GM Foods on the Market in Canada

GM Food in Canada	Where	What
1. CORN	In processed food and animal feed, and a very small amount of GM sweet corn	*Herbicide-tolerant & insect-resistant*
2. CANOLA	As oil in processed food and animal feed	*Herbicide-tolerant*
3. SOY	In processed food (not in tofu or soy milks)	*Herbicide-tolerant*
4. SUGARBEET (white)	Processed into sugar	*Herbicide-tolerant*
5. ALFALFA	Animal feed	*Herbicide-tolerant & low-lignin*
6. SALMON (Atlantic)	Farmed salmon	*Faster growing*
7. PAPAYA	Imported from the US or China	*Virus-resistant*
8. SQUASH	Imported from the US only	*Virus-resistant*
GM Foods that could come to the market soon		
9. APPLE	Sliced apples in foodservice or sold in plastic bags	*Non-browning*

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Genetic Engineering

Genetic engineering (also called genetic modification or GM) is a technology that has enabled greater corporate control over seeds and pesticides, and has driven the use of synthetic herbicides.

GM seeds are owned and controlled by a few large multinational seed and pesticide companies. Almost 100% of all the GM seeds sold in Canada are engineered to be herbicide-tolerant, meaning they are designed to withstand spraying of particular herbicide formulations that kill weeds. Herbicide sales in Canada have increased by 199% since the introduction of GM crops (1994-2016).

GM crop plants can contaminate neighbouring farms and are a threat to the future of organic farmers, who reject the use of genetically modified organisms (GMOs).

Most GM crops are used as ingredients in processed foods, for biofuels, or to feed animals.

WHAT IS GENETIC ENGINEERING?

Genetic engineering alters the genetic makeup of plants, animals and other organisms by making changes at the molecular level. Scientists change the traits of organisms by inserting pieces of DNA, whole genes, or long stretches of assembled DNA segments originating from different sources. The inserted genetic material is often derived from unrelated species, but it can also be taken from the same or a closely related species, or be newly made up. Scientists can also change traits by disrupting genes, deleting or swapping small DNA segments, or introducing genetic material to silence genes.

Unlike traditional breeding, genetic engineering enables the direct transfer of genes between organisms in different species or kingdoms that would never breed in nature, and the introduction of new genetic sequences that do not exist in nature.

You have a choice on GM

Our government does not require labelling of genetically engineered (genetically modified or GM) foods, but you can still make a choice:

1. Choose organic products. Genetic engineering is prohibited in organic farming.
2. Avoid processed food with corn, canola and soy ingredients.
3. Choose organic sugar or cane sugar to avoid sugar from GM sugar beets.
4. Choose products with the "Non-GMO Project Verified" seal.
5. Avoid farmed salmon to avoid GM Atlantic salmon.
6. Support farmers who reject GM crops: buy food directly from farmers who do not plant GM crops or use GM feed to produce meat, dairy or eggs.

WHY IS GENETIC ENGINEERING PROHIBITED IN ORGANIC FARMING?

Genetic engineering and organics are two different visions for farming. Organic farmers reject GM seeds and GM animals as unnecessary and risky. Instead they work with the diversity and bounty that nature already offers, often replacing corporate products with natural systems and human labour.

What You Can Do

When you buy food, you play an important role in determining the future of our food system and its impact on people and the planet.

Even just a few choices can make a difference. Here are some options:

- **Choose Organic Food.** Regularly choosing one or more certified organic products supports farmers who are committed to a high standard of care for our environment.
- **Eat with the season.** Find out which fruits and vegetables are in season in your area and prioritize eating those foods at their freshest.
- **Shop at your local farmers' market.** Choose to be a regular customer to help local farms thrive.
- **Join a Community Shared Agriculture program (CSA).** Look for local farmers who run CSAs. In exchange for money upfront, you will receive weekly produce all season long. You help a farmer put seeds in the ground and share some of the risks of farming.
- **Find your local food products in stores.** Many provincial governments have created local food brands to help you find locally grown and locally made products.
- **Shop at your independent food store.** Independent stores are often vital to the support of family farms, local products, and small food businesses in your community.

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Why Your FOOD CHOICES MATTER

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What's the Problem?

Much of the food we eat is produced through a long chain of steps in a global system that contributes to the climate crisis, puts harmful toxins into our environment, and removes decision-making from farmers and consumers. This global food system is dominated by a few large companies that control the markets for seeds, pesticides and other technologies, as well as much of the distribution and sale of food in our communities.

CLIMATE CRISIS

Our global food system contributes 21%-37% of all global greenhouse gas emissions caused by human activities. This includes emissions from food production, as well as from related practices, such as land-use changes like clearing forests to make way for farming, manufacturing pesticides and fertilizers, and energy-intensive activities such as heating greenhouses, and processing, packaging and transporting food.

Agriculture itself – producing crops and animals – contributes approximately 12% of human greenhouse gas emissions. This includes emissions of nitrous oxide from fertilizers, and methane from livestock production.

However, ecological and regenerative approaches to growing food can reduce emissions from farming and protect the environment.

Agriculture is part of the problem, but it can also be a significant part of the solution.

TOXIC CHEMICALS

Pesticides (herbicides, insecticides and fungicides) are chemicals or mixtures of chemicals designed to kill weeds, insects, and other pests and diseases that can harm or destroy food crops. **Many Canadian farms rely on the extensive use of synthetic pesticides**, which contaminate the soil, air and water, and can have detrimental impacts on human health and on biodiversity, including birds, aquatic life, and beneficial insects such as pollinators.

Agriculture uses large amounts of nitrogen fertilizers that release nitrous oxide, a greenhouse gas about 300 times more powerful at causing climate warming than CO_2. Runoff from excessive use of fertilizers and manure also commonly pollutes aquatic ecosystems, leading to dead zones in the water where fish and other organisms cannot survive.

Synthetic pesticides and chemical fertilizers are both petrochemical products, made from fossil fuels.

CORPORATE CONTROL

Over half of both the global seed and pesticide markets are controlled by just four companies. This high level of corporate concentration means higher prices for farmers, limited choices, and decreased seed diversity. These top companies are also the global leaders in selling genetically engineered seeds.

Our global food system pushes farmers to grow large areas of just a few crops or "monocultures" that rely on corporate products such as synthetic pesticides and chemical fertilizers. In North and South America, most corn, canola, soy and cotton crops are grown from genetically engineered seeds with their related herbicides.

In 2018, Canadian farmers spent 94% of their gross farm income to purchase these corporate products and other farm inputs.

***BAYER** is the **largest** seed company, **second largest** pesticide company, and **largest** seller of genetically engineered seed in the world. Since its merger with Monsanto in 2018, Bayer owns 22% of the global seed market and 18% of the global pesticides market.*

What's the Solution?

Ecological farming practices work to improve soil health, protect water resources, reduce the use of synthetic pesticides and chemical fertilizers, minimize emissions that contribute to the climate crisis, and promote seed diversity and biodiversity on and off the farm. These practices rely on farmers' knowledge, natural systems and human labour, rather than on corporate products. This means that ecological farming relies on building communities and is a way of life.

ORGANIC

Worldwide, organic farmers follow animal welfare and environmental practices, based on the four principles of health, ecology, fairness and care.

Organic farming is a set of ecological practices that are codified in a government-regulated standard. Certified organic farms are inspected every year by professional inspectors from independent certifying bodies to ensure they are following the Canada Organic Standard. Certification lets you know that every step from farm to table protects and maintains the organic integrity of the farm.

Certified organic farmers do not use:

- synthetic pesticides or chemical fertilizers;
- genetically engineered seeds and animal feed (genetically modified organisms or GMOs);
- antibiotics routinely, or hormones to stimulate growth;
- sewage sludge or waste from factory farms on their fields.

Remember: Organic farming is a non-GMO choice.

LOCAL

When you choose to buy local food, you reduce the miles your food travels to get to you. This means fewer greenhouse gas emissions and fresher food. Buying fresh food directly from local farmers can also help reduce food waste and food packaging.

Buying directly from farmers helps you build a connection with the people who grow your food. It also **puts more money into farmers' pockets** and helps keep more farmers in business, working on the land. This is important because we are losing farmland and farms in Canada (particularly small and medium size farms), as farm debt increases and the cost of land and inputs increase. Farmers are less than 2% of Canada's population, with an average age of 55. In addition, 30% of farmers work 30 hours or more a week on off-farm jobs, and 44% do some form of off-farm work to supplement their income.

Remember: Local food is not necessarily organic, and organic food is not always local. So look for local food that is also grown using organic or other ecological practices.

INDEPENDENT

Your independent local food store and local food businesses can be part of the solution. Small businesses often have more flexibility to purchase local and seasonal food, build relationships with local farmers, and invest back into your community.

Independent stores face ever-mounting pressures in a marketplace that is dominated by big grocery chains. Five grocery companies – Loblaw, Sobeys/Safeway, Costco, Metro, and Walmart – control 80% of the food retail market in Canada. What and where you buy, both make a difference.

Your food choices can help protect our environment, support your health, and build a better future for food and farming.

Produced by the Canadian Biotechnology Action Network (CBAN), a project on Tides Canada's shared platform. **www.cban.ca**

Order copies or send questions to **info@cban.ca**

For more information and references see **www.cban.ca/whyyourfoodchoicesmatter**