

Hemp is a ‘dream crop’ but challenging to work with. Here’s how Calyxt is mobilizing gene-editing technology to produce fiber with less water and pesticides than cotton

Calyxt, a Minnesota-based plant technology firm, has transformed the hemp genome to provide a “proof of concept” that the crop can be altered with its TALEN method of using “gene scissors,” said Sarah Reiter, its chief business officer.

“For us, it’s sort of a dream crop. It also needs a ton of improvement to reach that potential,” Reiter said.

Achieving a more uniform plant height, reducing the amount of psychoactive THC compound and enhancing the size and consistency of seed are among the traits that Calyxt will now try to develop in hemp, she said.

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Hemp presents an exciting opportunity because it can produce fiber with less water and pesticides than cotton while also generating oil that can be used for biodiesel, she said.

“It’s also a great protein. It makes more protein than soy,” Reiter said.

Even so, the crop is “notoriously reluctant” to being gene-edited due to the complexity of its genome and such characteristics as female plants that develop male flowers, she said.

“There is a lot of complexity to any change you’re trying to make,” she said.

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