



BIOTECH COUNTRY FACTS & TRENDS

Brazil

Brazil is the second largest producer of biotech crops in the world, next to the US, planting 51.3 million hectares of biotech crops in 2018.

Brazil is the top developing country planting biotech crops in 2018. The total biotech crop area of 51.3 million hectares in Brazil comprised 34.86 million hectares biotech soybeans, 15.38 million hectares biotech maize, 1 million hectares biotech cotton, and 400 hectares sugarcane, the first time in the country.

Of the 54.88 million hectares total area planted to soybeans, maize, and cotton in Brazil in 2018, 93.5% was biotech.

In 2018, the adoption rate of biotech soybeans in Brazil was 96%. Biotech soybeans had the highest area, and was planted in 34.86 million hectares, up from 33.7 million hectares in 2017, equivalent to 3.4% growth. The 34.86 million hectares of biotech soybeans was comprised of 14.6 million hectares herbicide tolerant (HT) and 20.2 million hectares stacked insect resistant (IR)/HT.

Biotech maize remained the second important crop in Brazil in 2018. The total biotech maize area in the country was 15.4 million hectares for



both summer and winter, with an increased adoption rate of 89%. The 15.4 million hectares biotech maize was comprised of 4.4 million hectares IR, 646,000 hectares HT, and 10.3 million hectares IR/HT.

Biotech cotton was planted in 1.025 million hectares in 2018, a 19% increase from 2017, with an adoption rate of 84%. The 1.025 million hectares of biotech cotton was comprised of 98,000 hectares IR,

173,000 hectares HT, and 754,000 hectares IR/HT.

Biotech insect resistant (IR) Bt sugarcane was planted in Brazil for the first time in 2018. Developed by Centro de Tecnologia Canavieira, Bt sugarcane was planted by 100 sugar mills in some 400 hectares. The National Biosafety Technical Commission (CTNBio) approved Bt sugarcane after tests showed that the sugar and ethanol obtained



from it are identical to conventional sugarcane. Bt sugarcane is one of the best solutions against the cane borer which costs US\$1.5 billion losses and insecticide expense annually. This first planting of Bt sugarcane is projected to improve yields, reduce production costs, and increase profits.

COUNTRY SITUATIONER

Brazil is one of the world's leading exporters of biotech soybeans, maize, and cotton. The area grown to biotech soybeans and cotton increased significantly in 2018 due to profitability, higher prices, high market demand both domestically and internationally, and available seed technologies. China was Brazil's main export market for soybeans and cotton. In 2018, 80% of Brazil soybean exports was sent to China, estimated to have hit a record of 83 million tonnes in total.

The availability of subsidized credit for farmers and foreign investments from large agricultural companies has supported the widespread adoption of biotech crops in the foreseeable future. Moreover, the Brazilian court has issued a ruling that lifts the ban on glyphosate in the country. The decision ensures growers continued access to glyphosate-based herbicides. This court decision comes in favor of a remedy filed by the Federal Government to overturn a

previous injunction before it took effect and ensure that Brazilian growers can continue to use glyphosate-based products (Crop Biotech Update, September 9, 2018).

Various biotech crops in the pipeline include sugarcane, potato, papaya, rice, and citrus. New biotech products such as biotech dry edible beans and biotech eucalyptus have been approved but are not ready to be commercialized.

Biotech/GM mosquitoes are also being utilized to control viral diseases that have afflicted millions of Brazilians. On October 4, 2018, CTNBio determined that genome-edited hornless cows are conventional animals. With this determination, genome-edited cows and their derived products may enter the market soon.

BENEFITS FROM BIOTECH CROPS IN BRAZIL

The economic benefit to Brazil from biotech crops for the period 2003-2016 was US\$19.8 billion and US\$3.8 billion in 2016 alone (Brookes and Barfoot, 2018).

In 2018, Brazil celebrated 20 years since biotech crops were adopted in agriculture. Throughout this period, what stands out are the benefits for farmers resulting from planting

biotech soybeans, maize, and cotton. There has been, for example, a reduction in the application of pesticides per hectare and there have been fewer losses caused by pests. Consequently, the productivity and yield of the biotech crops have been, on average, higher than conventional crops. The data is part of a study, *20 Years of GMOs in Brazil: Environmental, Economic, and Social Impacts*, which was conducted by the Agroconsult consultancy with support from the Council for Information on Biotechnology (Crop Biotech Update, October 31, 2018).

Throughout the period analyzed, the profit obtained per hectare from biotech soybeans was up to 26% higher than the conventional variety. For maize, the performance differential reached 64% in the summer harvest and 152% in the winter harvest. In the case of cotton, GM seeds have a margin of 12% higher than non-modified ones.

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.

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