

Pesticide fears spark winegrower interest in CRISPR-edited, disease-resistant grapes

According to a [study](#) conducted in 2011 by the U.S. Department of Agriculture, wine grapes were first domesticated around 8000 years ago. Since then, the 10 or so most popular grape variants have undergone little to no evolution.

.... European wine grape variants such as Pinot Noir, Chardonnay, Sauvignon Blanc, Cabernet Franc, and Cabernet Sauvignon are all [descendants](#) of the same species, *Vitis vinifera*. They are also very closely related to each other genetically. This makes them susceptible to a long list of pathogens, especially those originating in North America.

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Introducing a new gene into an existing grape merely changes its traits while the variety of wine remains the same. This process can greatly assist marketing efforts in an industry where sales are mainly dependent on variety, even more so than quality. Given the industry's devotion to tradition, it can also make the idea of genetic modification an easier sell to vintners and cultivators.

Gene editing technology has already shown a lot of promise in a number of isolated studies involving wine grapes. In the most recent example, Rutgers University researchers successfully used the CRISPR/Cas9 technique in 2019 to develop downy mildew resistance in Chardonnay.

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The wine industry's interest in breeding techniques and gene editing stems from its over-reliance on pesticides, which has become a safety concern for consumers.

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