

Farming palm trees for oil destroys forests. Now there's a GM synthetic version that might help preserve global biodiversity

[Many everyday products] are made with palm oil, which is responsible for the rapid deforestation of some of the world's most biodiverse forests, destroying the habitat of already endangered species like the orangutan, pygmy elephant and Sumatran rhino.

But now the biotech industry says it has come up with a solution – a synthetic alternative that doesn't involve burning down or clearing any rainforest. It says this could eventually replace natural palm oil in everything from shampoos, soaps, detergents and lipsticks, to food products like packaged bread, biscuits, margarine, ice cream and chocolate.

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Research is still in a pre-commercial stage, but there's been high-profile interest in its potential. Earlier this year, C16 Biosciences, a three-year-old start-up based in New York, received a \$20m (£15m) investment from Breakthrough Energy Ventures, a fund backed by Bill Gates.

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[T]hey use a fermentation process, employing big vats in a procedure similar to brewing beer. At C16 Biosciences this involves using genetically-engineered microbes to convert food waste and industrial by-products into a product that is chemically very similar to natural palm oil.

"It's a yeast, we feed it sugars, then the yeast grows and they're able to produce large amounts of oil within their cells, and we have to squeeze out that oil or extract it," [C16 founder Shara] Ticku says.

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