

DO WE NEED GM CROPS TO FEED THE WORLD?

We already produce enough food to feed 10 billion people, which is the number our population is predicted to reach by 2050. Every year, one third of all the food produced around the world is wasted.

Hunger is caused by poverty and inequality. GM crops do not help solve these problems. In fact, GM seeds are patented, owned and controlled by a few large corporations. This means that GM seeds cost more money than non-GM seeds, and farmers have to buy seed every season instead of saving their own seed.

GM crops are used for animal feed, processed food ingredients, fibre and even biofuel. Few are used for direct human consumption. There is no evidence that GM traits increase crop yields, and GM crops are not putting more money into farmers' pockets.

HOW CAN I AVOID GM FOODS?

Our government does not require labeling. But you can still make a choice:

- 1 Buy certified organic food. Genetic modification is prohibited in organic farming.
- 2 Avoid processed food with corn, canola and soy ingredients.
- 3 Buy cane sugar or organic sugar to avoid sugar from GM sugar beets.
- 4 Choose products with the "Non GMO Project Verified" seal.
- 5 Support farmers who reject GM crops: buy food directly from farmers who do not plant GM corn, canola or soy or use GM grains for meat, dairy or egg production.



MORE INFO at CBAN.CA/GMFOODS

CANADIAN BIOTECHNOLOGY ACTION NETWORK

CBAN provides the latest research, updates and action on GM foods, crops and animals in Canada.

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Check out the findings from CBAN's *GMO Inquiry*. Our 6 reports investigate the impacts and risks of genetically modified crops and foods in Canada after 20 years.



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CBAN'S QUICK GUIDE to GENETICALLY MODIFIED FOODS

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WHAT IS GENETIC MODIFICATION?

Genetic modification (GM) – also called genetic engineering - is the introduction of new traits to an organism by making changes directly to its genetic makeup, e.g. DNA, through intervention at the molecular level.

With genetic engineering, scientists can change the traits of plants and animals by inserting DNA pieces, whole genes, or long stretches of DNA segments from many different organisms. These genetic sequences can also be taken from the same species or be newly made up. Scientists can also delete or swap DNA sequences in organisms or introduce genetic material to silence genes.

Unlike conventional breeding, genetic engineering is a laboratory technology that enables the direct transfer of genes between organisms in different species or kingdoms that would not breed in nature, and the introduction of new sequences that do not exist in nature.

WHAT GM FOODS ARE ON THE MARKET?

Four GM crops are grown in Canada: **corn, soy, canola and white sugar beet**. These are widely used as ingredients in processed foods, and as food for farm animals, to produce eggs, milk and meat.

- » GM cotton, some GM papaya and a few types of GM squash are grown in the U.S. and can be imported into Canada.
- » There is a very small amount of GM sweetcorn sold in Canada. Most of the GM corn grown in Canada is field corn used for animal feed or processed food ingredients. There is no GM popcorn on the market.
- » In 2016, a small amount of GM alfalfa was sold in Eastern Canada for the first time. This alfalfa is grown for pasture and hay to feed dairy cows and other farm animals.

GM CROPS GROWN IN CANADA

Crop	Trait	Where on the shelves
01 CORN	Insect resistant, herbicide tolerant	Corn flakes • Corn chips • Cornstarch • Corn syrup • Corn oil and other corn ingredients in processed foods • Sweeteners like glucose and fructose • Eggs, milk and meat* • Some sweetcorn
02 CANOLA	Herbicide tolerant	Canola oil • Eggs, milk and meat*
03 SOY	Herbicide tolerant	Soy oil • Soy protein • Soy lecithin • Tofu • Soy beverages • Soy puddings • Eggs, milk and meat*
04 SUGAR BEET	Herbicide tolerant	Sugar

*Many animals used to produce eggs, milk and meat are fed corn, canola and/or soy

GM FOODS IMPORTED TO CANADA

Food	Grown	Where on the shelves
05 COTTON-SEED OIL	U.S.	Cottonseed oil • Vegetable oil in processed foods such as potato chips
06 PAPAYA	U.S. (Hawaii)	Papaya in fruit juices and other processed foods
07 SQUASH	U.S.	Some zucchini • Yellow crookneck and straightneck squash
08 MILK PRODUCTS (BOVINE GROWTH HORMONE)	U.S.	Milk solids and powder • Frozen desserts with dairy • Imported mixed drinks with milk ingredients

NEW GM FOODS ON THE MARKET?

Food	Trait	Where on the shelves
09 APPLE	Non-browning	NOT YET IN CANADA
10 POTATO	Non-browning, less acrylamide	NOT YET IN CANADA
11 SALMON	Faster growing	NOT IN PRODUCTION
12 ALFALFA	Herbicide tolerant, low-lignin	A small amount is grown to feed dairy cows and other farm animals. Not grown for sprouts.

chan.ca/gmfoods for updates

ARE GM FOODS SAFE TO EAT?

We don't know what, if any, impacts GM food could have on our health. There are still many unanswered safety questions and there is no scientific consensus on the safety of GM foods.

GM foods are approved for human consumption based on company-produced science. The data is kept confidential and is not peer-reviewed by independent scientists. There are very few long-term, independent tests on GM foods. Health Canada does not do its own testing.

There is no mandatory labeling of GM foods in Canada, and no tracking or monitoring of possible health impacts.

WHAT ARE THE ENVIRONMENTAL RISKS?

Once GM organisms are released into the environment they are difficult or impossible to control or recall. Contamination is a major problem because genes from GM crop plants can move around through seeds and pollen. Genetic pollution is irreversible living pollution that self-replicates.

Since the introduction of GM crops, herbicide sales in Canada rose by 130% (1994-2011), and new herbicide-resistant weeds are spreading.

WHO OWNS GM SEEDS?

GM technology facilitates corporate control because patents on genetic sequences mean that corporations can own seeds. Monsanto is the largest seed company in the world and owns over 80% of GM seeds sown globally. New mergers between large seed and chemical companies like Monsanto and Bayer could soon mean that three corporations control over 60% of the global seed and pesticide markets.