

Earth-Friendly Fabrics

Emily Sohn

SECTION #1

Shopping for clothes involves tricky decisions about fit, color, style, and price. And if a growing number of companies have their way, you'll soon start checking labels for another key detail: environmental impact. Earth-friendly fabrics are in. It's already possible to buy shirts made from bamboo and socks made from corn. Shopping malls of the future might also carry clothes made from chicken feathers or rice straw.



Clothes made from Earth-friendly fabrics may soon hang in your closet.

The companies that make such fabrics are interested in sustainable development. This means trying to provide things that people need while protecting natural resources and preserving **biodiversity**.

"A fully sustainable business would be one that creates no negative impact on the environment," says Gordon Rands. Scientists are now looking for new ways to make fabrics for clothes that are good both for your image and for Earth.

SECTION #2

Born in the lab

Making clothes and shoes traditionally involves harsh chemicals and lots of energy. Some fabrics, such as cotton, leather, and wool, begin as plants or animal parts. But that doesn't mean they're gentle on the environment. Cotton plants, for instance, are often smothered with noxious chemicals to keep away bugs and weeds.

Other fabrics are born in laboratories, where scientists create molecules called polymers and make synthetic (human-made) materials such as Polyester. Textile companies weave or knit synthetic threads into fabrics that are remarkably silky, sturdy, and quick to dry. The problem, from an environmental viewpoint, is that most synthetic fibers are made from petroleum, which must be extracted from the ground. Accessing, transporting, and processing oil is expensive, and the supply is limited. Still, petroleum-based materials appear in exercise clothes, shoe soles, plastic zippers, buttons, dyes, and thousands of other products.

To overcome this reliance on petroleum, some companies have experimented with creating materials from substances such as corn sugar, then weaving the resulting threads into fabrics. Other companies have developed products from recycled materials.

SECTION #3

Clothes from waste

In the past few years, scientists have figured out how to make yarn out of cornhusks, chicken feathers, and rice straw (part of the rice plant). All three are agricultural by-products that usually end up in the trash. "We already have a problem with how to get rid of [these waste products]," Yang says. "Instead, let's use them to make beautiful materials." The process involves chemical reactions that break down the raw materials into fibers, followed by cleaning. The scientists then spin the fibers into yarn, which they use to make fabrics.



This knitted, dyed fabric is made from 50 percent rice-straw fiber and 50 percent cotton.

Courtesy of scientist, Yiqi Yang

Clothes made from farm waste are still years away from hitting the stores, but clothes made from organic or recycled fabrics and products made from coconut, bamboo, and corn sugar are already available in many places. Simply by choosing carefully how you get dressed in the morning, you can help decide Earth's future.