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Guatemala

Agricultural Biotechnology Annual

De Facto Moratorium

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Report Highlights:
Guatemala does not allow commercialization of genetically engineered (GE) plants. A "de facto moratorium" is in place. In 2006, Guatemala approved a regulation for planting GE field trials and production of seed for export purposes only. Petitions for field trials have been granted on three occasions (two for corn and one for cotton), taking almost two years each for their approvals (for events that have been in the commercial markets for more than a decade – Bt, YieldGard, and Round-up Ready). The "de facto moratorium" imposes an enormous burden on Guatemalan farmers, who compete directly with their Honduran neighbors, who have been using the technology for the past fourteen years. Guatemala is a large importer of GE plant derived products for both human consumption and for animal feeding. Major suppliers of grains, especially corn, are the United States, Argentina, and Brazil, who have regulations in place to use biotechnology. The Government of Guatemala is limiting agricultural competitiveness, despite requests from the academia and the private sector to allow for biotechnology adoption.

Section I. Executive Summary:

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. Guatemala is a net importer of animal feed. Despite claims of the Council of Protected Areas (which represents the Cartagena Protocol in the country), permanently raising concerns on risk of biodiversity losses due to the potential introduction of GE plants, Guatemalan society's main priorities and concerns are clearly centered on civilian security and food security.

Section II. Author Defined:

Plant and Animal Biotechnology

CHAPTER 1: PLANT BIOTECHNOLOGY

PART A: Trade and Production

a) PRODUCT DEVELOPMENT: There is no legal cultivation of GE crops in Guatemala. Local development is not incentivized under present regulation.

b) COMMERCIAL PRODUCTION: Guatemala allows for commercial production of GE plants for seed production and export purposes exclusively.

c) EXPORTS: Though Guatemala allows for GE seed exports, Guatemala has not produced nor exported any GE seeds.

d) IMPORTS: Guatemala continues to be a net importer of animal feed. In CY2013, Guatemala imported close to 687,000 metric tons (MT) of corn valued at $200 million, from the United States, Argentina, and Brazil, countries that use GE technology for grain production. Imports of soybean meal from the United States reached a record high of 317,300 MT valued at $166 million. Corn is the most widely imported grain: the United States exported 367,503 MT of yellow corn and roughly 8,501 MT of white corn. Guatemala's white corn production has been increasing in the past years.

c) FOOD AID RECIPIENT COUNTRIES: Guatemala is a major food aid recipient country because Guatemala has the highest rate of chronic malnutrition in Latin America and has the fourth highest rate in the world. Guatemala receives roughly $200 million on a yearly basis in food aid from the United States alone that is a mixture of donated and monetized commodities. Food donations, which consist largely of beans, corn-soy blend, rice, and vegetable oil, account for almost 50 percent of the value of food aid received by Guatemala. As a result of such food aid, acute and chronic malnutrition has decreased in the areas of intervention, and food donations that contribute to school feeding programs have increased school retention rates in primary schools.

PART B: Policy

a) REGULATORY FRAMEWORK: The Ministerial Agreement 386-2006 allows for field trials and the commercial production of GE seeds for export purposes only. The Guatemalan Ministry of Agriculture, Livestock, and Food (MAGA) is responsible for approving risk analysis conducted by interested parties. The Institute of Agricultural Science and Technology (ICTA) of MAGA is responsible for verifying on site protocols presented as part of the risk analysis. The regulation is outdated and was drafted to comply with the Cartagena Protocol rather than to promote a science-based approach towards biotechnology. Guatemala has a general environmental law applicable to any commercial activity including agriculture and calls for an environmental study to approve any commercial operation. Environmental studies can be less or more complex and costly depending on the risk-category of the economic activity. At present, the environmental law considers GE plants as a high-risk category activity potentially placing a greater amount of scrutiny on the technology.

b) APPROVALS: Guatemala has not approved any GE plant events for commercialization, as the present regulation does not allow it.

c) FIELD TESTING: 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 United States. The field trials were carried out but the process was so lengthy and time consuming that once finalized, the products were no longer of commercial interest. Del Valle University of Guatemala (UVG) developed ring-spot resistant papaya which has not received approval to be tested in the field which has resulted in a discouraging environment for Guatemalan biotech research. During 2012/2013, Herculex corn (Bt, RR) was tested in the South Coast of Guatemala. The Biosafety Committee was pleased with the results of the technology, but commercialization is not yet an option. Field trial paperwork approval of the Herculex corn took almost two years. This is a clear evidence of a "de facto moratorium."

d) STACKED EVENT APPROVALS: Ministerial Decree 386-2006 does not refer to single or stacked events.

e) ADDITIONAL REQUIREMENTS: Guatemalan regulations allow MAGA to consider any additional requirements during the process of field trial approvals, including carrying out additional research to establish biodiversity base lines.

f) COEXISTENCE: The subject of coexistence has not been addressed by any legal means; however, it continues to be a subject that is closely associated with biotechnology. At present, however, commercially available GE corn is most suitable for Guatemala's lowlands and not for the Western Highlands due to elevation. The lowland regions of Guatemala, mainly the South Coast and the Northern Department of Petén, have been home to the use of hybrid corn varieties for over 30 years and currently boast the highest yields. In comparison, there are currently no GE corn options for the Western Highlands where corn production is marked by the use of saved or creole seeds, which produce drastically reduced corn yields when compared to hybrids.

g) LABELING: Guatemala is a member of the World Trade Organization (WTO) and actively participates in Codex, although sound participation has waned under the current Government. Currently, Guatemala largely implements Codex guidelines regarding food safety and standards.

The food processing industry in Guatemala is openly opposed to the labeling of GE food products.

h) TRADE BARRIERS: Guatemala has a de facto moratorium in place for importation of GE plants and production for commercialization purposes.

i) INTELLECTUAL PROPERTY RIGHTS (IPR): IPR in Guatemala has gone through several amendments as a result of global trade and free trade agreements. As a result of such commercial engagement, Guatemalan became a member of the International Union for the Protection of New Varieties of Plants (UPOV) in 2009, but the law was just recently approved by Congress in June 26, 2014. The law mandates to have regulations in place within 90 days.

j) CARTAGENA PROTOCOL RATIFICATION: 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 October 13, 2003. The Protocol was ratified and took effect in January 2005. The point of contact for the Cartagena Protocol in Guatemala is the Technical Office for Biodiversity (OTECBIO), which is part of the Council of Protected Areas (CONAP). CONAP is well known for pushing for restrictive regulations, though they are not a regulatory body and its authority is clearly outside of the regulation for agricultural biotechnology or any other agricultural technology. For the past decade, CONAP has being awarded with more than $300,000 from the UN Global Environmental Foundation GEF/UNEP Program to advance Biosafety regulation in country, but CONAP clearly opposes sound adoption of the technology and is working unilaterally, without the support of the academia and private sector in Guatemala.

k) INTERNATIONAL TREATIES/FORA: Guatemala is a member of the World Trade Organization (WTO) and its bodies World Organization for Animal Health (OIE), International Plant Protection Convention (IPPC), World Food Safety Organization (CODEX Alimentarius), including Intellectual Property Rights (IPR), and the International Unit for the Protection of New Variety Plants (UPOV). Guatemala has an active trade policy agenda which has resulted in the signing and implementation of free trade agreement with many countries over the recent years including, the United States, Central America, the Dominican Republic, Mexico, Panama, Taiwan, Colombia, Chile, Peru and the European Union (EU). Guatemala has partial agreements with Belize, Cuba, and Venezuela. Guatemala has a Preferential System with Canada and EU, together with investment agreements with Germany, France, Israel, Italy, Holland, the Czech Republic, Switzerland, Sweden, Argentina, Belgium, Luxemburg, Chile, Taiwan, Korea, Cuba, Spain, and Finland. Guatemala also participates within the United Nations and the Organization of American States.

l) RELATED ISSUES: Guatemalan farmers strongly support adoption of biotechnology, especially commercial corn producers. Corn producers in Guatemala are aware of the lack of competitiveness growing hybrids without biotechnology events, compared to their Honduras neighbors. Honduras has been producing higher quality corn (low grain damage with low aflatoxin and mycotoxin levels) and at lower prices for the past fourteen years due to biotechnology, for which the food industry and even the corn flour producers prefer Honduran corn. Fumonisin and aflatoxin levels and prevalence in Guatemala is 10 to 50 times above world average levels. An implication of this high level occurrence of mycotoxins in Guatemala is just starting to rise as a health concern. The World

Health Organization, in its publication No. 158 – "Improving Public Health through Mycotoxin Control" recommends planting transgenic Bt maize for fumonisin control (https://scabusa.org/pdfs/IARC_STP-158_Dec-2012.pdf, page 133-134). At present, the Government of Guatemala is not considering this recommendation as an option, despite strong scientific suggestion, according to 40 years of mycotoxins studies (Ron Riley, ARS, 2014) that stunting in Guatemala might be highly correlated with mycotoxin contamination in the corn staple based diet.

m) MONITORING AND TESTING: Given the fact that biotechnology is not an issue in Guatemala because of more pressing priorities, Guatemala has no monitoring and testing for GE products.

n) LOW-LEVEL PRESENCE POLICY: Guatemala doesn't have a policy.

PART C: Marketing

a) MARKET ACCEPTANCE: Guatemala's agricultural markets are marked by asymmetric information, which lays the groundwork for market failures at all levels. Knowledge of biotechnology by farmers varies from the well informed to those who heard something many years ago about the negative health effects of biotech crops, to some who may illegally import biotech seed varieties used legally by Honduran farmers. Given Guatemala's food security concerns and high level of chronic malnutrition, marketing and labeling of food products is not a priority at present. Food safety concerns are related to microbiological contamination of food due to contaminated water sources for agriculture. Food poisoning due to Salmonella, E. coli, and other food borne pathogens, including parasites are of concern.

b) PUBLIC/PRIVATE OPINIONS: Both at the public and private level, opinions on biotechnology have grown more educated with time. Guatemalan universities, both public and private, support the technology. Overall, there is a generalized concern for the low agricultural productivity and low technology adoption, which if modified could increase production and support resolving food security issues. The public and private sector, including the academia, have strongly opposed law proposals or policies promoted by CONAP which have sought to discourage potential adoption of the technology. Additionally, the Guatemalan Ministry of Environment and the Ministry of Economy have increasingly seen biotechnology as a tool to help agricultural systems adapt to climate change.

PART D: Capacity Building and Outreach

a) ACTIVITIES: Guatemalans have received capacity building through different institutions. Some Guatemalans have applied for short course scholarships in U.S. universities in order to understand both the technology and its science based regulation. Since 2004, the GEF-UNEP has financed CONAP with different projects in Guatemala aimed at developing a national biosafety framework. Such projects have lacked the support of major stakeholders who have worked in clear opposition

of CONAP's strategy to force a restrictive law or regulation. The Zamorano University in Honduras, with support of the Inter American Institute for Cooperation in Agriculture (IICA), hosted a regional workshop in 2012 to discuss the need to better coordinate biosafety discussions within Central America and Panama. The workshop presented a more in depth and complete overview of the status of biotechnology adoption and biosafety implementation in the different countries in Latin America. IICA continues providing training on biosafety regulation to the Central American countries. IICA considers "agro-biotechnologies as a key tool for improving the productivity and competitiveness of the agricultural sector and the sustainable use of genetic resources for agriculture and food security" (http://www.iica.int/eng/programs/innovation/Pages/Agrobiotecnologiaybioseguridad.aspx)

b) STRATEGIES AND NEEDS: Biotechnology is not high on any political agenda at the government level. Academia and the private sector are supportive of the technology. IICA and the Economic Commission for Latin America (ECLA) reported in 2013 that agricultural productivity in Guatemala had been stagnant for the past ten years. As a result, the needs to invest in agricultural technologies, including biotechnology, should be a major concern. Both San Carlos National State University and Del Valle de Guatemala private university, have publicly requested support to advance biotechnology research. Collaborative work with U.S. universities is highly welcomed. Both the academia and the private sector are strongly interested in experts' support to guide regulators towards a sound adoption of biotechnology and end with the "de facto moratorium."

CHAPTER 2: ANIMAL BIOTECHNOLOGY

PART E: Production and Trade

a) BIOTECHNOLOGY PRODUCT DEVELOPMENT: Guatemala has no GE animal research or development.

b) COMMERCIAL PRODUCTION: Guatemala has no production of GE animals.

c) BIOTECHNOLOGY EXPORTS: Guatemala is not a GE animal exporter.

d) BIOTECHNOLOGY IMPORTS: Guatemala has not imported nor shown interest in importing GE animals.

PART F: Policy

a) REGULATION: Guatemala has not discussed GE animal regulation.

b) LABELING AND TRACEABILITY: Guatemala has not started to discuss GE animals.

c) TRADE BARRIERS: Guatemala has a de facto moratorium on GE materials, including animals.

d) INTELLECTUAL PROPERTY RIGHTS: Guatemala has no regulations in place for GE animal IPR.

e) INTERNATIONAL TREATIES/FORA: As member of the WTO, Guatemala reports to the OIE and follows its guidelines.

PART G: Marketing

a) MARKET ACCEPTANCE: There is no awareness of GE animals within the Guatemalan society.

b) PUBLIC /PRIVATE OPINIONS: The Academia has shown interest in GE mosquitoes, in response to malaria control, but has not considered raising the inquiry with the government.

c) MARKET STUDIES: No studies performed.

PART H: Capacity Building and Outreach

a) ACTIVITIES: No activities have been carried out in relation to GE animals.

b) STRATEGIES AND NEEDS: Discussions and capacity building on of GE animals could start at the Veterinary School of San Carlos National University.