

World Status of Biotech / GM Crops

Editor's Note: In my February and March 2009 SJ columns, we looked at the acceptance and use of GM crop plants. This month, we look at a summary of world wide acceptance of biotech crops and the number of countries that can now be classified as biotech planting countries. The number of countries planting biotech crops soars to 25 – a historical milestone – a new wave of adoption of biotech crops is contributing to a broad-based and continuing growth of biotech crops globally.

The number of countries electing to grow biotech crops has increased steadily from 6 in 1996, the first year of commercialization, to 18 in 2003 and 25 in 2008. A new wave of adoption of biotech crops is fueled by several factors, which are contributing to a broadly based global growth in biotech crops. These factors include: an increase in the number of biotech countries (3 new biotech countries in 2008); significant progress in Africa, the continent with the greatest challenge with an increase from 1 country in 2007 to 3 countries in 2008 – South Africa being joined by Burkina Faso and Egypt; Bolivia planting biotech soybean for the first time; additional biotech crops being deployed in biotech countries already growing biotech crops (Brazil planting Bt maize, and Australia biotech canola, for the first time); a new biotech crop, biotech sugar beet deployed in the USA and Canada; and significant growth in stacked traits in cotton and maize, increasingly deployed by 10 countries worldwide.

This new wave of adoption is providing a seamless interface with the first wave of adoption resulting in continued and broad-based strong growth in global acreage of biotech crops. Notably in 2008, the second billionth acre (800 millionth hectare) of a biotech crop was planted – only 3 years after the first one-billionth acre of a biotech crop was planted in 2005. In 2008, developing countries out-numbered industrial countries by 15 to 10, and this trend is expected to continue in the future with 40 countries, or more, expected to adopt biotech crops by 2015, the final year of the second decade of commercialization.

Africa GM Crops. Africa is home to over 900 million people representing 14% of the world population and is the only continent in the world where food production per capita is decreasing and where hunger and malnutrition afflicts at least one in three Africans. It is noteworthy that two of the three new countries that planted biotech crops for the first time in 2008 were from Africa, the continent with the greatest and most urgent need for crop biotechnology. For the first twelve years of commercialization of biotech crops, 1996 to 2007, South Africa has long been the only country on the African continent to benefit from commercializing biotech crops. Africa is recognized as the continent that represents by

far the biggest challenge in terms of adoption and acceptance. Accordingly, the decision in 2008 by Burkina Faso to grow 8,500 hectares of Bt cotton for seed multiplication and initial commercialization and for Egypt to commercialize 700 hectares of Bt maize for the first time was of strategic importance for the African continent.

Latin America GM Crops. The third new biotech crop country in 2008 was Bolivia in the Andean region of Latin America. Bolivia is the eighth largest grower of soybean in the world and is no longer disadvantaged compared with its neighbors, Brazil and Paraguay, which have benefited substantially for many years from herbicide tolerant RR® soybean. Bolivia becomes the ninth country in Latin America to benefit from the extensive adoption of biotech crops; the nine Latin American countries, listed in order of acreage are: Argentina, Brazil, Paraguay, Uruguay, Bolivia, Mexico, Chile, Colombia, and Honduras. Bolivia planted 600,000 hectares of RR® soybean in 2008.

World Acreage of GM Crops. In 2008, accumulated acreage of biotech crops for the period 1996 to 2008 exceeded 2 billion acres (800 million hectares) for the first time – it took 10 years to reach the first billion acres but only 3 years to reach the second billion acres – of the 25 countries planting biotech crops, 15 were developing and 10 industrial

Sugar Beet. As we previously reported, a new biotech crop, RR® herbicide tolerant sugar beet, was introduced for the first time in 2008 in the USA and a small acreage in Canada. Notably, of the total US national acreage of 437,246 hectares of sugar beet, a substantial 59% (the highest ever percent adoption for a launch) or 257,975 hectares were planted with RR® biotech sugar beet in 2008, the launch year; the percentage adoption in 2009 is expected to be close to 90%. The success of the RR® sugar beet launch has positive implications for sugar cane, (80% of global sugar production is from cane) for which several biotech traits are at an advanced stage of development in several countries.

Majority Biotech Crops. Biotech soybean continued to be the principal biotech crop in 2008, occupying 65.8 million hectares or 53% of global biotech area, followed by biotech maize (37.3 million hectares at 30%), biotech cotton (15.5 million hectares at 12%) and biotech canola (5.9 million hectares at 5% of the global biotech crop area).

First Timers. Five countries; Egypt, Burkina Faso, Bolivia, Brazil and Australia introduced, for the first time, biotech crops that have already been commercialized in other countries

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