

Letter to the Editor: The Pundit Speaks

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“Genetically Modified Foods (GM Foods) Facts”

Despite their widespread use, consumers worldwide do not always have access to sufficient and accurate information about genetically modified foods (GM foods). Genetically modified foods have frequently given rise to controversy, which means that it can sometimes be difficult to tell fact from misconception. Genetically modified foods (GM foods), often called bioengineered foods or “transgenic foods,” continue to be a controversial topic of discussion. There is further skepticism surrounding their safety and environmental and health impacts. GM foods have undergone deliberate changes to their DNA (genetic material) to introduce traits that do not naturally occur in that food. Genes from one organism are placed into another organism using recombinant DNA technology. The final food product is called GM or bioengineered food. This genetic modification may be carried out to enhance the agricultural features of the crop or improve its nutritional value. GM foods are a subcategory of genetically modified organisms (GMOs), which also include the genetic modification of microorganisms and animals. The practice of manipulating the genetic material of crops to yield desirable traits is not new, with records dating back 10,000 years ago in Southwest Asia. Traditionally, crossbreeding, grafting, and selective breeding methods were used to rear produce with specific traits and were deemed desirable for both agricultural success and consumer expectations. With an estimated world population of 9 billion by 2049, there is an agricultural challenge to meet the growing demand for nutritious foods. Modern-day biotechnology enables specific genes to be identified, isolated, and inserted into crops of interest to enhance their features. Bioengineering of crops and other technological applications to food production are faster and have filled a major gap in the supply and demand chain. GM foods are modified to support the reliability of the food supply and consistent quality of the final crop. Although agricultural improvements have been at the forefront of bioengineering and GM foods, some modifications have focused on enhancing the nutritional profile of foods. The increased concentration of the essential amino acid, lysine, in corn, and beta-carotene in golden rice are examples. These efforts are also of public health interest to make essential nutrients often lacking in the diet widely available to the population. The Agricultural Marketing Service of the Department of Agriculture (USDA) maintains a list of bioengineered foods from around the world. It is important to note that many of these GM foods are used as ingredients to make other healthy food products. Therefore, people most likely consume food products made with ingredients derived from GM food crops.

In the America that I love, from January 2022, new laws require food labels to display “bioengineered food,” whether the food itself or ingredients in the food product have been genetically modified.

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