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Outlook for biotech crop adoption indicates continued global growth

Global biotech adoption stands at 16.7 million farmers in 29 countries, with 160 million hectares planted

Manila, Philippines (February 7, 2012) – Global adoption of biotech crop technology continues at unprecedented rates. During 2011, an additional 12 million hectares were planted representing an annual growth rate of 8 percent over 2010, according to Clive James author of the annual biotech crop report released today by ISAAA (International Service for the Acquisition of Agri-biotech Applications).

"Unprecedented adoption rates are testimony to overwhelming trust and confidence in biotech crops by millions of farmers worldwide," said James. "Since biotech crop commercialization in 1996, farmers in 29 countries worldwide made more than 100 million decisions to plant and replant more than 1.25 billion hectares – an area of crop land 25 percent larger than the total land mass of the United States or China."

During 2011, 160 million hectares were planted (up from 148 million in 2010) by 16.7 million farmers in 29 countries, including 19 developing countries and 10 industrial countries. Such adoption represents a 94-fold increase in hectares planted since 1996, making biotech crops the fastest adopted crop technology in recent history.

In developing countries, adoption was twice as fast and twice as large.

Developing countries proved an appetite for biotech crop technology during 2011. Developing countries leading biotech adoption are Brazil and Argentina in Latin America; China and India in Asia; and South Africa on the continent of Africa, and together represent 40 percent of the global population.

Growth rate for biotech crops in developing countries at 11 percent or 8.2 million hectares, during 2011, was twice as fast and twice as large as industrial countries at 5 percent or 3.8 million hectares.

Developing countries grew approximately 50 percent of global biotech crops in 2011 and are expected to exceed industrial country hectarage in 2012. Additionally, more than 90 percent of farmers worldwide (equivalent to over 15 million farmers) are small resource-poor farmers in developing countries, up 8 percent or 1.3 million since 2010, said James.

Marked advancements achieved across the world.

Advancements are being experienced throughout the world, and are very important to the overall landscape of global biotech commercialization.

Highlights noted in the report include:

- United States continued to be the lead producer of biotech crops globally, at 69 million hectares, with an average adoption rate of approximately 90 percent across principal biotech crops.
- Brazil ranks second only to the USA in hectarage, with 30.3 million hectares planted. For the third consecutive year, Brazil had the largest increase in the world at 4.9 million hectares, representing an impressive year-over-year increase of 20 percent.
- India celebrated a decade of successful cultivation of biotech cotton, which has transformed the cotton crop into the most productive and profitable crop in the country, with 10.6 million hectares planted during 2011.
- China adopted biotech cotton on 71.5 percent of cotton hectarage or 3.9 million hectares. Such growth was driven by 7 million small, resource-poor farmers, who on average farm only one-half of one hectare.
- Philippines reported a 20 percent increase in hectarage of biotech maize, planting >600,000 hectares. The Philippines is the only country in Asia which plants biotech maize.
- Africa planted 2.5 million hectares of biotech crops, and is making advancements with field trials in the regulatory process for additional biotech crop countries and crops.

"Engine" for global growth powered by Brazil.

With such large growth in Brazil, global leaders are recognizing the country as an "engine" for worldwide growth.

"Brazil has a fast-track approval system and has created three-streams of technology to support growth," said James. "The model includes: proprietary biotech crops from the private sector adopted on more than 30 million hectares; public/private sector partnerships which has already delivered an approved product; and the capacity to develop and deliver a 'home-grown' biotech crop – a virus resistant bean. Collectively, these three streams of technology provide Brazil with a diversified pipeline of new biotech products for the country. This approach is highly effective for Brazil and a key lesson for other countries across the world," said James.

Insight for future success.

During the sixteen years of biotech crop commercialization, many lessons have been learned across the industry. From regulatory and approval considerations to nurturing strong biotech pipelines, sustained growth and development has been achieved through insight and global innovation driven by industry and government alike.

"Three requirements are needed for continued success in biotech crop commercialization," said James. "First, countries must secure political will and support; second, develop innovative game-changing trait technologies which will have high impact; and third, ensure science-based, time- and cost-effective deregulation, in order to provide farmers new technologies for timely continued growth and productivity."

Outlook:

- Considerable potential lies in continued adoption of high hectarage biotech crops (maize, soybean, cotton, and canola). During 2011, 160 million hectares of these crops were planted, and currently, there are approximately 150 million hectares available for potential adoption. Thirty million of the potential hectares are in China, which have assigned priority to biotech maize, and where demand for maize as a feed crop is growing fast as the country consumes more meat.
- Support for biotech crops varies across Europe, where Bt maize hectarage in 2011 was a record 114,490 hectares, up more than 25% on 2010. At the same time, BASF halted development and commercialization of all its biotech crop products for cultivation in Europe as of mid-January 2012. BASF will continue the EU regulation process for products already started such as "Fortuna," its late bight disease resistant potato.

• Commercialization of biotech wheat in North America has been revisited. Similarly, many countries and companies worldwide, are now also fast-tracking the development of a range of biotech traits in wheat to improve drought tolerance, disease resistance and grain quality. Biotech wheat is expected to be commercialized before 2020.

Consistent with Bill Gates' proposal to G20, the ISAAA approach for achieving adoption is based on the three pillars of knowledge-sharing amongst public and private sectors and between industrial and developing countries; innovation; and creative partnerships. ISAAA recommends a three-pronged **3D Strategy**, based on timely, efficient and effective **D**evelopment, **D**eregulation and **D**eployment of new biotech crop technologies.

For more information or the executive summary, visit <u>www.isaaa.org</u>.

The report is funded by two European philanthropic organizations: the Bussolera-Branca Foundation from Italy, which supports the open-sharing of knowledge on biotech crops to aid decision-making by global society; and a philanthropic unit within Ibercaja, one of the largest Spanish banks headquartered in the maize growing region of Spain.

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, 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.