

In 2011

- Argentina maintained its ranking as the third largest producer of biotech crops in the world in 2011, producing 15% of global hectareage.
- Total biotech crop hectares in Argentina in 2011 was 23.7 million hectares up by 0.9 million hectares or 4% from 22.9 million hectares in 2010.
- The 23.7 million hectares of biotech crops is composed of 19.1 million hectares biotech soybean, 3.9 million hectares biotech maize and 0.7 million hectares biotech cotton.
- Benefits from biotech crops alone for the first 15 years was estimated at US\$72.36 billion and the creation of 1.82 million jobs (Trigo, 2011).
- Argentina has enhanced farm income from biotech crops by US\$12.2 billion from 1996 to 2010 and US\$1.8 billion for 2010 (Brookes and Barfoot, 2012).



Argentina
grew **15%** of the global
biotech crop hectareage of
160 million hectares
in 2011.



Adoption of Biotech Crops in Argentina

- There are 21 biotech crop products approved for commercial planting from 1996 to 2011: 3 soybean events, 15 maize, and 3 cotton events.
- Two soybean and two maize events were approved in 2011.
- The 19.1 million hectares of biotech soybean is equivalent to 100% of the planting of 19.1 million hectares of the national soybean crop in Argentina.
- Of the total maize hectareage of 4.6 million hectares, 3.9 million hectares were biotech composed of 3.5 million hectares (90%) stacked product Bt/HT maize, 300,000 hectares (8%) Bt product, and 100,000 hectares (2%) herbicide tolerant maize.
- Biotech cotton was planted in 675,000 hectares, 97% of the total cotton hectareage. Bt/HT stacked product was planted in 590,000 hectares, 70,000 hectares were herbicide tolerant (HT) cotton, 15,000 hectares Bt and the balance of 15,000 hectares were conventional.

Population: **39.9 million**
GDP: **US\$328 billion**
GDP per Capita: **US\$8,240**
Agriculture as % GDP: **10%**
Agricultural GDP: **US\$32.8 billion**
% employed in agriculture: **1%**
Arable Land (AL): **33.2 million hectares**
Ratio of AL/Population*: **3.3**

*Ratio: % global arable land / % global population

Major crops:

- Soybean
- Maize
- Sugarcane
- Sunflower seed
- Wheat

Commercialized Biotech Crops:

- HT Soybean
- Bt/HT Cotton
- Bt/HT/Bt-HT Maize

Total area under biotech crops and (%) increase in 2011:
23.7 Million Hectares (+4%)

Farm income gain from biotech, 1996-2010: **US\$12.2 billion**

Adoption of Biotech Crops in Argentina

1. Brookes and Barfoot (2012) estimates that Argentina has enhanced farm income from biotech crops by US\$12.2 billion from 1996 to 2010, and the benefits for 2010 alone were estimated at US\$1.8 billion.
2. According to the study by Dr. Eduardo Trigo for ArgenBio, the Argentine Council for Information and Development of Biotechnology (2011), the gross benefit generated by biotech crop adoption for the period 1996-2010 reached US\$72,363 million. Results of the study is summarized below.

Economic Benefits by Crops

- From glyphosate-tolerant soybean, benefits of US\$65,153 million is broken down into US\$3,231 million from reduction in production costs and US\$61,917 million due to the expansion of the planted area; distributed to farmers 72.3%, 21.3% to the National Government and 6.5% to technology providers (seeds and herbicides).



- Insect resistance and herbicide tolerance technologies gave benefits of US\$5,375 million, distributed as: 68.2% to growers, 11.4% to the National Government and 20.4% to technology providers (mainly seeds).

- Total benefits from insect-resistant and herbicide-tolerant cotton, reached US\$1,834 million that went mainly to farmers (96%), with only 4% going to technology providers (seeds and herbicides).

More benefits

- Reduction in global price. The total benefit for 1996-2012 was estimated at about US\$89 billion. If this adoption process had not occurred, the international price of soybean in 2011 would have been 14% higher than it actually was.
- Biotech crops generated 1.82 million jobs in the Argentine economy.
- Positive impact was also established between the expansion of biotech crops and no-till farming practices, on soil structure and the efficient use of energy.

Future Biotech Crops and Benefits

- The potential benefits estimate that could be generated by a stacked herbicide tolerant and insect resistant soybean and a drought-resistant wheat, under three different price and adoption scenarios, from the next growing season, in the 10 following years could be US\$9,131 million to US\$26,073 million for soybean and US\$526 million to US\$1,923 million for wheat.



Excerpts from:

James, Clive. 2011. Global Status of Commercialized Biotech/GM Crops: 2011. *ISAAA Brief No. 43*. ISAAA: Ithaca, New York.

Other Sources:

The World Bank. <http://www.worldbank.org/>
Food and Agriculture Organization of the United Nations. <http://www.fao.org/countryprofiles/>

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