USDA Foreign Agricultural Service
GAIN Report
Global Agricultural Information Network

Required Report - public distribution

Date: 7/16/2012

GAIN Report Number: TH2069

Thailand

Agricultural Biotechnology Annual

2012 Annual

Approved By:
John Wade, Agricultural Counselor
Prepared By:
Sakchai Preechajarn, Agricultural Specialist

Report Highlights:
The process of approving field trials for Thailand's first biotech crop corn remains stalled as it has been for many years due mainly to a lack of political will. The current policy and capacity building developments basically remained unchanged from the annual report in 2011. Thailand's draft Biosafety Law made some progress when it passed review by the government legal office, but a timeframe for submission to the Ministerial Cabinet has not yet been set.

Section I. Executive Summary:
Since the last update Thailand has made little progress in allowing the commercial use of biotech crops. All of the regulations for agricultural biotechnology remain the same. The Biosafety Law draft was finally reviewed by the Government legal office. This means the draft is now ready for submission to the Ministerial Cabinet for approval, but the timeframe of submission has not been confirmed. Once confirmed by the Cabinet final approval by the Parliament should be a formality. This Biosafety Law if every passed would as now written eliminate the onerous requirement that currently exists where the

Cabinet must approve all biotech field trials and it hoped finally allow biotech commercialization.

In early 2012, EU findings of biotech traits in Thai papaya imports led anti-biotech group to criticize the Thai government and call for stricter control. The Thai government promised to take action if the protesters could identify where the papaya was grown.

Due to a lack of progress on approving agricultural technology and generally unfavorable public perception, several academics are concerned that some multi-national seed companies in Thailand may relocate their seed production to other countries in the near future. Thailand has been one of the largest hubs for seed production in the world, exporting planting seed worth of $152 million to over 120 countries in 2011.

Section II. Plant Biotechnology Trade and Production:

Research progress has been made over the past 20 years, such as the completion of field trials several imported transgenic plants and several local varieties. The first field trials conducted were with Flavr Savr tomato, a delayed ripening tomato in 1994. Subsequently, filed-testing was conducted for Bt cotton, Bt corn, Round-up ready cotton, Round-up ready corn, Antisent RNA tomato, and ring-spot virus resistant papaya. The safety and potential that Monsanto's Bt cotton demonstrated during the trial period led to expectations of it becoming the first transgenic crop to be approved for commercial planting in Thailand. However in 2003, due to environmental and human health concerns, the Thai government issued a blanket ban on any further field trials to avoid political fallout from non-governmental organizations (NGO'S). This opposition was initiated by BioThai and Organization of the Poor. This has stalled the implementation of effective policies to regulate biotechnology and currently there is no legal production of biotech crop in Thailand.

On the trade side, due mainly to a need for inputs to meet its processed vegetable oil and feed demand; Thailand, based on the Cabinet's decision on April 3, 2001 and the Plant Quarantine Act B.E. 2507, allows the importation of transgenic plants as: (1) processed foods; and (2) soybeans and corn for feed, and industrial use. In addition, there has been no restriction on the biotech cotton lint trade in Thailand. In 2011, according to the Thai Customs Department, Thailand's imports of soybeans and cotton totaled US$ 1,128 million for soybeans and US$ 1,124 million for cotton, respectively. It is estimated that more than 95 percent of total soybean imports in 2011 belongs to biotech soybeans, vis-à-vis about 70-75 percent of total imports in case of cotton.

Thai Food and Drug Administration (FDA) also regulates that processed foods containing biotech products must comply with labeling requirements that mandate disclosure of biotech content when more than five percent of total content. (see also TH6077).

In May 2012, the EU Rapid Alert System for Food and Feed (RASFF) reported finding samples from papaya origination from Thailand that contained genetically modified material. Genetically modified vegetables and papaya from Thailand were also detected in a shipment to Switzerland during routine controls. Anti-biotech group publicized this news through the Thai media and attacked the Thai Government for its inability to control biotechnology planting. They claimed that GM papaya seeds are widely distributed among Thai farmers and are currently grown in several provinces in Thailand. The Department of Agriculture (DOA), Ministry of Agriculture and Cooperatives (MOAC), reacted to this

move by asking the anti-biotech group to identify the planting locations and promising to test papaya grown in those areas. The Director General of DOA also said that GM papaya growing, if it exists, relies on illegally imported seed.

Section III. Plant Biotechnology Policy:

Current Biotechnology Policy

There has been no change on the current biotechnology policy since the previous annual report. Although the Thai Cabinet revoked the biotech field trial ban in Thailand on December 25, 2007 (TH6077), future field trials must be conducted under restrictive controls and surveillance, these include confining trials to government properties, conducting public hearings prior to initiating new field trials, and most challenging approval of every by Ministerial Cabinet.

At the time, government and private sector stakeholders voiced concerns with this process, and indeed so far no field trials have been approved. Even before any Cabinet action can be taken, the unclear procedures for public hearings allow opponents of the technology to shut down meaningful debate using unsupported claims.

The 2007 Cabinet Agreement also reiterated the need to develop sound guidelines for field trials through the implementation of an effective Biosafety Law. However, the development of the Biosafety law has gone very slowly. Only in early 2012 according to officials, the government legal office finally cleared the final draft Biosafety Law. This means the draft should now be to be ready to submit to the Cabinet for approval, but the timeframe of submission has not been confirmed. Government officials also noted that the final draft has been modified substantially from an initial 2008 draft. The initial draft which contained 9 Chapters was discussed in the 2011 Annual Report (TH1091).

Despite the many obstacles and continued lack of a biosafety law groups continue to try to gain approval for field trials, the Department of Agriculture (DOA), in cooperation with National Center for Genetic Engineering and Biotechnology (BIOTEC) and Kasetsart University, have nonetheless developed field trial procedures for biotech papaya and tomato. Sources, however, reported that because of the criticism the government drew for the findings of biotech material in export to Europe these agencies are likely to further delay any initiative to request field trial approval.

Another initiative, the Thai Society for Biotechnology (TSB) had planned to submit a proposal to the Thai authorities by the end of 2011 to begin field trials for herbicide tolerant corn. However this has also been delayed. This is mainly because the government property in Ratchamangkala Lanna University in Lampang Province identified as the location for its field trial conducting, has not been approved by university executives.

In early 2012, anti-biotech groups again tried as they did several years ago to have the government classify agricultural biotechnology as “potentially hazardous activities to a community’s well-being”, but the Federation of Thai Industry and a number of academics were successful in having the initiative tabled.

Responsible Government Agencies and Institutes

There are many government agencies, institutes and universities involved in biotechnology development and regulation of biotechnology. The role and responsibilities of these agencies or institutes are presented in the table below.

Institute	Role	Responsibilities
National Center for Genetic Engineering and Biotechnology (BIOTEC), Ministry of Science and Technology (MOST)	- Research and Development - Supporting institute	- Research and development on genetic engineering - Technical advisory - Funding agency - DNA technology laboratory
Department of Agriculture (DOA), Ministry of Agriculture and Cooperatives (MOAC)	- Competent National Authority - Research and Development Institute emphasizing on plants	- Regulating imported GMO seed for planting - Conducting research and development on plant genetic engineering and risk assessment
Food and Drug Administration (FDA), Ministry of Public Health (MOPH) Department of Trade Negotiations and Department of Foreign Trade, Ministry of Commerce (MOC)	Regulate trade on GM food products Regulate and coordinate international negotiation in trade on GM products	Regulating and monitoring the use of GM food including labeling Regulating imports of GM products used as raw materials and coordinating with competent agencies for international negotiations
Ministry of Natural Resources and Environment (MONRE)	- National Focal Point - Coordinators for risk assessment on environmental aspect	- Being the National Focal Point for Convention on Biological Diversity (CBD) and Cartagena Protocol on Biosafety (CPB) - Fully responsible for drafting the National Biosafety Law
National Bureau of National Agricultural Commodity and Food Standards (ACFS), Ministry of Agriculture and Cooperatives (MOAC)	A National Focal Point for Agricultural and Food Standards (SPS issues)	Representing the RTG to negotiate all SPS issues in international organizations (such as CODEX, OIE, etc.)

Thailand became a party in the Cartagena Protocol on Biosafety on February 8, 2006. Thailand says it follows the principles and rules of the Cartagena Protocol on Biosafety Thailand's National Biosafety Policy were approved November 7, 2007. The policy includes eight elements:

- Public Awareness, education and participation: Require the involvement of affected parties in decisions regarding the sustainability, advantages and risks of the technology in question.
- Sustainability: Sustainable bioresource management must include ecological sustainability by ensuring species and genetic pool preservation.
- Risk Assessment and Management: Risk will be assessed and determined on a case-by-case based on scientific data.
- Risk Characterization: Characterizing risk for management and control of biotech materials must depend on the outcome of systematic risk assessment.
- Risk Communication: Risk communication will be based on scientific concepts simplified for public understanding in order to ensure public trust, and to curb concerns due to conflicting information.
- Precautionary Principle: Avoid unnecessary damage from the lack of reliable scientific data on possible effects of biotech materials on biodiversity, the environment, and health care.
- Freedom of Choice: The government must encourage transparency, accuracy and up-to-date public information so stakeholders can make informed choices.
- Capacity Building: Continuous capacity-building as new biotechnology develops, in order to increase the level of knowledge at a national level, and to assure proper utilization and management of the technology by the various stakeholders.

Thailand responded to the initiatives of Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety. Thailand signed this supplementary protocol in March, 2012.

Section IV. Plant Biotechnology Marketing Issues:

Thai producers, retailers, and consumers in general remain misinformed about the safety and use of transgenic plants or foods. Contrary to public perceptions, Thailand consumes large amounts of biotech crops either directly such as soybean oil or indirectly through the garments, meat, and processed foods that use biotech inputs. Although mandatory labeling is required for food products with more than 5 percent GMO content, unpackaged products or products packaged in bulk are exempt.

To the best knowledge, the latest survey regarding GMO awareness and acceptance is conducted in 2010. In a 2010 survey on GM soybean milk acceptance among Bangkok consumers, a sample of 340 consumers at supermarkets, 66 percent of the respondents said they would not purchase GM foods. On specific health risks, 40 percent of respondents believed that consumption of GM food could create an allergic reaction, and 56.2 percent believed that consumption could lead to antibiotic resistant diseases. On consumption benefits, 59.7 percent felt that GM foods could enhance food traits, while 54.4 percent believed that consumer could pay less for GM foods. Regarding the environment, 68.3 percent believed that GM crops could cause an unbalanced ecosystem while 75.1 percent agreed that the flow of GM crops into other traditional crops could occur.

Section V. Plant Biotechnology Capacity Building and Outreach:

In 2011-12, the U.S. Government conducted several capacity building and outreach activities, some of which were funded by USDA. These included:

- USDA funded government participants, including those from Thailand, to a GE Animal Workshop organized by the Government of Argentina in September 2011. Argentina organized and hosted a workshop on the "Food and Environmental Safety Assessment of Genetically Engineered (GE) Animals." This workshop was sponsored by the International Centre for Genetic Engineering and Biotechnology (ICGEB) and the United Nations University-program for Biotechnology in Latin America and the Caribbean (UNU-BIOLAC). The objective of the workshop was to educate participants on the food and environmental safety assessment of GE animals, as well as to enhance cooperation and provide capacity building.

- FAS/Bangkok coordinated with a local biotechnology organization and with Asia BioBusiness Pte. Ltd. (ABB) on a two-day workshop titled "Risk Communication in the Context of Biotech GM Plant Field Trials" on September 28-30, 2011. This activity built on a previous risk communication workshop in 2009, in order to help participants to develop the ability to present their views in TV and radio interviews, public hearings, debates, and briefings to government officials. As a part of this workshop, Dr. Zhu Zhen, Institute of Genetics and Development Biology, Chinese Academy of Sciences, shared his presentation entitled "The Status of Agricultural Biotechnology in China".

- The Biotechnology Alliance Association (BAA) in Thailand invited Dr. Clive James, Founder and Chair, International Service for the Acquisition of Agri-biotech Application (ISAAA) to provide his presentation "Global Status of Commercialized Biotech/GM Crops in 2010" on February 22, 2012.

- FAS/Bangkok joined a risk communication workshop to support GM corn field trials. This was organized by the Thai Society for Biotechnology (TSB) in January 2012.

- The U.S. Embassy in Thailand in cooperation with the Chiang Mai University and other stakeholders (including FAS/Bangkok) organized a "Life Sciences Innovation Conference" on June 27-28, 2012 to discuss issues surrounding innovation in biotechnology in Thailand. The conference consisted of discussions regarding agricultural biotechnology, medical biotechnology, and medical systems.

Agricultural biotechnology outreach in Thailand is challenging particularly as policymakers remain unwilling politically to address the issue. Support for biotechnology outreach has come primarily from industry and academic stakeholders. As already noted, industry and academics formed a unified front to oppose a move to include biotechnology in "hazardous" list. However, these groups need more support to realize a successful strategy.

Greater engagement with government officials and politicians is needed. In particularly it would be valuable for Thai policy makers to realize how countries in the region, such as Vietnam and Philippines, are helping their agricultural development with the introduction of these technologies. They need to realize that that if Thailand does not quickly adopt biotechnology it will find itself uncompetitive in many areas of agriculture.

Section VI. Animal Biotechnology:

Thailand has not in any way pursued the development of genetic engineering for animals.