other natural materials.

Plant-Based Leather Products

Allégorie

Women-owned, independent, and socially responsible ^{CLOSE} [Allégorie](#) replaces leather and PVC with leathers made from wasted fruit. The online-only company produces bags and wallets in their New York factory. They use leathers made from fruit juice apple peel waste; farmed cactus; and mango. Waterproofing is provided by a separately sold wax.

Nopal Leather

Two men from Mexico developed an environmentally friendly leather-like material from [dry-farmed](#) Nopal cactus. The resulting fabric, which they branded [Desserto](#), is sturdy enough to upholster furniture and automobile seats. But consumers can find a few retail products made from the material. The [Black Nopal](#) brand only uses Desserto's Nopal leather to make belts and wallets. Many big name and designer brands have partnered with Desserto to produce individual products within their lines that incorporate Nopal leather. Notably, Nopal leather is one of the only plastic-free vegan leathers that has been used to make shoes: the [Onitsuka Tiger Mexico 66 Cactful](#) sneakers.

Mycoworks

Although not technically plants, mushrooms show a lot of promise as bio-based leathers. [Mycoworks](#) makes leather from fungal mycelium, which they grow in proprietary trays under precise conditions to control the shape and characteristics of the resulting material, branded as [Reishi](#). Mycoworks' leather was used for the autumn/winter 2021 [Hermès Victoria handbag](#) (although the handle still uses cow leather). Hat designer [Nick Fouquet](#) also used Mycoworks' Reishi material for his Boletus style hat (now sold out) and for decorative details seen on the [Coprinus](#) and [Morchella](#) designs.

Mylo

Bolt Threads makes another mycelium-based leather called [Mylo](#). In May 2022, Stella McCartney debuted the [Frayme Mylo bag](#), the first luxury bag made from this material. Since the bag sells for around \$2,000, most of us will have to wait for the technology to trickle down to more accessible brands. Fortunately, the wait may not be long. Last summer, Adidas unveiled a [concept Stan Smith Mylo](#) shoe and lululemon sells a [yoga mat bag](#) and a [duffel bag](#) that each incorporate Mylo details.

Appleskin

Made by Vegatex, Appleskin is a step in the right direction, but not it's not a true plant leather, as the material is only two-thirds bio-based, with the rest made up of polyurethane plastic. While the material is made using food waste, as an organic/plastic composite, it is not biodegradable or recyclable. Appleskin can be found in products by the New York-based vegan shoe company [Veerah](#) and handbags by the Korean fashion brand [Marhen J](#).

advertising



[Reading time: 4 mins](#)

[Earth911 Podcast: Patricio Grassini Discusses Climate Impacts on Grain and Oil Yields](#)

By [Gemma Alexander](#)
