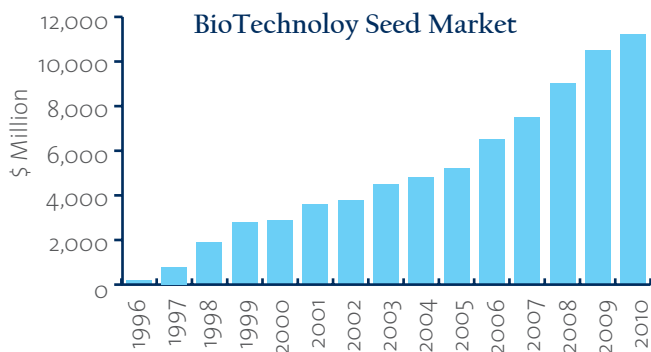


Biotechnology Seed – A Rapidly Growing Market

The biotechnology seed market has been constantly growing since the introduction of the first biotechnology seed product, a herbicide resistant soybean, in 1996. In 2010, 365 million acres were planted throughout the world with biotechnology seeds representing more than 10% of all cropland. The unprecedented high growth rate in the past decade makes biotechnology seeds the fastest adopted crop technology in the history of modern agriculture. Sales of biotechnology seeds totaled \$11.2 billion in 2010 alone, with approximately \$3.5 billion attributed to direct technology fees collected by the seed companies for improved traits. Farmers throughout the world are profiting from cultivating improved seeds that resistant to herbicide and to hazards, such as insects.



Source: Cropnosis, ISAAA

Current Status and Main Trends

The principle biotechnology crops available today are soybean (50% of total biotechnology crop area), corn (31%), cotton (14%) and canola (5%). The massive adoption of biotechnology crops in 2010 is demonstrated in the cultivation of 72% of the global area of soybean with biotechnology varieties and 86% of the total corn area in the U.S. with biotechnology varieties. Even in areas with a high penetration of biotechnology crops, market growth is achieved by switching to seeds with more than one enhancing trait (stacked traits). For example, in 2010, remarkably, 78% of the corn crop in the U.S. was hybrids with

either double or triple stacked traits.

As of today, the two biotechnology traits available in the market pertain to herbicide tolerance and various insect resistance capabilities.

In 2010, 29 countries cultivated biotechnology crops, the major ones being the U.S. (with 165 million acres), Brazil (62.7 million), Argentina (56.5 million), India (23.2 million) and Canada (21.7 million).

Biotechnology Crops – Potential for Growth

The continued growth in 2010 provides a broad and stable foundation for the future global growth of biotechnology crops and is a testament to the consistent performance and significant economic, environmental and social benefits of such crops.

New Crops

New biotechnology crops likely to be introduced commercially in the mid-term future include rice, wheat, sugarcane, beans and potatoes. One notable example for adoption of new biotechnology crops is rice, that was approved in China, and is estimated to translate into benefits of \$4 billion per year in China alone.

New Traits

In the near future, second generation products expected to be introduced to the market include those with increased yield, drought tolerance and nitrogen use efficiency, as well as agronomic input traits, such as high omega-3. Such new products and the expected increase in stacked trait utilization will render biotechnology varieties even more profitable and robust.

New Countries

Biotechnology technology is progressively being adopted by more and more countries, mainly in Asia. Given the impressive progress with biotechnology crop adoption already achieved by 2010, the ISAAA predicts that biotechnology farming will reach the goal of 40 countries, 20 million farmers and 500 million acres by 2015.