

Spicy tomatoes? Scientists want to produce chili pepper metabolites in CRISPR-edited tomatoes

Surely, someone out there has cooked up a shrimp fra diavolo and thought, “mamma mia, this would be much easier if someone genetically modified the tomatoes to be spicy,” right? Right?

A team of scientists in Brazil and Ireland have published [an opinion paper](#) arguing exactly that point: that new gene editing techniques could make it easier to engineer spicy tomatoes. But they’re after more than just spicy tomato sauce.

“The idea is to use the tomato as a biofactory, with potential industrial and pharmaceutical applications,” paper author Agustin Zsögön from the Universidade Federal de Viçosa in Brazil told Gizmodo....

The molecules behind spiciness are called capsaicinoids and are produced by...hot peppers....But they’re also well-known, low-risk painkillers found in creams for arthritis patients, and they’re used in pepper spray as well.

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Capsicum is the only genus of plants that naturally produce these molecules, but peppers take a lot of work to cultivate....The tomato, on the other hand, is an easy-to-control model organism that has already been the subject of plenty of genetic modification studies....Most importantly, tomatoes....still have the machinery to make capsaicinoids.

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Rather than splice new genes into the tomatoes, researchers would need only activate existing genes using gene-editing tools like TALENs or the well-known CRISPR/Cas9. The tomato could itself become a factory for producing capsaicinoids, or, yes, companies could just market spicy tomatoes.

Read full, original article: [Let’s Make Tomatoes Spicy With Genetic Engineering, Scientists Proclaim](#)