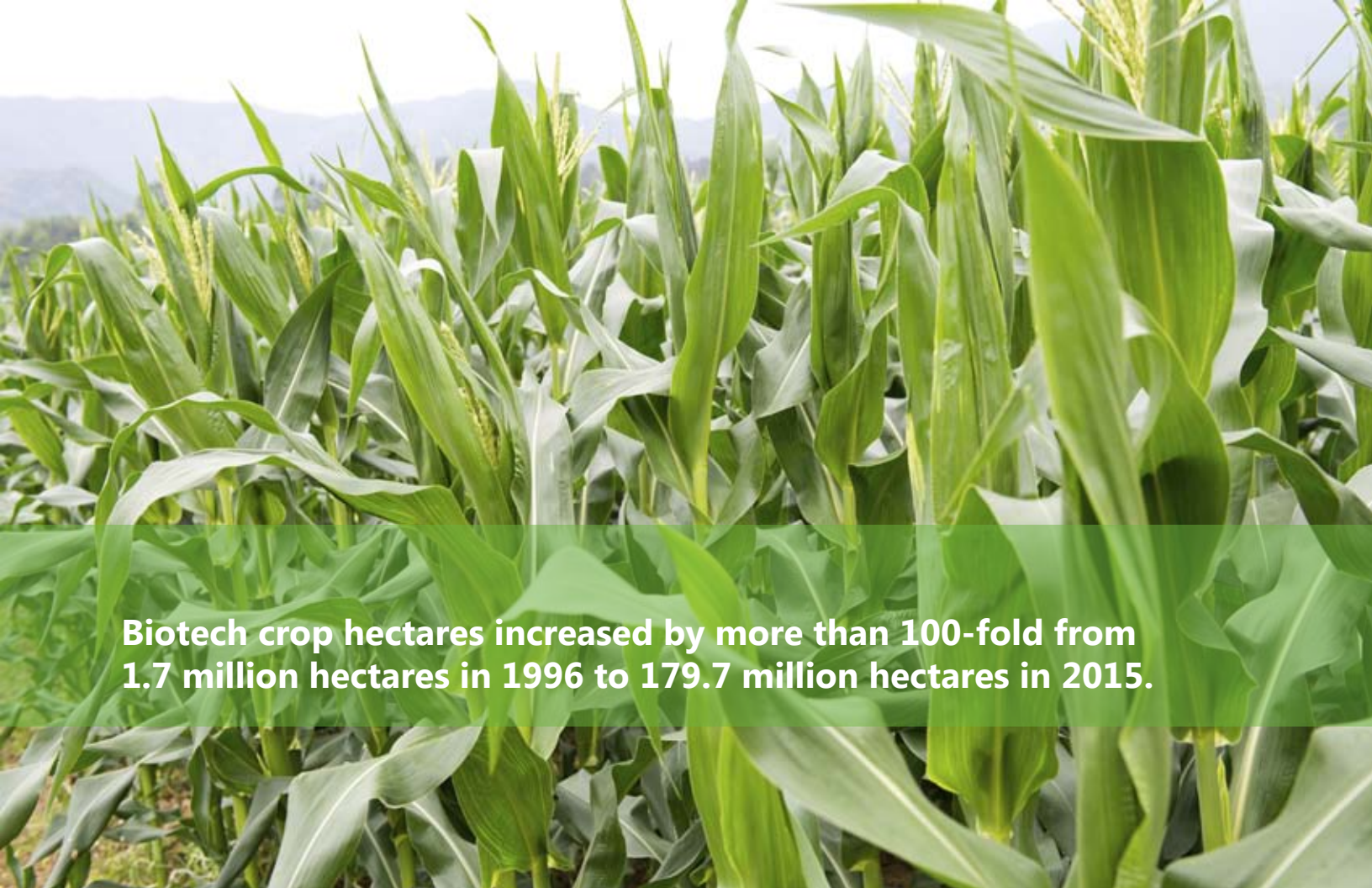


ISAAA

BEYOND PROMISES:
Top 10 Facts about Biotech/GM Crops in their First 20 Years, 1996 to 2015





Biotech crop hectares increased by more than 100-fold from 1.7 million hectares in 1996 to 179.7 million hectares in 2015.

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2015 is the 20th year of commercialization of biotech crops. The experience of the last 20 years of commercialization confirmed the promise of biotech crops to deliver substantial agronomic, environmental, economic, health, and social benefits to large and small 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 10 important highlights about biotech crops in their first 20 years, from the ISAAA Brief *"20th Anniversary of the Global Commercialization of Biotech Crops and Biotech crop highlights in 2015"* written by Clive James, and available at: http://www.isaaa.org/.

In 2015, ~18 million farmers from 28 countries planted 179.7 million hectares of biotech crops.

2015 marked the 20th year of successful commercialization of biotech crops

The cumulative hectarage of biotech crops reached 2 billion hectares in the 20-year period 1996 to 2015.

Since the recorded commercialization of GM crops in 1996 up to 2015, several countries have contributed to an unprecedented 100-fold increase in the global area of biotech crops.

FACT 2

Successful biotech crop adoption in the first 20 years

The global hectarage of biotech crops increased 100-fold from 1996 to 2015, making biotech crops the fastest adopted crop technology in recent times.

The impressive adoption rate of biotech crops shows the significant benefits it delivers to both small and large farmers as well as consumers.

Vietnam planted stacked insect resistant and herbicide tolerant maize for the first time in 2015.

Developing countries planted biotech soybean, maize, cotton, canola, brinjal/eggplant, papaya, and poplar in 2015 with an accumulated hectarage of 97.1 million hectares.

For the fourth consecutive year, developing countries planted more biotech crops

Farmers from Latin America, Asia, and Africa collectively grew 97.1 million hectares, or 54% of the global 179.7 million hectares of biotech crops in 2015, compared with industrial countries at 82.6 million hectares, or 46% of the global total.

FACT 4

Stacked traits occupied ~33% of the global biotech crop hectarage

Biotech crops with stacked traits increased from 51.4 million hectares in 2014 to 58.5 million hectares in 2015, an increase of 14%.

In 2015, 14 countries planted stacked biotech crops with two or more traits, of which 11 were developing countries.

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

6.6 million farmers in China and another 7.7 million farmers in India planted more than 15 million hectares of Bt cotton in 2015.

Highlights from developing countries in 2015

Latin America has the largest percentage of biotech crops grown in 2015, led by Brazil and Argentina.

Political will in Bangladesh has helped advance the commercial cultivation of Bt brinjal/eggplant.

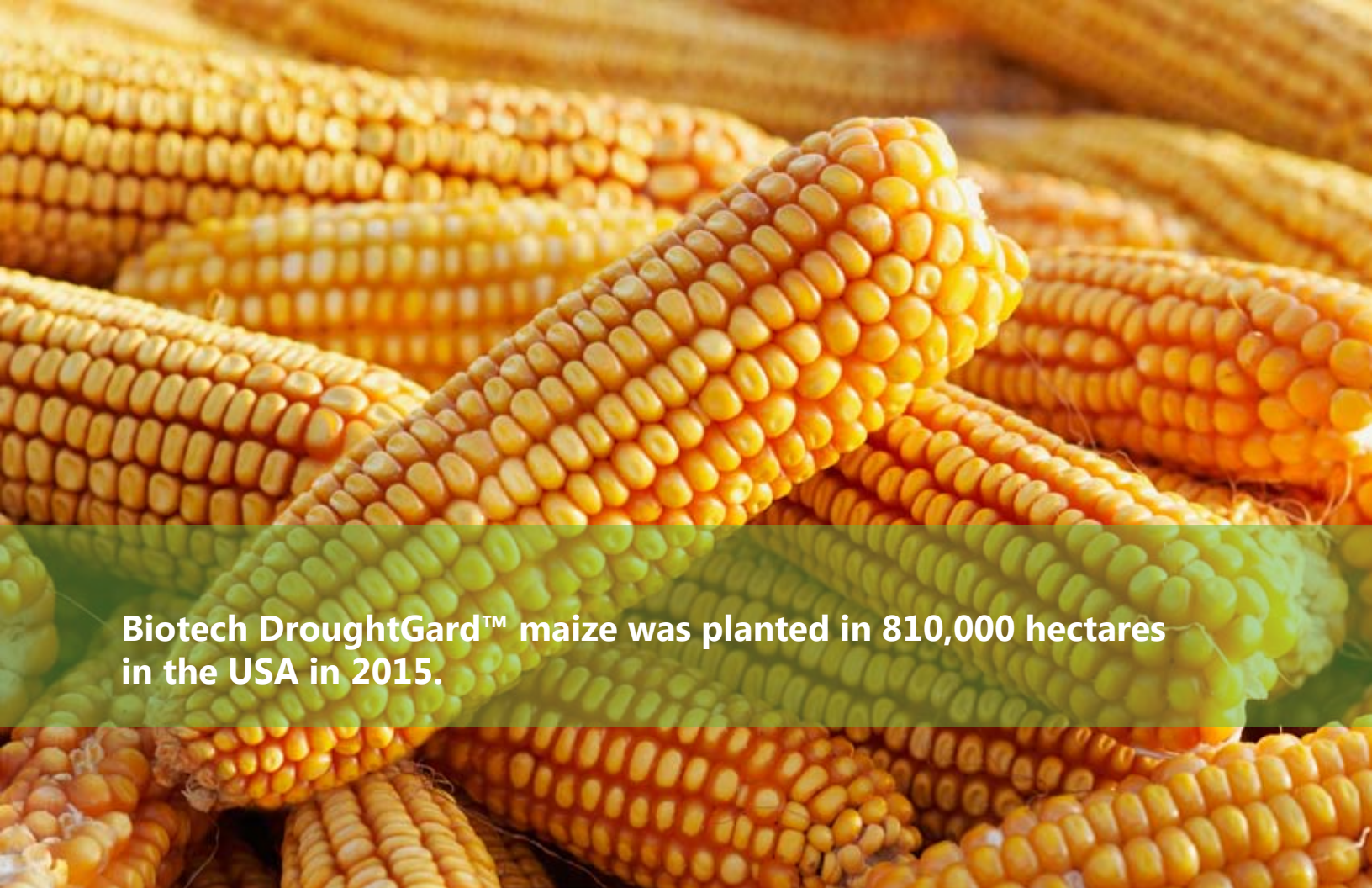
Three countries in Africa (South Africa, Burkina Faso, and Sudan) planted biotech crops in 2015.

FACT 6

Major developments in the USA include “firsts” in approvals and commercializations

In 2015, progress in many fronts in the USA included approvals and commercializations of new GM crops, such as Innate™ potatoes and Arctic® apples; commercialization of SU canola™; and first time approval of GM salmon, the first GM animal food product.

Two varieties of Arctic® apples with less bruising and less browning were approved in the USA and Canada in 2015.



Biotech DroughtGard™ maize was planted in 810,000 hectares in the USA in 2015.

High adoption of the first biotech drought tolerant maize in the USA

Biotech DroughtGard™ maize, first planted in the USA in 2013 in 50,000 hectares, increased 15-fold to 810,000 hectares in 2015, reflecting farmer acceptance.

The same event has been donated to the Water Efficient Maize for Africa partnership, aimed for release in selected African countries in 2017.

FACT 8

Five countries in the European Union planted biotech maize in 2015

Spain is the leading country in the EU, planting 92% (107,749 hectares) of all biotech maize in Europe in 2015.

The other EU countries which grew biotech crops in 2015 are: Portugal, Czech Republic, Slovakia, and Romania.


Spain planted 92% of all biotech maize in the EU in 2015.

In 2015, biotech crops have helped more than 16.5 million small farmers and their families worldwide.

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

From 1996 to 2014, economic gains at the farm level of US$150 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 584 million kilograms. In 2014 alone, fewer insecticide sprays reduced CO_2 emissions by 27 billion kilograms, equivalent to taking 12 million cars off the road for a year.

FACT 10

Three domains merit consideration for the future to achieve food security and alleviate poverty and hunger

First, high rates of adoption in current markets leave little room for expansion, but there is significant potential in new countries for selected products such as biotech maize.

Second, more than 85 potential new products in the pipeline are being field-tested prior to approval, including drought tolerant maize in Africa and Golden Rice in Asia.

Third, genome-edited crops may be the most important scientific development, offering significant advantage over conventional and GM crops.

A new strategy involving troika of transgenes, genome editing, and microbes will contribute to food security and alleviation of poverty and hunger.

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Source: James, Clive. 2015. 20th Anniversary of the Global Commercialization of Biotech Crops (1996 to 2015) and Biotech Crop HIghlights in 2015. *ISAAA Brief* No. 51. ISAAA: Ithaca, NY.

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