

WILL GM CROPS FEED THE WORLD?

For the full report with references, please see www.cban.ca/feedingtheworld

THE CLAIM: WE NEED GM CROPS TO FEED THE WORLD

Supporters of genetically engineered (also called genetically modified or GM) crops claim that we need this technology to feed a growing global population. However, the promise to “feed the world” with GM crops overlooks the real causes of hunger, and disregards the many harmful impacts of using GM technology.

THE REAL PROBLEM

The claim that we need GM crops to feed the world ignores the real, root problem: **Hunger is caused by poverty and inequality.**

- The truth is that we already produce enough food to feed 10 billion people, which is the number our population is predicted to reach by 2050. A third of food produced around the world is wasted every year.
- People are generally hungry not because of insufficient food production, but because they do not have money to buy food, access to land to grow food, or because of poor food distribution systems and a lack of reliable water and farming infrastructure. GM crops do not help solve these causes of hunger.

WE DON'T NEED GM CROPS TO FEED THE WORLD

1. The GM crops on the market today are not designed to address hunger

- In 2013, 57% of the world's GM crops were engineered to be herbicide tolerant, 16% were engineered to be insect resistant (Bt), and 27% were “stacked” with both these traits. This means that **84% of all GM crops are tolerant to some groups of herbicides.** Other traits, such as virus resistance and drought tolerance, account for less than 1% of global GM crop acres.
- **Four GM crops account for almost 100% of worldwide GM crop acreage: soy, corn, cotton and canola.** All four have been developed for large-scale industrial farming and are used as cash crops for export, to produce fuel, or for processed food and animal feed. There are very few GM fruits and vegetables on the market, or GM grains that are used for direct human consumption.
- **Just three countries – US, Brazil and Argentina – account for over 77% of the world's GM crops. Ten countries account for 98% of the total GM acreage.**

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2. GM crops have not increased yields

Crop yields have not increased because of GM traits. In the US, for instance, yields of herbicide tolerant soy and corn did not increase in the years after GM was introduced. In India, GM cotton failed in many parts of the country, causing terrible hardship for farmers. Overall, conventionally bred (non-GM) varieties are more effective, less costly to develop and cheaper for farmers.

3. GM crops have not increased farmer incomes

Farmer incomes have not increased as a result of GM crops. This is because GM traits have not significantly improved yields, and because the cost of patented GM seed is much higher.

- In Canada, the cost of GM seed is higher than of non-GM seed, and seed costs have risen from 2.5% of farmer costs in 1981 to 4.5% in 2013.
- In India, a packet of GM cotton seeds can cost three to eight times as much as non-GM cotton seed.
- In South Africa, where GM corn was introduced in 1998, seed costs for GM corn increased by 30-35% from 2008 to 2011.

4. GM crops have increased pesticide use

Pesticide use has increased, rather than decreased, with the use of GM crops.

- By 2011, the use of pesticides in the US was 24% higher for GM crops than it was for non-GM crops.
- GM herbicide tolerant crops are twinned with herbicides, such as Monsanto's glyphosate-based herbicide Roundup, and have increased herbicide use in the US by 527 million pounds in the past 16 years.
- In Argentina, cultivation of GM soy has increased glyphosate use from 8 million litres in 1995 to over 200 million litres by 2013.

The extensive use of Roundup has led to the emergence of weeds that are herbicide resistant. There are now 28 weeds worldwide that have developed resistance to glyphosate; 14 of them are in the US, and four in Canada. By 2012, 20-25 million acres in the US were infested with glyphosate resistant weeds.

The use of insect resistant (Bt) crops in the US has reduced the use of chemical insecticides by 123 million pounds. However, the Bt plants themselves produce

an insecticidal toxin that is not quantified, and may have negative environmental impacts on soil and non-target organisms.

5. GM crops are patented and owned by large companies

GM seeds are patented, owned and controlled by a small handful of large multinational corporations.

- Six major companies develop and sell GM crops: Monsanto, Dupont, Syngenta, Dow, Bayer and BASF.
- Together, these companies control 60% of proprietary seeds and 76% of agro-chemicals in the world.
- In 2007, the six accounted for 98% of global GM acres, and approximately 85% of this area was planted with GM traits owned by one company: Monsanto, the world's largest seed and biotechnology company.

Companies profit from sales and royalties on GM crops even when people do not have access to food. Instead, small farmers around the world bear the risks that come with using GM crops. In addition, due to corporate control in the seed market, farmers are often unable to buy non-GM seed.

Relying on profit-seeking corporations to provide technological fixes to our most pressing global problems forces farmers and consumers into positions of vulnerable dependency.

THE REAL SOLUTION

Hunger is a social and political issue. To stop hunger, we need to address its root causes, and get control over our farming and food systems back into the hands of farmers and communities, instead of private corporations.

Food Sovereignty is the right of all peoples to healthy and culturally appropriate food, produced through sustainable methods, and the right of people to define their own food and farming systems.

Farmers and other experts around the world are calling for diverse, sustainable and community-based agricultural development. Agro-ecological food systems have incredible potential to produce enough high-quality food for all, while also supporting rural communities, building biodiversity and addressing climate change. There is no place for GM crops in an ecologically sustainable and socially just food system.



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