Required Report - public distribution

Date: 11/20/2017
GAIN Report Number: GT17007

Guatemala

Agricultural Biotechnology Annual

2017

Approved By:
Sean Cox, Agricultural Attaché
Prepared By:
Karla Tay, Agricultural Specialist

Report Highlights:
Guatemala has a de facto moratorium on genetically engineered (GE) crops in place, but producer groups continue to pressure the Ministry of Agriculture to allow for the commercialization of GE corn, even more so now that the Guatemalan-Honduras Customs Union is in place and Honduras allows for commercial GE corn production.

Section I. Executive Summary:

Guatemala continues to import genetically engineered (GE) food and products, but has not approved the use of GE seed for commercial agricultural production. Guatemala's animal and feed industry rely on yellow corn and soybean meal that is primarily from the United States. Because of corn's cultural importance in Guatemala, GE corn is a sensitive issue but commercial corn producers are pushing government authorities to allow the commercialization of GE corn. This issue is more pressing now that the Guatemalan-Honduras Customs Union is a reality, and Honduras permits commercial production of GE corn and other crops.

GE agricultural regulation is based on a 2006 Ministerial Decree from the Ministry of Agriculture, superseded by a 2014 Presidential Decree that establishes a national policy coordinated by the Council of Protected Areas (CONAP)[1]. Until a science-based regulatory mechanism is developed for the agricultural sector, Guatemala's food security and agricultural development will continue to suffer. Currently, Guatemala lacks a sound plant or animal biotechnology regulation.

[1] CONAP is an agency that reports directly to the President. CONAP's main responsibilities relate to conservation of protected areas and species. Given CONAP's role to sustain biodiversity, CONAP oversees the Office of the Cartagena Protocol.

Section II.

PLANT AND ANIMAL BIOTECHNOLOGY

CHAPTER 1: Plant Biotechnology

PART A: Production and Trade

a) PRODUCT DEVELOPMENT: There is no legal cultivation of commercial GE crops in Guatemala. Local development is not permitted under present regulation. There are no GE developments in the pipeline.

b) COMMERCIAL PRODUCTION: Guatemala has a de facto ban on GE crop cultivation. Although Guatemalan regulations allow for commercial production of GE seed for export, a difficult approval process for experimental trials has kept the seed industry from pursuing this route. Four traits have been evaluated in the past 12 years for pest and herbicide resistance in corn and cotton. These evaluations have not advanced beyond the experimental phase because there is no regulation to approve commercial production. The last evaluation was done back in 2010-2011, for an herbicide and pest resistant corn which has been historically commercialized in Honduras.

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 CY2016, Guatemala imported more than 987,000 metric tons (MT) of corn valued at $174 million from the United States, its main supplier: 945,000 MT of yellow corn and 32,000 MT of white corn. Corn is the most widely imported grain. All yellow corn goes to the feed industry. The white corn is imported by the food processing industry. In CY2016 the feed industry also imported roughly 371,000 MT of soybean meal from the United States. Soybeans and soy products are also used as a dairy-substitute in the food industry.

e) FOOD AID RECIPIENT COUNTRIES: Guatemala is a food-aid recipient country. It has the highest rate of stunting in Latin America and among the five highest rates in the world. Guatemala receives roughly 1,800 metric tons of food aid from the United States each year. In-kind food donations consist largely of beans, corn-soy blend, rice, and vegetable oil, which are provided as school meals in some of the poorest municipalities.

f) TRADE BARRIERS: There is a *de facto moratorium* imposed on research and field trials of GE plants, creating a trade barrier and limiting agricultural productivity. Field trials that have demonstrated effectiveness and shown no more risk than conventional technologies have nonetheless been denied permits for commercialization.

PART B: Policy

a) REGULATORY FRAMEWORK: The Ministerial Agreement 386-2006 allows for field trials and commercial production of GE seeds for export only. The Guatemalan Ministry of Agriculture, Livestock, and Food (MAGA) is responsible for approving risk analysis conducted by the private sector or academia. The Institute of Agricultural Science and Technology (ICTA) in MAGA is responsible for verifying the on-site trial protocols proposed in the risk analysis. Even though the regulation complies with the Cartagena Protocol, in practice the process is lengthy and demands extensive studies to establish current levels of biodiversity.

Parallel to MAGA's authority, the Council of Protected Areas (CONAP), an office in the executive branch that answers directly to the president, oversees Presidential Decree 207-2014, which established the national policy on GE live organisms [1]. The policy acts as a disincentive to use biotechnology in agriculture and food production. As a result of the policy, CONAP continues efforts to impose regulations on MAGA, and the Ministries of Environment and Health. Proposed regulations are discussed by the Interagency Commission on Biotechnology at the Council of Science and Technology (CST).

b) APPROVALS: Guatemala has not approved any GE plant events for commercialization. The current regulation does not allow for commercial production of food for the domestic market. Although GE seed production for export is permitted, lack of clarity and a slow process have prevented it.

c) STACKED or PYRAMIDED EVENT APPROVALS: Ministerial Decree 386-2006 does not refer to pyramided or stacked events.

d) 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-ammonium resistance, which are both deregulated events in the United States. The field trials were carried out successfully, but because of the slow overall regulatory process, the products were no longer of commercial interest to the farmers by the time the experimental field trials were authorized. University Del Valle of Guatemala (UVG) developed ring-spot resistant papaya which never received approval to be tested in the field. From 2012 to 2013, Herculex corn (Bt resistance, and herbicide tolerant) was tested on the Southern coast of Guatemala. The Biosafety Committee approved the results of the trials given the reduction in pesticide application and weed control, resulting in positive agricultural impact without negative environmental impacts. Despite the promising results, commercialization is not yet an option. Field trial paperwork approval of the Herculex corn took almost two years.

In order to conduct field trials, interested parties must file a request with MAGA's Direction of Plant and Animal Genetics. The paperwork needs to include a risk analysis for the event and a botanic/biodiversity study for the crop. MAGA may consider additional requirements during the approval process prior to the approval, as it happened with approval of the Herculex field trial in 2012, when MAGA required an extensive study be done on the field-trial plot and surrounding areas to determine current species and risks for biodiversity.

e) INNOVATIVE BIOTECHNOLOGIES: Guatemala has not discussed options on innovative

biotechnologies.

f) COEXISTENCE: The subject of coexistence has not been addressed by policy or regulatory means though there is a widespread belief that organic agriculture strengthens biodiversity while GE plants harm biodiversity. At present, 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 Southern coast and the Northern department of Petén, have planted hybrid corn varieties for over 30 years and currently see the highest yields in the country. There are currently no GE corn options for the Western Highlands. Corn production in this area is marked by the use of saved or creole seed, with drastically lower yields compared to hybrids. Guatemala produces non-certified and certified organic agriculture.

g) LABELING: Guatemala is a member of the World Trade Organization (WTO) and participates in Codex Alimentarius. Guatemala largely implements Codex guidelines regarding food safety and standards. The food processing industry is openly opposed to the labeling of GE food products. The National Council of Protected Areas (CONAP) insists on labeling, but no regulation is in place.

h) MONITORING AND TESTING: Guatemala does not actively test for GE traits in imports or exports. A few years ago, some European buyers complained about traces of GE traits in Guatemalan honey. The apparent traces were connected to GE corn meal used in the bees' diet. CONAP, through United Nations Environmental Program-Global Environment Facility funding, is supporting the equipment of a laboratory to test for GE traits, which could potentially raise import costs if required in the future.

i) LOW LEVEL PRESENCE (LLP) POLICY: No policy in place.

j) ADDITIONAL REGULATORY REQUIREMENTS: There are no additional regulatory requirements beyond GE crop field trial evaluation submissions. As explained in d) Field Testing, a biodiversity baseline can be required as part of the risk analysis.

k) INTELLECTUAL PROPERTY RIGHTS (IPR): IPR in Guatemala has gone through several amendments following the negotiation of free trade agreements. As a result of such commercial engagement, Guatemala became a member of the International Union for the Protection of New Varieties of Plants (UPOV) in 2009. In October, 2017, UPOV in Geneva reviewed Guatemala's law initiative which, if approved by the Guatemalan Congress, could spur innovation in agricultural production.

j) CARTAGENA PROTOCOL RATIFICATION: The Guatemalan Congress approved the Cartagena Protocol in 2003 by Legislative Decree 44-03. The Protocol 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 received support from the President of Guatemala to approve the "GMO Biosafety National Policy 2013-2023", via the publishing of Presidential Decree 207-2014. The policy mandates CONAP to coordinate regulatory efforts with the different ministries, such as Ministries of Agriculture, Environment, and Health.

In 2015, CONAP proposed a GE Biosafety Regulation, as a Presidential Decree, in response to the already approved National Biosafety Policy. The regulation proposal has yet to receive final approval by stakeholders. Both the private sector and academia have concerns that the new proposal would create unnecessary, unscientific barriers for biotechnology. At the same time, environmental and indigenous groups consider the introduction of biotechnology a risk to their communities. The proposal goes beyond the Cartagena Protocol, proposing general labeling and the inclusion of derived products.

k) INTERNATIONAL TREATIES/FORUMS: Guatemala is a member of the World Trade Organization (WTO), the World Organization for Animal Health (OIE), International Plant Protection Convention (IPPC), CODEX Alimentarius, and the International Union for the Protection of New Varieties of Plants (UPOV). Given budgetary constraints, Guatemala's participation in international fora is limited. Guatemala actively participates in the UN climate change meetings (COP) and CONAP also attends the UN conference on biological diversity (COP-MOP). CONAP's position, which does not represent the country's position, is consistently aligned with a restrictive approach towards GE plants and animals, following the precautionary principle and consistent with the Biodiversity Agreement and other related agreements.

l) RELATED ISSUES: Guatemalan farmers support the adoption of biotechnology, especially commercial corn producers. They point to a lack of competitiveness compared to their Honduran neighbors, ever more with the new Guatemalan-Honduran Customs Union. Harmonization of sanitary and phytosanitary regulations between the two countries was scheduled to finish in January, 2018, but biotechnology regulations will not meet that deadline. Honduras has been producing higher quality corn (low grain damage with low aflatoxin and mycotoxin levels) and at lower prices for the past ten years with the help of biotechnology. Because of this, the Guatemalan food industry and corn flour producers prefer Honduran corn. The biotechnology regulatory asynchrony between Guatemala and Honduras could cause significant political problems if not harmonized.

Fumonisin and aflatoxin levels in local Guatemalan corn are 10 to 50 times above world average levels. This issue of high mycotoxin levels in Guatemalan corn is just starting to become a health concern for some sectors; though there is little political will to address it. The World Health Organization recommends planting transgenic Bt maize for fumonisin control [2]. The Government of Guatemala is not considering this recommendation as an option, despite evidence [3] showing that stunting in Guatemala may be correlated with mycotoxin contamination in corn, the staple of the Guatemalan diet.

PART C: Marketing

a) PUBLIC/PRIVATE OPINIONS: Opinions about biotechnology in Guatemala are divided. Science and agriculture faculties at the universities have publicly expressed their support for biotechnology. Political groups at the National University have opposed biotechnology, deferring to conservation and environmental groups. The government has not taken an official position aside from CONAP, whose mandate is for biodiversity conservation and considers biotechnology a threat.

b) MARKET ACCEPTANCE/STUDIES: Guatemala has not conducted an assessment of market acceptance of GE plants or products used in the textile or food industries. The consumers are more concerned with food prices than the technologies used in its production.

CHAPTER 2: Animal Biotechnology

PART D: 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.

e) TRADE BARRIERS: Unknown.

PART E: Policy

a) REGULATORY FRAMEWORK: Guatemala has not discussed GE animal regulation at a national level.

b) INNOVATIVE BIOTECHNOLOGIES: Guatemala has not discussed innovative biotechnologies.

c) LABELING AND TRACEABILITY: Guatemala has not started to discuss GE animals, in general.

d) INTELLECTUAL PROPERTY RIGHTS (IPR): 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. CONAP represents Guatemala at the COP-MOP meetings.

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

PART F: Marketing

a) PUBLIC /PRIVATE OPINIONS: Academia has shown interest in GE mosquitoes, in response to malaria control, but has not considered raising the inquiry with the government so far. Active organizations have not raised concerns on GE animals.

b) MARKET ACCEPTANCE/STUDIES: There are no assessments on potential market acceptance of GE animals.

[1] Decree 207-2014 text in Spanish: http://www.minfin.gob.gt/index.php/acuerdos-gubernativos/acuerdos-gubernativos-2014/1930-no-207-2014-acuerdo-gubernativo-marn-acuerdase-aprobar-la-politica-nacional-de-bioseguridad-de-los-organismos-vivos-modificados-2013-2023-formulada-por-conap

[2] World Health Organization publication No. 158 – "Improving Public Health through Mycotoxin Control"

[3] Ron Riley, USDA Agricultural Research Service, 2014