

Australia ranks 12th in the 24 countries that planted biotech crops in 2017, when 924,000 hectares were planted to biotech cotton and canola.

In 2017, Australia planted 924,000 hectares of biotech crops, an 8% increase from 852,000 hectares in 2016. This area was comprised of 432,000 hectares biotech cotton and 492,000 hectares biotech canola.

Biotech cotton has been grown in Australia since 1996. In 2017, biotech cotton had an adoption rate of 100%. The area planted to biotech cotton comprised 16,416 hectares with the herbicide tolerance (HT) trait; and 415,584 hectares with insect resistance (IR) and HT traits for a total of 432,000 hectares. The adoption rate of biotech cotton increased to 100% in 2017, as compared with the adoption rate in 2016.

The area planted to biotech cotton increased by 6.7% in 2017 compared with 405,000 hectares in 2016. The total area planted to cotton also increased by 4.6% to reach 432,000 hectares in 2017 from 413,000 hectares in 2016. The increase in biotech cotton



area of 6.7% was partly due to the increase in the number of farmers that signed to grow the biotech crop.

2017 was the 10th consecutive year that HT canola was planted in Australia. In 2017, there was a 10% increase to the total area planted to canola in the country.

HT canola was planted on 24% (491,528 hectares) of the total

canola area of 2.08 million hectares. The crop was grown in three states: Western Australia, New South Wales (NSW), and Victoria. Biotech canola adoption increased in 2016 to 24% compared with 23% in 2016.

Farmers in Western Australia grew 366,466 hectares biotech canola; NSW with 68,163 hectares; and Victoria with 56,900 hectares.



ADOPTION OF BIOTECH CROPS

Since 1996, Australia has approved 129 biotech events for food, feed, and cultivation, including alfalfa (3), Argentine canola (22), carnation (12), cotton (26), maize (27), potato (17), rice (1), rose (1), soybeans (17), sugar beets (2), and wheat (1). In 2017, eight biotech crops were approved for food use in Australia, including one stacked canola event MS11 with HT/male sterility/fertility restoration gene and four potato events: J3, E56, E12, and F10 with generation 1 traits (reduced acrylamide potential and reduced black spot bruising tolerance, and three potato events W8, X17, and Y9, with generation 1 traits plus late blight resistance).

A biotech canola event with high omega-3 oils is being tested in Australia from 2017 to 2022. The biotech event was developed by Nuseed, a private company, and the Commonwealth Scientific and Industrial Research Organization (CSIRO). The biotech canola will not enter the human food or animal feed supply, but some biotech material may be used for small-scale experimental feeding studies. Once approved, this biotech canola will make omega-3 oils more accessible, affordable, and competitive in the global market (Australian Department of Health – Office of the Gene Technology Regulator, 2017).

In 2017, Australia's OGTR approved field trials of biotech wheat and barley, which have abiotic tolerance and yield enhancement traits, biotech potato with improved agronomic trait and resistance to potato virus X, biotech bananas with resistance to Panama Tropical Race 4 (TR4), and biotech safflower with about 92% oleic acid. Genetic improvement of various crops is continuously being conducted, including golden bananas enriched with beta carotene. Initial field tests were conducted with Cavendish bananas in Queensland and on highland and East African cooking banana variety, in collaboration with Uganda National Agricultural Research Organization.

The government is continually improving its regulation, and in 2017, the Australian Productivity Commission completed an inquiry into the regulatory burden on farm businesses focusing on regulations that have a material impact on the competitiveness and productivity of Australian agriculture, including the impact of GE regulations. Technical reviews of the Gene Technology Regulations 2001 and the relevant Standard of the Food Standards Code were also conducted to provide clarity regarding regulatory capture of new technologies.

BENEFITS FROM BIOTECH CROPS

More canola farmers in Australia are shifting to biotech canola because of the benefits on yield, profit, and production cost (The Weekly Times, July 11, 2017).

A review by Brookes and Barfoot on the global socio-economic and environmental impacts of biotech crops reported that cotton farmers had a net farm income of more than US\$55.8 million in 2015, and cumulatively since 1996, the gains have been US\$949 million. For canola farmers, biotech canola in 2015 had an average net increase in gross margins of US\$38 per hectare, which is a national gain of nearly US\$17 million in farm income.

Australia is estimated to have enhanced farm income, benefiting farmers in the period 1996 to 2016 by as much as US\$1.16 billion and the benefits for 2016 alone is estimated at US\$73 million (Brookes and Barfoot, 2018).

SOURCE

ISAAA. 2017. Global Status of Commercialized Biotech/GM Crops in 2017: Biotech Crop Adoption Surges as Economic Benefits Accumulate in 22 Years. *ISAAA Brief* No. 53. ISAAA: Ithaca, New York.

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