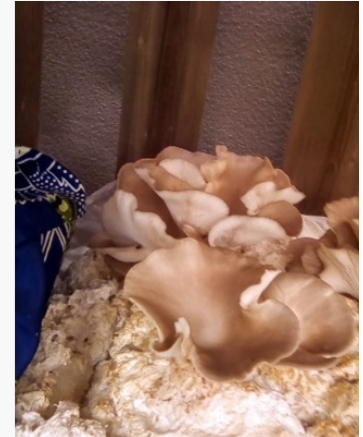


Turning textile waste into soil and food

Version 3

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The growth of mycelium in a jar on textile mixed media (left), the start of growth of edible fruiting bodies (centre), the growth of full, edible oyster mushrooms from the jar (right)

Every year a lot of clothing ends up in landfills in Canada and around the world. It's a growing problem and one that researchers at Seneca are tackling with an innovative approach.

The schools of Fashion and Biological Science and Applied Chemistry have teamed up to see how they can use parts of mushrooms – that's right, the fungus – to break down textiles and create nutrient-rich soil and edible mushrooms.

Sabine Weber, a fashion professor, and Frank Merante, a biological sciences and applied chemistry professor, spent about 16 months studying how edible mushroom roots, known as mycelium, can be mixed with cotton-based material to create useful products.

Essentially, they created a mixture that allows the mushroom roots to grow and expand while breaking down the textile components. Over time, it's transformed into a nutrient-rich soil and edible mushrooms.

Not only does this turn what was considered waste into useful products, but by diverting the textiles from landfill it's also environmentally friendly avoiding the production of methane and creating a green circular industry.

This waste management technique is known as bioremediation.

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Alternatively, you can contact Andrew Paton, Seneca Innovation Research Manager, by email at andrew.paton@senecacollege.ca.

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