

Genetically Modified Foods: Harmful or Helpful?

Written by W.J.Pais

European environmental organizations and public interest groups have been actively protesting against GM foods for months. In response to the upswelling of public concern, the U.S. Food and Drug Administration (FDA) held three open meetings in Chicago, Washington, D.C., and Oakland, California to solicit public opinions and begin the process of establishing a new regulatory procedure for government approval of GM foods.

The term GM foods or GMOs (genetically-modified organisms) is most commonly used to refer to crop plants created for human or animal consumption using the latest molecular biology techniques. These plants have been modified in the laboratory to enhance desired traits such as increased resistance to herbicides or improved nutritional content. The enhancement of desired traits has traditionally been undertaken through breeding, but conventional plant breeding methods can be very time consuming and are often not very accurate.

According to the FDA and the United States Department of Agriculture (USDA), there are over 40 plant varieties that have completed all of the federal requirements for commercialization (<http://vm.cfsan.fda.gov/%7Elrd/biocon>

). Some examples of these plants include tomatoes and cantalopes that have modified ripening characteristics, soybeans and sugarbeets that are resistant to herbicides, and corn and cotton plants with increased resistance to insect pests.

Not all these products are available in supermarkets yet;

however, the prevalence of GM foods in U.S. grocery stores is more widespread than is commonly thought. While there are very, very few genetically-modified whole fruits and vegetables available on produce stands, highly processed foods, such as

vegetable oils

or

breakfast cereals

, most likely contain some tiny percentage of genetically-modified ingredients because the raw ingredients have been pooled into one processing stream from many different sources. Also, the ubiquity of soybean derivatives as food additives in the modern American diet virtually ensures that all U.S. consumers have been exposed to GM food products.

Thirteen countries grew genetically-engineered crops commercially in 2000, and of these, the U.S. produced the majority. In 2000, 68% of all GM crops were grown by U.S. farmers. In comparison, Argentina, Canada and China produced only 23%, 7% and 1%, respectively. Other countries that grew commercial GM crops in 2000 are Australia, Bulgaria, France, Germany, Mexico, Romania, South Africa, Spain, and Uruguay.

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Environmental activists, religious organizations, public interest groups, professional associations and other scientists and government officials have all raised concerns about GM foods, and criticized agribusiness for pursuing profit without concern for potential hazards, and the government for failing to exercise adequate regulatory oversight. It seems that everyone has a strong opinion about GM foods. Even the Vatican and the Prince of Wales have expressed their opinions. Most concerns about GM foods fall into three categories: environmental hazards, human health risks, and economic concerns.

Many children in the US and Europe have developed life-threatening allergies to peanuts and other foods. There is a possibility that introducing a gene into a plant may create a new [allergen](#) or cause an allergic reaction in susceptible individuals. A proposal to incorporate a gene from Brazil nuts into soybeans was abandoned because of the fear of causing unexpected allergic reactions.

[Source](#)