

Frequently Asked Questions

What are genetically modified foods?

The food products of modern biotechnology are sometimes referred to as "genetically modified" or "genetically engineered". Modern biotechnology uses advanced knowledge of genetics to produce new products. The word biotechnology is derived from the word biology, the science of living things, and the word technology, tools and processes used to make things. Biotechnology has been used to describe a process as simple as using yeast to make bread, or as complex as changing the genetic traits of a plant to produce new plant varieties. However, it is the transfer of genes from one organism to another about which many people have questions.

How are genetically modified foods different from traditional plant breeding?

In traditional plant breeding, scientists could not transfer single genetic traits or readily make crosses between species. Advances in their understanding of genetics has allowed them to transfer only the genes of interest, using the technique of re-combining DNA. For example, genetically modified corn has a gene from a common soil bacterium that protects the corn from the European corn borer.

What are some examples of genetically modified foods?

Some examples of genetically modified foods are canola, potatoes, soy products,

and corn. Many processed foods that contain these ingredients are said to be genetically modified. Sometimes a food product like canola oil is produced using modern biotechnology, but the oil does not contain the genetic modification because the oil does not generally contain protein. Trace amounts of protein may be found in some oils, particularly cold pressed oils.

Who assesses the safety of genetically modified foods?

Food products of modern biotechnology must be assessed for human, animal and environmental safety. The Canadian Food Inspection Agency (CFIA), Health Canada, Environment Canada and Fisheries and Oceans all have a role in safety assessment. Health Canada takes the lead role in human food safety. Canada's food approval system is based on the qualities of the product, not the process by which it was produced.

What are the benefits of genetically modified foods?

Modern biotechnology gives farmers another tool to protect crops from insects and disease. Loss of crop yield due to pests is common, and genetically modified crops may suffer less yield losses. In animals, modern biotechnology can help to improve the environment. For example, although not yet available to farmers, the Enviropig produces less water-polluting phosphorus. Other research and development is focused on



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developing plants that resist cold temperatures or have more nutrients.

Overall, farmers receive agronomic benefits from genetically modified foods, and over time, may receive important economic benefits. Consumers benefit indirectly from genetic modifications that are intended to improve farm practices, and in the future, may receive direct nutritional benefits from genetic modifications under research and development. Biotechnology companies, including multinational corporations, will receive significant economic benefits from immediate sales of new and complementary products, such as herbicide tolerant seed and the appropriate herbicide.

What are the risks of genetically modified foods?

Crops that are grown using modern biotechnology must be assessed for human, animal and environmental safety. Some crops, such as canola, may be able to cross with related plants. Therefore, the Canadian Food Inspection Agency reviews any new information about how the genetically modified canola interacts with its environment. All foods containing protein have the potential to cause food allergy. The most common food allergens are peanuts, tree nuts, soybeans, milk, eggs, fish, shellfish and wheat. Health Canada assesses the safety of all food products to ensure that the risk of food allergy is controlled. Because genetically modified foods have the potential to cause food allergy, Health

Canada checks the source of new proteins found in these foods.

Will genetically modified foods be labelled?

The Canadian General Standards Board, in cooperation with the Canadian Council of Grocery Distributors, is developing voluntary labelling guidelines for products of food biotechnology. Choosing the food products to label and choosing the words to describe the technology is challenging. Labelling a tomato is simpler than labelling pizza sauce and writing a statement describing food biotechnology that most Canadians can read and understand will be very important.

Foods from modern biotechnology will carry mandatory labels under two circumstances. If the new food has a protein that may be a potential food allergen, then it will be labelled. If the new food has a significant change in nutrient composition, such as higher or lower vitamin levels, then it will be labelled.