



TOP \_\_\_\_\_  
**10**  
FACTS

About Agricultural  
Biotechnology and  
Biosafety

# FACT 01



**2023 was the 25th year of successful commercialization of biotech crops in Africa (27th globally)**

1

7 countries in Africa continued to reap benefits from the cultivation of biotech crops

2

The seven countries were: Eswatini, Ethiopia, Kenya, Malawi, Nigeria, Sudan and South Africa.

3

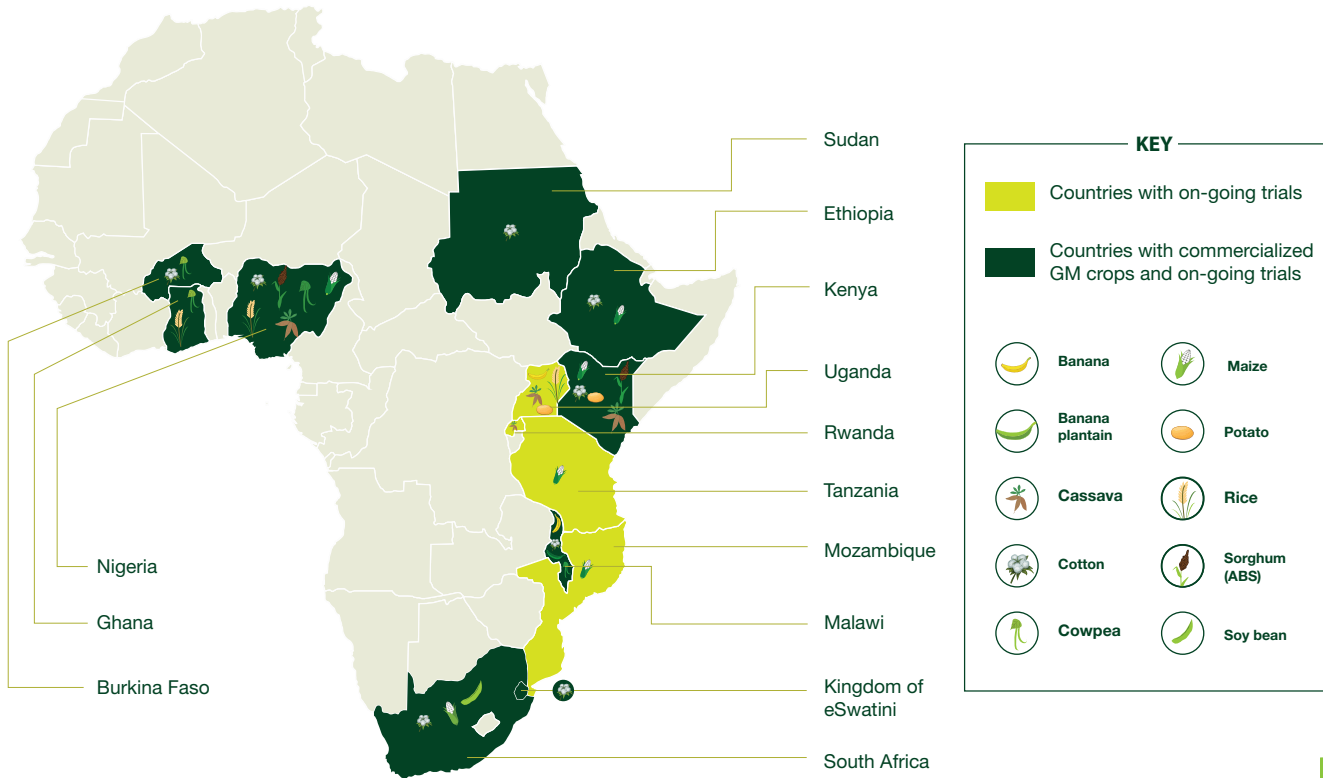
Four biotech crops – maize, soybean, cotton and cowpeas were grown on over 2.93 million hectares.

# Africa Moving Forward: Biotech/GM Status by 2023

**10** CROPS

**13** COUNTRIES

**16** TRAITS



# FACT 02



## The commercialized crop traits in Africa were insect resistance (Bt), herbicide tolerance (HT) and (Bt/HT) multistacks

1

### **Insect resistance:**

Bt cotton was the front runner across Africa, with Eswatini, Ethiopia, Kenya Malawi, Nigeria, Sudan and South Africa having planted on more than 450,000 hectares.

2

### **Herbicide tolerance:**

A total of approximately more than 694000 hectares of HT soybean was planted in South Africa. In addition, HT cotton was grown as refugia.

3

### **Stacked Bt/HT:**







Majority of the biotech maize in South Africa has a stacked genes events. South Africa also grows HT/Bt cotton.













# African Scientists are Focusing on Crops and Traits of High Relevance to Challenges Facing the Region






## Kenya

-  **Maize** ..... Drought tolerance and insect resistance stacked events (TELA)
-  **Maize** ..... Insect resistance (TELA)
-  **Cotton** ..... Insect resistance
-  **Cassava** ..... Cassava Brown Streak Disease (CBSD) resistance
-  **Sorghum (ABS)** ..... Biofortification
-  **Potato** ..... Late blight disease resistance


## Nigeria

-  **Cowpea** ..... Insect resistance to maruca pest
-  **Sorghum (ABS)** ..... Biofortification
-  **Rice** ..... Nitrogen Use Efficiency (NUE)
-  **Rice** ..... Nitrogen Use, Water Efficiency and Salt Tolerance (NUWEST)
-  **Maize** ..... Drought tolerance and insect resistance stacked events (TELA)
-  **Cotton** ..... Insect resistance
-  **Cassava** ..... Delayed postharvest starch deterioration
-  **Cassava** ..... Biofortification


## Uganda

-  **Banana** ..... Banana bacterial -Xanthomonas Wilt (BXW) resistance  
Banana parasitic nematode resistance  
Biofortification
-  **Cassava** ..... Cassava Brown Streak Disease (CBSD) resistance
-  **Rice** ..... Nitrogen Use Efficiency (NUE)
-  **Rice** ..... Nitrogen Use, Water Efficiency and Salt Tolerance stacked events (NUWEST)
-  **Potato** ..... Late blight disease resistance

## Tanzania

-  **Maize** ..... Drought tolerance and insect resistance stacked events (TELA)

## Malawi

-  **Cotton** ..... Insect resistance
-  **Maize** ..... Insect resistance


## Mozambique

-  **Maize** ..... Drought tolerance and insect resistance stacked events (TELA)




## Kingdom of eSwatini

-  **Cotton** ..... Insect resistance





## Rwanda

-  **Cotton** ..... Cassava Brown Streak Disease (CBSD) resistance

## South Africa

-  **Cotton** ..... Insect resistance/ herbicide tolerance multi-stacked events
-  **Soy bean** ..... Insect resistance/ herbicide tolerance multi-stacked events
-  **Maize** ..... Insect resistance multi stacks event (TELA)




## Ethiopia

-  **Maize** ..... Drought tolerance and insect resistance stacked events (TELA)
-  **Cotton** ..... Insect resistance
-  **Potato** ..... Late blight tolerance
-  **Soy bean** ..... Herbicide tolerance


## Sudan

-  **Cotton** ..... Insect resistance

## Ghana

-  **Rice** ..... Nitrogen Use Efficiency (NUE)
-  **Rice** ..... Nitrogen Use, Water Efficiency and Salt Tolerance stacked events (NUWEST)
-  **Cowpea** ..... Insect resistance to maruca pest

## Burkina Faso

-  **Cowpea** ..... Insect resistance to maruca pest
-  **Maize** ..... Maize-stacked HT/Bt
-  **Cotton** ..... Insect resistance

# FACT 03



## Africa has contributed one new improved biotech crop to the global food basket

1

Nigeria and Ghana made landmark approvals of insect protected (Bt) cowpea. The crop is resistant to pod borers that can cause up to 80 percent yield loss.

2

Bt cowpea was Nigeria's first biotech food crop to get regulatory approval by the country's Biosafety Management Agency (NBMA).

3

This development placed Nigeria as the first country ever to commercialize genetically improved cowpea globally.



# FACT 04



## South Africa was among the top ten biotech crops mega countries with 2.69 million hectares planted to biotech improved crops

1

The year 2023 marked South Africa's 25 years of commercial cultivation of three principal biotech crops: cotton, maize, and soybeans.

2

The estimated acreage per biotech crop comprised of maize (~1.95 million hectares), soybean (~694,000 hectares) and cotton (~44,000). Average biotech crop adoption stood at 85% for maize, 95% soybean and cotton at 100%.

3

The country is nearing a plateau with average plant biotechnology adoption of 93% of the three principal crops. This is a source of inspiration for other African countries and lessons learnt continue to inform the growth of the sector.



# FACT 05



## 2023 marked the tenth year of farmers planting biotech crops in Sudan

1

Approximately more than 236,000 hectares of Bt cotton was planted, a slight drop of about 3% from the 243,000 hectares planted in 2018.

2

The hectareage is not estimated to have to witness growth as a result of political turmoil in the last 2 years.

3

The number of farmers growing the crop is not expected to have increased from 150000 due to political turmoil.





# FACT 06



## Africa sustained steady progress in biotech crops research and regulation

1

Virus resistant cassava in Kenya received limited environmental release approval and is currently undergoing National Performance Trials.

2

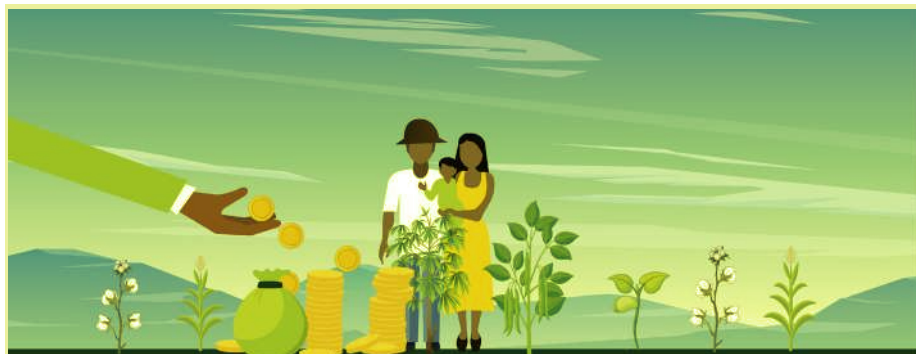
Rwanda commenced confined field trials for virus resistant cassava.

3

Through data transported from Nigeria, cowpea has received environmental release approval in Burkina Faso.



# FACT 07



## Africa farmers continue to reap significant agronomic, environmental and socio-economic gains from biotech crops

1

Estimated economic gains from biotech crops for South Africa for the period 1998 to 2018 was approximately US\$2 billion and US\$237 million for 2018 alone (Graham Brookes, 2020).

2

Farmers in Kenya have reported increased income as well as improved living and health standards following adoption of Bt cotton.

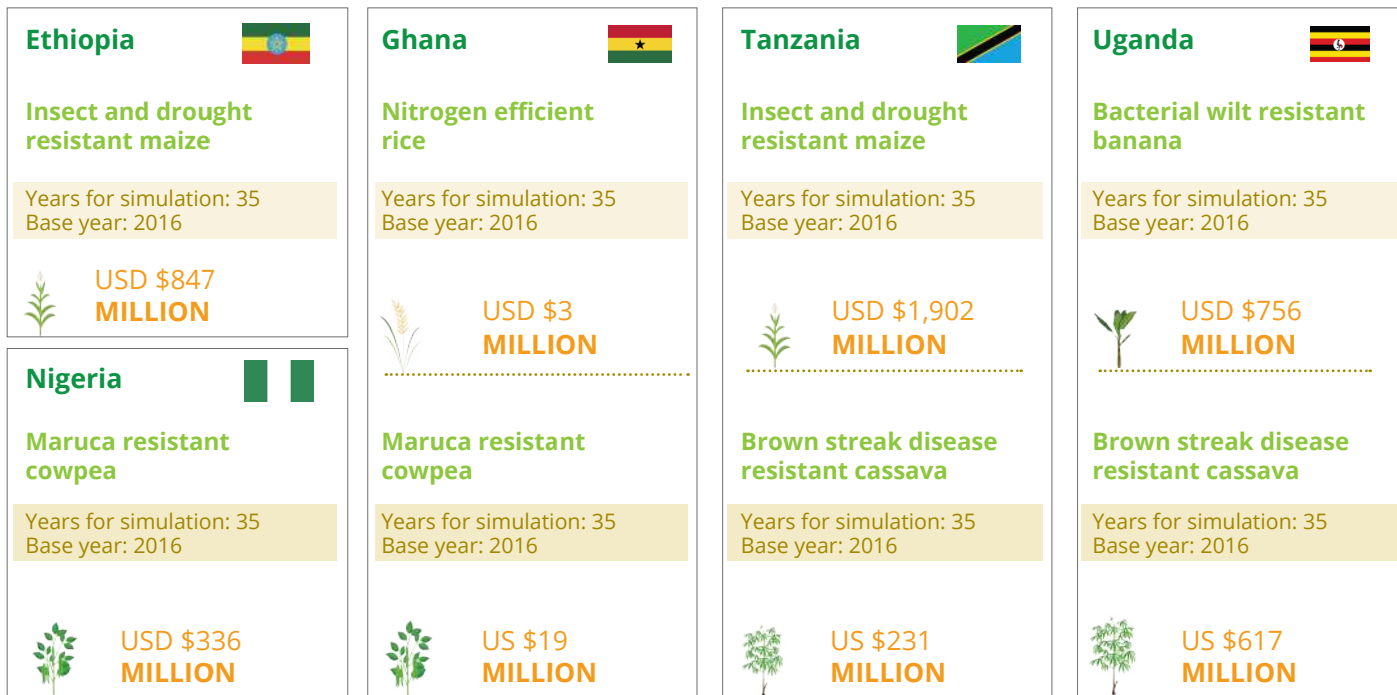
3

Farmers have reported a reduction of chemical sprays from 8 to just 3 per cropping season - a significant benefit to the environment.



## African Economies Stand to Benefit from Biotech Crops

Predictive economic studies conducted by African economists in collaboration with researchers from the International Food Policy Research Institute, in five countries across the region, show the total potential benefits of adopting biotech crops as:



# FACT 08

## Court dismisses suit against Genetically Modified products

By Leah Mubumba



*In May 2024, Ghana's Human Rights Court dismissed a lawsuit challenging the introduction of genetically modified products into the country, putting to an end a nine-year court battle between the country's National Biosafety Authority and civil society groups.*



## Africa made significant milestones in biosafety policy and infrastructural development

1

Republic of Rwanda enacted the National Biosafety Act Law no. 025/2024 of 16/02/2024.

2

In October 2023, the Environment Court in Kenya dismissed the case challenging importation and cultivation of genetically modified crops, saying the government had taken appropriate measures to regulate their use in the country. Ruling on a consolidated petition at the High Court will be delivered in October 2024.

3

In May 2024, Ghana's Human Rights Court dismissed a lawsuit challenging the introduction of genetically modified products into the country, putting to an end a nine-year court battle between the country's National Biosafety Authority and civil society groups.



# FACT 09



## Grassroots communities continue to call on African governments to enable access to biotech crops

### Newly Elected Leaders in Central Uganda Pledge Support for GM Crops

March 31, 2021



1

Kenyan small-scale farmers, through the Society for Biotech Farmers of Kenya (SOBIFAK) continue to call on government to remove hurdles that deny them access to insect resistant maize.

2

Public comments submitted to biosafety authorities in Kenya, Ghana and Nigeria showed overwhelming support for GM products under consideration, indicating increased acceptance of the technology across the region.

3

Ugandan farmers and their leaders remain upbeat about the prospects of GM crops and continue to put pressure on government for access to genetically modified disease resistant cassava .

# FACT 10



## Partnerships and diversification of technology providers in Africa are bearing fruit

1

South-South collaboration has resulted in diversification of technology providers where a number of Asian companies are partnering with several African research organizations to share technology and expertise.

2

The diversity of public-private-partnerships is boosting confidence in biosafety decision-making and adoption of biotechnology in Africa.

3

Farmer-to-farmer experiential learning among the Asian and African farmers has contributed towards fast adoption of biotech cotton in Africa.



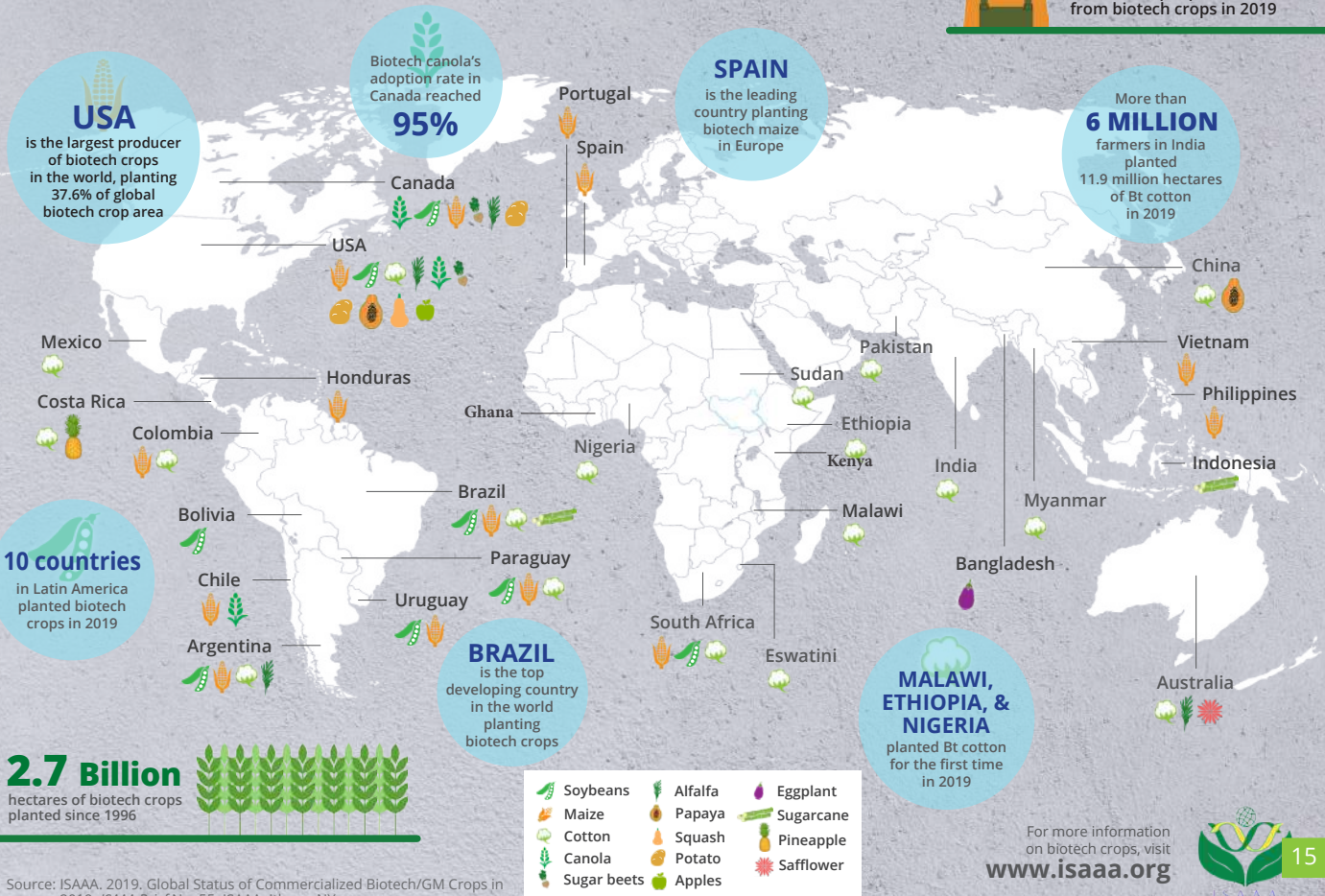
# Do you know where biotech crops are grown?

More than 30 countries have planted biotech crops since 1996. See where they were grown in 2019.



## 17 MILLION

small, resource-poor farmers and their families totaling >65 million people benefited from biotech crops in 2019



For more information on biotech crops, visit [www.isaaa.org](http://www.isaaa.org)







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