



BIOTECH COUNTRY FACTS & TRENDS

United States of America

The United States of America is the world's leader in biotech crop planting since 1996. In 2017, nine biotech crops were planted in 75 million hectares in the country.

In 2017, the USA planted 75 million hectares of biotech crops, an increase of 3% from 2016 equivalent to 2.08 million hectares. The USA planted the following biotech crops in 2017: soybeans, maize, cotton, alfalfa, canola, sugar beets, potato, apples, squash, and papaya.

Of the 36.80 million hectares planted to maize in the USA in 2017, 93.4% or 33.84 million hectares were biotech. This area is comprised 3.2% insect resistant (IR), 13% herbicide tolerant (HT), and 83.8% stacked IR/HT.

The total area planted to soybeans in the USA in 2017 was 36.22 million hectares, 94% of which is biotech HT soybeans, equivalent to 34 million hectares.

Biotech cotton was planted on 96% of the total cotton area in the USA in 2017 (4.6 million hectares from 3.7 million hectares in 2016), comprising of 239,000 hectares IR; 525,000 hectares HT; and 3.8 million hectares stacked IR/HT.



In 2017, alfalfa was planted in 8.5 million hectares in the USA, 14.4% of which is biotech, equivalent to 1.23 million hectares. Herbicide tolerant alfalfa was planted for hay, haylage, and green chop. The planted area was composed of 1.14 million hectares herbicide tolerant and 80,000 hectares HarvXtra™.

Biotech canola area in the USA increased by 41.1% in 2017 when it was planted on 876,000 hectares

from 621,000 hectares in 2016. Adoption rates also increased from 90% in 2016 to 100% in 2017.

The area planted to sugar beets in the USA in 2017 was 458,000 hectares, 100% of which was herbicide tolerant biotech sugar beets.

Small areas of biotech virus resistant squash (1,000 hectares) and PRSV resistant papaya in



Hawaii (405 hectares) were grown in the USA in 2017.

Three non-browning apple varieties were approved in the USA in 2015. In 2017, 101 hectares of Arctic® apples were planted in the country.

Four Innate® Generation 1 potato varieties which are non-browning, resistant to bruising and black spots, and with less asparagine were deregulated successively since 2014. In 2017, Generation 1 potatoes were planted in 1,618 hectares in the USA.

ADOPTION OF BIOTECH CROPS

As of December 2017, a total of 43 single biotech maize events have been approved in the USA for food, feed, and cultivation use with insect resistance, herbicide tolerance, and drought tolerance traits.

Since 1996, 37 single biotech soybean events were approved in the USA for food, feed, and cultivation. In 2017, a drought tolerant soybean was approved in the country.

Biotech cotton was planted in the USA since 1996, and 59 single events with insect resistance, herbicide tolerance, and stacked IR/HT have been approved for food, feed, and cultivation.

Since 1996, 40 single biotech canola events have been approved with different herbicide tolerance genes to control various weed species in canola fields.

Since 2009, three herbicide tolerant sugar beet events have been approved for food, feed, and commercialization in the USA.

There have been five biotech alfalfa events approved in the USA since 1996 for herbicide tolerance and low lignin traits.

COUNTRY SITUATIONER

The USA has been in the forefront of research, development, and commercialization of biotech crops since 1996. In preparation for the fast evolution of science and technology, the country needs to be ready to regulate future biotech products.

The US National Academies of Sciences, Engineering, and Medicine Committee on Future Biotechnology Products and Opportunities to Enhance the Capabilities of the Biotechnology Regulatory System released a Report on Preparing for Future Products of Biotechnology, proposing three recommendations for action *“to enhance the ability of the biotechnology regulatory system*



to oversee the consumer safety and environmental protection required for future biotechnology products” (Crop Biotech Update, March 22, 2017).

Support to biotechnology products continued in the USA as the current President issued statement of support. During the American Farm Bureau Federation’s 2018 Annual Convention, President Donald Trump addressed 7,400 farmers and said, *“We are streamlining regulations that have blocked cutting-edge biotechnology, setting free our farmers to innovate, thrive, and to grow”* (Crop Biotech Update, January 16, 2018).

BENEFITS FROM BIOTECH CROPS

In the 21 years of commercialization of biotech crops (1996-2016), the USA accrued the highest benefits at US\$80.3 billion and US\$7.3 billion for 2016 alone. The USA, one of the first six countries to commercialize biotech crops has been benefiting from the technology and is expected to retain its position with the most number of new biotech crops and traits being developed and commercialized.

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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