



Biodegradable textile | Photo source [Ivan Bandura on Unsplash](#)

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A BIODEGRADABLE TEXTILE GROWN FROM LIVE ORGANISMS

 SUSTAINABILITY

Innovators from a US fashion college have developed a method to grow biodegradable textiles using live organisms.

Here at Springwise, we have published many textile innovations such as a US startup that designed sheer tights using [bulletproof fibres](#) to ensure snag-proof wear. Another textile innovation is [biodegradable clothing](#) grown using waste methane. Now, a team of students at [Fashion Institute of Technology](#) in New York City, led by assistant professor Theanne Schiros, have developed a method to grow textiles using algae. Biodegradable clothing offers an array of environmentally-friendly benefits, from reducing waste in landfills to lowering levels of pollution.

The team at Fashion Institute of Technology have created a yarn-like fibre from algae. To make the fibre, the team extracts alginate, a sugar found in a type of algae seaweed called kelp. They powder the alginate first and then turn it into a water-based gel. The last step is turning the gel into strands of fibre. To dye the fibre, the team uses non-chemical pigments, for example crushed insect shells. The fibres can then be knitted into various clothing items.

Strong and flexible, the fibres show potential as a marketable bioengineered textile for clothing. In addition, the fibres are naturally fire-resistant and biodegrade faster than cotton. Following the success of the project, Theanne Schiros has now launched a biomaterials company with her colleague Asta Skocir, called [AlgiKnit](#). Together, they hope to one day produce clothing made from algae on a commercial scale.

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Takeaway:

Innovators around the world are developing new methods to bioengineer clothes, often taking inspiration from nature. Biodegradable textiles offer a solution to the waste and pollution produced by the fashion industry. What other materials have potential for creating bioengineered textiles?