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## An SME from Como holds the secret to make the textile industry's production less polluting

by Maria Teresa Thao



Silk fabrics by Canepa: the company has reduced the environmental impact from the production of textiles and fabrics by using the Savethewater process

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Shrimps come to the rescue of the textile industry. An entirely Italian innovation will turn the production of fabrics in wool, silk and cashmere into a more sustainable industry.

The devil is often in the details and so, when we think of polluting industries, we underestimate the environmental hazards that lie behind the processing of fabrics.

Instead, research carried out by Greenpeace has shown that in some cases the textile industries release highly dangerous wastes into rivers. A threat to both the environment and human health: some of these compounds have the ability to alter a human's hormonal system, while others can do the same on the reproductive system. Furthermore, many of these substances will remain in the environment because they do not decompose easily and accumulate in all living organisms, up to man.

To address these concerns, a company from **Como** has decided to make its production cycle 'cleaner', thanks to the discovery of a substance present in the exoskeletons of crustaceans.

Canepa, a small company from San Fermo della Battaglia (Como) which happens to be a leader in the production of high-end fabrics, has the distinction of being the first textile company in the world to have joined the Detox campaign launched by Greenpeace in 2013 to reduce the environmental impact from the production of textiles and fabrics, underwriting the Detox Solution Commitment which aims at eliminating the toxic substances currently used from fashion by 2020.

"We want to contribute to the growth of an environmentally-conscious fashion industry by helping the best fashion brands produce their beautiful clothes and accessories with the added value of using fabrics that do not pollute as much as water," the owner Elizabeth Canepa said on that occasion.

In the last three years, Canepa has developed the Savethewater, Kitotex and Methacrylamide-free projects to eliminate some of the substances normally used in preparatory processes, such as polyvinyl alcohol and methacrylamide, and restrict the use of bleaching substances and detergents.

Additionally, the application of these technologies allows significant reductions in water usage (to as little as 20 liters of water per kilogram of fabric compared to 300 liters per kilogram needed by traditional technologies).

"With the Savethewater process that Canepa is fully implementing, we already achieved significant overall savings: 30% less water and 25% less energy besides eliminating harmful chemical substances and not polluting the environment with minuscule microplastics particles," said Alfonso Saibene Canepa, who is responsible of the supply chain for the Canepa Group.

In 2015, 230,000 cubic meters of water and over 1,230,000 kilowatts of energy were saved. Which translates to approximately €350,000.

The program was made possible thanks to the CanepaEvolution research laboratories, a division the group created to drive innovation in the production process.

The breakthrough came with the discovery of Kitotex, a natural polymer derived from chitin, a substance found in the exoskeletons of shrimp and that is a residue of the food industry.

Besides being anti-toxic, it also provides important health benefits: it is antibacterial and anti-mite and helps to stimulate blood circulation. Features which also have applications outside of high fashion, as evidenced by the collaboration with the Italian Army stated in 2014 or the partnership with Italdenim that led to the production of over 6 million meters of denim, thanks to a licensing agreement with Canepa. "As of today, important agreements with international fashion brands have already been signed," said Saibene Canepa.

"Furthermore, in collaboration with TFA and Tinteco, we developed a fire-retardant process that helps eliminate brominated and chlorinated fire retardants. If this process is applied to ultralight fabrics like chiffon, seersucker, georgette and organza, it reduces the flame speed in accordance with US law and allows the reintroduction in the market of some traditionally very important fabrics in the textile industry that were about to be abandoned by the fashion industry due to difficulties in passing the strict legislative restrictions to imports adopted by the U.S. and Scandinavian countries," said Saibene Canepa.