

U of Minnesota gets grant to develop better corn-based plastic

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Corn farmers in Minnesota are investing in research at the University of Minnesota aimed at developing a more useful corn-based plastic.

The Minnesota Corn Growers Association this week announced a \$460,000 grant for the Center for Sustainable Polymers, which is working to make green plastics that break down more quickly than petroleum-based [plastic](#) but still have some of conventional plastic's durability and toughness.

"We kind of want it both ways. We want plastics to be quite strong and durable when we want them to be, but when we're done with them we want them to rapidly decompose," said Marc Hillmyer, a chemist at the U of M and director of the Center for Sustainable Polymers. "That's a big scientific and engineering challenge."

Corn-based plastics are used today—for instance, to make disposable cups, bags and plates—but the plastic is brittle and can deform when filled with a hot drink. Research funded by the state's [corn](#) farmers will focus on adding toughness, strength and better thermal stability to the material.

"We're up and going," Hillmyer said. "We've got students and postdoctoral researchers in the lab, making progress."

Other research at the Center for Sustainable Polymers which will be funded by the corn growers' grant in years ahead includes using corn to produce eco-friendly plastics and polyesters for everyday items such as take-home food containers, diapers and glue.

One of the appealing things about corn-based plastic is that it can decompose within months, instead of the hundreds of years needed for synthetic plastic to break down.

"While our mission is to build a more [sustainable future](#) on the farm, this research has implications that would help address a number of the major environmental concerns we are facing globally," said Brian Thalmann,

president of the Minnesota Corn Growers, in a statement.

As Minnesota's corn farmers face consecutive years of declining farm income, new markets for the nation's corn supply continue to be vital, the group said. In 2019, Minnesota corn farmers have invested more than \$1.4 million in research at the University of Minnesota, including efforts to address pest and plant disease, conservation tactics like cover crops, nutrient management best practices and more.

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