

Calyxt's Precision Technology Harnesses The Power Of Plants

University of Minnesota



Photo credit Calyxt - Calyxt plants its hemp clones as a row crop at the Saueressig farm.

Calyxt, a University of Minnesota startup company launched in 2010 and based in Roseville, MN, uses TALEN®, a gene-editing technology to develop healthier and more sustainable crops.

Using TALENs as a set of “molecular scissors,” Calyxt makes pinpoint changes to specific genes that lead to more desirable traits in plants. The process is different than genetically modified organism (GMO) since the final product does not contain foreign DNA.

Instead, the process is similar to the natural mutations that happen to plants in the wild and mimics the effects of traditional plant breeding methods—only with greater precision and over a much shorter time span.

Calyxt's first product, and the first gene-edited food product on the market, was sold under the Calyxt brand Calyno®. Calyno is a heart-healthy, high oleic soybean oil with zero grams trans fat per serving and reduced saturated fat, and

delivers many functional benefits to chefs and consumers alike. Calyxt created an end-to-end partner-based supply chain to bring the product to market and demonstrate the value of its consumer benefits. Calyxt is now selling its high oleic soybean seed to processors.

Building off this early success, Calyxt is focusing on [licensing TALENs](#) so companies can leverage precision plant breeding technology and develop and market their own products. Calyxt will continue licensing the traits it develops directly to other companies as well as partnering with companies to co-develop traits. In addition to soybeans, the company is also developing alfalfa with improved digestibility; high fiber wheat; hemp for the protein, nutraceutical fiber, and advanced materials markets; and winter oats.

The Technology Commercialization office at the University of Minnesota licensed the TALEN technology to Calyxt's majority shareholder. UMN Technology Commercialization has licensed additional UMN intellectual property to Calyxt to provide them with additional tools and resources to bring products to the market.

Calyxt was founded in 2010 by the two University of Minnesota researchers in Minneapolis who invented the TALEN technology: Dan Voytas, Ph.D., professor of Genetics, Cell Biology, and Development in the College of Biological Sciences and director of its Center for Precision Plant Genomics, and Feng Zhang, Ph.D., assistant professor of Plant and Microbial Biology. The company went public in 2017 and is listed on the NASDAQ as CLXT.

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