



BIOTECH COUNTRY FACTS & TRENDS

Canada

Canada is the fourth largest producer of biotech crops in the world in 2016, with an area of 11.55 million hectares and average adoption rate of 93%.

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 four biotech crops grown in Canada in 2016 were canola, soybean, maize, and sugar beet.

Canada was the first country in the world to commercialize biotech herbicide tolerant canola in 1996. HT canola occupied the largest biotech crop area in the country in

2016 at 7.53 million hectares of the total 8.1 million hectares of canola.

Biotech HT soybean has been cultivated in Canada since 1997. In 2016, the total area was 2.2 million hectares, with biotech HT soybean at 2.08 million hectares at 94% adoption.

Biotech insect resistant (IR) maize has been grown in Canada since 1996, and HT maize since 1999. In 2016, the area planted to biotech maize was 1.5 million hectares of the total 1.62 million

hectares. Maize is used in Canada for livestock feed and ethanol production.

Biotech RR®sugar beet, launched in Canada in 2008, was estimated at 8,000 hectares with 100% adoption rate. 809 hectares of HarvExtra™ alfalfa with reduced lignin content were planted in Canada for the first time in 2016.

Newly-approved biotech crops include non-browning Arctic®apples, and four Innate™ potato events. AquAdvantage salmon was also approved for use as food in Canada in May 2016.



ADOPTION OF BIOTECH CROPS

Since 1996, Canada has approved 171 biotech events for food and feed use, and cultivation in various crops: alfalfa (3), apple (2), Argentine canola (18), cotton (25), flax (1), maize (64), papaya (1), Polish canola (4), potato (24), rice (1), soybean (21), squash (1), sugar beet (2), and tomato (4). In 2016, Canada approved seven events for food, feed, and cultivation



including stacked HT MON 87419 and MZHG0JG, IR/HT MZIR098, as well as biotech potato events J3, J55, F10 and E12 which contains traits for reduced acrylamide potential and black spot bruise tolerance.

SU™ canola was approved for commercial cultivation in 2016. This canola offers farmers the option to use the non-GM technology rapid trait development system (RTDS) to control glyphosate tolerant weeds such as pigweed.

The Canadian Food Inspection Agency (CFIA) and Health Canada approved Arctic® apple events GD743 and GS784 genetically engineered to be non-browning and will be marketed as “Arctic®Granny” and “Arctic®Golden”. Technology developer Okanagan Specialty Fruits plans to expand biotech apple varieties such as “Arctic®Fuji” and “Arctic®Gala” in 2017.

Commercial use of four Innate™ potato events was approved by CFIA and Health Canada in March 2016. All four events were developed by J.R. Simplot and possess traits to improve the quality of the produce: reduced levels of reducing sugars, reduced acrylamide potential and black spot bruising tolerance.

Health Canada approved AquAdvantage salmon for use in Canada as food in May 2016. AquAdvantage salmon is an Atlantic salmon with a growth hormone gene from Chinook salmon and grows faster and reaches market size quicker. The CFIA has also approved the genetically engineered salmon for use as animal feed.

BENEFITS FROM BIOTECH CROPS

Canada is estimated to have enhanced farm income from biotech canola, maize, and soybean by US\$7.3 billion for the period 1996 to 2015, and the benefits for 2015 alone was estimated at US\$933 million.

CONCLUSION

Biotech crop planting in Canada increased in 2016 following increases in total area of canola, soybean, and maize.

Canola Council of Canada actively pursues its Strategic Plan of producing 26 MMT canola by 2025 through yield improvement technologies. The increase in soybean area was due to its profitability and high oilseed prices. For maize, increased gasoline and ethanol consumption

due to lower gas prices provided incentive for maize planting. Some consumer acceptance issues on sugar derived from biotech sugar beet could have negatively-affected maize planting.

Canadian dairy farmers benefited from the introduction of low-lignin alfalfa as the technology helped reduce cost and increase profit.

Biotech soybean with high oleic acid and biotech maize with high lysine content have been available in the Canadian market.

The average adoption of 93%, similar to the US, Brazil, and Argentina means additional market growth towards new crops and traits such as the approval for commercialization of non-browning Arctic® apple, the four-traited Innate™ potatoes and new herbicide tolerant stacked soybean.

SOURCE

ISAAA. 2016. Global Status of Commercialized Biotech/GM Crops: 2016. *ISAAA Brief No. 52*. ISAAA: Ithaca, New York.

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