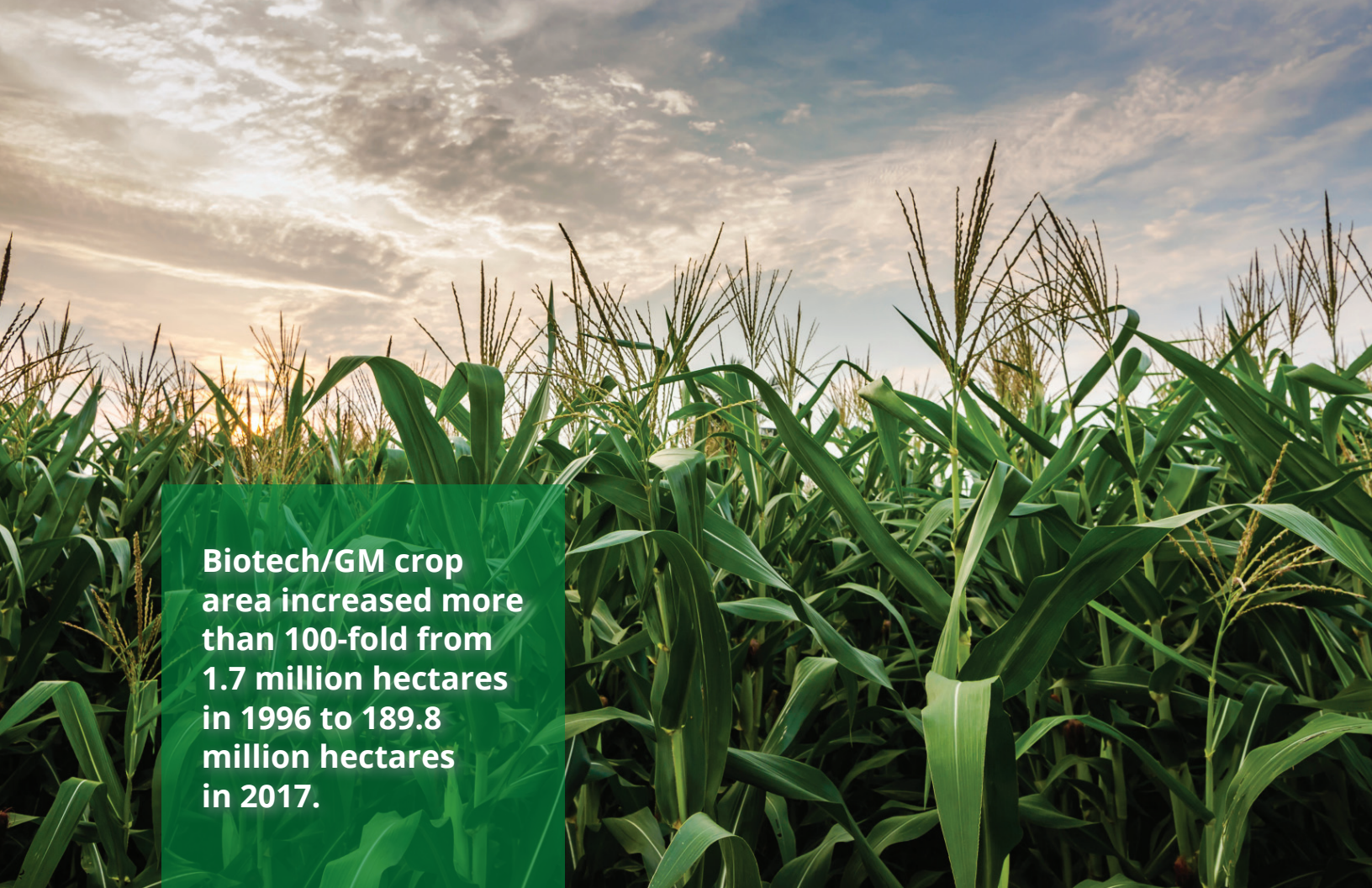




## BEYOND PROMISES: Facts about Biotech/GM Crops in 2017







**Biotech/GM crop  
area increased more  
than 100-fold from  
1.7 million hectares  
in 1996 to 189.8  
million hectares  
in 2017.**

### BEYOND PROMISES: Facts about Biotech/GM Crops in 2017



2017 was the 22<sup>nd</sup> year of commercialization of biotech/GM crops. The experience of the last 22 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/GM crops in 2017, from ISAAA Brief 53 *Global Status of Commercialized Biotech/GM Crops in 2017* available at <http://www.isaaa.org/>.





The number of  
countries planting  
biotech crops  
quadrupled from  
6 in 1996 to 24  
in 2017 .

## Biotech/GM crop area in 2017 attains new record-high adoption at 189.8 million hectares worldwide

On the 22<sup>nd</sup> year of commercialization of biotech/GM crops in 2017, 24 countries grew 189.8 million hectares biotech crops, an increase of 3% or 4.7 million hectares from 185.1 million hectares in 2016.



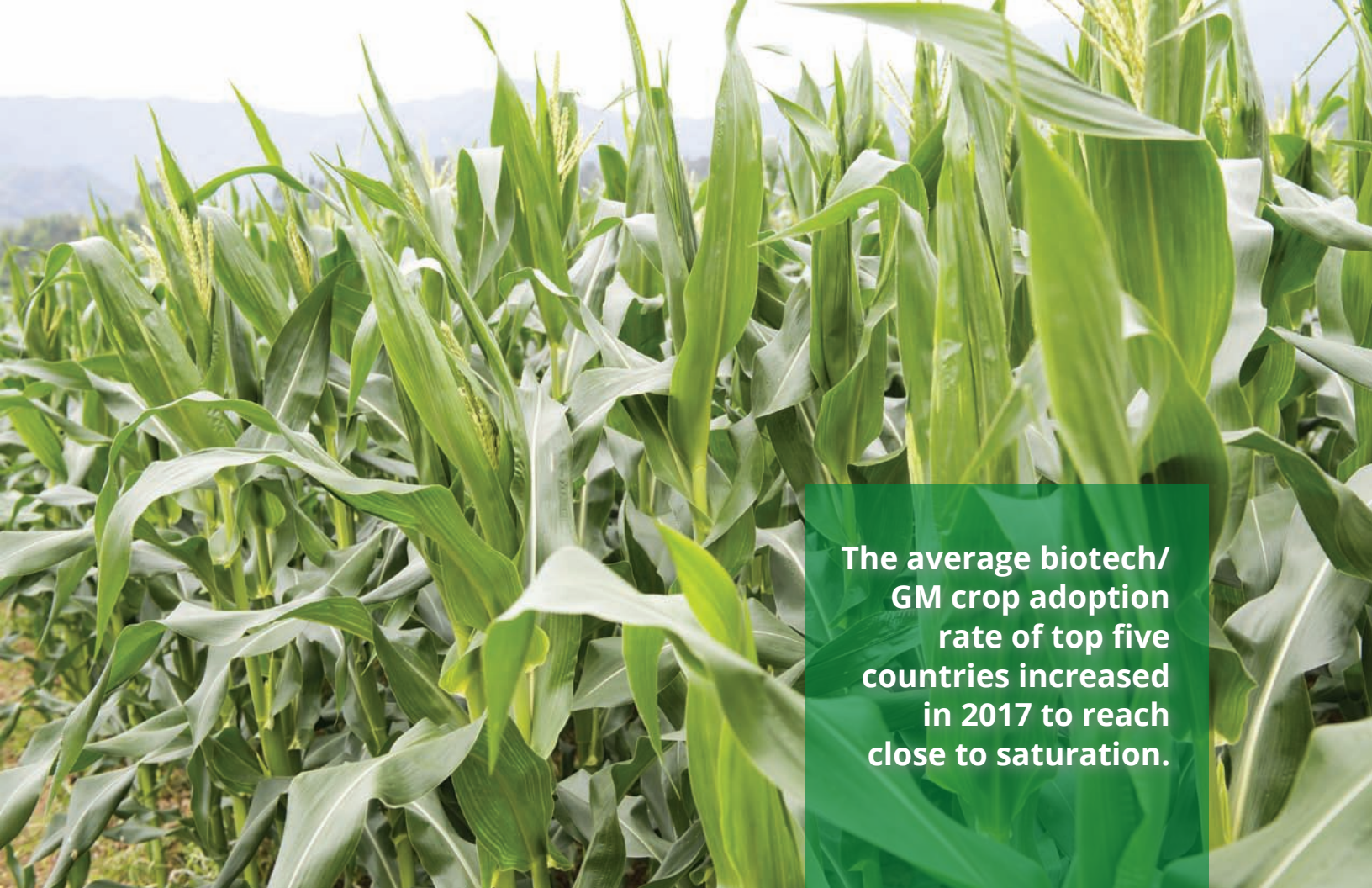
## **Biotech/GM crop area increased ~112-fold from 1996, the fastest adopted crop technology in the world**



The cumulative global area of biotech/GM crops reached 2.3 billion hectares in 22 years (1996-2017) of biotech/GM crop commercialization.

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





**The average biotech/  
GM crop adoption  
rate of top five  
countries increased  
in 2017 to reach  
close to saturation.**

A photograph of a vast field of green soybean plants. The plants are in the foreground and middle ground, with a dark, tilled path or furrow running through the field towards the horizon. The sky is bright blue with scattered white clouds. The overall scene is a healthy agricultural landscape.

**Brazil continues  
to be the top  
developing country  
in 2017, planting  
biotech soybeans,  
maize, and cotton.**



## **In 2017, 67 countries adopted biotech crops — 24 countries planted and 43 additional countries imported**

Biotech/GM crops in 2017 were grown by 24 countries — 19 developing and 5 industrial countries. Developing countries grew 53% of the total global biotech crop area.

An additional 43 countries (17 + 26 EU countries) formally imported biotech/GM crops for food, feed, and processing. Thus, a total of 67 countries adopted biotech/GM crops.



## **From 1996 to 2017, 4,133 regulatory approvals were issued for 26 biotech/GM crops**



From 1992 to 2017, 4,133 approvals were issued by regulatory authorities for 26 biotech/GM crops and 476 events. Such approvals were issued to biotech crops for food use (1,995), feed use (1,338), and for environmental release or cultivation (800).





**Biotech/GM maize  
has the largest  
number of approved  
events: 232 in 30  
countries.**





Biotech/GM  
soybeans reached  
50% of the global  
biotech crop area in  
2017.



## The major biotech/GM crops grown in 2017 are soybeans, maize, cotton, and canola



In 2017, four biotech/GM crops comprised the most number of hectares: soybeans (94.1 million hectares), maize (59.7 million hectares), cotton (24.21 million hectares), and canola (10.2 million hectares).

Other biotech crops grown in 2017 include alfalfa, sugar beet, papaya, squash, eggplant, potato, apples, and pineapple.


## Stacked traits occupied 41% of the global biotech/GM crop area



Biotech/GM crops with stacked traits increased from 75.4 million hectares in 2016 to 77.7 million hectares in 2017, a 3% increase equivalent to 2.3 million hectares.

In 2017, 15 countries planted biotech crops with stacked traits, 12 of which are developing countries.





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



**Biotech Innate®**  
potatoes with non-  
bruising, non-browning,  
reduced acrylamide,  
and late blight  
resistance traits were  
planted in the USA and  
Canada in 2017.



## Biotech/GM crops provide more diverse offerings to consumers in 2017

Biotech/GM crops have expanded beyond soybeans, maize, cotton, and canola to give more choices to consumers and food producers. These biotech crops include alfalfa, sugar beets, papaya, squash, eggplant, potatoes, and apples, all of which are already in the market.






## Biotechnology addresses global food insecurity; combats climate change




Global food insecurity is a leading problem in the developing world, and experts believe that food production must increase by 70% to feed the world's growing population.

Climate change is another challenge that can cause a 23% decline in major crop production. Adoption of biotech/GM crops is one of the most effective crop adaptation technologies to address food security and combat climate change.

A close-up photograph of lush green leafy plants, possibly spinach or a similar leafy green, covered in numerous small, clear water droplets. The leaves are vibrant green with prominent veins. The background is slightly blurred, showing more of the same plants.

**Crop varieties  
developed through  
biotechnology will  
help the world  
cope with salinity,  
submergence, and  
drought stresses.**





**7.5 million farmers  
in India planted 11.4  
million hectares of  
Bt cotton in 2017.**



## Up to 17 million farmers from 24 countries planted biotech/GM crops in 2017

More than 95% or 16-17 million farmers that grew biotech crops in 2017 are risk-averse, small, resource-poor farmers in developing countries.

In the last 22 years, millions of farmers in ~24 countries worldwide have made independent decisions to plant biotech crops.



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



From 1996 to 2016, economic gains of US\$186.1 billion at the farm level 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 670 million kilograms. In 2016 alone, fewer insecticide sprays reduced CO<sub>2</sub> emissions by 27.1 billion kilograms, equivalent to taking 16.7 million cars off the road for a year.





**Biotech/GM crops  
helped alleviate  
poverty by helping  
17 million small  
farmers and their  
families, totaling  
>65 million people.**



## **BEYOND PROMISES: Facts about Biotech/GM Crops in 2017**

Source: ISAAA. 2017. Global Status of Biotech/GM Crops in 2017. *ISAAA Brief* No. 53. ISAAA: Ithaca, NY.

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Photos: Thinkstockphotos.com, iStockPhoto.com, and ISAAA photos on file.

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August 2018