

# WHAT IF WE COULD MAKE OUR FOOD OILS HEALTHIER?



## We already can. In countries that welcome innovation: Soya for healthier oils

**Solution:** Soya beans which have been improved to deliver healthier oils are being grown in the United States.

### Did you know?

In the United States, soybean oil accounts for more than 90 percent of all the seed oil production. There are at least three improved types of soya bean for healthier oils available in North America, one is made with genome editing. These oils can help reduce cardio-vascular disease risk and help us reach the third UN Sustainable Development Goal of Good Health and Well-Being.

### The people behind the solution:

"TALEN® technology enables us to address consumer demands for healthier food ingredients and sustainable products. Although these products could also be achieved through conventional breeding, it would take decades to develop them versus just a few years using genome editing. Thanks to TALEN, heart-healthy Calyno™ high oleic soybean oil is now being sold in the U.S."

**Chloe Pavely,**  
Global Regulatory Director, Calyxt

In February 2019, the first ever genome-edited food hit the market in the U.S. While not yet on supermarket shelves, restaurant-goers in the Midwest may have had a taste of it when eating salad dressings, sauces or fried foods. The product is a healthier oil made from edited soybeans called Calyno, developed by the Minnesota-based company Calyxt. According to Calyxt, the oil contains quantities of oleic acid that are similar to olive, sunflower and safflower oils, 20% less saturated fatty acids (those causing the "bad" cholesterol) and zero grams of trans fat and PHOs or partially hydrogenated oils. Though the latter two are unsaturated fats, they have similar effects on the cardiovascular system as do saturated fats.

The company managed this feat of genetic engineering using a tool called TALEN, or transcription activator-like effector nuclease, co-invented in 2010 by now chief science officer at Calyxt, Dan Voytas. While not as quick or easy to work with as the superstar CRISPR method, in most cases TALEN is able to do the job just as well. It allows scientists to change individual letters of the genetic code with high precision, essentially having the same outcome as conventional breeding with spontaneously arising mutations, only much more efficiently.

Calyxt hopes to sell the oil directly to consumers eventually, though not in European markets, which remain closed to the benefits of genome edited foods for the time being.

*Genome editing is*

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