

## In 2010



- The area planted to biotech maize in the Philippines increased to 541,000 hectares, up by 10% from 490,000 hectares of biotech maize in 2009.
  - The area occupied by the stacked traits of Bt/HT maize is 411,000 hectares, 76% of the total biotech maize hectareage, compared with only 338,000 hectares in 2009.
- The number of small resource-poor farmers, growing on average 2 hectares of biotech maize was 270,000, up significantly by 20,000 from 250,000 in 2009.

## Biotech Adoption in the Philippines

- Philippines is the first country in the ASEAN region to implement a regulatory system for transgenic crops which started in 1990, and became a model for other countries in the region.

- It grows approximately 2.7 million hectares of maize, and the only country in Asia to approve and grow a major biotech feed crop.
- The country achieved a biotech mega-country status with biotech maize in 2004, when more than 50,000 hectares of biotech maize was planted.
- Adoption of biotech maize in the Philippines has increased consistently every year since it was first commercialized in 2003.
- The area planted to biotech maize reached 541,000 hectares in 2010 with Bt/HT maize at 411,000 hectares (an increase of 22% from 2009), HT maize at 82,500 (decrease of 16% from 2009) and single trait Bt at 47,500 hectares (decrease of 12% from 2009).
- Biotech yellow maize has consistently increased by about 5% of the total yellow maize hectareage every single year from the first year of commercialization in 2003, reaching the highest ever level of 42% in 2010 (up from 38% in 2009).
- Consistent with the experience of other biotech maize growing countries the year-by-year steady increase in adoption of biotech maize reflects the significant and consistent benefits generated by biotech maize to farmers in the Philippines.

Population: **89.7 million**  
 GDP: **US\$167 billion**  
 GDP per Capita: **US\$1,850**  
 Agriculture as % GDP: **15%**  
 Agricultural GDP: **US\$25 billion**  
 % employed in agriculture: **37%**  
 Arable Land (AL): **5.1 million hectares**  
 Ratio of AL/Population\*: **0.3**

\*Ratio: % global arable land / % global population

### Major crops:

- Sugarcane**
- Coconut**
- Rice**
- Maize**
- Banana**
- Cassava**
- Pineapple**
- Mango**

### Commercialized Biotech Crops:

- Bt/HT/Bt-HT Maize**

Total area under biotech crops and (%) increase in 2010:  
**541,000 Hectares (+10%)**

Farm income gain from biotech, 2003-2009: **US\$108 million**

## Biotech Maize Approvals

- A total of seven events of biotech maize have been approved for commercial planting in the Philippines: 2 single Bt, 2 single HT, 1-two Bt gene stacked, and 2 Bt/HT.
- A total of 25 stacked trait maize and cotton products have been approved for importation for direct use as food, feed and for processing, from among a total of 61 biotech crops and products currently approved for direct use as food, feed and for processing.

## Benefits from Biotech Crops

- The farm level economic benefit of planting biotech maize in the Philippines in the period 2003 to 2009 is estimated to have reached US\$108 million. For 2009 alone, the net national impact of biotech maize on farm income was estimated at US\$35 million (Brookes and Barfoot, 2011).



## Future of Biotech Crops

- Public sector-developed biotech crops are in advanced field trials including Golden Rice by the Philippine Rice Research Institute and the International Rice Research Institute; the fruit and shoot borer resistant eggplant and biotech papaya with delayed ripening and papaya ring spot virus (PRSV) resistance of the Institute of Plant Breeding (IPB), University of the Philippines Los Baños (IPB-UPLB); and the Bt cotton by the Cotton Development Authority
- Other initiatives include the development of a virus resistant sweet potato through collaborative activities between the Visayas State University (VSU) and IPB-UPLB and the initial efforts to generate transgenic lines of virus resistant abaca (*Musa textilis*) by the Fiber Industry Development Authority (FIDA) in collaboration with the University of the Philippines.

### Excerpts from:

James, Clive. 2010. Global Status of Commercialized Biotech/GM Crops: 2010. *ISAAA Brief* No. 42. 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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