

## Searching for biotech alternatives to unsustainability of palm oil

Palm oil is a wonderfully versatile and cheap raw material. On its own or via chemical derivatives, the oil makes its way into many packaged foods and into household products ranging from fine cosmetics to heavy-duty detergents.

Some 63 million metric tons of palm oil is harvested annually from tropical plantations, 87% of it coming from Malaysia and Indonesia. Palm oil is derived from the flesh and kernel of the fruit of oil palms. Demand for the oil is set to exceed 70 million metric tons by the middle of the next decade.

But palm oil's large-scale use has environmental costs. In Southeast Asia, it is the leading driver of deforestation.

Meanwhile, chemical and biotech firms are looking to develop industrial biotechnology processes for next-generation oils that might someday replace palm.

Researchers at the [University of Bath](#), in England, recently completed a three-year project to make palm-oil-like material using *Metschnikowia pulcherrima*, a strain of yeast. *M. pulcherrima* can be fed with “nearly any organic feedstock” from sugars to cellulosic material, says Christopher J. Chuck, project colead and research fellow for the university's Centre for Sustainable Chemical Technologies. He estimates that the land required to produce oil from *M. pulcherrima* may be as much as 100 times less than is needed for producing palm oil.

Solazyme, a California-based biotech company, is already producing commercial quantities of algal oils that are engineered to be chemically similar to palm products, such as the C<sub>10</sub> and C<sub>12</sub> fatty acids found in palm kernel oil. The start-up is supplying a replacement for palm oil derivatives in products such as a laundry detergent from the Belgian firm Ecover. The algae are grown in fermentation tanks, where they are fed sugars, and are harvested within 72 hours.

**Read full original article:** [Making Palm Oil Sustainable](#)