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Agricultural Biotechnology Annual

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Report Highlights:
Yellow corn is still the only (GM) crop that Nicaragua imports from the United States. In 2011, U.S. corn exports to Nicaragua reached over 151, 178 metric tons (MT) with a total value of US $ 43.1 million. Since the Biotech Commission of Nicaragua (CONARGEM) was reconvened in May 2011, little progress has been made. The Ministry of Agriculture of Nicaragua (MAGFOR) has not yet renewed the 034-2005 ministerial resolution which approves the phyto-sanitary permits of 15 Genetically Modified (GM) yellow corn events. One of the best prospects in the agricultural biotechnology field in Nicaragua is the approval of GM soybean seeds for cultivation due the high demand from the animal feed industry.

Section I. Executive Summary:

Since the Biotech Commission of Nicaragua (CONARGEM) was reconvened in May 2011, little progress has been made. The Ministry of Agriculture of Nicaragua (MAGFOR) has not yet renewed the 034-2005 ministerial resolution which approves the phyto-sanitary permits of 15 Genetically Modified (GM) yellow corn events. This resolution had been temporarily extended by MAGFOR in 2010. The absence of a current resolution approving the importation of GM corn affects corn importers who now need to request the approval in advance for every incoming shipment to the Government of Nicaragua (GON). This current practice damages CONARGEM's institutional role as the official regulating entity for the importation of GM crops.

Yellow corn is still the only GM crop that Nicaragua imports from the United States. It can be only used for animal feeds. In 2011, U.S. corn exports to Nicaragua reached over 151,178 metric tons (MT) with a total value of US $ 43.1 million. In the last years, Nicaraguan yellow corn imports have experienced a substantial increase due to the rise of the poultry sector.

One of the best prospects in the agricultural biotechnology field, in the mid-term, is the approval of GM soy bean seeds for cultivation. Apparently, the GON and different members of the private sector are interested in approving the use of GM soybeans, due to the high demand from the animal feed industry and the low domestic supply. The approval of GM cotton seeds is another prospect, but this would heavily depend on how relevant cotton production becomes in Nicaragua-In 2011, cotton production areas just reached to 2000 hectares-and the willingness of GM companies to sell their seeds in Nicaragua. Even though Nicaragua has a general regulation for Intellectual Property Rights (IPRs), the poor implementation of this regulation could limit the commercialization of these technologies.

Different members of the private sector expect CONARGEM to become more active in 2013 when MAGFOR takes CONARGEM's presidency pro-tempore. At present, the Ministry of Natural Resources and Environment (MARENA)-which is currently leading the biotech commission- does not have a favorable position towards biotechnology. Besides this, the poor coordination between MAGFOR and MARENA is another obstacle that hinders CONARGEM's operations.

Section II. Plant Biotechnology Trade and Production:

Nicaragua does not produce any biotechnology crops nor import any biotechnology seeds for cultivation. Yellow corn is the only GM crop that Nicaragua imports. It is mainly consumed by the poultry industry, which has experienced substantial growth in the last years. In 2012, Nicaraguan yellow corn imports reached over 151,178 MT, with a total value of US $ 43.1 million. The GM corn comes only from the United States. Imports of other biotechnology products from other countries are limited or nonexistent.

Nicaragua also imports GM soybean meal from the United States. In 2011, soybean meal imports reached 59,756 MT with a total value of U$ 24.3 million.

Nicaragua continues to be a large food aid recipient due to its limited capacity to supply food for human and animal consumption. MAGFOR requires that all GM food aid products need to be processed to avoid any risk of using seeds for cultivation. Currently, Nicaragua receives food aid products derived from GM crops such as textured soy protein, soy bean flour and refined vegetable oil.

Section III. Plant Biotechnology Policy:

Nicaragua subscribed to the Cartagena protocol in 2003. The same year, the GON began requiring notifications for imports of genetically modified organisms (GMOs) and a risk analysis for biotech events. However, no commission to perform risk analysis was formed until July 23, 2004, when the Nicaraguan Biotech Commission (CONARGEM) was formed. The Biotech Commission is the GON's advisory body on bio-safety. It is formed by members from the Ministry of Agriculture and Forestry (MAGFOR), Ministry of Natural Resources (MARENA), Ministry of Industry and Trade (MIFIC), Ministry of Health (MINSA), the Institute of Agricultural Technology (INTA), Public Universities, Members of the Private Sector and Civil Society. Among CONARGEM's functions are the development of biotech policies and strategies, advise the GON on new biotech policies and review requests on the approval of new biotech events.

CONARGEM played a minimal role in the last years. It was reconvened in May 2011 and since then CONARGEM's members have been working in developing the internal rules for law 705 on the prevention of risks arising from living modified organisms through molecular biotechnology. This law - which is the key regulation for biotechnology - is still not being implemented since the internal regulations have not been officially approved by all CONARGEM members.

The 705 law was published on April 13, 2010, to comply with the Cartagena Protocol's requirements. This law supersedes chapter XVI of law 291 (basic law on animal and plant health) and establishes a complete comprehensive science based framework for the use of Genetically Modified Organisms (GMOs) in confined use, research, release into the environment, commercialization (exports and imports), reproduction, multiplication, evaluation of field production, transportation, transit, bio-medication, conservation, and other uses. (Please refer to attachment A to see the current application procedure for the evaluation of new biotech events).

Up to now, CONARGEM has only received one official request which comes from the Association of Poultry Producers of Nicaragua (ANAPA). ANAPA wants MAGFOR to renew the 034-2005 ministerial resolution which approves the phyto-sanitary permits of 15 GM corn events (676, 678, and 680, MS3, MS6, BT 176, BT11, CT 1507, MON 863, MON 810, T14, T25, DLL25, and GA21. This list will also need to be updated since some of the events have been discontinued.

Some of the main problems that affect CONARGEM's operations are; the poor coordination between MAGFOR and MARENA, lack of GON's technical staff in the biotechnology field, and the lack of institutional knowledge from MAGFOR and MARENA in the implementation of biotech legislations.

Section IV. Plant Biotechnology Marketing Issues:

At present, Nicaragua has not developed any agricultural products from animal or plant origin using GM technologies. The public awareness of GM emerging technologies is still limited. There are only three laboratories nationwide-Central American University, National Autonomous University and Polytechnic University-which perform GMO testing and research.

Best Prospects:
One of the best prospects in the agricultural biotechnology field in Nicaragua is the approval of GM soy beans for cultivation. Apparently, the GON and different members of the private sector are interested in approving the use of GM soy bean seeds due to the high demand of soy beans from the animal feed industry and the low domestic supply. At present, soy bean production in Nicaragua is very limited due to the absence of high yield seeds.

The approval of GM cotton seeds is another prospect but this would depend on how relevant cotton production becomes in Nicaragua. In 2011, the Government of Nicaragua along with producers agreed to develop a pilot project of cotton production, consisting of 2,000 hectares. The initial plan was to reach to 10,000 HA in the second year (2012). However, due to different production problems, including the low yields of non GM seeds, the initial plan has changed. For some cotton producers, the planted areas for 2012 could reach around 2,500 HA.

Another aspect to consider in the trading of GM products into new markets is the willingness of companies to sell their products. Even though Nicaragua has a general regulation for Intellectual Property Rights (IPRs), the poor implementation of this regulation, could be an obstacle for the commercialization of these technologies.

Section V. Plant Biotechnology Capacity Building and Outreach:

For FY 2012, FAS Nicaragua and the Economic Section of the Embassy will organize a one-day biotech conference to talk about the benefits of GM seeds. This event will have a focus on the benefits of cultivating GM seeds (beans, soybeans and maize). The target audience will be plant science faculty and students, different NGOs directors and representatives from the private sector.

In May 2012, The United States Department of Agriculture (USDA) organized an international conference on Agriculture and Environment (CIAA), in Honduras. Ministers and Vice-Ministers of the Ministry of Agriculture and Forestry, from the eight member countries of the Central American Integration System (SICA), participated. As a concrete result of this conference, an Ad Hoc Technical Expert Group (AHTEG) comprised of regulators from SICA member countries, was formed. This group now intends to become a formal group of SICA which can provide advice in biotechnology regulation, promotion of agriculture and environmental conservation to the Central American Region.

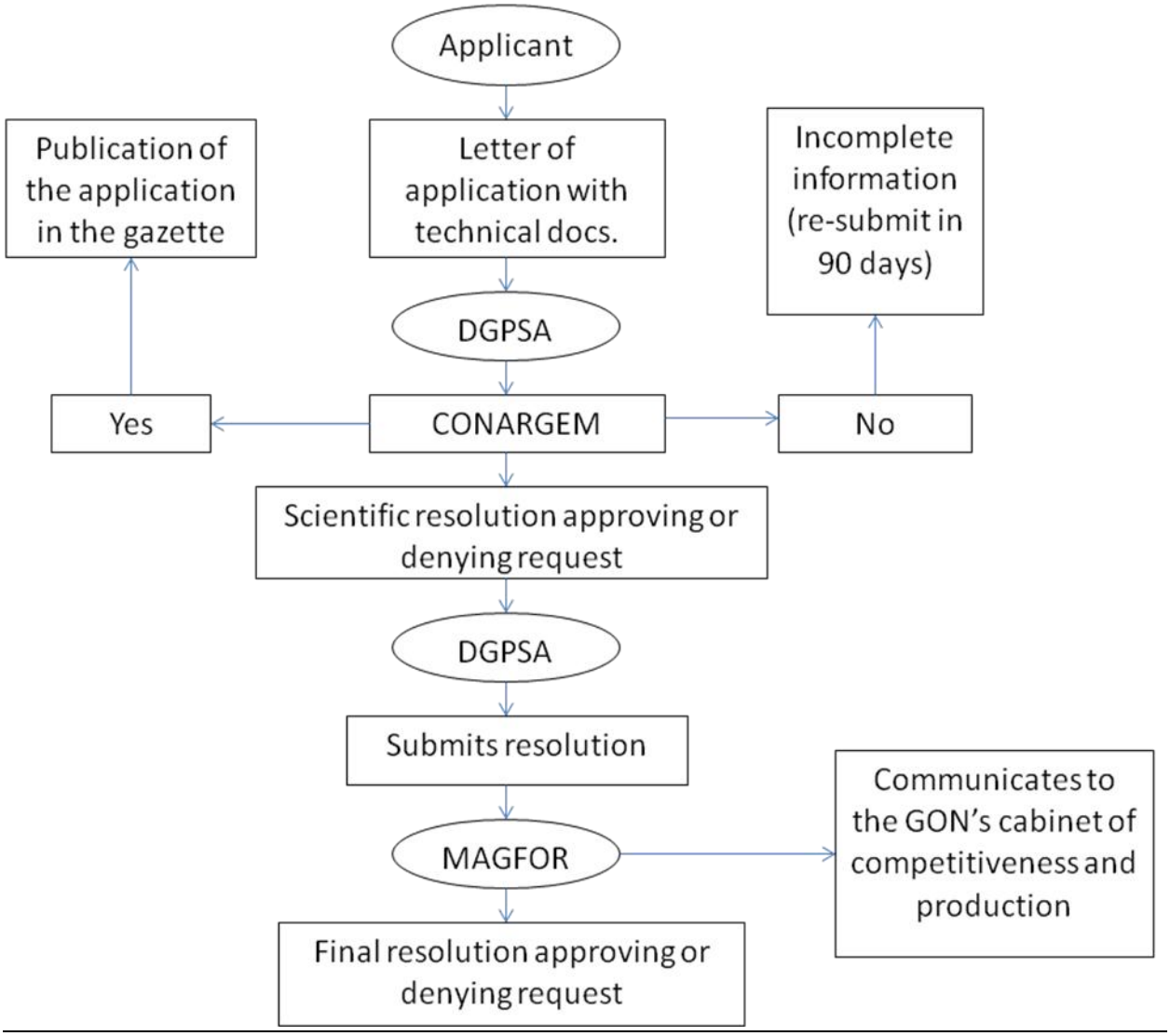
In August 2011, FAS Nicaragua along with the State Department invited Dr. Wayne Parrot-Professor of Plant Genetics at the University of Georgia-to conduct a two day biotech conference on the benefits of using GM technologies in Agriculture. The speaker gave a presentation in the University of Central America (UCA) and the National Autonomous University of Leon (UNAN), highlighting the benefits of GM crops. Dr. Parrot also conducted an open dialogue with members of the Biotech Commission of Nicaragua (CONARGEM) to talk about the current situation of Nicaragua on biotechnology.

In April 2009, the Public Affairs office in the U.S. Embassy in Managua invited Dr. Peter Gregory through the State Department funded speaker program to speak to a wide range of audiences about agricultural applications of biotechnology to improve the agricultural production of staple products with limited inputs, and learned lessons about successful applications of trading biotechnology products while maintaining the genetic constitution of native flora.

In June 2008, a Nicaraguan professor from the National Autonomous University from Managua was selected to participate in a faculty exchange program sponsored by USDA. The professor travelled to Texas A & M University to conduct a research on different applications of biotechnology, attended classes and developed other skills with Texas A & M professors. Upon his return, the professor shared skills and knowledge among Nicaraguan faculty members, colleagues and students.

Attachment A:

Current application procedure for the approval of new biotech events:



Source: *Valoración de la situación actual de la bioseguridad en los aspectos normativos jurídicos y organizativos en Nicaragua. José René Orue, 2009.*