

Genetically Modified Organisms (GMOs) are foods that are developed using genetic engineering. These foods may also be called bioengineered foods, which are defined by the U.S. Department of Agriculture Ag Marketing Service as those that contain detectable genetic material that has been modified through certain lab techniques and cannot be created through conventional breeding or found in nature.

Here is a brief summary of the genetic engineering process:<sup>1</sup>

- » Identify a gene that gives a plant, animal, or organism a certain trait;
- » Copy that information;
- » Insert that information in the DNA of another organism; and
- » Grow a new organism.

GMOs have been evaluated as safe by the U.S. Food and Drug Administration (FDA), the United States Department of Agriculture (USDA), and the U.S. Environmental Protection Agency (EPA). GMO foods have the same safety standards as other foods.<sup>2</sup>

Some foods may have a non-GMO label – this means that no GMO technology was used to create this product. This is not the same thing as an organic label.<sup>2</sup>

There are benefits to GMO crops such as growing more food on less land and improving produce nutrition, taste, quality, or shelf life. Common traits for GMO crops include resistance to insect damage, tolerance to herbicides, and resistance to plant viruses.<sup>1</sup>

Certain varieties of the following crops have been genetically modified and are available to U.S. consumers:<sup>3</sup>

- » Corn
- » Soybean
- » Cotton
- » Potatoes
- » Papayas
- » Summer Squash
- » Canola



- » Alfalfa
- » Apples
- » Sugar beets
- » Pink pineapple

### National Bioengineered Food Disclosure Standard:<sup>4</sup>

This disclosure is a symbol indicating to the consumer that a food is or may be bioengineered. The options for disclosure include text, symbol (see below), or digital link. This disclosure was required as of January 1, 2022. However, food processors selling less than \$2.5 million/year are exempt from this requirement.



Picture source: <https://www.ams.usda.gov/rules-regulations/be/symbols>

## Sources and More Information:

- 1) Center for Food Safety and Applied Nutrition. (2022, August 3). How gmo crops impact our world. U.S. Food and Drug Administration. Retrieved October 20, 2022, from [www.fda.gov/food/agricultural-biotechnology/how-gmo-crops-impact-our-world](http://www.fda.gov/food/agricultural-biotechnology/how-gmo-crops-impact-our-world)
- 2) Sims, T. (2021, December 1). GMOs and your next shopping trip: An FAQ to keep handy. Food Insight. Retrieved October 20, 2022, from <https://foodinsight.org/gmos-faq/>
- 3) Center for Food Safety and Applied Nutrition. (2022, August 3). GMO crops, animal food, and beyond. U.S. Food and Drug Administration. Retrieved October 20, 2022, from [www.fda.gov/food/agricultural-biotechnology/gmo-crops-animal-food-and-beyond](http://www.fda.gov/food/agricultural-biotechnology/gmo-crops-animal-food-and-beyond)
- 4) USDA/AMS. (2022). Be disclosure. BE Disclosure | Agricultural Marketing Service. Retrieved October 20, 2022, from [www.ams.usda.gov/rules-regulations/be](http://www.ams.usda.gov/rules-regulations/be)

For more detailed information, consult the KSU/MU Fact sheet: Is it Safe? Information on Genetically Engineered Foods for Consumers (MF3281), <https://bookstore.ksre.ksu.edu/pubs/MF3281.pdf>

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