Food for thought

Canadian farmers use innovative plant science technologies to grow food more efficiently and sustainably, which contributes to an affordable supply of safe and healthy foods for Canadians.

Building healthier communities

Canadian consumers spend much less on groceries and have access to higher quality and longer-lasting produce than people in many other areas of the world.

Plant science innovations reduce food loss and waste, from farm to table, by combating diseases, insects and weeds.

Food prices

45%

Without plant science innovations prices would be 45% higher on average for many food staples, an increase of approximately $4,500 annually per Canadian household.

Without pesticides harvests for some fruit and vegetable crops would be cut in half because of insects, weeds and diseases.

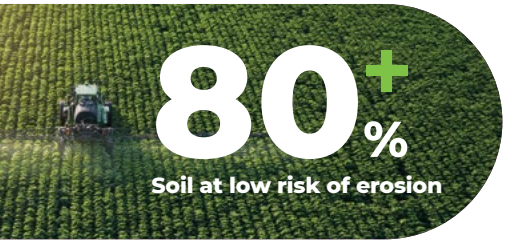
Protecting our environment

Canadian farmers are growing more food on less land, using less resources. This is great news for the environment and for biodiversity.

- Thanks in part to plant science innovations, more farmers have been able to adopt conservation tillage and no-till farming.
- The carbon sequestration and fuel savings from no-till and conservation tillage practices saved an estimated 20 billion kgs of greenhouse gas emissions from being released into the atmosphere between 1996 and 2018, which is equivalent to removing about 13 million cars from the road for a year.
- Almost 34 million acres remain in a natural state (untouched by agriculture) due to plant science innovations enabling greater productivity on existing agricultural land. This helps to preserve wildlife habitats and protect biodiversity.
- Canadian farmers saved 1.2 billion litres of fuel between 1996 and 2018, because of no-till and conservation tilling practices.

Without plant science innovations farmers would need 44% more land (an area roughly the size of all the Maritime provinces combined) to produce what they do today.

Plant science innovations have made pesticide use in Canada more efficient, helping farmers effectively protect their crops from pests using fewer inputs.



- Seed innovations like herbicide-tolerant corn, soybeans and canola reduced the need for pesticide use by as much as 35% in Canada between 1996 and 2018.
- More than 80% of farmland in Canada is now at a very low risk of soil erosion, thanks to the adoption of no-till and conservation tilling practices – a large improvement over the last three decades.
- Advancements in precision agriculture have allowed farmers to be more targeted than ever in their pesticide applications putting the pesticides exactly where and when they are needed.

All facts, figures and claims are adapted from a commissioned study by RIAS Inc.
The Value of Plant Science Innovations to Canadians in 2020

Looking for more information? Visit HelpingCanadaGrow.ca

Growth opportunities

Plant science innovations help Canadian farmers to be more productive and efficient, which drives economic growth for Canada through more sustainable production practices.

Growing our economy

$9.2B▲

Crop productivity

Canadian farmers would grow $9.2 billion less worth of crops a year without plant science innovations. This includes $7.7 billion less worth of field crops, $1 billion less worth of fruits and vegetables and $460 million less worth of potatoes.

$8.5B▲

Agri-food exports

Canada's agri-food exports would be $8.5 billion (33%) lower without the use of crop protection products.

The development of pesticides and plant breeding innovations drive significant economic activity, with a combined:

20,400 jobs and **$863 million** **in wages**

over $3 billion **in GDP per year**

72%

Without plant science innovations Canada's net agri-food trade balance could have been as much as 72% lower ($8.5 billion fewer exports) in 2018/19.

Driving greater productivity on the farm

Plant breeding has a proven track record for increasing crop productivity and is responsible for 50% of the productivity increases over the last century.

Without plant breeding innovations prices would be 45% higher on average for many food staples, an increase of $4,500 a year per Canadian household.

Protecting our environment

Plant science innovations help make agriculture more efficient and sustainable, increasing productivity on existing land and helping farmers do more with less resources.

- Seed innovations like herbicide-tolerant corn, soybeans and canola have made pesticide use more efficient, reducing the use of pesticides by as much as 35% in Canada between 1996 and 2018.
- Advancements in precision agriculture have allowed farmers to be more targeted than ever in their pesticide applications, applying them at exactly the right time and place.
- The carbon sequestration and fuel savings from no-till and conservation tillage practices saved an estimated 20 billion kgs of greenhouse gas emissions from being released into the atmosphere between 1996 and 2018, which is equivalent to removing about 13 million cars from the road for a year.

Without plant science innovations farmers would need 44% more land (an area roughly the size of all the Maritime provinces combined) to produce what they do today.

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This is our story

The Canadian agriculture industry produces some of the most sustainable, high-quality crops and food in the world. Plant science innovations help farmers to do more with less while keeping food affordable for Canadians and driving growth throughout the economy.

Building healthier communities

Canadian farmers are growing more food on less land, using less resources.

Plant breeding has a proven track record for increasing crop productivity and is responsible for 50% of the productivity increases over the last century.

Plant science innovations reduce food loss and waste, from farm to table, by combating diseases, insects and weeds.

Without plant science innovations prices would be 45% higher on average for many food staples, an increase of $4,500 annually per Canadian household.

Protecting our environment

Thanks in part to plant science innovations, more farmers have been able to adopt conservation tillage and no-till farming. Modern agricultural practices are helping reduce greenhouse gas emissions, address climate change concerns and support biodiversity.

- The carbon sequestration and fuel savings from no-till and conservation tillage practices saved an estimated 20 billion kgs of greenhouse gas emissions from being released into the atmosphere between 1996 and 2018, which is equivalent to removing about 13 million cars from the road for a year.
- Between 1985 and 2019, Saskatchewan's crop production sector reduced its greenhouse gas emissions by an incredible 98%, largely due to increased conservation and no-till practices.
- Almost 34 million acres are maintained in a natural state (untouched by agriculture) due to increased production on existing farmland. This is the same amount of space as about 25 million football fields.

No-till cropland

61% ▲

Canadian farmers continue to increase their no-till acres, enabled in part through plant science technologies, with 57 of 93 million acres of cropland (61%) being no-till in 2021.

Growing our economy

Modern plant breeding and crop protection products help improve productivity and revenues for Canada's farmers and create jobs and economic growth throughout the country.

Farmers would grow $9.2 billion less worth of crops a year without plant science innovations. This includes field crops, potatoes, fruits and vegetables.

$7.7B + $460M + $1B ≈ $9.2B ▲

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