

Consumers care more about taste than gene editing for table grapes

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Despite some hesitation about gene-edited foods, taste trumps everything, according to a Washington State University-led survey of U.S. consumers.

For the study published in the [journal *PLOS One*](#), researchers surveyed more than 2,800 people across the U.S. to assess how accepting they might be of gene-edited table grapes, even though none are yet on the market.

Most participants cared more about the grapes' taste, followed by their appearance, than how the grapes were bred. The respondents also ranked a preference for fewer pesticides, third, and only fourth, did they express a slight preference for traditionally bred grapes over gene-edited ones.

"In general, the biggest thing they cared about is taste, the flavor-related attributes," said Karina Gallardo, a WSU economics professor and corresponding author on the study. "They did state wanting a price reduction for gene editing, but the difference was not statistically significant, which means they were basically indifferent."

More than half of the survey participants said they knew the difference between the gene-editing technology CRISPR, and genetic engineering, but they couldn't state what exactly that difference was.

CRISPR is a tool for gene editing, which means altering the DNA sequence of a plant or animal usually with the aim of improving its characteristics. Gene-edited changes are ones that could occur naturally or through traditional plant breeding but would take much longer without this tool.

Genetic engineering, also sometimes called [genetic modification](#), is a process that involves combining [genes](#) from different species that would not occur naturally. Both technologies are considered safe by scientists, but there is considerable stigma around [genetic engineering](#) and the sale of genetically modified organisms is banned in some countries.

To better understand the survey responses, the researchers segmented the participants into four groups depending on their level of acceptance of gene-editing.

They found that one group, representing 22% of the participants, who were the most accepting of gene editing were also the most informed and trusted many sources of information, ranking scientific sources the most highly. The group that most strongly rejected gene-editing, about 16% of respondents, knew the least about the technology and had little trust in any sources of information including scientists, government and the media. The other two groups were seen as slightly or moderately rejecting gene editing.

Very few gene-edited foods, and currently no gene-edited table grapes, have been commercialized in the U.S., but applications to market gene-edited food products are expected to grow. Gallardo said [gene editing](#) will be an increasingly important tool for producers to meet demand for food especially in the face of climate change and its associated increase in [plant diseases](#) and pests.

"We cannot rely on the plant breeding technologies of 30 to 40 years ago to make improvements we badly need now," Gallardo said. "People should know that this technology is safe. Gene editing has been developed in academia, so everything is transparent. We publish everything we do. Nothing is hidden."

In addition to Gallardo, co-authors include first author Azhar Uddin of WSU's Institute for Research and Education to Advance Community Health (IREACH) and Bradley Rickard of Cornell University as well as Julian Alston and Olena Sambucci of University of California, Davis.

More information: Azhar Uddin et al, Consumer acceptance of new plant-breeding technologies: An application to the use of gene editing in

fresh table grapes, *PLOS ONE* (2022). [DOI: 10.1371/journal.pone.0270792](https://doi.org/10.1371/journal.pone.0270792)

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