# 2014 Biotech Crop Report

Highlights of global biotech crop adoption by The International Service for the Acquisition of Agri-biotech Applications (ISAAA). For more information, visit ISAAA.org.

## 18 Million Farmers in 28 Countries Plant Biotech Crops

Since 1996, biotech crop plantings continue to show year-over-year growth. Global plantings increased >100 fold over the past 19 years.

### Fastest Adopted Crop Technology in Recent Times

**Continued Hectare Growth**

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**More Developing Countries Adopting Biotech Crops**

- Bangladesh planted biotech crops for the first time in 2014
- Indonesia & Vietnam approved biotech crops for 2015 planting
- Impacting 8 industrial countries
- 8 developing countries
- 90% small and resource poor farmers

### More Staple Food Crops with Direct Consumer Benefits

**United States**

- Approved “Innate™” potato
  - Potato = 4th most important global food crop
  - Reduces crop loss and food waste from bruising
  - When cooked at high temps, produces less acrylamide (potential carcinogen)

**Bangladesh**

- Commercialized Bt brinjal (eggplant) in record time
  - Brinjal = nutritious vegetable
  - Yield increase by 30%
  - Reduces farmer exposure to insecticides by 70-90%

**Indonesia**

- Approved drought-tolerant sugar cane for food
  - Increases availability of valuable food source
  - Decreases dependency on imported sugar

**Brazil**

- Approved virus resistant bean for 2016 plantings
  - Provides essential food crop for Brazilians as rice & beans are key part of diets
  - Emphasizes efficacy of a science-based approval system

### Public-Private Partnerships

Public-private partnerships show promise of delivering approved biotech crops to farmers. These include:

- Brazil and BASF=herbicide-tolerant soybean
- Bangladesh and seed company Mahyco= Bt brinjal (eggplant)
- Sub Saharan Africa and Monsanto=drought-tolerant (DT) maize through the Water Efficient Mazie for Africa (WEMA) project

The WEMA project aims to deliver the first biotech DT maize to select African countries in 2017, where the food staple is depended on by 300M+ poverty-stricken Africans. Projections show DT/Bt maize hybrids yielding up to 20 to 35% more than current hybrids, resulting in 2 to 5 more million metric tons of maize to feed 14 to 21 million people.

### Top 5 Countries Planting Biotech Crops by Hectarage

<table>
<thead>
<tr>
<th>Country</th>
<th>Hectares</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>73.1M</td>
</tr>
<tr>
<td>Brazil</td>
<td>42.2M</td>
</tr>
<tr>
<td>Argentina</td>
<td>24.3M</td>
</tr>
<tr>
<td>India</td>
<td>11.6M</td>
</tr>
<tr>
<td>Canada</td>
<td>11.6M</td>
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</tbody>
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**Biotech Benefits**

- **Improve Food Security**
  - Help alleviate poverty for more than 16.5M small farmers and their families

- **Realize Economic Gain**
  - Increased crop production valued at $US133B from 1996–2013

- **Mitigate Climate Change**
  - Lowered CO2 emissions in 2013 alone equal to removing 12.4M cars from the road

- **Reduce Environmental Impact**
  - Reduced pesticide use, saving 500M kg of active ingredient from 1996 to 2012

- **Meet Farmers’ Need**
  - Drought tolerant traits progress with 5.5 fold gain of DT maize plantings in the U.S. from 2013 (50,000 hectares) to 2014 (275,000 hectares)

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**About ISAAA and Clive James, Author of the Report**

The International Service for the Acquisition of Agri-biotech Applications (ISAAA) is a not-for-profit organization with an international network of centers designed to contribute to the alleviation of hunger and poverty by sharing knowledge and crop biotechnology applications. Clive James, Emeritus Chairman and Founder of ISAAA, has lived and/or worked for the past 30 years in the developing countries of Asia, Latin America and Africa, devoting his efforts to agricultural research and development issues with a focus on crop biotechnology and global food security.