

## Media Background GM Alfalfa and Ontario Action

July 2013

### The Action

On July 25, two Ontario farmers submitted a formal request to the Environmental Commissioner of Ontario under the Ontario's *Environmental Bill of Rights* asking the province to conduct an environmental assessment of genetically engineered (also called genetically modified or GM) Roundup Ready alfalfa before it is sold in Ontario.

([www.cban.ca/ONalfalfachallenge](http://www.cban.ca/ONalfalfachallenge) )

### The Problem

The company Forage Genetics International wants to sell a genetically engineered (also called genetically modified or GM) alfalfa that incorporates Monsanto's GM herbicide tolerant "Roundup Ready" technology ("Roundup" is Monsanto's brand-name glyphosate herbicide).

Canadian regulatory authorities approved GM alfalfa for eating and growing in 2005, and in late April 2013 the Canadian Food Inspection Agency registered the first-ever GM alfalfa variety, meaning that it is now legal to sell in Canada and companies could put it on the market at anytime.

### What is the Threat from GM Alfalfa?

**Contamination:** Genetically engineered alfalfa will quickly contaminate non-GM and organic alfalfa. Contamination occurs when pollen from GM alfalfa fertilizes a non-GM plant which then produces seeds that contain the GM trait. The seeds will produce a new plant with the GM trait and in turn pass it on to the next generation via its pollen. This contamination will happen because alfalfa is a perennial crop that is pollinated by bees. Alfalfa can live as long as 25 years. Contamination from GM alfalfa will negatively impact farmers across Ontario who do not want GM alfalfa in their fields. Organic farmers in particular risk losing the use of alfalfa, or risk their organic certification and markets.

**Increased Pesticides:** GM herbicide tolerant Roundup Ready alfalfa will increase the use of Roundup/glyphosate in Ontario. This increased use of glyphosate risks accelerating the development of glyphosate resistant weeds which are already a problem in Ontario. To control these herbicide resistant weeds farmers will use of more glyphosate and

Genetic modification (GM) is also called genetic engineering (GE). It is recombinant DNA technology which is used to move genes from one organism to another.

There are four GM crops grown in Canada: canola, corn, soy and white sugarbeet (for sugar processing).

Globally, the only other GM crops are GM cotton (US, India, China, Pakistan and a few other countries), papaya (US), some squash varieties (US and China) and GM alfalfa (US).

Canada grows 7% of the world's GM crops (the US grows 41%).

other, more toxic herbicides like 2,4-D and dicamba.

**Weed Management Costs to Farmers:** Farmers will spend more money on pesticides in order to deal with herbicide resistant weeds and some farmers will lose the ability to use glyphosate in their production.

**Loss of Alfalfa:** Alfalfa combines unique environmental and economic benefits in one remarkable plant. It is high protein feed and a nitrogen-fixer for soil. Many farmers may choose to stop growing it in order to avoid contamination from GM alfalfa.

**Risk to Organic Farmers:** The Canadian Organic Standard prohibits the use of GM seeds or GM animal feed in organic farming. To avoid GM contamination many organic farmers may stop using alfalfa, or risk losing organic certification and organic markets.

### Why is Alfalfa so Important to Farms in Ontario?

Alfalfa is grown on 22% of cropland in Ontario. Pasture and hay often includes alfalfa.

- **Alfalfa is Animal Feed:** Alfalfa is used as food (mostly hay) and pasture for grazing animals like dairy cows and beef cattle, as well as for lambs, pigs and even honeybees and horses. Alfalfa is important high protein feed for animals.
- **Alfalfa Builds the Soil:** Instead of using chemical fertilizers, farmers use alfalfa to build soil nutrients, to help grow vegetables and grains. Alfalfa is the most important nitrogen-fixing perennial crop. It improves soil quality.

#### What Foods are Produced with Alfalfa?

- Dairy products including milk, butter, cheese, yogurt.
- Beef, and also meat from lamb, chickens and pigs.
- Many grain and vegetable farmers rely on alfalfa to build healthy soil to grow these crops.
- Alfalfa sprouts for sandwiches and salads.
- Some honey.
- Some supplements have alfalfa ingredients.

### What is Alfalfa?

- **Alfalfa is Hay and Pasture:** Alfalfa is most often part of hay and pasture mixes. The hay bales across our rural landscape often include alfalfa and other grasses.
- **Alfalfa is a Perennial:** Alfalfa is a deep-rooted perennial crop. Perennial means that the plant survives for more than one year and its roots survive in the soil to regrow for many seasons.
- **Alfalfa is Pollinated by Bees:** Alfalfa is insect-pollinated which means that insects distribute it to other plants. Alfalfa flowers depend entirely on insects for cross-pollination, leafcutter bees and native bee species for example.
- **Alfalfa is an Unsung Hero:** Alfalfa is one of the most widely planted crops in Canada. By area, it is the third largest crop in Canada. 4.5 million hectares are in

production, 75% in Prairies and 20% in Ontario and Quebec.

### Why is Alfalfa so Important to Organic Farmers?

Alfalfa is integral to the whole organic farming system and is part of many organic foods that we produce and buy in Ontario.

- **Organic Dairy:** Dairy cows graze on mixed grasses that include alfalfa and they are fed organic hay that contains alfalfa.
- **Organic Vegetables and Grains:** Alfalfa is important for fixing nitrogen into the soil, to build the soil for growing other healthy food crops, like wheat or even vegetables, without chemical fertilizers.
- **Organic and Grassfed Beef and other Meat:** Alfalfa is a high protein feed for beef cattle and other farm animals.

### Why can't we stop GM alfalfa contamination?

- **Alfalfa is a Perennial:** Alfalfa is a deep-rooted perennial crop. Perennial means that the plant survives for more than one year and the roots survive in the soil to regrow for many seasons.
- **Alfalfa is Pollinated by Bees:** Alfalfa is insect-pollinated which means that insects collect the pollen and distribute it to other plants. Alfalfa flowers depend entirely on insects for cross-pollination. This means that GM alfalfa pollen will quickly spread to other alfalfa plants and thus contaminate farmers' fields.
- **Feral Alfalfa:** Feral or wild growing alfalfa is common and its pollen will act as a bridge for moving genes from one field to another. Alfalfa is a hardy species that is adapted to grow in roadsides and ditches.
- **Alfalfa seeds are tiny!**
- **Blooming:** Farmers often cut hay when a portion, often 10%, of the alfalfa is in bloom. Some years there could be unpredictable events which prevent farmers from cutting hay before it blooms, such as illness or equipment failure.
- **Seed Spillage:** Seeds can be spilled by accident but alfalfa seed are also tiny so cleaning equipment to prevent cross-contamination or the spread of seeds will be virtually impossible and at the very least extremely costly.
- **Other Seed Escape:** Birds and rodents can spread seed from storage bins, and manure can spread undigested seed from hay consumed by animals.

**For More Information** [www.cban.ca/alfalfa](http://www.cban.ca/alfalfa)

**The application is posted at** [www.cban.ca/ONalfalfachallenge](http://www.cban.ca/ONalfalfachallenge)

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