How biotech gets potentially harmful chemical acrylamide out of fries, crackers and other popular foods

The discovery of [the carcinogenic chemical] acrylamide in foods like crackers, cookies, potato chips, and french fries rattled food makers and health regulators around the world. Scientists learned that acrylamide is formed from the reaction of the amino acid asparagine with reducing sugars like fructose. But hundreds of variables—how crops are grown, cooking times, and even the type of leavening agent used—can affect the amount of acrylamide in a given food.

[Editor's note: According to the nonprofit Cancer Research UK, "Evidence from animal studies shows that acrylamide has the potential to interact with the DNA in our cells …. However, evidence from human studies has shown that, for most cancer types, there is no link between acrylamide and cancer risk."]

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Ingredient suppliers have been working in their own labs and with customers to develop both customized and off-the-shelf solutions.

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Manufacturers of potato-based foods can reduce acrylamide by selecting potato varieties genetically modified to have low levels of asparagine and reducing sugars. The Idaho potato giant J. R. Simplot introduced the Innate potato in 2015.

It was developed using RNA interference to silence a gene called Asn1 involved in asparagine biosynthesis and two genes, PhL and R1, that control the formation of sugars. Doug Cole, the company's biotech affairs specialist, says Simplot is supplying the potato to more than a dozen potato chip processors in the US.

Read full, original article: How ingredient makers are getting acrylamide out of foods