

ISAAA

BEYOND PROMISES:
Facts about Biotech/GM Crops in 2016



Biotech crop area increased more than 100-fold from 1.7 million hectares in 1996 to 185.1 million hectares in 2016.

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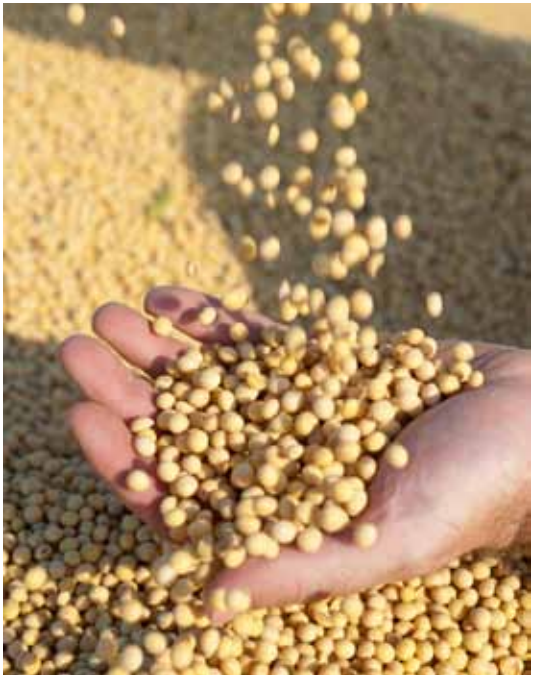


2016 is the 21st year of commercialization of biotech crops. The experience of the last 21 years of commercialization confirmed the promise of biotech crops to deliver substantial agronomic, environmental, economic, health, and social benefits to small and large scale farmers worldwide.

Biotech crops are the fastest adopted crop technology in recent history, reflecting farmer satisfaction of their benefits and high adoption rates.

This booklet presents the important highlights about biotech crops in 2016, from ISAAA Brief 52 *"Global Status of Commercialized Biotech/GM Crops: 2016"* available at http://www.isaaa.org/.

The number of countries planting biotech crops more than quadrupled from 6 in 1996 to 26 in 2016.

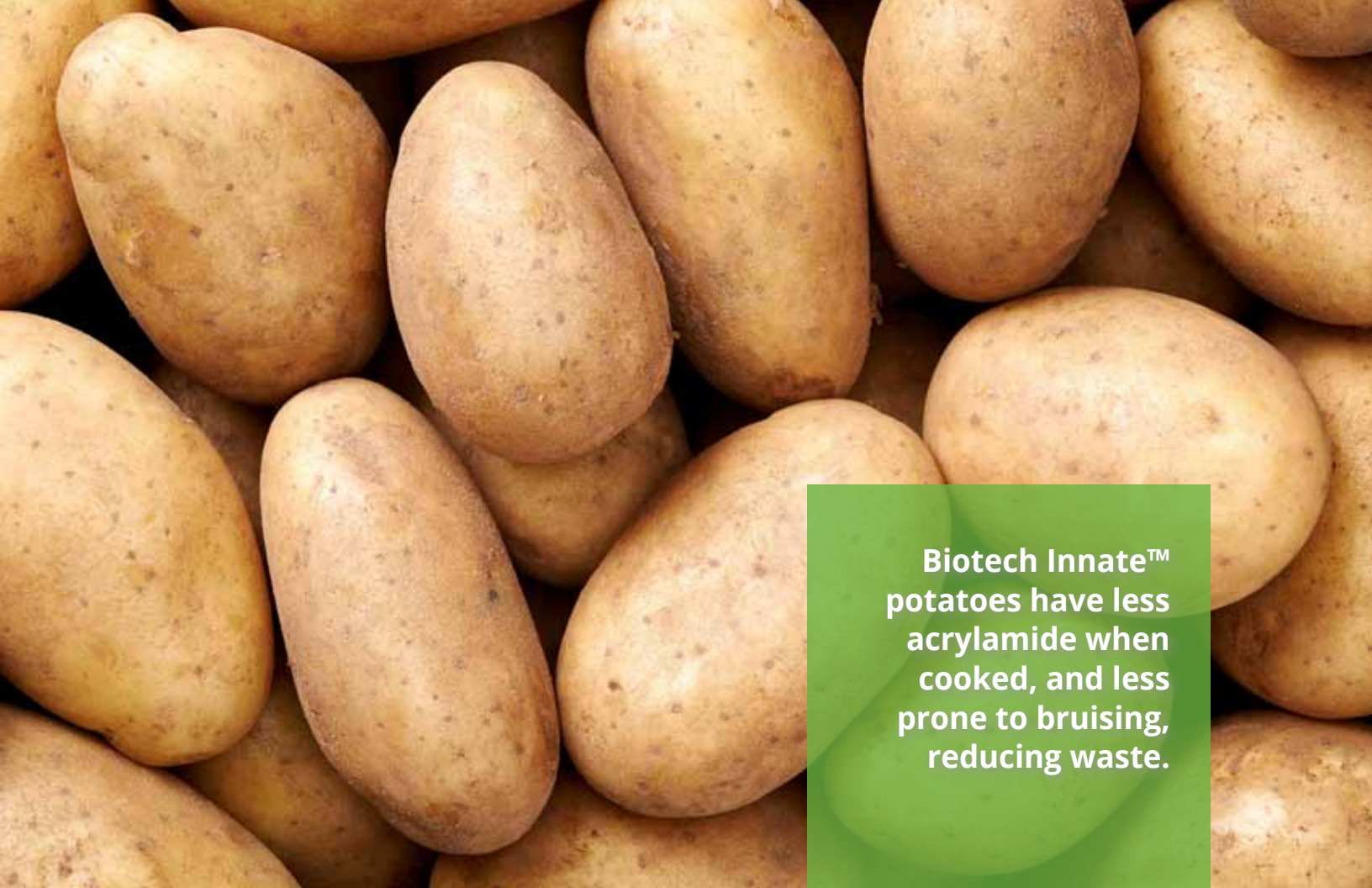
Biotech crop planting resumes high adoption in 2016 at 185.1 million hectares worldwide

In 2016, a year after the second decade of commercialization of biotech/GM crops, 26 countries grew 185.1 million hectares biotech crops, an increase of 3% or 5.4 million hectares from 179.7 million hectares in 2015.

FACT 2

Biotech crops provide more diverse offerings to consumers in 2016

Biotech crops have expanded beyond soybean, maize, cotton, and canola to give more choices to consumbers. These biotech crops include sugar beet, papaya, squash, eggplant, potatoes that are already in the market, and apples which will be in the market in 2017.



Biotech Innate™ potatoes have less acrylamide when cooked, and less prone to bruising, reducing waste.

Developing countries planted 6 biotech crops in 2016 with a total area of 99.6 million hectares.

Biotech crop area increased ~110-fold from 1996, the fastest adopted crop technology in the world

The cumulative global area of biotech crops reached 2.1 billion hectares in 21 years (1996-2016) of biotech crop commercialization.

The successful adoption rate of biotech crops shows the significant benefits it delivers to small and large farm-holders, as well as consumers.

FACT 4

26 countries, 19 developing and 7 industrial, planted biotech crops in 2016

Of the top five countries planting biotech crops, three are developing countries: Brazil (49.1 million hectares), Argentina (23.8 million hectares), and India (0.8 million hectares). The two industrial countries are USA (72.9 million hectares) and Canada (11.6 million hectares).

The five countries planted a total of 68.2 million hectares, 91% of global biotech crop area.

Brazil continues to be the top developing country in 2016, planting biotech soybean, biotech maize, and biotech cotton.


Biotech soybean
reached 50%
of global biotech
area in 2016.

The major biotech crops grown in 2016 are soybean, maize, cotton, and canola

In 2016, four biotech crops comprised the most number of hectares: soybean (91.4 million hectares), maize (60.6 million hectares), cotton (22.3 million hectares), and canola (5.6 million hectares).

Other biotech crops grown in 2016 include alfalfa, sugar beet, papaya, squash, eggplant, and potato.

FACT 6

Stacked traits occupied 41% of the global biotech crop area

Biotech crops with stacked traits have gained prominence in recent years and increased from 58.5 million hectares in 2015 to 75.4 million hectares in 2016, a 29% increase equivalent to 16.9 million hectares.

In 2016, 14 countries planted biotech crops with stacked traits, of which 11 are developing countries.

Stacked traits are favored by farmers for all three major biotech crops: maize, soybean, and cotton.

7.2 million farmers in India planted more than 10.8 million hectares of Bt cotton in 2016.

More than 18 million farmers from 26 countries planted biotech crops in 2016

More than 90% or 16.5 million farmers that grew biotech crops in 2016 are risk-averse, small, resource-poor farmers in developing countries.

In the last 21 years, millions of farmers in ~30 countries worldwide have made independent decisions to plant biotech crops.

FACT 8

For the fifth consecutive year, developing countries planted more biotech crops than industrial countries

Farmers from Latin America, Asia, and Africa collectively grew 99.6 million hectares, or 54% of the global 185.1 million hectares of biotech crops in 2016, compared with industrial countries at 85.5 million hectares, or 46% of the global total.

Developing countries planted biotech soybean, maize, cotton, canola, brinjal/ eggplant, papaya, and poplar in 2016.

Japan is the top country which granted food, feed, and cultivation/ environmental approvals.

From 1996 to 2016, 40 countries have issued regulatory approvals to biotech crops

From 1994 to 1996, 3,768 approvals were issued by regulatory authorities for 26 biotech crops and 392 events. Such approvals were issued to biotech crops for food use (1,777), feed use (1,238), as well as for environmental release or cultivation (753).

Biotech maize has the largest number of approved events: 218 in 29 countries.

FACT 10

Biotech crops contribute to global food security, sustainability, and climate change

From 1996 to 2015, economic gains at the farm level of US$167.8 billion were generated globally by biotech crops, due to reduced production costs and substantial yield gains.

Biotech crops have reduced the amount of pesticides used by 620 million kilograms. In 2016 alone, fewer insecticide sprays reduced CO_2 emissions by 26.7 billion kilograms, equivalent to taking 11.9 million cars off the road for a year.

Biotech crops helped alleviate poverty by helping 18 million small farmers and their families, totaling >65 million people.

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