

GMO 'fusion protein' technology could expand genetic diversity in food crops, increasing farm sustainability

For many years, the only way to improve characteristics such as yield and nutritional value of crops was through selective breeding, which can be an extremely slow process. Meiogenix is one of a number of biotech companies that aim to speed up the process.

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Meiogenix aims to supercharge the genetic diversity generated from meiotic recombination in crops. To do this, the company is designing a synthetic [fusion protein](#) that triggers meiotic recombination. Meiogenix then delivers a transgene encoding this protein into plant cells using a technique called agrobacterium-mediated gene transfer. Once the transgene is in the cells, the fusion protein makes a target region of the plant's genome undergo meiotic recombination more often than normal.

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The improvements will allow breeders to develop crop varieties with positive traits that can be grown more efficiently and sustainably while still taking advantage of the natural genetic diversity of wild varieties.

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