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Taiwan Expands GE Regulations

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Report Highlights:

In CY2014, Taiwan was the seventh largest export market for U.S. food and agricultural products, of which genetically engineered (GE) bulk and intermediate commodity accounted for nearly 40 percent of the total export value US\$3.5 billion. Motivated by a series of food safety scandals, Taiwan's Legislative Yuan continued tightening regulations for GE food and feed products. The effect and enforcement of the February 2014 Act Governing Food Safety and Sanitation continues to develop, with many questions to trade impact currently unanswered.

Section I. Executive Summary:

In CY2014, Taiwan was the seventh largest export market for U.S. food and agricultural products, of which bulk commodity genetically engineered (GE) corn, soybeans, and cotton accounted for nearly 40 percent of the total export value US\$3.5 billion. As of reporting date, Taiwan's food safety competent authority at the Ministry of Health and Welfare's (MOHW) Food and Drug Administration (TFDA) has approved 91 GE products, including eight cotton and three canola events.

The February 5, 2014, Food Safety and Sanitation Act ([FSSA](#)), for the first time, requires a health risk assessment, pre-market registration approval, labeling, and traceability of all GE products. Taiwan implemented a three percent GE threshold and expanded requirements to highly processed products, such as oils, where transgenic fragments or proteins may not be detected. GE and non-GE corn and soybeans and products are now required to go through Customs clearance under separate HS codes.

According to the FSSA, Taiwan's biotech regulatory scope now expands to all GE products for food use, where regulatory oversight was previously focused exclusively on GE corn, soybeans and products. Interested parties were given two years to comply with the new regulation which requires that all (i.e. beyond corn and soybeans) GE products, for food use, in commercial chains, register and be approved by TFDA. As of reporting date, local life science companies (LSCs) have completed the dossier submissions for nearly all (save one known GE sugar beet event) of the newly regulated GE events. At this point, no trade disruptions are anticipated due to the FSSA regulatory scope expansion.

On February 4, 2015, Taiwan amended the Feed Control Act ([FCA](#)) under which the Council of Agriculture (COA; USDA equivalent agency) became the new competent authority for registration and approval of GE products for animal feed use. This authority currently rests with TFDA. The FCA amendment provides a two-year of grace period; all GE products for feed use are required to register with COA and secure approval by February, 2017. Thereafter, GE feed materials and feed additives will not be allowed for delivery, marketing, import, and/or export unless the product is registered and granted approval by COA. GE product developers and/or local LSCs shall register with both agencies (COA and TFDA) if the product is for both food and feed use. COA is expected to promulgate feed safety assessment guidelines for GE registration within six months from the FCA amendment, anticipated July 31, 2015.

Taiwan authorities recognize that agricultural biotechnology is a potential tool for addressing food security concerns resulting from climate change and population growth. However, Taiwan regulators remain very cautious about domestic cultivation of biotech crops. Coexistence farming among organic, biotech, and conventional crops is a sensitive topic. The average farm size in Taiwan is just over one hectare and Taiwan's arable land accounts for only about one-fourth of the total land area. As a result, Taiwan's self-sufficiency rate hovers around 30 percent and is amongst the lowest in Asia. The agricultural authority's goal is to raise this rate to 40 percent by 2020 through programs focused on reinvigorating the farming system and rescheduling the (paddy) fallow plans. However, there has not been any indication this would be accomplished through domestic approval of GE product cultivation.

While there is considerable ongoing biotech research in Taiwan, environmental release for commercial cultivation is unlikely in the near future and only biotech products for non-food or ornamental use are likely to be approved.

Section II.

CHAPTER 1: PLANT BIOTECHNOLOGY

PART A: PRODUCTION AND TRADE

- a. **PRODUCT DEVELOPMENT:** Taiwan is a highly technical, very well educated society. On the island, scientists have the implied technology to develop biotech rice, broccoli, potato, bitter melon, tomato, papaya, banana, calla lily, and orchid varieties such as phalaenopsis, and oncidium. Although permits for conducting field trials were granted for several rice, fruit, and vegetable events, none of these products have gone through the regulatory process for commercial cultivation, food, or feed approval.
- b. **COMMERCIAL PRODUCTION:** Not applicable. Taiwan is very cautious about coexistence farming among organic, biotech, and conventional crops especially that the average farm size is just over one hectare. While there is considerable ongoing research in Taiwan, commercial cultivation on the island is unlikely in the near future.
- c. **EXPORTS:** Not applicable.
- d. **IMPORTS:** In CY2014, Taiwan was the seventh largest export market for U.S. food and agricultural products of which GE bulk and intermediate corn, soybeans, and cotton accounted for nearly 40 percent of the total export value US\$3.5 billion. The United States is Taiwan's top supplier of corn, soybeans, and cotton.
- e. **FOOD AID RECIPIENT COUNTRIES:** Not applicable. Given its ample domestic supply of staple rice and its overall economic strength, Taiwan is not currently and is not likely to become a food aid recipient under existing economic conditions.

PART B: POLICY

- a. **REGULATORY FRAMEWORK:** Taiwan has a U.S.-style interagency coordination approach to regulate biotechnology. TFDA resembles the U.S. FDA and is responsible for food safety assessments including pre-market approval and GE labeling and traceability. TFDA conducts mandatory import inspections and market surveillance inspection on all food products including GE products. Feed ingredients derived from GE products are under COA's portfolio; TFDA is currently the agency that approves GE products for both food and feed use.

COA also administers trans-boundary movement of living modified organisms (LMOs) and bio-safety assessment for environmental release. COA is currently drafting a bill to move current field trial regulatory oversights to its central office from respective sector agencies to tighten environmental risk management.

The Ministry of Science and Technology (MOST) was established in March 2014 under the

Executive Yuan (EY). MOST supervises the overall safety of biotechnology laboratory work. The final authority for Taiwan's biotechnology regulatory system resides with the Board of Science and Technology (BOST) under the EY. The BOST office is in charge of interagency coordination at the ministerial level on Taiwan's science and technology policy, including agricultural biotechnology.

The specific regulations governed by COA are: as follows:

- "[Administrative Regulations for the Field Testing of the Transgenic Plants](#)" (established 2005/06/29 and amended 2012/10/05)
- "[The Regulations for Packaging and Labeling of Transgenic Plants](#)" (established 2005/06/29)
- "[Regulations for Approving Import/Export of Transgenic Plant](#)" (established 2005/07/07)
- "[Feed Control Act](#)" (Amended 2015/02/04) governing approval registration for feed use.

- b. **APPROVALS:** As of reporting date, TFDA granted registration approvals for 91 products, of which 44 were single biotech events (including 15 soybean, 18 corn, eight cotton and three canola events) and 47 stacked events (including five stacked soybean and 42 stacked corn events).

The list of current TFDA approval list can be found [here](#).

Taiwan's biotech regulatory scope was historically limited to GE corn and soybeans and products. However, under the new FSSA language, all GE products in food use, e.g. canola, cotton, and sugar beet must be registered to TFDA and approved by February 5, 2016. Members of Crop Life Taiwan worked to complete dossier submissions of all (save one known sugar beet event) "grandfathered" GE events (those GE events widely/globally approved, or historically imported into Taiwan) in commercial chains which are now required to register with TFDA. Post is unaware of any regulatory or approval delays and does not anticipate trade disruptions in these historically "approved" events.

TFDA's Genetically Modified Food Review Panel (GMFRP), is composed of 17-23 experts specializing in biotechnology, microbiology, food nutrition, etc. GMFRP meets approximately every two months to review GE product premarket registration applications. GMFRP also has a role in supporting communication between committee members, authorities, and industry groups. However, while the GE registration requirements have greatly expanded, the structure of GMFRP has not. With an increase in application numbers, regulatory backlogs are problematic. Moreover, GMFRP members are subject to two year terms, thus frequent turnover and an unavoidable learning curve delay progress. Post is investigating risk assessment capacity building for committee members. The FSSA also directs TFDA to establish a separate expert panel to serve as biotech policy advisors to TFDA, a role previously fulfilled by GMFRP.

Although COA amended the FCA to regulate feed ingredients derived from biotechnology, the guidelines for feed safety assessments are yet to be announced. It is highly likely that COA will adopt a policy automatically approving all TFDA-approved for food use products, for use in animal feed.

- c. **FIELD TESTING:** Taiwan promulgated its field testing regulation governing GE plants in May 2005. To date, eleven domestically developed GE events applied for and were granted permits to conduct field trial testing. Flowering Locus T *Phalaenopsis equestris* is a new application currently under review. However, only one event - a ring spot virus-resistant papaya - completed the field trial in July 2003, before the field trial regulations were promulgated. Two events, Phytase rice (developed by Academia Sinica) and (ring spot and leaf distortion mosaic) virus-resistant papaya completed field testing works but failed final approvals. Upon completion of field trial testing, deregulation, and environmental release for cultivation is not automatic, of course. Cultivation requires COA approval and no approvals have been granted, thus far.

Seven events listed below have completed filed works but still pending final biosafety reviews:

- Sweet rice for processing (developed by Academia Sinica)
 - Lactoferrin rice (developed by National Chung Hsing University)
 - Delay-ripening broccoli (developed by Academia Sinica)
 - Phytase potato (developed by Academia Sinica)
 - Cucumber mottle mosaic virus-resistant tomato (developed by the World Vegetable Center)
 - Eucalyptus for pulping (developed by COA-affiliate Taiwan Forestry Research Institute)
 - Phytase rice (Originally developed by Academia Sinica and transferred to a private company, The Gene Company)
- a. **STACKED EVENT APPROVALS:** Starting from May 2008, Taiwan implemented stacked event registration on the basis of the "Guideline for Food Safety Assessment of Foods Derived from GE plants with Stacked Traits." The guideline applies only to foods produced from GE plants with stacked traits obtained through conventional breeding of single events already approved in Taiwan. The submission of a dossier for any new stacked event will not be accepted by TFDA unless the single events are already approved in Taiwan. Stacked events not obtained thru conventional breeding are not eligible to apply for premarket approval.
- e. **ADDITIONAL REQUIREMENTS:** TFDA registration is valid for one to five years, though in most cases registration is approved for five years. Renewal is required before three months of expiration date.
- a. **COEXISTENCE:** Not applicable. Taiwan does not allow the production of GE crops outside of accredited field trial facilities. However, Taiwan has drafted regulations governing the commercial production of biotech plants, animals, and aquatic plants and animals. All draft regulations for domestic cultivation are still pending, with the exception of the regulation on propagation and production of aquatic animals and plants, which was promulgated on April 13, 2011 and then revised on May 24, 2012.
- a. **LABELING:** New GE labeling regulations for prepackaged foods, food additives and unpackaged foods were promulgated on May 29, 2015. The final scope of Taiwan's GE labeling regulations expanded to cover highly processed foods which are directly derived from GE raw materials (often without detectable transgenic DNA segments or proteins). TFDA specifically

included soybean oil, soy sauce, corn oil, corn starch, corn syrup, cotton oil and canola oil under this category of highly processed foods. However, foods which use this category of product as ingredients or inputs are not required to label GE; ingredients used in foods are not required to be labeled (GE/non GE) either. For example, corn syrup made of GE corn must to be labeled GE; a beverage made with corn syrup is exempt from GE label (including the ingredients list).

The GE labeling threshold is tightened to 3% from the previous 5%. As for non-GE labeling, only products which have GE alternatives in the market or commercial chains are eligible allowed to be labeled as “non-GE.” For instance, coffee is not eligible for non-GE labeling as there is no commercialized GE coffee. These regulations expand to restaurants and catering establishments. Such restaurant level labeling requirements were similarly mandated when U.S. beef was reintroduced into the market in 2012.

The implementation date for prepackaged foods and food additives is December 31, 2015, while unpackaged products will be phased in three-part staged, starting July 1, October 1 and December 31, 2015.

- July 1, 2015: Mandatory labeling of all GE raw materials (e.g. corn and soybeans) sold by registered commercial companies and market chain stores.
- October 1, 2015: Mandatory labeling of processed GE food products (soybean milk, tofu, etc.) sold by registered commercial companies and market chain stores, and mandatory labeling of all GE raw materials (e.g. corn and soybeans) sold by vendors or retailers who are not required to registered (i.e., other than registered commercial companies or market chain stores).
- December 31, 2015: Mandatory labeling of all unpackaged GE food products whether are in forms of raw material or processed and regardless who or where the products are sold, including small retail outlets, wet markets, street vendors etc.

Post has published several GAIN reports on the GE labeling issue; please refer to the GAIN system and reports for any additional information.

[Taiwan GE Labeling Requirements Finalized with July 1 Implementation|Biotechnology - GE Plants and Animals Oilseeds and Products|Taipei|Taiwan|6/4/2015](#)

[Likely Compromise on Restrictive GE Labeling Requirements |Biotechnology - GE Plants and Animals Grain and Feed Oilseeds and Products|Taipei|Taiwan|5/5/2015](#)

[New GE Regulatory Oversight and Changes to GE Labeling Proposal |Biotechnology - GE Plants and Animals Grain and Feed Oilseeds and Products|Taipei|Taiwan|2/10/2015](#)

[Taiwan Authorities Enforce GE Testing on Organic Soybeans and Look t|Biotechnology - GE Plants and Animals Oilseeds and Products Grain and Feed|Taipei|Taiwan|10/31/2014](#)

[Recent Amendment of Food Safety and Sanitation Act Tightens Regulatory Requirements on GE Products |Biotechnology and Other New Production Technologies|Taipei|Taiwan|7/23/2014](#)

- a. **TRADE BARRIERS:** Incidences of unapproved GE events in U.S. commodities has resulted

in trade barriers. Most recently, the May 2013 discovery of unapproved GE wheat volunteers in Oregon resulted in Taiwan temporarily, testing shipments of U.S. wheat, but no suspensions. Despite incidences of commingled GE corn such as StarLink and Event 32 corn, there have been no trade disruptions of U.S. GE corn exports to Taiwan. Likely because, U.S. corn is primarily for feed use and thus draws less attention from the media or local consumers groups. Notably, the import suspension of U.S. long grain rice, resulting from the 2006 LibertyLink rice incident was finally lifted in 2014, in part due to Taiwan’s rice purchase commitments and (perceived) increasing California prices. Finally, new traceability requirements for GE products require additional documentation to accompany shipments.

Table of CCC code list of GE Soybean & Corn import inspection documentation starting from January 23, 2015

CCC Code	Product name	Attached Documentation
1005.90.00.91-4	Other genetically modified maize(corn)	<ol style="list-style-type: none"> 1. Exporting country exporter (or supplier) should submit documentation stated the shipment contains GE’s unique identifier or event, and documentation should state “This shipment of Soybeans (or corn, maize) may contain genetically modified event as following ...” or the similar description, documentation also should state related link of shipment information. 2. Or Exporting Country exporter (or supplier) issue invoice or packing list should listed this shipment contains GE unique identifier or event.
1102.20.00.10-9	Genetically modified maize(corn) flour	
1103.13.00.10-7	Groats and meal of genetically modified corn (maize)	
1104.23.00.10-4	Other worked genetically modified maize(corn)	
1201.90.00.91-6	Other genetically modified soybeans, whether or not broken	
1208.10.00.10-4	Flours and meals of genetically modified soya beans	

- a. **INTELLECTUAL PROPERTY RIGHTS (IPR):** Not applicable. Taiwan does not grant patent protection to technology for development of GE plants and animals based on Article 24 of the Patent Act.
- a. **CARTAGENA PROTOCOL RATIFICATION:** Not Applicable. Given its unique political status, Taiwan cannot sign the Cartagena Protocol on Biosafety. However, Taiwan has implemented some international standards and has incorporated Cartagena guidelines into its Regulations Governing Transboundary Movements of LMOs. COA’s Bureau of Animal and

Plant Health Inspection and Quarantine (BAPHIQ) is the lead agency on the biotechnology issues. In July 2005, BAPHIQ promulgated the “[Regulations for Approving Import/Export of Transgenic Plant](#)” on the basis of the “Plant Variety and Plant Seed Act”. The regulation stipulates that all LMOs must be submitted to BAPHIQ for import/export approvals for environmental release. In addition, the regulation governing propagation and production of aquatic plants and animals (fish) also stipulates that LMOs of aquatic plants and animals must be submitted to the COA Fishery Administration for a permit for trans-boundary movement. To date, only a few import/export records of LMOs have been reported for experimental purposes. COA has recently established a surveillance program for internal movement of LMOs. The first LMO internal movement surveillance target is GE papaya with batch-by-batch inspection for each commercial papaya seedling transaction.

- a. **INTERNATIONAL TREATIES/FORA:** Taiwan participates in the Asia Pacific Economic Cooperation activities such as High Level Policy Dialogue for Agricultural Biotechnology.
- a. **RELATED ISSUES:** On February 5, 2015, TFDA implemented traceability requirement for food importers of raw material of GE products in accordance with the FSSA. As there is no domestic commercial production, all imported GE corn and soybeans and products shall be imported under the separate HS codes from their non-GE counterparts. Separate HS codes (refer to the Trade Barrier Session above.) for corn, soybeans and products were mandated on November 1, 2014. Importers and manufacturers of GE products are responsible for establishing traceability systems for GE products from imports. All records must be kept for 5 years.
- a. **MONITORING AND TESTING:** TFDA conducts mandatory import inspections and regular market surveillance inspection on all food products including GE soybeans and corn and their products. For instance, in response to the May 29, 2013, USDA announcement regarding the discovery of GE wheat volunteers on an Oregon wheat farm, TFDA implemented border inspection for GE material on all imports of U.S. wheat. Inspections soon returned normal testing rate after no positive results were detected. On August 7, 2014, COA’s Agriculture and Food Agency (AFA) began screening for GE materials in organic soybeans. Several shipments of U.S. organic soybeans were tested and a couple rejected since enforcement began.
- a. **LOW LEVEL PRESENCE POLICY:** Not Applicable. Taiwan has no accommodation for low level presence. Any unregistered GE product is considered illegal. Similar to any other illegal product or product determined to be out of compliance with Taiwan's polices, unapproved GE products will be destroyed or rejected at the port of entry.

PART C: MARKETING

- a. **MARKET ACCEPTANCE:** Prior to the FSSA Amendment of February 4, 2014, Taiwan was considered a moderate market for GE products. That is, GE event applications were reviewed in an appropriately timely manner and products were not unnecessarily detained at the border. However, a series of local food safety scandals including mis-labeled rice and adulterated cooking oil created an opportunity for anti-GE activists to push for increased regulations. The island, however, is highly reliant on imports, with its food self-sufficiency rates amongst the lowest in Asia.

- b. **PUBLIC/PRIVATE OPINIONS:** 2014 saw several local food safety scandals, including widespread contamination of cooking oils manufactured in Taiwan. The media and consumers reacted strongly, though it was discovered to be more economic adulteration rather than an actual food safety concern. Several food safety authorities were dismissed in the scandal's wake. As a result, technical authorities and food safety officials have become even more cautious, unwilling or unable to undertake trade liberalizing measures or publically counter media misconceptions/hype for fear of being construed as "soft" on food safety. Taiwan's domestic policy process, particularly regarding food safety, is highly subject to outside influence including from that of an overactive and highly saturated media market. Relatively small consumer groups, individual university professors, a few legislators, and the media seem to wield disproportionate sway on the legislative process. This environment has grown detrimental to the establishment of rules and regulations based on internationally recognized science and normal trading practices
- c. **MARKETING STUDIES:** The government funded Taiwan Institute of Economic Research conducted two economic impact analysis on labeling featured comparative 3 percent to 5 percent threshold in 2014 and additional labeling requirements for highly processed products derived from GE materials in 2015. Another report on "An Economy-wide Analysis of GE Food Labeling Policies in Taiwan" by Dr. Ching-Chen Chang et.al. However, these government funded analysis seemed no influence on those legislators and consumer groups who have their mind-set to oppose GE.

PART D: CAPACITY BUILDING AND OUTREACH ACTIVITIES

a. **ACTIVITIES:**

- **August 11-23, 2015– Taiwan sent two GE regulators participated in the Biotechnology Regulation Immersion Course** at University of Missouri, Columbia. The program covered comprehensive aspects of regulatory frameworks, which had been highly evaluated by Taiwan participants and wishing for more opportunities like this training platform for view exchanges with participants from around the world.

The below activities were funded by local nonprofit industries organizations.

- **August 23-24, 2014 and March 28, 2015 - Educational Seminars targeting school teachers and consumers or subscribers of Scientists American Magazine (coordinated with the Scientist Americans publisher or Food Industry Research and Development Institute (FIRDI))**
- **November 13, 2014 – Professor Hiroaki Kodama, Chiba University, Japan was invited by FIRDI to give two talks on “Overview of Japan Food Safety” and “Japan Food Stack Regulation” and Dr. Chu Wen-Shen, FIRDI, to present on “Taiwan’s Assessment on GM foods“.** Professor Kodama reminded 50 some audience comprised by academia and Taiwan regulators that information required for safety assessment of GE food is all the same in Taiwan, Japan and elsewhere, which is all in accordance to OECD guidelines. Professor Kodama pointed out that registration approval requirements for

stacked events in Japan have been simplified through years of review experiences and not all GE products need to go through full assessment.

- **April 24, 2015 - Symposium on Japan Regulation of Genetically Modified Crops (conducted by Food Industry Research and Development Institute (FIRDI)):** A seminar was held in Taipei, attracting 50 people from Taiwan agencies and academia. Dr. Hiroaki Kodama, Professor, Bioresource Science Course Applied Biological Chemistry, Chiba University, Japan spoke on “Overview of GM Safety Assessment in Japan – Single and Stacked Event Products” and “Overview of GM Feed Safety Assessment in Japan”. Professor Kodama pointed out that with the common reviewers sitting in the food and feed regulatory agencies could facilitate interagency communication on GE safety assessments.
 - **June 24, 2015 – “How Much You Know About Food Safety of GM Food” (sponsored by COA):** A 40-minute Q & A educational session was held on the site of COA pavilion at the Taipei International Food Show. Public concern of safety of GE food has escalated after experienced local food scares in a row. Taiwan GE regulatory agencies started to initiate consumer educational activities.
- a. **STRATEGIES AND NEEDS:** Given Taiwan’s unique political status, Post would encourage more opportunities for Taiwan’s participation in biotech related international fora/discussions or workshops, as appropriate. Such would provide Taiwan authorities and academics more exposure and enhanced familiarity with updated safety assessment technologies and risk management. The opportunity for participation in the Biotechnology Regulation Immersion Course at University of Missouri, Columbia from August 11-23, 2014 was greatly benefited by Taiwan participants.

CHAPTER 2: ANIMAL BIOTECHNOLOGY

PART E: PRODUCTION AND TRADE

- a. **BIOTECHNOLOGY PRODUCT DEVELOPMENT:** The Animal Technology Institute Taiwan successfully transferred technology, which uses the mammary gland of transgenic-cloned pigs as a bioreactor to produce coagulation factor IX, to a private company for continued development for hemophilia treatment. Taiwan’s research focus is on biopharmaceutical uses, using biotech animals as molecular ranches. GE livestock (to include fowl) for food animals in Taiwan is not foreseen in the near future.

Taiwan National University and the Academia Sinica transferred ownership of GE fluorescent fish production to two private companies. These fluorescent fish are currently under field trial and are likely to be Taiwan’s first commercialized biotech product. All of these fluorescent fish are infertile and are intended for ornamental use only.

- b. **COMMERCAIL PRODUCTION:** Not applicable. Currently, no GE animals are in commercial production.

- c. **BIOTECHNOLOGY EXPORTS:** Not applicable
- d. **BIOTECHNOLOGY IMPORTS:** Not applicable

PART F: POLICY

- a. **REGULATION:** The Department of Animal Industry of COA is responsible for regulating GE livestock. To date, Taiwan has established only one regulation regarding animal biotechnology, "Regulations for the Field Trial of Transgenic Breeding Livestock (Fowl) and Bio-safety Assessment" in November 2002. The agency responsible for aquatic animals and plants is the Fisheries Agency of COA. Taiwan has established two regulations guiding biotech fishery products, the "[Rules for the Field Trial of Transgenic Aquatic Animals and Plants](#)," which was first promulgated in April 2009 and revised on May 27, 2012; and the "[Management Rules for Breeding and Production of Transgenic Aquatic Animals and Plants](#)," in May 24, 2012 (rules governing aquatic animals and plants are in Chinese).
- b. **LABELING AND TRACEABILITY:** Taiwan regulation requires a traceability labeling system and records must be kept for 5 years.
- c. **TRADE BARRIERS:** Not applicable.
- d. **INTELLECTUAL PROPERTY RIGHTS (IPR):** Taiwan does not grant patent protection to technology for development of GE plants and animals based on Article 24 of the Patent Act. This article stipulates that, "an invention patent shall not be granted in respect of any of the following: animals, plants, and essential biological processes for the production of animals or plants, except processes for producing microorganisms; and that animals and aquatic plants and animals are not protected under this Act."
- e. **INTERNATIONAL TREATIES/FOR A:** Not applicable.

PART G: MARKETING

- a. **MARKET ACCEPTANCE:** There have been minimal public conversations or debates on this issue.
- b. **PUBLIC/PRIVATE OPINIONS:** Not applicable, but, per consumer's general perception at this time, it seems that biotech products not for food use are easier to be accepted than that for food use by consumers.
- c. **MARKET STUDIES:** Not applicable.

PART H: CAPACITY BUILDING AND OUTREACH

- a. **ACTIVITIES:** Not applicable. The United States and Taiwan engage at an annual "Scientific and Technology" meeting where scientific research proposals are reviewed for potential funding. The results of some of these projects may be relayed to third-market countries as outreach efforts.

- b. **STRATEGIES AND NEEDS:** Not applicable. Unless there is a product set to enter commercial chains, Taiwan is unlikely to devote attention to the issue, resources are dominated by conversations regarding maximum residue levels and domestic food safety issues.