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Taiwan

Agricultural Biotechnology Annual

An Update

Approved By:

Chris Frederick

Prepared By:

Chiou Mey Perng

Report Highlights:

Taiwan is the sixth largest export market for U.S. food and agricultural products. Its demand for corn, soybeans and cotton, of which is entirely met by imports, accounted for US\$1.45 billion or 44 percent of the total U.S. exports of agricultural, fish and forest products to Taiwan in 2010. As of September 8, 2011, Taiwan has granted approvals for feed and processing use of seven single biotech soybean events, fifteen single corn events and twenty four stacked events.

Section I. Executive Summary:

Taiwan recognizes that agricultural biotechnology is a potential tool for the solution of food security concerns caused due to climate change and global population growth. However, Taiwan is cautious about coexistence farming among organic, biotech and conventional crops especially given the fact that the average farm size is just over one hectare and Taiwan's arable land is only about one-fourth of the total land area. While there is considerable ongoing biotech research in Taiwan, environmental release for commercial cultivation on the island is unlikely in the near future. Only biotech products for non food or ornamental use are likely to be approved.

Taiwan continues to improve or establish its regulatory system of risk management for biotech products. On April 13, 2011, Taiwan promulgated the regulations governing the propagation and cultivation of aquatic animals and plants, which paves the way for commercialization of infertile GM fluorescent fish.

Taiwan is the sixth largest export market for U.S. food and agricultural products. Its demand for corn, soybeans and cotton, of which is entirely met by imports, accounted for US\$1.45 billion or 44 percent of the total U.S. exports of agricultural, fish and forest products to Taiwan in 2010. As of September 8, 2011, Taiwan has granted approvals for feed and processing use of seven single biotech soybean events, fifteen single corn events and twenty four stacked events.

Taiwan currently regulates only corn and soybeans and their products derived from recombinant-DNA. Pre-market approval for biotech soybean and corn imports is required for food, feed or processing use (FFP use). Biotech food labeling for corn and soy products and approval of all corn and soy events are mandatory since January 2003. Labeling tolerance level is 5 percent, and non-GM labeling is on a voluntary basis.

In 2009, Taiwan notified the WTO of its intention to extend its biotech food safety regulatory scope to cover other biotech products beyond corn and soybeans. However, there is still no movement on the expansion of Taiwan's biotech regulatory scope. Taiwan also is considering amendments to the Patent Law that will provide more intellectual property rights protection for biotech products and/or the technology. An amendment bill to the Patent Law entered the second reading in the current legislature on September 16, 2011. The Patent Law amendment must pass three readings in the legislature to succeed.

Section II. Plant Biotechnology Trade and Production:

A. Commercial Production of Biotechnology Crops

In spite of several promising events developed in local laboratories and tested in field trials, Taiwan has yet to legally commercialize a single biotech crop. Some of the reasons for the delay are political, but others are related to insufficient capacity building. Researchers in Taiwan academic institutions lack experience in putting an event through the regulatory process, and regulations for risk management in the cultivation of biotech crops are still under development, with coexistence and liability/redress being the major concerns.

Taiwan is cautious about coexistence farming among organic, biotech and conventional crops especially given the fact that the average farm size is just over one hectare and Taiwan's arable land is only about

one-fourth of the total land area. While there is considerable ongoing biotech research in Taiwan, environmental release for commercial cultivation on the island is unlikely in the near future. Only biotech products for non food or ornamental use are likely to be approved.

The environmental release, cultivation and marketing of any unapproved biotech product is in violation of Taiwan law as stipulated in the Plant Variety and Plant Seeds Act (amended 04/21/2004 to adopt biotechnology) for crops, the Animal Industry Act (amended July 4, 2007) for poultry and livestock breeding stocks, and the Fishery Act (amended January 1, 2008) for aquatic plants and animals.

B. Biotechnology Crops under Development

There are no biotechnology crops currently under development on Taiwan that are expected to be on the market in the near future. However, several rice, fruit and vegetable varieties are in field trials. Taiwan has established public field trials facilities at the Council of Agriculture (COA) affiliated research institutes. COA celebrated the grand opening of its very first biotech plant field trial facility at the Taiwan Agriculture Research Institute (TARI) located in central Taiwan in late April 2007. There are now four other COA certified field trial facilities for biotech plants, which are situated in the National Chung Hsing University, Academia Sinica, the World Vegetable Center (former AVRDC) and one private research facility.

C. Imports of Biotechnology Crops/Products

Taiwan is the United States' sixth largest agricultural export market. In 2010, the United States exported more than US\$3.29 billion of agricultural, fish and forest products to Taiwan, of which biotech products accounted for NT\$1.45 billion. U.S. soybean exports to Taiwan totaled US\$653 million, while corn exports were valued at US\$613 million and cotton at US\$189 million. In 2010, Taiwan was the fifth largest export market for both U.S. corn and soybeans and the seventh largest for U.S. cotton. Around half of the total U.S. agricultural, fish and forest products exports to Taiwan are biotech products.

Taiwan's existing biotech regulations only regulate biotech corn and soybeans and their products. Taiwan requires premarket approval for GM soybeans and corn for food, feed or processing use (FFP use), but it doesn't require market approval for GM cotton imports because cotton is not for food use.

Taiwan cannot sign the Cartagena Protocol on Biosafety (CPB) because it is not internationally recognized as a sovereign state. In the past, however, Taiwan has unilaterally implemented some international agreements and has incorporated Cartagena guidelines into its import-export regulations governing biotech products such as seeds for planting. COA's Bureau of Animal and Plant Inspection and Quarantine (BAPHIQ) is the lead agency on the issue. In July 2005, BAPHIQ promulgated and implemented the "Measure on Import/Export Permit of Transgenic Plant". BAPHIQ requires import/export approval for all GM plants for environmental release or cultivation. To date, BAPHIQ has approved only a few import/export records for experimental use.

D. Food Aid

With an ample domestic supply of staple rice and overall economic strength, Taiwan is not a food aid recipient and is not likely to become one under the current circumstances.

E. Production of Biotechnology Crops That Were Developed Outside of the United States

At present, Taiwan does not commercially produce biotechnology crops developed from any origin because there is at present no for legal basis for commercializing biotech products.

Section III. Plant Biotechnology Policy:

A. Regulatory Framework for Agricultural Biotechnology

Taiwan has adopted a U.S. style interagency coordination approach to regulate biotechnology. The Department of Health's Food and Drug Administration (TFDA) is responsible for the food safety assessment for premarket approval and GM labeling for packaged food products, while the Council of Agriculture (COA) is in charge of the biosafety assessment of the environmental release for commercialization and usage in animal feed. COA also governs trans-boundary movement of LMOs (living modified organisms). TFDA conducts monitory import inspections and market surveillance inspection on biotech soybeans and corn and their products, and compliance with biotech labeling regulation. The National Science Council (NSC) supervises safety laboratory works in biotechnology. The final authority for Taiwan's biotechnology regulatory system is held by an appointed minister-without-portfolio who serves as the convener of the advisory committee for GM products and also oversees the office of Science and Technology Advisory Group (STAG) under the Executive Yuan. The STAG office serves as the Secretariat to the interagency advisor for GM products.

B. Biotechnology Crops Approved for Food, Feed and Processing (FFP), but Not for Environmental Uses

The existing agricultural biotechnology regulations enforced by the TFDA are premarket approvals for FFP use only and apply to soybeans, corn and their related products. No bioengineered soybeans or corn may be produced, processed, prepared, packed, and imported or exported unless registered. All bioengineered varieties of soybeans and corn must be registered and granted premarket approvals by the TFDA. As of September 8, 2011, Taiwan has granted registration approvals for a total of 22 single biotech events, including seven for soybeans and 15 for corn, as well as 24 stacked corn events, including 13 two-way events, six three-way events and five four-way events. The current approval list is attached to the end of report. For an updated list, please visit the Taiwan FDA website. The registration is valid for five years for FFP, but not for environmental release or plantation. Renewal of registration is required before its expiry.

Although the COA has not yet amended its Feed Control Act to adopt ingredients derived from biotechnology for feed rations, it is highly likely to follow a strategic policy that all approved products for food use are also eligible for animal feeds. As a practical matter, but unofficially, TFDA currently approves biotech events for both food and feed use.

Taiwan implemented regulations for LMOs under the terms of its June 9, 2005 amended Plant Variety and Plant Seed Act to stipulate biotech products. The "Rules for Approving Import/Export Transgenic

Plants” were announced on July 7, 2005. Imported grains and soybeans for FFP use are excluded from the LMOs ruling, and importers are not required to apply for additional approvals from the Taiwan authorities at the Bureau of Animal and Plant Health Inspection and Quarantine (BAPHIQ).

C. Field Trials

Taiwan has established field-testing regulations governing plants, livestock, poultry and fish after Taiwan promulgated its field testing regulation governing aquatic plants and animals in April 2009. None of the domestically developed GM products has completed the field trials, so nothing is in the pipeline for commercialization. Details are as follows:

No updates since last annual report.

Nine events were granted approval for conducting field tastings for bio-safety assessment. Their testing results are as follows: One, ornamented calla lily, applied for field-testing, but is still pending for approval to run field testing because the developer(s) didn't go further. Two events completed field testing. One conditionally passed, but the other didn't pass the bio-safety assessment. Details follow:

In July 2003, Taiwan conditionally approved a GM ring spot virus-resistant papaya. In June 2006, Taiwan disapproved one phytase rice variety developed by a private company, GeneTaiwan Co. The remaining seven events are still undergoing field testing.

The seven events currently undergoing field testing for biosafety assessment:

1. Sweet rice for processing developed by Academia Sinica
2. Latoferri rice developed by National Chung Hsing University
3. Delay-ripening broccoli developed by Academia Sinica
4. Phytase potato developed by Academia Sinica
5. Cucumber mottle mosaic virus-resistant tomato developed by the World Vegetable Center (AVRDC)
6. Eucalyptus for pulping developed by COA affiliate Taiwan Forestry Research Institute
7. New developed ring spot and leaf distortion mosaic virus-resistant papaya

D. Stacked Events

Starting on May 6, 2008, Taiwan implemented stacked event registration (See GAIN report TW8025). The regulations require registration approval for new single events that are used to develop a new stacked event. The submission of dossier for the new stacked event will not be accepted by TFDA if the new single events are not yet approved by Taiwan.

E. Taiwan's policy on Coexistence between GM and non-GM Crops

Currently Taiwan does not allow growing of GM crops outside of accredited field trial facilities. However, Taiwan has drafted regulations governing commercial production of biotech plants, animals, and aquatic plants and animals. All draft regulations for domestic cultivation are still pending approval.

F. GM Labeling Guidelines

Beginning in January 2005, all food made from biotech soybean or corn is required to be labeled. The tolerance level is 5%.

The labeling regulations do not apply to products that do not contain pieces of transgene(s) or protein such as cornstarch, corn syrup, corn oil, soy oil, and soy sauce. Soybean or corn food products that are not packaged for retail sale are not subject to the GM food-labeling requirement. This includes the large volume of products sold in wet markets, by street vendors or in glossary stores. However, on March 25, 2009, DOH announced a new labeling requirement for foods in bulk packaging. Starting January 1, 2010, all food products in bulk packaging for retail sale should indicate: (1) product name; and (2) country of origin on a card, logo (label), sign board, or some other means of prominently displaying this information in retail venues so that the product can be clearly identified by consumers.

This is Taiwan's first initiative requiring this kind of labeling for marketing food in bulk. So far, this seems to have had no influence on biotech soybeans and corn products sold in bulk because freshly baked and cooked products that are served for direct consumption at dining places are excluded. It is customary in Taiwan to have freshly milled and cooked soy milk at breakfast shops.

The labeling requirements have increased Taiwan's demand for non-GM foods given the small but growing segment of Taiwan's population that demands alternative, natural-grown or organic products as part of a larger movement for healthier eating/lifestyle.

Soybean and corn food products made of non-GM materials can be labeled as Non-GM or Not-GM. If there is no biotech alternative available, a product may not be labeled "Non-GM".

G. CODEX

Taiwan is not a member of CODEX. However, Taiwan generally follows CODEX guidelines with regard to biotechnology in agriculture. Taiwan has drafted their low-level presence guidelines based on the Codex Annex on low level presence safety assessment, but has not yet implemented the guidelines.

H. Potential Trade Barriers

Despite incidences of commingled biotech events such as StarLink corn, LibertyLink Rice and Event 32 corn, there have been no trade disruptions of U.S. biotech corn exports to Taiwan. However, the LibertyLink Rice incidence has resulted in Taiwan's import suspension of U.S. long grain rice.

Taiwan's approval process has become increasingly efficient. The Genetically Modified Food Advisory Committee (GMFAC) has overcome meeting and scheduling problems and has enhanced communication among committee members, government and industry groups. However, many stacked events and new concepts of single events are entering the regulatory pipeline. Concerns have been raised regarding the GMFAC's workload. In particular, the TFDA will recruit new members for filling retiring members every other year. The next recruitment is scheduled for January 2012. It will take some time for new committee members to become familiar with the approval process. Assessment capacity building for new committee members is essential according to TFDA.

I. Intellectual Property Rights

GM plants products are protected under the Plant Variety and Plant Seed Act, but GM animals and aquatic plants and fish are not protected under this Act. Taiwan is in the process of establishing patent laws for protecting all GM technology and GM products, and Taiwan's biotech patent rights bill is pending legislative approval. However, there is some opposition against biotech plant products.

Section IV. Plant Biotechnology Marketing Issues:

A. Market Acceptance

Consumer Perception:

Taiwan consumers are consuming soy products, tofu and soy milk, on a daily basis. They continue to purchase food in bulk from traditional wet markets and eat traditional Chinese breakfasts with soymilk made from biotech soybeans. However, consumption of processed non-biotech food such as soymilk and tofu is gradually increasing because local food companies use non-GM promotions as a marketing tool to create the image that non-GM food has better value or taste.

Producers/Importers:

As current labeling regulations govern soy or corn food products, some food packers are now promoting foods made of non-GM corn or soybeans.

Retailers:

Except for specialty organic food shops, most retail stores are remaining neutral and provide diverse brands or types of food products, both non-biotech and biotech. Currently, there is no country-specific study on the marketing of biotech food.

B. Market Surveys

Market surveys are not conducted by Taiwan authorities on a regular basis. DOH did conduct market surveys before implementing the GM labeling regulations.

Section V. Plant Biotechnology Capacity Building and Outreach:

A. U.S. Government Funded Outreach Activities

Taiwan's substantial agricultural research infrastructure, sound legal system, favorable climate and very strong information technology base have contributed to its ability to develop a world-class biotech sector. In addition, a science-based regulatory system and the relative lack of anti-biotech protectionist interests have given the public confidence in the safety of biotech foods.

The primary focus is to build upon these strengths by enhancing Taiwan's regulatory capacity and explaining the benefits of biotechnology to the public.

Recent Activities

The American Institute in Taiwan (AIT) and the Taiwan Food and Drug Administration (TFDA), in an effort to strengthen the bilateral exchange of views on regulatory issues, jointly organized a State Department-funded Agricultural Biotech Assessment Study Team to visit the United States during August/September 2010. The Taiwan assessment team visited the U.S. biotech regulatory agencies and industries to receive updated information on the development of new concept biotech products and to discuss the safety assessment of new concept biotech products in the regulatory pipeline.

A follow-up Biotech Assessment Case Study Workshop was conducted on September 15-16, 2011 in Taipei. Fifty Taiwan regulators and biotech assessment committee members participated. Four visiting U.S. regulators explained to the audience how biotech products are managed in the United States, helping to provide a better understanding of the U.S. regulatory system. Both the COA and TFDA are seeking opportunities for future exchanges with the United States under their respective regulatory portfolios.

The American Institute in Taiwan, in coordination with U.S. biotech industries and TFDA, organized a seminar and roundtable discussion on allergenicity assessment of biotech products on December 14, 2010.

In general, three risk communication seminars have addressed safety of biotech products for the general public during recent years, of which one was sponsored by TFDA and two by CropLife Taiwan (CLT). The most recent event was held by CLT in southern Taiwan on October 1, 2011.

Section VI. Animal Biotechnology:

GM Animals

Several pharmaceutical applications on biotech animals are currently in laboratory trials. Transgenic pigs, cows, goats and chicken for biopharmaceutical uses have been or are being developed, but none of them have undergone field-testing. Taiwan has built a field-testing center at the Animal Technology Institute Taiwan (ATIT), a non-profit and government-supported body for transgenic pig, cow, chicken and goat field testing. The center has also established Standard Operation Practices (SOP) for field-testing. The center has been granted accreditation for operating field-testing.

Taiwan has set its research focus on biopharmaceutical uses, using biotech animal as molecular ranch. The ongoing research is focused on mammary gland of transgenic-cloned goats as a bioreactor to produce coagulation factor VIII for hemophilia A treatment. Similar research is being conducted on

transgenic pigs to produce human factor IX.

GM Fish

On April 3, 2009, Taiwan promulgated regulations governing testing on GM fish and aquatic plants. The very first field-testing center for transgenic fish in Taiwan is anticipated to begin operations in 2012.

According to the COA, Taiwan's transgenic fish research is focused on ornamental fish - in particular, fluorescent fish. Taiwan's Academia Sinica research institute announced a successful research project for developing larger-sized GM fluorescent fish. These domestically developed fluorescent fish are all infertile and are not for human consumption. On April 13, 2011, Taiwan promulgated the regulation governing commercial production and propagation of biotech aquatic animals and plants. Once domestically developed transgenic fluorescent fish goes through the regulatory process, it will be ready for marketing. The COA has built a new distribution center for the exportation of ornamental fish and fish fry at the Pingtung Agricultural Biotech Park located in southern Taiwan.

Section VII.

Current Approvals of Genetically Modified Products in Taiwan

Update: September, 2011

Current approved products – single trait

	UNIQUE IDENTIFIER	PRODUCT	NAME	EVENT	APPLICANT	DATE OF APPROVAL	DATE OF EXPIRATION
1	MON-Ø4Ø32-6	Soybean	Glyphosate tolerant Roundup Ready Soybean	40-3-2 (RRS)	Monsanto Far East Ltd., Taiwan Branch	July 22, 2002	July 22, 2012
2	MON-ØØ81Ø-6	Corn	Insect-resistant YieldGard Corn	MON810	Monsanto Far East Ltd., Taiwan Branch	October 15, 2002	October 15, 2012
3	MON-ØØ6Ø3-6	Corn	Glyphosate tolerant Roundup Ready Corn	NK603	Monsanto Far East Ltd., Taiwan Branch	April 11, 2003	April 11, 2013
4	SYN-BTØ11-1	Corn	Insect-resistant & Glufosinate tolerant Corn	Bt11	Syngenta Taiwan Ltd.	June 2, 2004	June 2, 2013
5	SYN-EV176-9	Corn	Insect-resistant & Glufosinate tolerant Corn	Event176	Syngenta Taiwan Ltd.	June 2, 2004	June 2, 2013
6	ACS-ZMØØ3-2	Corn	Glufosinate tolerant Corn	T25	Bayer Taiwan Ltd.	August 16, 2002	August 16, 2012
7	DAS-Ø15Ø7-1	Corn	Insect-resistant & Glufosinate tolerant Corn	TC1507	DuPont Taiwan	November 17, 2003	November 17, 2013
8	MON-	Corn	Insect-resistant,	MON863	Monsanto Far	October 16,	October 16,

	ØØ863-5		YieldGard Rootworm Corn		East Ltd., Taiwan Branch	2003	2013
9	DAS- 59122-7	Corn	Insect-resistant & Glufosinate tolerant Corn	59122	DuPont Taiwan	December 21, 2005	December 21, 2015
10	MON- 88Ø17-3	Corn	YieldGard Rootworm/ Roundup Ready Corn	MON88017	Monsanto Far East Ltd., Taiwan Branch	March 20, 2006	March 20, 2016
11	REN- ØØØ38-3	Corn	Lysine Maize	LY038	Monsanto Far East Ltd., Taiwan Branch	November 20, 2006	November 20, 2011
12	ACS- GMØØ5-3	Soybean	Glufosinate tolerant Soybean	A2704-12	Bayer Taiwan Ltd.	May 1, 2007	May 1, 2012
13	SYN-IR6Ø4- 5	Corn	Insect-resistant Corn	MIR604	Syngenta Taiwan Ltd.	October 22, 2007	October 22, 2012
14	MON-89788- 1	Soybean	Roundup RReady2Yield Soybean	MON89788	Monsanto Far East Ltd., Taiwan Branch	December 28, 2007	December 28, 2012
15	MON- ØØØ21-9	Corn	Glyphosate tolerant Corn	GA21	Syngenta Taiwan Ltd.	July 23, 2008	July 23, 2013
16	MON- 89Ø34-3	Corn	Insect-resistant Corn	MON89034	Monsanto Far East Ltd., Taiwan Branch	July 25, 2008	July 25, 2013
17	SYN-IR162- 4	Corn	Insect-resistant Corn	MIR162	Syngenta Taiwan Ltd.	Apr 20, 2009	Apr 20, 2014
18	DP-356Ø43- 5	Soybean	Glyphosate and Acetolactate Synthase (ALS)- Inhibiting Herbicides Tolerant Soybean	DP- 356043-5	DuPont Taiwan Ltd.	May 11, 2009	May 11, 2014
19	DP- 3Ø5423-1	Soybean	High Oleic Soybean	DP- 305423-1	DuPont Taiwan Ltd.	July 23, 2010	July 23, 2015
20	SYN-E3272-	Corn	α -Amylase	Event 3272	Syngenta	Jul 26,	Jul 26,

	5		Corn		Taiwan Ltd.	2010	2015
21	ACS-GMØØ6-4	Soybean	Glufosinate tolerant Soybean	A5547-127	Bayer Taiwan Ltd.	Aug 31, 2010	Aug 31, 2015
22	MON-877Ø1-2	Soybean	Insect-Protected Soybean	MON87701	Monsanto Far East Ltd., Taiwan Branch	July 6, 2011	July 6, 2016

Current approved products – stacked trait

	UNIQUE IDENTIFIER	PRODUCT	NAME	EVENT	APPLICATION	DATE OF APPROVAL	DATE OF EXPIRATION
1	MON-89Ø34-3 x MON-88Ø17-3	Corn	YieldGard VT Triple PRO Corn	MON89034 x MON88017	Monsanto Far East Ltd., Taiwan Branch	February 17, 2009	February 17, 2014
2	MON-89Ø34-3 x MON-ØØ6Ø3-6	Corn	YieldGard VT PRO x Roundup Ready Corn 2	MON89034 x NK603	Monsanto Far East Ltd., Taiwan Branch	February 17, 2009	February 17, 2014
3	MON-88Ø17-3 x MON-ØØ81Ø-6	Corn	YieldGard VT Triple Corn	MON88017 x MON810	Monsanto Far East Ltd., Taiwan Branch	February 17, 2009	February 17, 2014
4	MON-ØØ81Ø-6 x MON-ØØ6Ø3-6	Corn	YieldGard x Roundup Ready Corn 2	MON810 x NK603	Monsanto Far East Ltd., Taiwan Branch	February 17, 2009	February 17, 2014
5	MON-ØØ863-5 x MON-ØØ81Ø-6x MONØØ6Ø3-6	Corn	YieldGard Plus x Roundup Ready Corn 2	MON863 x MON810 x NK603	Monsanto Far East Ltd., Taiwan Branch	March 04, 2009	March 04, 2014
6	MON-ØØ863-5 x MONØØ6Ø3-6	Corn	YieldGard Rootworm x Roundup Ready Corn 2	MON863 x NK603	Monsanto Far East Ltd., Taiwan Branch	May 25, 2009	May 25, 2014
7	MON-ØØ863-5 x MON-ØØ81Ø-6	Corn	YieldGard Plus Corn	MON863 x MON810	Monsanto Far East Ltd., Taiwan Branch	July 10, 2009	July 10, 2014
8	SYN-BTØ11-1 x	Corn	Bt11 x MIR604 maize	Bt11 x	Syngenta Taiwan Ltd.	August 3, 2009	August 3, 2014

	SYN-IR604-5			MIR604			
9	SYN-BT011-1 x MON-00021-9	Corn	Bt11 x GA21 maize	Bt11 x GA21	Syngenta Taiwan Ltd.	August 3, 2009	August 3, 2014
10	SYN-IR604-5 x MON-00021-9	Corn	MIR604 x GA21 maize	MIR604 x GA21	Syngenta Taiwan Ltd.	August 3, 2009	August 3, 2014
11	SYN-BT011-1 x SYN-IR604-5 x MON-00021-9	Corn	Bt11 x MIR604 x GA21 maize	Bt11 x MIR604 x GA21	Syngenta Taiwan Ltd.	August 3, 2009	August 3, 2014
12	MON-89Ø34-3 x DAS-Ø15Ø7-1 x MON-88Ø17-3 x DAS-59122-7	Corn	MON89034 x TC1507 x MON88017 x DAS-59122-7 Corn	MON89034 x TC1507 x MON88017 x DAS-59122-7	Monsanto Far East Ltd., Taiwan Branch	Oct 12, 2009	Oct 12, 2014
13	MON-89Ø34-3 x DAS-Ø15Ø7-1 x MON-88Ø17-3 x DAS-59122-7	Corn	MON89034 x TC1507 x MON88017 x DAS-59122-7 Corn	MON89034 x TC1507 x MON88017 x DAS-59122-7	Dow AgroSciences Taiwan Ltd.	Oct 12, 2009	Oct 12, 2014
14	DAS-Ø15Ø7-1 x MON-ØØ603-6	Corn	TC1507xDAS-59122-7 Maize	TC1507 x DAS-59122-7	DuPont Taiwan Ltd.	Dec 02, 2009	Dec12, 2014
15	Ø15Ø7-1 x DAS-59122-7	Corn	TC1507xNK603 Maize	TC1507 x NK603	DuPont Taiwan Ltd.	Dec 15, 2009	Dec 15, 2014
16	DAS-59122-7 x DAS-Ø15Ø7-1 x MON-ØØ603-6	Corn	DAS-59122xTC1507xNK603 Maize	DAS-59122 x TC1507 x NK603	DuPont Taiwan Ltd.	Dec 15, 2009	Dec 15, 2014
17	DAS-59122-7 x	Corn	DAS-59122xNK603 Maize	DAS-59122 x	DuPont Taiwan Ltd.	Jan 3, 2011	Jan 3, 2016

	MON- ØØ603-6			NK603			
1 8	MON-ØØ6Ø 3-6 x ACS- ZMØØ3-2	Corn	NK603xT25	NK603 x T25	Monsanto Far East Ltd., Taiwan Branch	May 30, 2011	May 30, 2016
1 9	DAS- Ø15Ø7-1 x DAS-59122- 7 x MON- ØØ81Ø-6 x MON- ØØ6Ø3-6	Corn	TC1507xDAS-59122-7 xMON810xNK603	TC1507 x DAS- 59122-7 x MON810 x NK603	DuPont Taiwan Ltd.	May 30, 2011	May 30, 2016
2 0	DAS- Ø15Ø7-1 x MON- ØØ81Ø-6 x MON- ØØ6Ø3-6	Corn	TC1507xMON810xNK60 3	TC1507 x MON810 x NK603	DuPont Taiwan Ltd.	May 30, 2011	May 30, 2016
2 1	SYN- BTØ11-1 x SYN-IR162- 4 x SYN-IR6Ø4- 5 x MON- ØØØ21-9	Corn	Bt11xMIR162xMIR604x GA21	Bt11 x MIR162 x MIR604 x GA21	Syngenta Taiwan Ltd.	May 30, 2011	May 30, 2016
2 2	SYN- BTØ11-1 x SYN-IR162- 4 x MON- ØØØ21-9	Corn	Bt11xMIR162xGA21	Bt11 x MIR162 x GA21	Syngenta Taiwan Ltd.	May 30, 2011	May 30, 2016
2 3	MON- 89Ø34-3 x DAS- Ø15Ø7-1 x MON- ØØ6Ø3-6	Corn	MON89034xTC1507xNK 603	MON890 34 x TC1507 x NK603	Dow AgroScien ces Taiwan Ltd.; Monsanto Far East	August 22, 2011	August 22, 2016

					Ltd., Taiwan Branch		
2 4	SYN-E3272- 5 x SYN- BTØ11-1 x SYN- IR6Ø4-5 x MON-00021- 9	Corn	3272xBt11xMIR604xGA 21	3272 x Bt11 x MIR604 x GA21	Syngenta Taiwan Ltd.	Sep 5, 2011	Sep 5, 2016