

Canada is the fourth largest producer of biotech crops in the world in 2018, with an area of 12.75 million hectares and average adoption rate of 92.5%.

Canada is one of the six “founder biotech crop countries,” having commercialized herbicide tolerant canola in 1996, the first year of commercialization of biotech crops.

The six biotech crops grown in Canada in 2018 were canola, maize, soybeans, sugar beets, alfalfa, and potatoes. Canada covers 7% of the global biotech crop area with 8.7 million hectares canola, 2.4 million hectares soybeans, 1.6 million hectares maize, 15,000 hectares sugar beets, 4,000 hectares alfalfa, and 65 hectares potatoes.

Canada was the first country in the world to commercialize biotech herbicide tolerant (HT) canola in 1996. In 2018, 95% of canola planted in Canada was HT canola at 8.74 million hectares. Only 10% of canola produced in Canada is consumed locally, with the remaining 90% exported to various countries.

In 2018, biotech soybeans occupied 95% of Canada’s total area planted to soybeans at 2.6 million hectares, equivalent to 2.4 million hectares.



Biotech soybean area in Canada decreased by 3.2% from 2.5 million hectares to 2.4 million hectares in 2018. However, adoption rate increased from 86% in 2017 to 95% in 2018.

Biotech insect resistant (IR) maize has been grown in Canada since 1996 and HT maize since 1999. In 2018, nearly all the 1.57 million hectares planted to maize in Canada was biotech, comprising 267,000

hectares herbicide tolerant (HT) and 1.3 million hectares stacked insect resistant (IR)/HT.

Biotech RoundupReady® sugar beets, launched in Canada in 2008, was estimated at 15,000 hectares in 2018.

HarvXtra™ alfalfa planted in Canada increased 5-fold since it was first planted in 2016 – from 809 hectares to 4,000 hectares in 2018. Farmer acceptance of the technology has



been increasing because of the benefits to livestock rearing: more digestibility and allows farmers to delay up to 7-10 days to attain greater yield without sacrificing quality.

In 2018, the area planted to the Four Innate® biotech potato events developed by J.R. Simplot increased to 65 hectares: 15 hectares for generation 1 and 40 hectares for generation 2. Generation 1 events possess traits to improve the quality of the produce such as decreased levels of reducing sugars, reduced acrylamide potential, and black spot bruising tolerance. Generation 2 Innate® potatoes contain the generation 1 traits plus protection against the late blight pathogen.

COUNTRY SITUATIONER

The biotech crop area in Canada declined slightly in 2018 by ~3% from 13.11 million hectares in 2017 to 12.75 million hectares due to reduction in planted areas of soybeans, maize, and canola. Other biotech crops including alfalfa, sugar beets, and potatoes planted in smaller areas increased slightly as compared to 2017. However, the average adoption rate of 92.5% was an increase of 2% from 2017.

In 2018, three varieties of biotech apples, Arctic® Golden Delicious,

Arctic® Granny Smith, and Arctic® Fuji, were approved for commercial planting purposes, livestock feed, and food use (Crop Biotech Update, January 31, 2018). It is estimated that the increasing demand of Arctic® apple slices in the USA could influence planting and commercialization in Canada.

Biotech Golden Rice with Provitamin A Event GR2E has been given approval from Health Canada. This decision coincides with the approval from Food Standards Australia New Zealand (FSANZ) in 2017. In the decision, Health Canada stated that the changes made in the rice variety did not pose a greater risk to human health than rice varieties currently available on the Canadian market. Moreover, the biotech event would have no impact on allergies and that there were no differences in the nutritional value of GR2E compared to other traditional rice varieties available for consumption except for increased levels of provitamin (Crop Biotech Update, March 16, 2018).

Health Canada also approved IR sugarcane and decided that the sugar produced was as safe as produced from conventional sugarcane. The biotech sugarcane was developed by the Centro de Tecnologia Canavieira, a publicly-owned national company focused on research, development, and marketing of varieties of sugarcane

and other disruptive technologies (Health Canada, April 18, 2018).

Aside from biotech crops, public acceptance of biotech animals in Canada has also been exemplary. In 2018, US-based AquaBounty Technologies have sold 7 tonnes of biotech salmon fillet in Canada (MacLean's, June 5, 2018). Health Canada and the Canadian Food Inspection Agency have approved the sale of the biotech salmon in 2016. AquaBounty's salmon contains genetic material from ocean pout and Chinook salmon to help it reach adult size faster.

BENEFITS FROM BIOTECH CROPS

Canada is estimated to have enhanced farm income from biotech canola, maize, soybeans, cotton, and sugar beets by US\$8.04 billion in the period 1996 to 2016 and the benefits for 2016 alone is estimated at US\$817 million (Brookes and Barfoot, 2018).

SOURCE

ISAAA. 2018. Global Status of Commercialized Biotech/ GM Crops in 2018: Biotech Crop Continues to Help Meet the Challenges of Increased Population and Climate Change. *ISAAA Brief No. 54*. ISAAA: Ithaca, New York.

For more information, contact:

ISAAA SEAsiaCenter
GS Khush Hall, IRRRI
Los Baños, Laguna 4031 Philippines
Telefax: +63 49 5367216
Email: knowledge.center@isaaa.org



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