

Can we grow clothing textiles from living organisms?

[A] small but growing group of innovators is turning to the genius of nature in an attempt to put wastefulness and pollution in the apparel industry out of fashion, right at the source: They are using live organisms to grow pieces of biodegradable textiles.

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[T]hese researchers think some of tomorrow's apparel could potentially be bioengineered—that is, made from living bacteria, algae, yeast, animal cells or fungi—which would break down into nontoxic substances when eventually thrown away.

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[Professor Theanne] Schiros's organism of choice is algae. With it, she and a team of F.I.T. students and faculty have created a yarnlike fiber that can be dyed with nonchemical pigments such as crushed insect shells and knitted into apparel. There are three steps in making alga-based yarn, Schiros says: First, a sugar called alginate is derived from kelp—a multicellular algal seaweed—and powdered. Next the alginate powder is turned into a water-based gel, to which plant-based color (such as carrot juice) is added. Finally, the gel is extruded into long strands of fiber that can be woven into a fabric.

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These ecologically benign textiles are so far limited mostly to the realms of the laboratory, science competitions and high-fashion runways. But researchers who promote them say it is just a matter of time before such innovations are rolled out in some form for consumer markets.

Read full, original post: [The Environment's New Clothes: Biodegradable Textiles Grown from Live Organisms](#)