MERCK
Animal Health
The Science of Healthier Animals®

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.

GMOs help farmers grow safe, nutritious food

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]

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[3]The 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.
[4]Van 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.
[5]Forbes 2014. The Debate About GMO Safety Is Over, Thanks To A New Trillion-Meal Study. https://www.forbes.com/sites/jonentine/2014/09/17/the-debate-about-gmo-safety-is-over-thanks-to-a-new-trillion-meal-study/#2672d1228a63. Accessed January 1, 2021.
[6]American Medical Association. AMA Report on Genetically Modified Crops and Foods.https://www.isaaa.org/kc/Publications/htm/articles/Position/ama.htm#:~:text=A%20report%20issued%20by%20the. Accessed January 1, 2021.
[7]World 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.
[8]Nemali, 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.
[9]International Food Information Council. Fact Sheet: Benefits of Food Biotechnology 2013. http://www.foodinsight.org/articles/fact-sheet-benefits-food-biotechnology. Accessed January 1, 2021.
[10]Food 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.