



crafting plastics objects

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BIODEGRADABLE PLASTIC CREATED USING COOKING OIL WASTE

 SUSTAINABILITY

A new durable plastic has been developed that degrades harmlessly when composted and can be safely ingested by fish.

Concerns are mounting over the role of fossil fuels in global warming. This has led to a new urgency in find materials that can replace those made from petroleum products. We have already seen some substitutes for plastic. These include [edible straws](#) and packaging made from [yeast](#). Now, [crafting plastics! studio](#) has developed a bioplastic made from corn starch, sugar and used cooking oil. The new material is dubbed Nuatan. It is biodegradable, more durable than other types of bioplastics and is even safe for fish to eat.

Furthermore, Nuatan was developed along with material scientists at the [Slovak University of Technology](#) in Bratislava. It is made by combining two biopolymers derived from corn starch – polyactic acid and polyhydroxybutyrate. The new material can be easily formed into a variety of food packaging using existing techniques, including injection moulding, 3D printing and blow-forming. It also remains stable at temperatures exceeding 100 degrees Celsius. Most importantly, it is fully biodegradable and biocompatible. The materials' designers claim that it has been safely fed to fish and is also harmless when eaten by humans.

The cost of producing Nuatan is currently too high to make it viable for mass packaging. In fact, Nuatan's designers, Vlasta Kubušová and Miroslav Král, first used the bioplastic to craft fashion eyewear, where the material cost was less important. They coloured the material with natural pigments such as a coffee waste and turmeric. The eyewear uses specially-designed hinges that do not contain metal, making them 100 percent biodegradable. Now the pair hope they can interest

investors in finding ways to lower the cost of production for the Nuatan, making it available for wider use.

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Takeaway:

Biodegradable materials like Nuatan could help reduce the problem of plastic waste. By combining technology with craft, crafting plastic! studio hope to reach a wider market for their sustainable products in addition to raising environmental awareness. Will bioplastics find a wide-enough market to eventually replace petroleum-based plastics?