

GMOs in Perspective

Genetically Modified Organisms (GMOs) are crops that have been developed or improved through genetic engineering for desirable traits like insect and disease resistance or drought tolerance.¹

GMOs are safe^{2,3}

Foods that contain GMO ingredients have the same makeup and nutritional value as non-GMO options.⁴



In the **20+** years

since GMOs were introduced, **trillions** of meals containing GM ingredients have been safely consumed.⁵

GMOs have been studied extensively, with **ongoing regulation and oversight by the FDA, USDA and EPA.**³ **Major medical associations agree.**^{6,7} Foods that contain GMOs pose no greater risk to humans or livestock than non-GMO foods.



Nutritious food

GMOs help ensure the availability of vital nutrients like beta-carotene. GMOs also help farmers provide foods that are less susceptible to disease and pests.¹⁰



Improved sustainability

GMOs enable farmers to grow more food on less land using fewer chemicals.⁹ New apple and potato varieties eliminate browning and can help reduce food waste.



Changing global conditions

GMOs fight viruses, disease and insects and allow crops to grow in drought and flood conditions.⁸

GMOs help farmers grow safe, nutritious food

¹GMO Answers. GMO Basics. <https://gmoanswers.com/gmo-basics>. Accessed January 1, 2021.

²Genetic Literacy Project. With 2000+ global studies affirming safety, GM foods among most analyzed subjects in science, Jon Entine & JoAnna Wendel 2013. <https://geneticliteracyproject.org/2013/10/08/with-2000-global-studies-confirming-safety-gm-foods-among-most-analyzed-subject-in-science/>. Accessed January 1, 2021.

³The National Academies of Sciences, Engineering, Medicine. Genetically Engineered Crops: Experiences and Prospects 2016. <https://books.nap.edu/read/23395/chapter/2#2>. Accessed January 1, 2021.

⁴Van Eenennaam, A.L. and young, A.E. Prevalence and impact of genetically engineered feedstuffs on livestock populations. *J. Anim. Sci.* 2014. 92(10):4255-4278. <https://pubmed.ncbi.nlm.nih.gov/25184846/>. Accessed January 1, 2021.

⁵Forbes 2014. The Debate About GMO Safety Is Over, Thanks To A New Trillion-Meal Study. <https://www.forbes.com/sites/foenette/2014/09/17/the-debate-about-gmo-safety-is-over-thanks-to-a-new-trillion-meal-study/#2672d1228a63>. Accessed January 1, 2021.

⁶American Medical Association. AMA Report on Genetically Modified Crops and Foods. <https://www.isaaa.org/~/media/Files/Publications/Position/ama.htm#:~:text=A%20report%20issued%20by%20the>. Accessed January 1, 2021.

⁷World Health Organization (WHO). Modern Biotechnology, Human Health, and Development: An evidence-based study 2005. https://www.who.int/foodsafety/publications/biotech/biotech_en.pdf. Accessed January 1, 2021.

⁸Nemali, K.S., Bonin, C., et al (2015). Physiological responses related to increased grain yield under drought in the first biotechnology-derived drought-tolerant maize. 2014. <https://pubmed.ncbi.nlm.nih.gov/25210866/>. Accessed January 1, 2021.

⁹International Food Information Council. Fact Sheet: Benefits of Food Biotechnology 2013. <http://www.foodinsight.org/articles/fact-sheet-benefits-food-biotechnology>. Accessed January 1, 2021.

¹⁰Food Insight. One of Our Food System's Helping Hands: GMOs. <https://foodinsight.org/one-of-our-food-systems-helping-hands-gmos/>. Accessed January 1, 2021.