

Frying foods like wheat and potatoes can produce a carcinogen, acrylamide. A CRISPR gene-edited wheat in development could prevent that

Asparagine is a naturally occurring amino acid, and while most is made into protein, plants such as wheat can accumulate it as a free amino acid, explains Nigel Halford, a crop scientist at Rothamsted Research.

“And when you bake, toast or fry [as in the case of potatoes], it can lead to the formation of a toxic contaminant, acrylamide, which is known to be a carcinogen.”

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“One solution is to produce food ingredients with lower acrylamide-forming potential, such as rye and wheat grains with low levels of soluble [non-protein] asparagine.”

Rothamsted Research has started a five-year project to trial gene-edited wheat, produced using the CRISPR technique to “knock out” the asparagine synthetase gene, TaASN2.

Glasshouse trials have shown levels to be 70-90% lower in grain from gene-edited plants.

The project has now moved to the field-trial stage, with Europe’s first field trial of gene-edited wheat currently in the ground.

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The aim is to see how well the wheat performs under field conditions.

As well as asparagine content, the trial will assess other factors such as yield, disease resistance and grain protein content, which have to stack up.

[**This is an excerpt. Read the original post here**](#)