USDA Foreign Agricultural Service
GAIN Report
Global Agricultural Information Network

Required Report - public distribution

Date: 7/12/2010
GAIN Report Number: GT1009

Guatemala

Biotechnology - GE Plants and Animals

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Approved By:
Robert Hoff, Agricultural Counselor
Prepared By:
Karla Tay, Agricultural Specialist

Report Highlights:
Guatemala, at present, allows the importation of genetically engineered (GE) agricultural and food products, but has not approved the use of GE plants for agricultural production. The Ministry of Agriculture, Livestock, and Food (MAGA) approved field trials for GE plants in 2004. In 2006, MAGA approved commercial production for export purposes requesting that companies carry out a risk analysis. Even though MAGA is open to growing GE plants, the Ministry of Natural Resources and Environment (MARN), which has final responsibility for approval, demands an environmental impact study, in addition to a risk analysis. Both private sector and academia are lobbying with different sectors to legalize the commercialization of GE products. For MARN, GE plants are considered high-risk products that endanger biodiversity. The lack of a risk analysis regulation at MARN has stopped farmers from adopting biotechnology.

Section I. Executive Summary:

Major U.S. agricultural trade interests in Guatemala include animal feed and grains for human consumption. In 2009, Guatemala imported US$120 million in coarse grains, mainly yellow corn for feed purposes, but also white corn for human consumption. Guatemala has no restrictions on the importation of agricultural products for human and animal consumption. The main concern of some social groups and government institutions is that in their view, the planting of GE plants could pose a potential risk for the biodiversity. Guatemala has been declared by the United Nations as a center of biodiversity for many species, including corn.

Most subsistence farmers depend on native seeds for grain production, resulting in extremely low yields that perpetuate poverty, especially in the indigenous communities. As a result, Guatemala is a food insecure country, ranked with the highest rate of chronic malnutrition in the Western Hemisphere (WH). Fifty percent of children under five years suffer from chronic malnutrition, according to 2010 declaration by the Food and Agriculture Organization (FAO). According to the World Health Organization (WHO), Guatemala also reports the highest rate of neural tube defects in the world. One of the main contributing factors associated with neural tube defects is the level of mycotoxin contamination found in the native Guatemalan corn produced by subsistence farmers. This is a significant health issue considering that corn is a main staple of the Guatemalan diet. The neural tube defects in the indigenous communities of the Guatemalan highlands are ten times higher than the world average.

Section II. Plant Biotechnology Trade and Production:

Guatemala does not produce any biotechnology crops. In 2004, MAGA approved field trials of the Yieldgard gene in corn for Lepidopteron resistance, and the Liberty gene in cotton for glufosinate resistance, which are both deregulated events in the U.S. Del Valle University of Guatemala also developed ring-spot resistant papaya which has not received approval to be tested in the field, a fact that does not encourage biotech research.

Guatemala has the highest chronic malnutrition rate in the WH, with 50 percent of children under five showing signs of chronic mal nourishment. It also reports one of the highest rates of neural tube defects caused by a corn based diet, highly contaminated with fumonisins. Most food aid has been well received by communities, including indigenous communities. There was one event in which environmental activists denied the distribution of donated corn to recipient families. Donors later on found that activists spoke on behalf of their interests and not those of the communities. The communities demanded subsequently the donation, showing surprise that the community “leaders” had opposed the food distribution.

Section III. Plant Biotechnology Policy:

Ministerial Agreement 386-2006 allows for the commercial production of GE plants, for export purposes only. MAGA is responsible for approving risk analysis conducted by interested producers. The Agricultural Scientific Institute (ICTA) of MAGA is responsible for verifying on site protocols presented as part of the risk analysis. The regulation considers simplified procedures for deregulated events. The regulation, in general, is intended to promote rather than impede the production of GE plants.

MARN has no regulation in place to approve GE plants. This Ministry has a general law, which is mandatory for any commercial activity, including agriculture. The environmental law requires an impact study to approve any commercial operation. This law, given the expense of these studies, has impeded the adoption of biotechnology in Guatemala. MARN has a defined policy to impede adoption of biotechnology in the country, and has included GE plants in the high-risk category of products. Unless MARN decides to adopt science-based regulations, adoption of biotechnology in Guatemala will continue on hold.

The main concern for officially adopting biotechnology in Guatemala is related to the historical and social relevance of corn. Corn is the main staple of the Guatemalan diet and considered "sacred" for Mayan and indigenous communities. Each year, indigenous farmers select the first grains of the harvest for the following crop. This practice is sometimes

romanticized by those who do not suffer from food insecurity. At the level of indigenous communities, there is a generalized lack of understanding for technical improvement of crops. More open-minded communities will accept fertilizer use, for which MAGA has a subsidy program. ICTA has developed high protein content corn seed, as a result of conventional breeding, which has had a low acceptance in such type of communities due to deficient or non existing extension work.

The Guatemalan Congress approved the Cartagena Protocol in September 2003 by Legislative Decree 44-03, which was published in the official newspaper, the Diario de Centro America, Volume CCLXXII N. 72, on 10/13/03. The Protocol took effect in January 2005. By the end of 2003, the Guatemalan Technical Office for Biodiversity (OTECBIO) executed the project GUA-02-G21 "Development of the National Biosafety Framework for Guatemala", financed by the United Nations Environmental Program (UNEP) and the Global Environment Facility (GEF) through the National Council of protected Areas (CONAP). The Protocol framework was presented to Congress as a proposed law. The framework seeks to regulate all aspects of biotechnology research and commercialization, including sanitary-phytosanitary (SPS) regulations. The framework has a definite bias in favor of advocates of the "precautionary principle" and subjecting both live organisms as well as products derived from biotechnology origin to the same bureaucratic procedure. The proposed law did not find support, either within Congress or from academia and the private sector.

On June 2009, a revised version of this framework was presented to Congress. The modifications to the framework are more prohibiting than the original proposal. This proposed law represents the interests of the environmental lobby and does not have support from basically other sectors. Both the academic community and the private sector are fully convinced that adopting such a stringent law implies denying Guatemala the chance of modernizing Guatemalan agriculture and addressing food insecurity.

Guatemala is member of the World Trade Organization (WTO) and actively participates in Codex. At this moment Codex continues to discuss the idea of voluntary labeling of biotechnology products. Currently, Guatemala implements Codex recommendations for regulatory purposes; thus if Codex recommends labeling, Guatemala might adopt FDA labeling, as the Ministry of Health also has a policy for labeling based on food safety concerns and not on processing methods. Labeling might be adopted exclusively by producers exporting to Europe.

MAGA is the one government agency that tries to balance policy with environmental interests. The Ministry relies on science-based principles in establishing and implementing Sanitary and Phyto-Sanitary (SPS) regulations. If MAGA were to assume leadership in biotechnology policy, adoption of such technology might be a possibility for Guatemala.

Section IV. Plant Biotechnology Marketing Issues:

In Guatemala, there is considerable lack of education concerning biotechnology. There is a high illiteracy rate, especially within the indigenous population. This, together with extreme poverty, makes it difficult to educate this group on the benefits of biotechnology. Environmentalists believe they have the right to speak on behalf of the subsistence agriculture farmers and indigenous communities, and have in place permanent anti-biotech strategies to keep communities under continuous fear of adopting biotechnology. In the local newspapers one also runs across articles which link the adoption of biotechnology with conspiracy theories centered on the transnational enterprises which are leaders in biotech and their putative relationship with the local "oligarchy" and the "empire".

Section V. Plant Biotechnology Capacity Building and Outreach:

The following U.S. government entities have carried out various activities to promote biotechnology adoption in Guatemala: U.S. State Department (Embassy Science Fellowship and Bureau of Economic, Energy, and Business Affairs Biotech Outreach Programs), and the U.S. Department of Agriculture (USDA) with Cochran and Borlaug Fellowships. The USDA/Foreign Agricultural Service (FAS) has hosted a re known Ph.D. from the University of Georgia for the past four years to speak to various audiences in Guatemala. Another Ph.D. from CSREES/USDA and a Ph.D. on social sciences from Texas State University of San Marcos have also addressed the Guatemalan audience in relation to plant biotechnology adoption.

In August 2008, USDA/FAS took a high level official delegation, including leaders from the private sector, to visit the Farm Progress Show in Boone, Iowa. The trip included a visit to Nebraska and Washington, D.C. The Public Affairs Section of the U.S. Embassy in Guatemala, together with USDA/FAS also organized a visit to the Farm Progress Show for well known Guatemalan journalists. The objective of this program was to increase the journalists knowledge of biotechnology and its benefits.

In July 2009, USDA/FAS organized a regional outreach activity to educate academia, the public, and the private sector on the benefits of technology. Using information derived from fourteen years of experience, the re known Ph.D. from the University of Georgia and an Argentinean advisor from the Inter American Institute of Agricultural Cooperation (IICA), held meetings in Guatemala and El Salvador. Both countries, along with the rest of Central America, are still in great need of educational assistance.

In June-July 2010, USDA/FAS organized a regional agricultural biotechnology educational outreach program in which Dr. Wayne Parrott visited El Salvador, Honduras, Guatemala, and Belize. Honduras hosted the main activities, where USDA/FAS recognized the country's leadership in GE plant production. Delegations from the four countries attended a field trip to Comayagua Valley and Zamorano University where members of the Biosafety Committee in Honduras, explained to the delegations the operational components of adoption of GE plants in Honduras.

Considering the negative indicators of education, health, economic levels, and chronic under nutrition, Guatemala is in a position to benefit greatly from the adoption of biotechnology. The challenge is to evoke political will.