



How are Canada's farmers producing more food — and taking care of the environment?

THE ANSWER: Science. Innovations in crop protection products and plant biotechnology help farmers use a lot less land to grow a lot more food, which preserves biodiversity, tackles climate change and conserves natural resources.

Thanks to plant science technologies, Canadian farmers get higher yields out of the country's best farmland. That saves 35 million acres of forest, native grass and wetlands from being used for agriculture — keeping the country green and pristine, and protecting biodiversity by safeguarding the habitats of wildlife species.

While it might come as a surprise to some, pesticides and biotech crops have a good green story to tell:

- Without pesticides and plant biotechnology, Canada would need to farm almost 50% more land to grow the same amount of food. That's more than the total area of New Brunswick, Nova Scotia and P.E.I. combined.
- Plant science innovations allow farmers to drive over their fields fewer times, saving 126 to 194 million litres of diesel fuel a year.
- Thanks in part to plant science innovations, more farmers have been able to adopt conservation tillage. In Alberta, for example, less tillage has helped reduce soil erosion, improve soil quality and cut water use by 28%.

Plant science innovations are playing an important role in helping mitigate climate change. Here's how:



REDUCING GREENHOUSE GAS EMISSIONS (GHGs)

Reduced land use, less tillage and summer fallow, and limiting equipment passes reduces GHGs by

29 MILLION TONNES
per year



REDUCING FUEL USE

Fewer passes over fields with tractors reduces diesel fuel use by up to

194 MILLION LITRES
a year



INCREASING AGRICULTURAL PRODUCTION

Without pesticides and biotech crops farmers would need to use

50% MORE LAND
than they do today to produce the same amount of food



DEVELOPING CROPS THAT CAN THRIVE IN CHANGING CLIMATE CONDITIONS

New varieties of crops are being developed

TO BETTER WITHSTAND DROUGHT
and other extreme conditions

SAVING LAND. SAVING WATER.

That's just part of how plant science innovation positively affects our environment.

THE LAND IS A TRUST

Canadian farmers are committed to caring for the environment because they rely on the land for their livelihood. By using technologies that let them farm more efficiently and grow more crops on existing land, they are directly in touch with the ways plant science innovations benefit all of us — and the environment we share.

SCIENCE = SUSTAINABILITY

Farmers have to get rid of weeds that compete with their crops for moisture, sunlight and nutrients. They have to get rid of insects and diseases that can damage or destroy their crops. Pesticides and plant biotechnology allow them to do so. And the gains are enormous.

For example, most Canadian canola farmers grow herbicide-tolerant varieties that stay strong and healthy when treated with herbicides to get rid of surrounding weeds. Without that innovation, farmers would need 91% more land to grow the same amount of canola they do today.

Wheat is another crop vulnerable to weed damage. Without herbicides, Canadian wheat farmers would need 6.4 million more acres — or 25% more land — to produce the same amount of wheat they do today.

PLANT SCIENCE

GOES THE DISTANCE
FOR CANADIANS

WHEN IT COMES TO CANOLA,
FARMERS WOULD NEED

91%

MORE LAND,

OR MORE THAN

19 MILLION

MORE ACRES,

TO GROW THE AMOUNT OF
CANOLA THEY DO TODAY
WITHOUT PESTICIDES AND
PLANT BIOTECHNOLOGY.

THAT'S THE EQUIVALENT
OF MORE THAN

14 MILLION

FOOTBALL FIELDS.



BOTTOM LINE:
THE MORE PRODUCTIVE
WE CAN BE ON EXISTING FARM
LAND, THE BETTER IT IS FOR
OUR ENVIRONMENT.

Learn more about how pesticides and plant biotechnology contribute to Canada's environment at helpingcanadagrow.ca