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Global Agricultural Information Network

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Colombia

Agricultural Biotechnology Annual

GE Corn Adoption Progress

Approved By:

Michael Conlon, Agricultural Counselor

Prepared By:

Anthony Gilbert, Agricultural Attache

Adriana Uribe, Agricultural Specialist

Report Highlights:

The production of biotech-derived commodities continues to expand. Area planted of genetically engineered (GE) corn has surpassed GE cotton. The Government of Colombia (GOC) Ministry of Health and Social Protection (MHSP) continues with internal deliberations of a biotechnology regulatory framework called the “Technical Annex”. The Annex primarily establishes labeling requirements for foods with GE ingredients and the identification of raw materials through a low level presence (LLP) threshold.

REPORT OUTLINE

Report Highlights:

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Section I. Executive Summary:

The implementation of the U.S.-Colombia Trade Promotion Agreement (CTPA) propelled Colombia to become the second largest market in Latin America for U.S. agricultural exports. In 2014, trade values were slightly above \$2.4 billion. U.S. exports in GE derived agricultural products such as corn, cotton, soybeans, soybean meal, soybean oil, and distillers grains were valued at \$1.3 billion in 2014.

The Colombian agricultural biotechnology regulatory framework, or “Technical Annex”, remains under review by the GOC. Colombia approved the Cartagena Protocol on Biosafety (CPB) in 2002. In 2005, Decree 4525 was published to implement the CBP. Since then, several other GOC regulatory measures were published to outline specific requirements and procedures for approving and using GE agriculture and derived products in Colombia. Colombia's biotechnology regulations are regularly reviewed and modified providing opportunities to engage GOC regulatory counterparts with technical outreach that facilitates the adoption of science-based regulatory policies. The GOC has created three technical biotechnology committees to analyze environmental, biosafety and food safety impacts of biotech-derived products (see Part B, Policy). The MHSP issued resolution 4254 establishing the requirements for labeling of foods derived from modern biotechnology. The resolution was implemented in June 2012. In addition, the GOC developed the Technical Annex to supplement resolution 4254, but internal GOC deliberations continue.

In 2002, GE cotton was the first GE plant cultivated on a non-restricted commercial basis in Colombia. GE corn was approved in 2007 and continues to surpass GE cotton adoption with area planted increasing to 89,000 hectares in 2014. Also, GE Dutch blue carnations continue to be produced under greenhouse conditions for export to Europe and GE blue petal roses for exports to Japan. Regarding animal biotechnology, Colombia continues to import GE vaccines for animal diseases (see appendix C).

II. Plant Biotechnology

PART A: Production and Trade

a) Product Development

Colombia has not developed any biotechnology crops to date. There are several Colombian organizations conducting specific research projects. The Colombian sugar cane research center (CENICAÑA) is developing a sugar cane variety resistant to the yellow leaf virus. The International

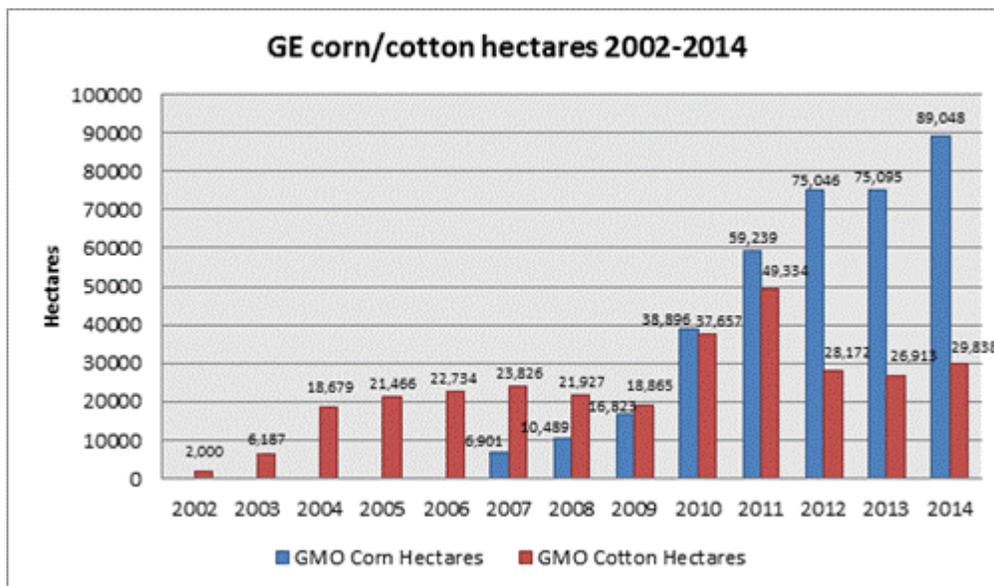
Center for Tropical Agriculture (CIAT) is researching GE rice and cassava. The Colombian Coffee Research Center (CENICAFE) is conducting GE research on tobacco (nicotiana), the fungus *Beaveria bassiana*, and a coffee variety resistant to coffee borer (broca). The International Corporation for Biological Research (CIB) is investigating potatoes resistant to lepidopterous insects. Colombian universities and research institutes are working together to develop rice and potato biotechnology events. There is increasing GOC and farmer interest to expedite the development of biotechnology events that enhance competitive benefits for local crops that are sensitive to competition from imports. All varieties of events that are developed must go through the regulatory approval process whether intended as an ornamental, for human consumption and/or animal feed.

b) Commercial Production

Prior to 2006, the only non-restricted GE approval in Colombia was for the cotton varieties Bollgard and Roundup-Ready. In February 2007, the GOC approved the first stacked event, a cotton variety combining Bollgard and Roundup-Ready. The GOC also approved controlled planting of GE corn. In 2010, GE soybean production was approved for commercial cultivation, but has yet to be planted. Biotech blue carnations and blue petal roses are cultivated for solely export markets. Total area planted for these ornamental crops is 12 hectares. In 2014, Colombia planted 89,000 and 29,000 hectares of GE corn and cotton, respectively. GE corn planting increased dramatically by almost 14,000 hectares, becoming the most widespread GE plant cultivated in Colombia (see Charts 1, 2, and 3). GE cotton area planted increased by about 3,000 hectares, a considerable recovery after two years of decline.

In addition to the above-mentioned GE events, there are pending applications for several other crops that are in varying phases of approval (see appendices A and B).

Chart 1



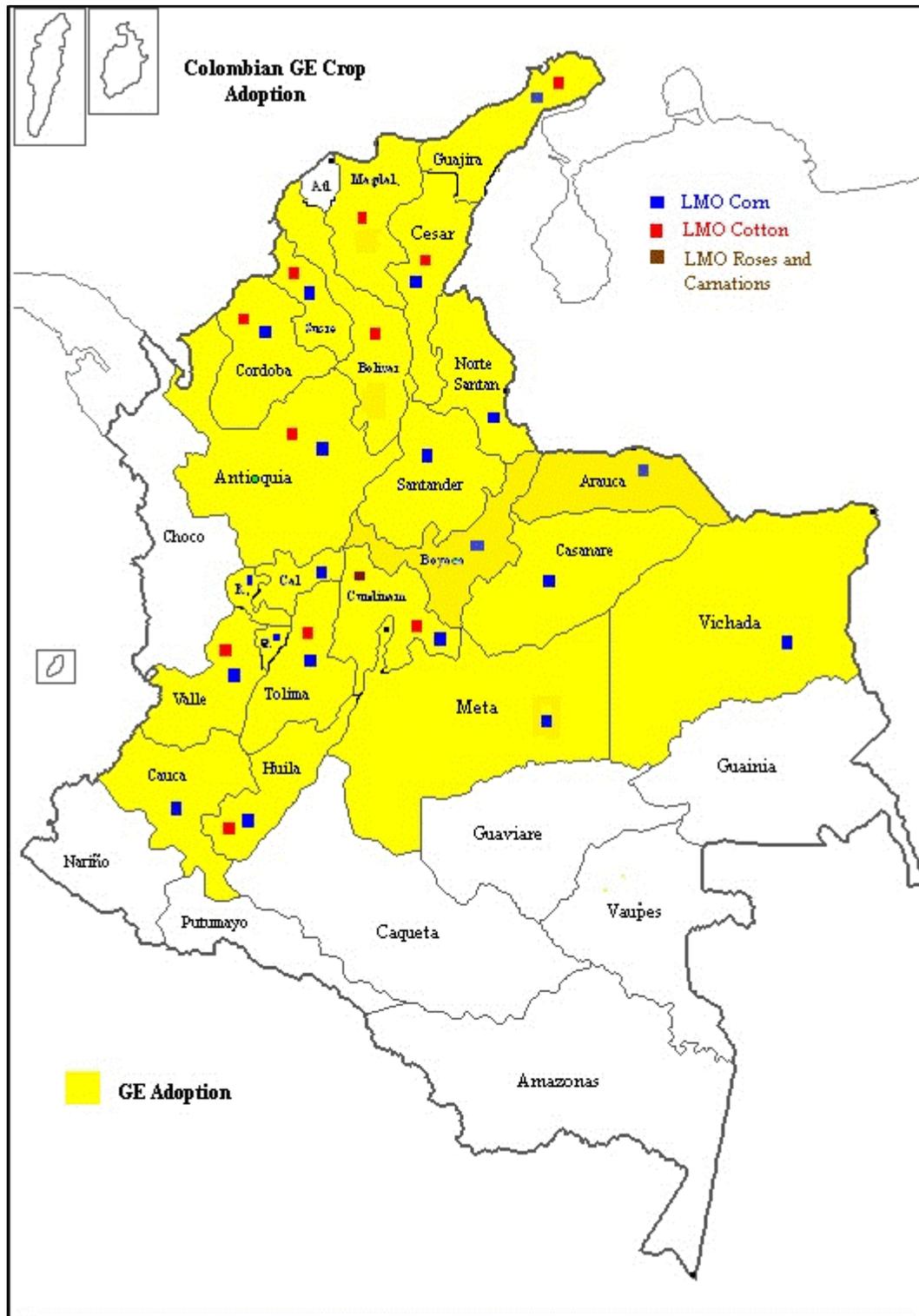
Data provided by ICA -Colombian Agricultural Institute

Chart 2

GE adoption per Department/Hectares			
Corn		Cotton	
Meta	22,031	Cordoba	14,872
Cordoba	18,724	Tolima	9,119
Tolima	16,112	Huila	1,695
Valle del Cauca	15,386	Cesar	1,459
Vichada	6,263	Bolivar	1,360
Cesar	2,470	Valle	361
Huila	2,410	Sucre	326
Risaralda	945	Cundinamarca	279
Casanare	789	Magdalena	215
Cauca	779	Antioquia	144
Cundinamarca	771	Guajira	10
Quindio	559		
Sucre	540		
Santander	520		
Bolivar	233		
Antioquia	199		
Caldas	158		
Boyaca	137		
Guajira	11		
Arauca	9		
Norte de Santander	4		

Data provided by ICA -Colombian Agricultural Institute

Chart 3



Data provided by ICA -Colombian Agricultural Institute

c) Exports

GE Dutch blue carnations are produced under greenhouse conditions for export to Europe and GE blue petal roses for exports to Japan. Area planted in 2014 for both Dutch blue carnations and blue petal

roses remains unchanged at 12 hectares. One blue petal rose in the Japanese retail market has an estimated value of about \$40-50.

d) Imports

GE seeds are imported mostly from the United States and occasionally from South Africa, Argentina and Australia (see appendices A and B).

e) Food Aid Recipient Country

Colombia receives limited food aid from the United States. Any food aid containing GE events must have regulatory approval in Colombia for human consumption.

III. Plant Biotechnology Policy

a) Regulatory Framework

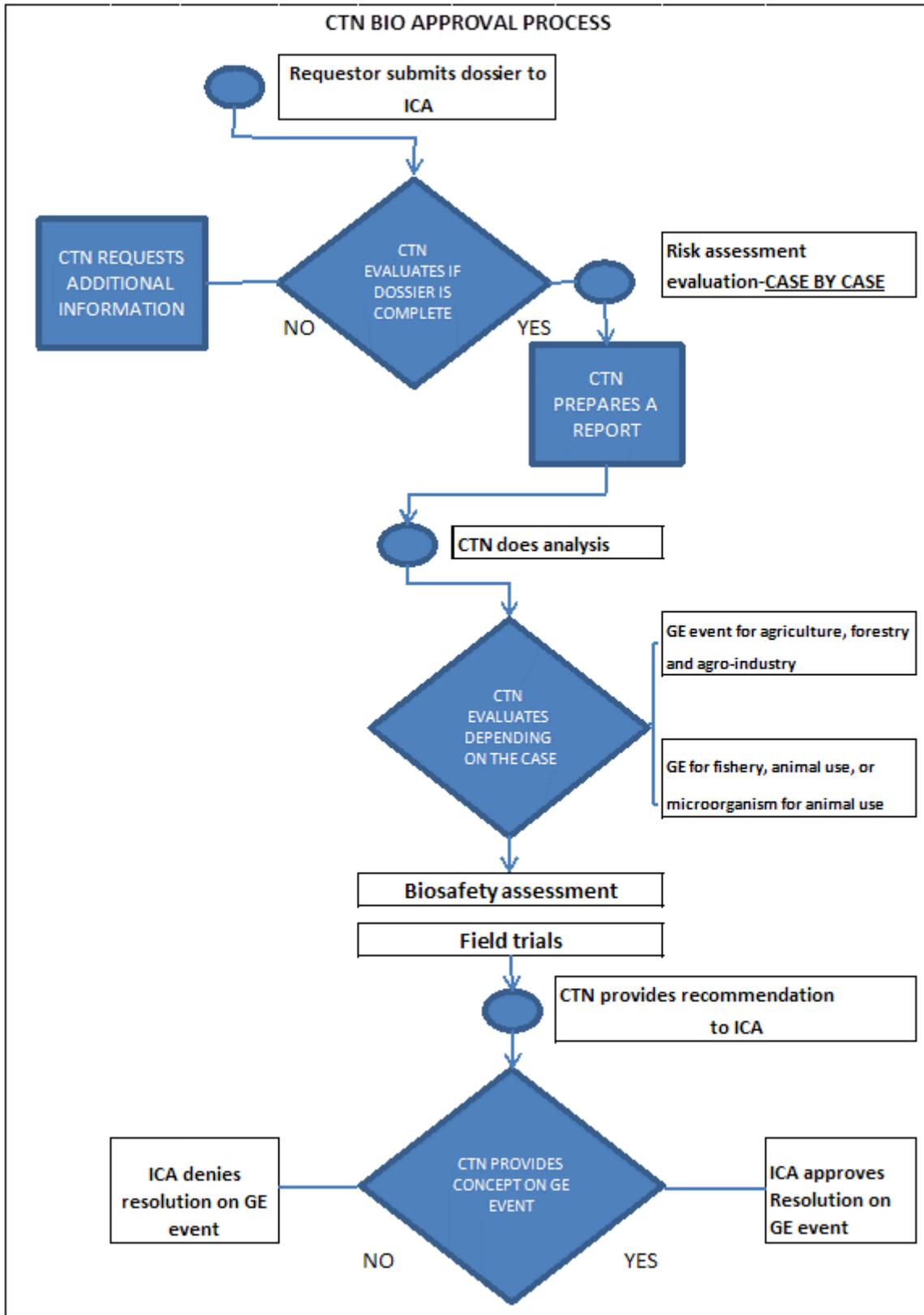
The following Ministries are involved in the regulation of agricultural biotechnology production and imports:

- Ministry of the Environment, Housing and Territorial Development (MEHTD);
- Ministry of Health and Social Protection (MHSP);
- Ministry of Agriculture and Rural Development (MARD);
- Colciencias (Colombian Science and Technology Agency);
- MHSP National Institute for the Surveillance of Food and Medicines (INVIMA);
- MARD ICA.

The MARD understands the benefits of agricultural biotechnology. Currently, MARD is developing a regulatory framework to implement the CPB. The framework will consider the trade implications of the CPB for trans-border movement of GE events that may have adverse effects on the conservation and sustainable use of biological diversity.

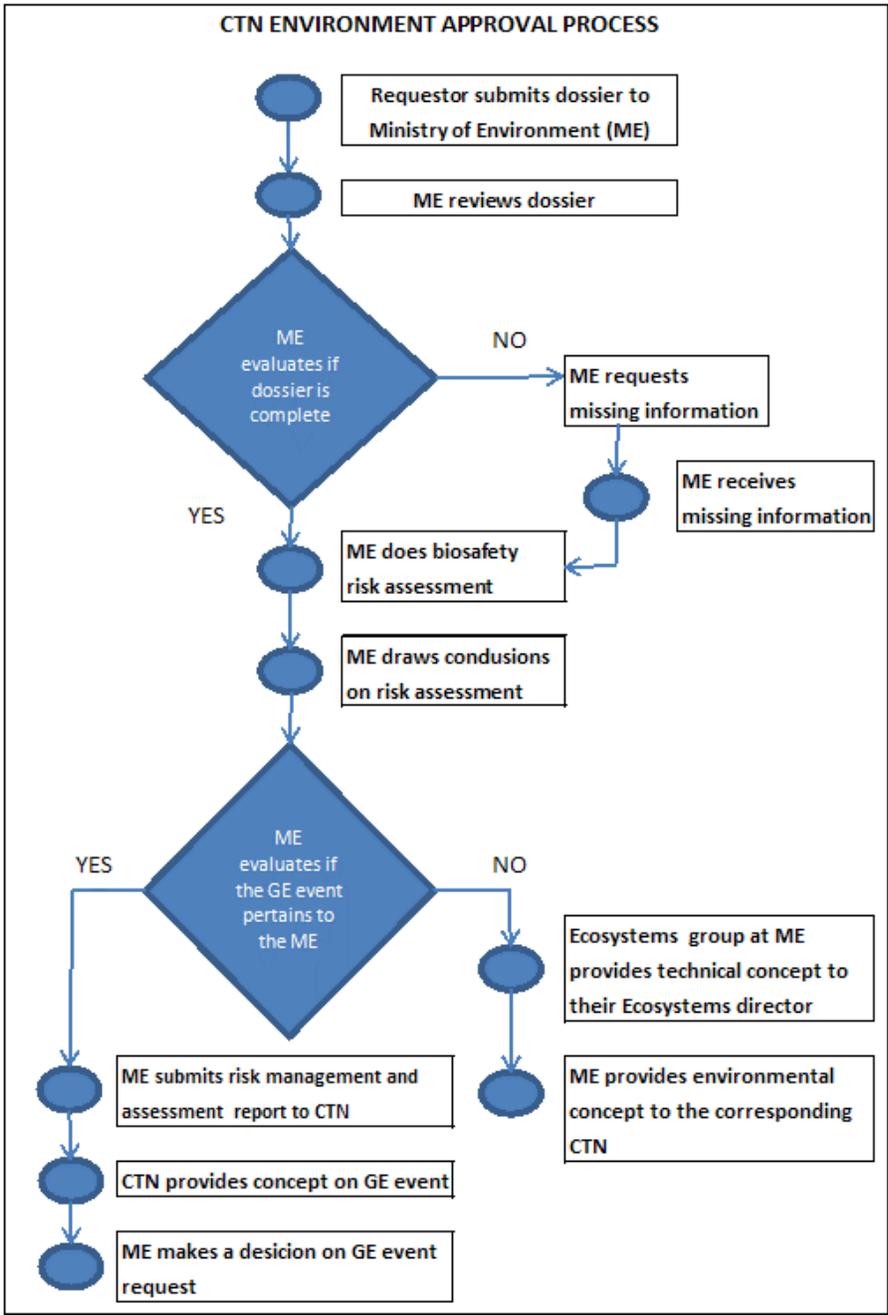
Decree 4525 of December 6, 2005, established three interagency committees composed of the above-mentioned Ministries that are responsible for biosafety issues and the evaluation and approval of biotech events:

National Technical Committee for Agriculture, Fishery, Forestry and Agro-industry (CTN-Bio): CTN-Bio's role is to assess GE events for the listed sectors. Although the committee has been approving new-to-market GE products, the MEHTD has voiced concerns regarding the environmental impact of events. The time taken to conduct a risk assessment varies since all dissenting concerns by the different ministries must be resolved before a product is approved. The graph below illustrates the CTN-Bio approval process:



Source: BCH Colombia www.bch.org.co (July 2012)

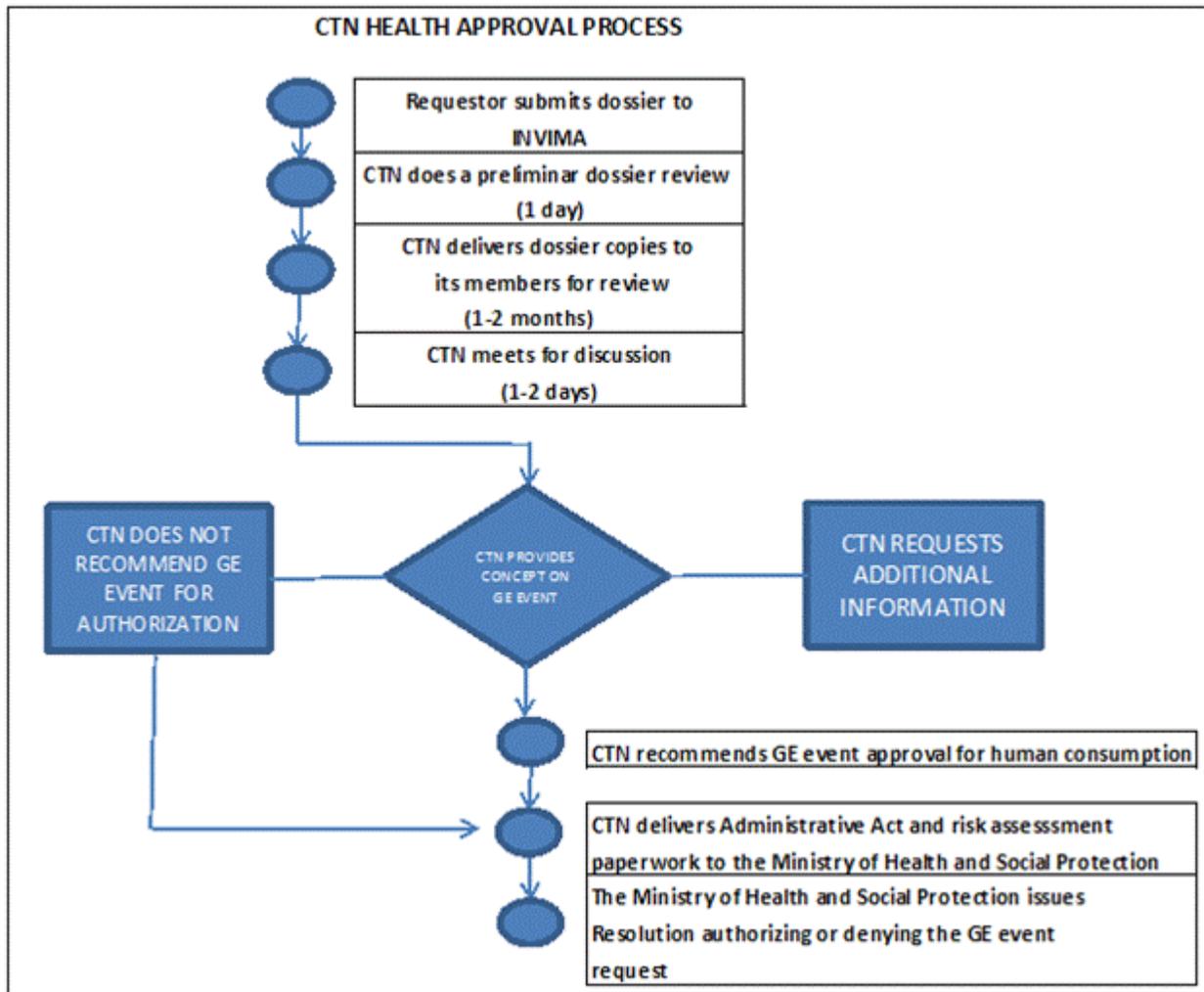
National Technical Committee for Environment (CTN-Environment): This committee's function is to assess GE events that may impact the environment. CTN-Environment has yet to receive any requests for review of GE events. However, in May 2010, the MEHTD issued regulatory Resolution 957 establishing procedures on the information companies must submit for evaluation and the Ministry's procedures of assessing GE events. The graph below illustrates the CTN-Environment approval process:



Source: BCH Colombia www.bch.org.co (July 2012)

National Committee for Health and Human Nutrition (CTN-Health): CTN Health's function is to

assess the impact GE products and by-products on human health. On February 1, 2007 the MHSP issued regulatory Resolution 227 to establish the functions of the committee. CTN-Health has submitted a number of recommendations for approval to the MHSP; however, the timeline for approvals is extensive. Colombian industry and the U.S. Government are requesting that the Ministry streamline the approval procedures with predictable timelines. The graph below illustrates the CTN-Health approval process:



Source: BCH Colombia www.bch.org.co (July 2012)

b) Approvals

All GE events for commercial cultivation and/or environmental release must be approved by the GOC. All GE events must be approved individually and there is no process to review “stacked” events as a whole. The approval process for GE derived feed and food materials are completed by CTN-Bio and CTN-Health and the committees’ decision timelines are not coordinated. These parallel timelines can result in internal asynchronous approvals (see appendix B).

c) Field Testing

Colombia allows for field-testing for GE crop cultivation (see appendix A) after a risk assessment is submitted to CTN-Bio for review and subsequent approval.

d) Stacked Events

Regarding "stacked" events, CTN-Bio requires additional or duplicative field testing. Even though the individual events may have already been approved, the "stacked" variety must independently go through the approval process. Stacked events (resistant to some lepidopteran pests and tolerant to Roundup herbicide) continue to be the most popular GE plant products cultivated in Colombia.

e) Additional Requirements

There are no additional requirements at this time.

f) Coexistence

ICA has carried out an evaluation of cross-pollination on cotton and found that both GE and non-GE crops do coexist. Regardless, farmers actively apply the practice of buffer zones or a natural barrier of fallow terrain between biotechnology and non-biotechnology crops in compliance with ICA resolution 682 of 2009 for cotton and 2894 of 2010 for corn. Both resolutions also require a 300 meter (984 feet) planting distance between GE and non-GE crops.

g) Labeling

The MHSP issued regulatory Resolution 4254 establishing the requirements for labeling of food derived from modern biotechnology. The resolution requires labeling information for product health and safety, such as potential allergenicity. Labeling must also address functionality or the use of the food as well as the identification of significant differences in the essential characteristics of the food. In addition to Resolution 4254, the Colombian government is deliberating the Technical Annex to supplement the Resolution, but the Annex is in internal discussion within the MHSP. There remains no indication when the Annex will be finalized and published/notified. Agricultural traders and food industries that deal with biotech-derived commodities will be required to comply with the new Annex requirements to ensure shipments for human consumption entering Colombia received regulatory approval. Industry and commodity exporters have expressed concerns that not all GE events traded in international commerce have been approved in Colombia. This could potentially delay shipments as a result of asynchronous approvals. The Annex will provide a LLP threshold to address that concern. Regarding labeling for imported GE materials (seeds or other plant reproductive materials and animal products), ICA issued regulatory Resolution 946, stating that imported GE derived materials should be labeled as "Genetically Modified Organisms" or, in Spanish, *Organismo Modificado Geneticamente*. This requirement is being justified under "consumer-right-to-know" principles.

h) Trade Barriers

Although there are no trade barriers at this time, a practical LLP policy will be essential to maintain the flow of trade.

i) Intellectual Property Rights

Regarding intellectual property rights (IPR), Colombia follows the guidelines provided as a member of the following groups: the Convention for the Protection of Industrial Property, the General Agreement on Tariffs and Trade (GATT), the International Union for the Protection of New Plant Varieties (UPOV), the G3 Mexico, Colombia and Venezuela Agreement, and the Andean Pact. As a member of the Andean Pact, Colombia adopted regulatory Decision 351, *Common Provisions on the Protection of the Rights of Breeders of New Plant Varieties*, and regulatory Decision 391, *Common Regime on Access to Genetic Resources* (Hodson & Carrizosa, 2007).

j) Cartagena Protocol Ratification

As a signatory (and ostensibly the host) to the CPB, Colombia approved the Biosafety Protocol through Law 740 in 2002. To date, the regulations to implement the CPB and supporting laws are outlined in: Decree 4525 of December 6, 2005; ICA resolution 1063 of March 22, 2005; ICA resolution 000946 of April 17, 2006; MHSP resolution 0227 of February 1, 2007; and, MEHTD resolution 957 of May 19, 2010.

k) International Treaties/Fora

Colombia plays an active role in the discussions of the CPB Conference of the Parties as a signatory. In addition to the CPB, Colombia is also a signatory to the International Treaty on Plant Genetic resources for Food and Agriculture, the International Plant Protection Convention (IPPC), and attends CODEX meetings to discuss issues on biotechnology.

l) Related Issues

None.

m) Monitoring and Testing

In 2009, the GOC issued regulatory Resolution 682 requiring GE seed companies to adopt a life cycle stewardship approach to guide producers, specifically targeting GE cotton production. In September 2012, a resolution was issued for handling GE corn, outlining the regulatory expectations for farmers and GE seed companies. Both resolutions established a production and commercial road map for the two most widely grown GE crops in Colombia. Regarding testing, INVIMA is actively conducting port of entry testing at MHSP laboratories to assess imported GE commodities destined as raw material for food and feed and the potential for asynchronous, unapproved events in shipments. To date, there have been no detections of unapproved events.

n) Low Level Presence

The Technical Annex will supplement regulatory Resolution 4254 and require approval for all GE derived agricultural imports destined for human consumption. Considering the unpredictable and lengthy timeframe for GE approvals, the GOC has proposed a 5 percent LLP threshold to address asynchronous approvals. The Annex, however, remains in internal discussion/review. After finalizing the Annex internally, the MHSP will submit the regulatory policy for international comments for two months. The LLP threshold will only apply to food use GE events and not for GE raw materials destined for animal feed.

Section IV: Plant Biotechnology Marketing Issues

a) Market Acceptance

Biotechnology derived commodities have been used in Colombia for about 14 years. Public opinion and media coverage to date has been favorable of biotechnology and consumers have not voiced major concerns about products containing GE derived raw materials. The GOC's structure for biotechnology regulations is science-based for approving or rejecting new biotechnology events. The basic principle of the GOC is to adopt the technologies that may help the economic/social development of rural Colombia. Of the various ministries, the MEHTD has been the most critical of biotechnology approvals. In addition, some indigenous groups have been inspired by non-governmental organizations (NGOs) to oppose the introduction GE crops for cultivation and environmental release based on biodiversity concerns.

b) Public/Private Opinions

Although Colombia's approach to biotechnology has been favorable, some environmental NGOs are pressuring government officials to reject biotech-derived technologies. In fact, anti-biotech activists targeted a seed regulation, ICA regulatory Resolution 970, which establishes requirements for production, imports, exports, storage, trade and use of seeds in Colombia. The activists conducted a campaign of misinformation about the regulation and use of biotech-derived seeds, incorrectly informing the public that the Resolution restricts seed use and forces farmers to buy expensive GE agricultural seed from multinational corporations.

c) Marketing Studies

An IFPRI study (Zambrano et al. 2011) on the economic benefits of cultivating GE cotton for women farmers indicated that they saved both time and money. The study helped highlight the role of women as practitioners and beneficiaries of biotech cotton production.

Section V: Plant Biotechnology Capacity Building and Outreach

a) Activities

FAS/Bogota has been working together with different industry groups to disseminate information on

the benefits of biotechnology and collaborating on the following activities:

- February 2013: First Colombian Borlaug fellow from the National Rice Producers Association attended a four month biotechnology program at the University of Georgia;
- April 2013: FAS collaborated with the U.S. Grains Council (USGC) to organize a delegation of GOC regulatory officials and industry representatives to Washington, DC, and St. Louis for discussions on LLP policies and trade impacts;
- June 2013: FAS collaborated with the USGC and the Colombian National Industries Association to conduct a two day seminar on LLP policies, including the Mexico experience with a zero tolerance LLP policy and the impacts on GE corn trade;
- September 2013: FAS and the Department of State (DOS) partnered with the USGC to conduct a LLP seminar for government officials, private sector representatives and academia with the purpose of highlighting different LLP approaches in Spain and Argentina.
- September 2013: FAS collaborated with the USGC to sponsor a team of three GOC regulatory officials to attend the Global LLP Initiative meeting in Durban, South Africa, in order to introduce proposed LLP policies in Colombia.
- March 2014: FAS collaborated with the USGC to conduct technical meetings with GOC officials responsible for drafting LLP policy.
- August 2014: FAS sponsored a delegation of GOC regulatory officials to attend the second international workshop for the regulation of animal biotechnology in Brasilia, Brazil.
- September 2014: FAS partnered with the DOS and the Colombian biotechnology advocacy organization, Agro-Bio, to conduct a four-day outreach event in five regional departments of Colombia.
- September 2014: FAS and the USGC collaborated with the GOC to participate in the 7th Meeting of Parties to the CPB in Pyeongchang, Korea.

b) Strategies and Needs

Colombia would greatly benefit with more educational efforts on the benefits of agricultural biotechnology. FAS/Bogota will continue to work with the appropriate U.S. government agencies and non-government stakeholders to develop programs that strengthen biotechnology knowledge and understanding. Some activities may include:

- Conduct outreach programs that improve the public knowledge and understanding of agricultural biotechnology on GE seed and intellectual property;
- Apply Cochran and Borlaug Fellowships and other educational programs to support improving the understanding of GOC officials on the latest policy and commercial trends for agricultural biotechnology.

Section VI: Animal Biotechnology

a) Product Development

According to GOC officials, there have been some research initiatives by universities on animal

biotechnology. However, the high costs of this technology seem to be a key factor in discouraging more widespread adoption. Aquaculture could be a possible area for more animal biotechnology research, in addition to GE cattle, but funding will likely be the primary constraint.

b) Commercial Production

None

c) Exports

None

d) Imports

Colombia has focused on importing recombinant vaccines and diagnostic kits for animal diseases (see appendix C).

Section VIII. Animal Biotechnology Policy:

a) Regulation

The GOC regulatory framework for plant biotechnology also applies to animal biotechnology. Per Decree 4525, the CTN-Bio is the interagency committee responsible for the evaluation and approval of GE animal products after a risk evaluation is conducted by ICA.

b) Labeling and Traceability

See Section III.

c) Trade Barriers

None.

d) Intellectual Property Rights (IPR)

No IPR regulation has been identified at this time.

e) International Treaties/Fora

Colombia is a signatory to the CPB and a member country to the World Trade Organization, International Organization for Animal Health and the Codex Alimentarius Commission. ICA is the point of contact on animal biotechnology issues.

Section IX. Animal Biotechnology Marketing

a), b) Market Acceptance, Public/Private Opinions

Public knowledge of biotechnology is mostly related to plants. Animal biotechnology is not well known and receives little media attention. Animal biotechnology is mostly related to assisted reproductive technologies.

c) Market Studies

None.

Section X. Animal Biotechnology Capacity Building and Outreach

a) Activities

The GOC could benefit from further risk evaluation training at FDA's Center for Veterinary Medicine. This is critical given each GE event must be submitted to the ICA Risk Unit prior to an assessment by CTN-Bio. Additional training could improve the efficiency of risk evaluations and regulatory decision-making.

b) Strategies and Needs

Colombia has done limited work on animal biotechnology. Therefore, any training and attendance to seminars and workshops would be of interest to GOC officials. Some activities that may help this purpose include:

- Animal biotechnology educational programs for GOC officials and researchers through the Cochran and Borlaug Fellowships and other policy and research collaboration.

APPENDIX A. COLOMBIA: CURRENT STATUS OF BIOTECHNOLOGY PRODUCTS FOR PLANTING

Crop	Requesting Company	New Characteristics of Biotechnology	Authorized Activity
Carnations ICA resolution 1219	Flores Colombianas Ltda. (Holland)	Blue Carnations	Approved in 2000 for commercial production of cut flowers for exports only. (green house conditions).
Carnations ICA resolution 3932 ICA resolution 3858	Flower Development (Holland)	Blue Carnations	Approved in 2008 for commercial production of cut flowers for exports only. (green house conditions).
Carnations ICA resolution 231 ICA resolution 3569	Suntory Holdings Limited	Blue Carnations	Approved for commercial production of cut flowers for exports only. (green house conditions).
Roses ICA resolution 3857	International Flower Development	Blue Petal Roses	Approved in 2009 for commercial production of cut flowers for exports only. (green house

ICA resolution 3786	(Holland)		conditions).
Chrysanthemum	International Flower Development	Blue Chrysanthemum	Approved for experimental plantings in 2009 (green house conditions).
ICA resolution 3785	Suntory Holdings Limited	Blue Chrysanthemum	Approved in 2012 for commercial production of cut flowers for exports only. (green house conditions).
ICA resolution 3570			
LLCotton25	Bayer CropScience	Tolerant to glufosinate ammonium herbicide	Approved in 2009 for agronomic field trials in the dry and humid Caribbean regions, upper Magdalena river (Tolima, Huila), Cauca river valley and eastern plains. Approved in 2010 for commercial plantings in the upper Magdalena river (Tolima, Huila) and the humid Caribbean region. Approved in 2014 for commercial plantings in the dry Caribbean region.
ICA resolution 1037			
ICA resolution 1259			
ICA resolution 2403			
ICA resolution 4137			
Bollgard Cotton-MON 531	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects	Approved for commercial plantings since 2003 in the humid Caribbean region, the upper Magdalena river valley (Tolima and Huila) and Cauca river valley. Approved for commercial plantings in the dry Caribbean region in May, 2004 and eastern plains in 2007.
ICA resolution 1247			
ICA resolution 2202			
Roundup Ready Cotton-MON 1445	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide	Approved in 2004 for commercial plantings in the dry Caribbean and humid Caribbean regions. Approved in 2007 for commercial plantings in the upper Magdalena river valley (Tolima and Huila) and Cauca river valley.
ICA resolution 1006			
ICA resolution 366			
Bollgard/Roundup Ready Cotton-MON 531XMON 1445	COACOL-Monsanto (United States)	Resistant to a wider variety of lepidopterous insects and tolerant to Roundup herbicide.	Approved in 2005 for biosafety assessments in the dry Caribbean and humid Caribbean regions, the upper Magdalena river valley (Tolima and Huila), Cauca river valley and Meta. Approved in 2007 for commercial plantings in the upper Magdalena river valley (Tolima and Huila), Cauca river valley, the dry Caribbean and humid Caribbean regions and Orinoquia.
ICA resolution 358			
ICA resolution 3852			
ICA resolution 2204			
Bollgard II and Roundup Ready Flex Cotton- MON 15985XMON 88913	COACOL-Monsanto (United States)	Resistant to a wider variety of lepidopterous insects and completely	Approved in 2005 for biosafety assessments in the dry Caribbean and humid Caribbean regions, the upper Magdalena river valley

ICA resolution 3851 ICA resolution 2203		tolerant to Roundup herbicide	(Tolima and Huila), Cauca river valley and Meta. Approved in 2003 for commercial plantings in the dry Caribbean and humid Caribbean regions and Orinoquia. Approved in 2007 for commercial plantings in the upper Magdalena river valley (Tolima and Huila) and Cauca river valley.
Bollgard II and Roundup Ready Flex Cotton- MON 15985XMON 88913 ICA resolution 1681	Bayer CropScience	Resistant to a wider variety of lepidopterous insects and completely tolerant to Roundup herbicide	Approved in 2008 for commercial plantings in the dry Caribbean and humid Caribbean regions, the upper Magdalena river valley (Tolima and Huila), and Orinoquia.
Roundup Ready Flex MON 88913 cotton ICA resolution 880 ICA resolution 1258	COACOL- Monsanto (United States)	Tolerant to Round Up herbicide	Approved for biosafety assessment in 2008 in dry and humid Caribbean regions, Cauca river valley, upper Magdalena river valley and Orinoquia. Approved on 04/09/10 for commercial plantings for dry and humid Caribbean regions, Cauca river valley, upper Magdalena river valley and Orinoquia.
Glytol and Liberty Link cotton ICA resolution 226 ICA resolution 4133	Bayer CropScience	Tolerant to Round Up and ammonium herbicide	Approved in 2012 for field trials in dry and humid Caribbean regions, Cauca river valley, upper Magdalena river valley and Orinoquia. Approved in 2014 for commercial plantings in the dry and humid Caribbean regions.
Glytol and Twilink cotton ICA resolution 4304			Approved in 2014 for commercial plantings
Rice ICA resolution 4041	CIAT (Colombia)	Tolerant to draught	Approved in 2010 for field trials in Villavicencio, Meta
Rice	CIAT (Colombia)	Resistant to White Leaf virus	Approved in 2000 for restricted research and small-scale plantings in open fields, in accordance with risk assessment
Rice	CIAT (Colombia)	Resistant to White Leaf virus	Approved in 2008 for restricted research
Cassava	CIAT (Colombia)	Resistant to the borer of stem/stalk	Approved in 2000 for small-scale plantings in open fields per risk assessment
Cassava	CIAT (Colombia)	Modification of cytokine production	Approved in 2000 for restricted research per risk assessment
Cassava	CIAT (Colombia)	Modification of amilopectin	Approved in 2000 for restricted research per risk assessment

		production	
Cassava	CIAT (Colombia)	Modification of cyanide content	Approved in 2000 for restricted research per risk assessment
Cassava ICA resolution 3854	CIAT (Colombia)		Approved in 2005 for restricted research per risk assessment
Cassava ICA resolution 858	CIAT (Colombia)		Approved in 2008 for restricted research per risk assessment
Brachiaria (grass)	CIAT (Colombia)	"frog hopper" resistant	Approved in 2000 for restricted research per risk assessment
Coffee	CENICAFE (Colombia)	Borer resistant	Approved in 2000 for restricted research per risk assessment
Potatoes ICA resolution 4469 ICA resolution 1628 ICA resolution 4040	Corporacion de Investigaciones Biologicas (CIB) (Colombia)	Resistant to Tecia solanivora)	Approved for field trials in Rio Negro, Antioquia in 2010
Tobacco ICA Resolution 2492	CENICAFE (Colombia)		Approved in 2010 for confined research
Fungus ICA Resolution 2492	CENICAFE (Colombia)		Approved in 2010 for confined research
Coffee plants "coffee Arabica" ICA Resolution 2492	CENICAFE (Colombia)		Approved in 2010 for confined research
Sugar cane ICA Resolution 3995	CENICAÑA (Colombia)	Resistant to the yellow leaf syndrome	Approved in 2005 for restricted research and small-scale plantings in open fields per risk assessment
Yieldgard Corn Mon 810 ICA resolution 3850 ICA resolution 3743 ICA resolution 465 ICA resolution 1727	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects	Approved in 2005 for biosafety assessments in the humid Caribbean region, upper Magdalena river (Tolima, Huila), Cauca river. Approved in 2007 for controlled plantings in the humid Caribbean region, upper Magdalena river (Tolima, Huila), Cauca river valley and eastern plains. Approved in 2008 for controlled plantings in the dry Caribbean, upper Magdalena river (Tolima, Huila), Cauca river, eastern plains and the Coffee region
Yieldgard Corn ICA resolution 3742	Dupont (United States)	Resistant to some lepidopterous insects	Approved in 2008 for controlled plantings in the dry and humid, Caribbean and the Coffee region

ICA resolution 646			
Yieldgard 2 Corn	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects and tolerant to Roundup herbicide	Risk assessment since 2005
Yieldgard VPro Corn MON 89034 ICA resolution 881	COACOL-Monsanto (United States)	Resistant to a wider variety of lepidopterous insects	Approved in 2007 for biosafety field trials in the dry and humid Caribbean regions, the Coffee region, upper Magdalena river valley (Tolima, Huila), Cauca river valley and eastern plains
Roundup Ready Corn (RR 2 corn) ICA resolution 1728 ICA resolution 3849 ICA resolution 3740	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide.	Approved in 2005 for biosafety assessments the humid Caribbean region (Cordoba), upper Magdalena river valley (Tolima, Huila), Cauca river valley and eastern plains. Approved in 2007 for controlled plantings in the humid Caribbean region (Cordoba), upper Magdalena river valley (Tolima, Huila), Cauca river valley and eastern plains. Approved in 2008 for controlled plantings in the dry Caribbean and the coffee region
Roundup Ready Corn ICA resolution 3739 ICA resolution 1680	Dupont (United States)	Tolerant to Roundup herbicide.	Approved in 2008 for controlled plantings in the dry Caribbean and the coffee region Approved in 2007 for controlled plantings in the humid Caribbean region, upper Magdalena river, Cauca river valley and eastern plains.
Yieldgard VPro X Roundup Ready 2 corn- MON 89034 X NK 603 ICA resolution 3784 ICA resolution 1851 ICA resolution 225 ICA resolution 233	COACOL-Monsanto (United States)	Resistant to a wider variety of lepidopterous insects and tolerant to Roundup herbicide.	Approved in 2009 for controlled plantings in the coffee region. Approved in 2011 for controlled plantings in the dry and humid Caribbean regions, upper Magdalena river valley (Tolima, Huila), Cauca river valley and eastern plains. Approved in 2012 for controlled plantings in the coffee region
Yieldgard X Roundup Ready Corn ICA resolution 2201 ICA resolution 3744	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects and tolerant to Roundup herbicide	Approved in 2007 for controlled plantings in the humid Caribbean region (Cordoba), upper Magdalena river valley (Tolima, Huila), Cauca river valley and eastern plains. Approved for biosafety assessments in 2007 in the dry Caribbean region and the coffee region. Approved in 2008 for

			controlled plantings in the dry Caribbean and the Coffee region.
Herculex I Corn ICA resolution 1729 ICA resolution 3853 ICA resolution 3741 ICA resolution 3575 ICA resolution 464 ICA resolution 3351	Dupont (United States)	Resistant to some lepidopterous insects	Approved for biosafety assessments in 2005 in the humid Caribbean region (Cordoba), upper Magdalena river valley (Tolima, Huila), and Cauca river valley. Approved for biosafety assessments in 2007 in the dry Caribbean region and the coffee region. Approved in 2007 for controlled plantings in the humid Caribbean region (Cordoba), upper Magdalena river valley (Tolima, Huila), Cauca river valley and eastern plains. Approved in 2008 for controlled plantings in the coffee region and the upper Magdalena river. Approved in 2012 for controlled plantings in the Dry Caribbean.
Herculex I ICA resolution 859	Dow AgroSciences		Approved for biosafety assessments in 2008 in the dry and humid Caribbean region, Cauca river valley, the coffee region, the upper Magdalena river, and eastern plains
Herculex I X Roundup Ready corn ICA resolution 3745 ICA resolution 878 ICA resolution 1677	Dupont (United States)	Resistant to some lepidopterous insects and tolerant to Roundup herbicide	Approved for controlled plantings in the humid Caribbean region, Cauca river valley and eastern plains. Approved in 2008 for controlled plantings in the coffee region, the upper Magdalena river, Cauca river valley and eastern plains.
Herculex RW corn ICA resolution 4469	Dupont (United States)	Tolerant to glufosinate	Approved in 2010 for biosafety and agronomic trials in the humid and dry Caribbean region, Upper Magdalena river valley, Cauca river valley, Orinoquia and the coffee region, Cauca river valley and eastern plains.
Herculex I X Roundup Ready corn ICA resolution 3738	Dow AgroSciences de Colombia S.A.	Resistant to some lepidopterous insects and tolerant to Roundup herbicide	Approved in 2008 for controlled plantings in the coffee region, the humid Caribbean region, the upper Magdalena river.
Bt 11 corn ICA resolution 3848 ICA resolution 1679 ICA resolution 3787	Syngenta (Switzerland)	Resistant to some lepidopterous insects	Approved for biosafety assessments in 2005 in the humid Caribbean region, Upper Magdalena river valley, Cauca river valley and Orinoquia. Approved in 2008 for controlled plantings in the humid Caribbean region and Cauca river valley. Approved in 2009 for controlled plantings in Magdalena river valley and eastern plains

CCR corn-MON 88017	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide and resistant to rootworm.	Approved for biosafety trials
GA 21 corn ICA resolution 2936 ICA resolution 877	Syngenta (Switzerland)	Tolerant to Roundup gene epsps	Approved for biosafety trials in the dry and humid Caribbean region, Cauca river valley, upper Magdalena river, coffee region and Orinoquia. Approved in 2010 for controlled plantings in the humid and dry Caribbean region, Upper Magdalena river valley, Cauca river valley and Orinoquia
Bt 11 X GA 21 corn ICA resolution 3915	Syngenta (Switzerland)	Resistant to some lepidopterous insects and tolerant to Roundup herbicide	Approved in 2010 for controlled plantings in the humid Caribbean region, Upper Magdalena river valley, Cauca river valley and Orinoquia
MON 89034-3 x MON 00603-6 corn ICA resolution 1036	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide, resistant to some lepidopterous insects	Approved on 03/16/09 for biosafety field trials in the humid and dry Caribbean region, Upper Magdalena river valley, Cauca river valley and Orinoquia
MIR162 (SYN-IR162-4) Corn ICA resolution 1257 ICA resolution 3574 ICA resolution 425 ICA resolution 426	Syngenta (Switzerland)	Resistant to some lepidopterous insects	Approved on 09/04/2010 for biosafety trials and agronomic assessment in the dry and humid Caribbean regions, upper Magdalena river valley (Tolima, Huila), Cauca river valley, Orinoquia Approved on 09/28/12 for controlled plantings for humid Caribbean regions, and Orinoquia. Approved in 2014 for controlled plantings in the Cauca river valley, upper Magdalena river and dry Caribbean.
MON VT Triple PRO (VT3P) (MON 89034 X MON 88017) corn ICA resolution 1260	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide, resistant to rootworm	Approved on 03/16/09 for biosafety field trials in the humid and dry Caribbean region, Magdalena river valley, Cauca river valley and Orinoquia
Bt11x MIR162 x MIR604 x GA21 corn ICA resolution 3572	Syngenta (Switzerland)	Tolerant to herbicide and resistant to insects	Approved on 09/28/2012 for biosafety trials and agronomic assessment in the dry and humid Caribbean regions, upper Magdalena river valley (Tolima, Huila), Cauca river valley, Orinoquia and coffee region.
DAS 59122-7xTC1507xNK603 corn	Dupont (United States)	Resistance to coleopteran and lepidopteran pests, and	Approved on 03/18/2011 for biosafety trials and agronomic assessment in the dry and humid Caribbean regions, upper

ICA resolution 1419 ICA resolution 3664		glyphosate and glufosinate ammonium tolerance	Magdalena river valley (Tolima, Huila), Cauca river valley, Orinoquia and coffee region.
MON 89034x TC 1507xNK603 corn ICA resolution 3049	Dow AgroSciences de Colombia S.A.		Approved for controlled planting in 2013
BT11 X MIR 162 X MIR 604 X TC 1507 X SYN 5307 X GA 21 corn ICA resolution 4134			Approved for biosafety trials
Roundup Ready soybean ICA resolution 1035 ICA resolution 2404 ICA resolution 227	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide	Approved in 2009 for biosafety field trials in the dry and humid Caribbean regions, upper Magdalena river valley (Tolima, Huila), and Cauca river valley. Approved for commercial plantings on 07/19/2010 in Orinoquia and on 02/02/2012 in Cauca river valley
Round Up ready 2 Yield soybean ICA resolution 3669 ICA resolution 3660	COACOL-Monsanto (United States)		Approved in 2011 for biosafety assessment in the dry and humid Caribbean regions, upper Magdalena river valley (Tolima, Huila), Cauca river valley and Orinoquia.
Liberty link soybean A5547-127 ICA resolution 4136			Approved in 2014 for biosafety field trials

APPENDIX B. COLOMBIA: CURRENT STATUS OF BIOTECHNOLOGY PRODUCT APPLICATIONS FOR FOOD, FEED and HEALTH

Crop	Requesting Company	New Characteristics of Biotechnology	Approved Applications	Approval Date
Bollgard cotton-MON 531 SEABA ACT III	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects	Raw material for food and feed	06/24/2004 06/08/2003
Roundup Ready cotton-MON 1445 SEABA ACT V	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide	Raw material for food and feed	11/12/2003 10/27/2003
Bollgard II cotton-MON 15985 MSP resolution 4587	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects	Raw material for feed and food	Approved for food on 1/12/2009
Roundup Ready Flex	COACOL-	Tolerant to Roundup	Raw material	Approved for food

cotton-MON 88913 MSP resolution 4582 ICA resolution 311	Monsanto (United States)	herbicide and to a wider spectrum of weeds	for feed and food	on 11/26/2009 Approved for feed on 11/02/2008
LL Cotton 25 ICA resolution 307	Bayer CropScience	Tolerant to Roundup herbicide	Raw material for feed	Approved for feed on 02/11/2008
Bollgard II+Roundup Ready Flex cotton-MON 15985XMON 88913 MSP resolution 2390 ICA resolution 2944	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects, tolerant to Roundup herbicide and to a wider spectrum of weeds	Raw material for feed and food	Approved for food on 06/24/2010 Approved for feed on 11/06/2007
GHB 614 Glytol cotton ICA resolution 3567	Bayer CropScience	Tolerant to herbicide	Raw material for feed	Approved for feed on 09/28/2012
GHB 614 Glytol x LL cotton 25	Bayer CropScience	Tolerant to herbicide	Raw material for feed	Approved for feed on 09/28/2012
Bollgard+Roundup Ready cotton-MON 531XMON 1445 MSP resolution 2179 ICA resolution 2943	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects and tolerant to Roundup herbicide	Raw material for food and feed	Approved for food on 06/16/2008 Approved for feed on 11/06/2007
COT 102 cotton ICA resolution 4131	Syngenta	Resistant to some lepidopterous insects	Raw material for feed	Approved for feed in 2014
Yieldgard corn-MON 810 SEABA ACT V ICA resolution 3746	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects	Raw material for food and feed	10/27/2003 12/15/2006
Roundup Ready corn-MON 603 SEABA ACT II ICA resolution 3744	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide	Raw material for food and feed	03/29/2004 12/15/2006
Yieldgard Rootworm corn CRW	COACOL-Monsanto (United States)	Resistant to rootworm	Pending	Pending ICA's approval for feed. Pending Ministry of Social Protection's approval for food since 06/27/2008
Yieldgard+Roundup Ready corn-MON 810XNK 603 MSP resolution 4583 ICA resolution 1365	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects and tolerant to Roundup herbicide	Raw material for feed and food	Approved for feed on 06/04/2007 and food on 11/26/2009
Bt Herculex I corn-DAS 01507-1	Dupont (United States)	Resistant to some lepidopterous insects	Raw material for food and	Approved on 10/17/2006

SEABA ACT V ICA resolution 3745			feed	12/15/2006
Herculex I X Roundup Ready corn-TC 1507XNK 603 ICA resolution 3083 MSP resolution 506	Dupont (United States)	Resistant to some lepidopterous insects and tolerant to Roundup herbicide	Raw material for feed and food	Approved for feed on 08/18/2009 Approved for food on 02/09/2010
Herculex RW corn- DAS 59122 ICA resolution 4473 MSP resolution 1708	Dupont (United States)	Resistant to some lepidopterous insects	Raw material for feed and food	Approved for feed on 12/27/2010 Approved for food on 5/18/2011
Yieldgard+Lysine corn-MON 810X LY 038	COACOL- Monsanto (United States)	Resistant to some lepidopterous insects. High lysine content	Raw material for feed	Pending for food as the request was withdrawn
Yieldgard VTPro -MON 89034 corn MSP resolution 2394 ICA resolution 2367	COACOL- Monsanto (United States)	Resistant to a wider variety of lepidopterous insects	Raw material for feed and food	Approved for food on 6/24/2010 Approved for feed on 08/28/2007
MON VT Triple PRO (VT3P) (MON 89034 X MON 88017) corn MSP resolution 1710 ICA resolution 3661	COACOL- Monsanto (United States)	Resistant to a wider variety of lepidopterous insects	Raw material for food and feed	Approved for food on 5/18/2011 Approved for feed on 9/16/2011
Yieldgard VTPro Corn X Roundup Ready 2- MON 89034 X NK 603 ICA resolution 3659 MSP resolution 2395	COACOL- Monsanto (United States)	Resistant to a wider variety of lepidopterous insects and tolerant to Roundup herbicide	Raw material for feed and food	Approved for feed on 9/16/2011 Approved for food on 6/29/2010
CCR corn-MON 88017 MSP resolution 1712 ICA resolution 1254	COACOL- Monsanto (United States)	Resistant to some lepidopterous insects and tolerant to Roundup herbicide	Raw material for food	Approved for food on 5/18/2011 Approved for feed on 04/09/2010
Yieldgard+CCR corn- MON 810X MON 88017 MSP resolution 1904 ICA resolution 3667	COACOL- Monsanto (United States)	Resistant to some lepidopterous insects, rootworm and tolerant to Roundup herbicide	Raw material for food and feed	Approved for food on 05/27/2011 Approved for feed on 09/16/2011
Lysine corn-LY p38 MSP resolution 4585	COACOL- Monsanto (United States)	High lysine content	Raw material for food and feed	Approved for food on 11/26/2009 Approved for feed

ICA resolution 2405				on 07/19/2010
Bt 11 corn MSP resolution 1078 ICA resolution 309	Syngenta (Switzerland)	Resistant to some lepidopterous insects	Raw material for food and feed	Approved for food on 4/13/2009 Approved for feed on 02/11/2008
GA 21 corn ICA resolution 2402 MSP resolution 1692	Syngenta (Switzerland)	Tolerant to Roundup herbicide	Raw material for feed and food	Approved for food on 06/27/2012 Approved for feed on 07/19/2010
Bt 11 X GA 21 corn ICA resolution 4474 MSP resolution 1695	Syngenta (Switzerland)	Resistant to some lepidopterous insects and tolerant to Roundup herbicide	Raw material for feed and food	Approved for feed on 12/27/2010 Approved for food on 06/27/2012
Smartstax corn -Mon 89034 X TC1507 X MON 88017 X DAS59122-7 MSP resolution 2393 ICA resolution 3662	COACOL- Monsanto (United States) and Dow Agrosciences	Resistant to some lepidopterous insects, to root worm and tolerant to Roundup herbicide and to glufosinate	Raw material for food and feed	Approved for food on 6/24/2010 and for feed on 09/16/2011
MIR 162 corn ICA resolution 4471 MSP resolution 1693	Syngenta (Switzerland)	Resistant to some lepidopterous insects	Raw material for feed and food	Approved for food on 6/27/2012. Approved for feed on 12/27/2010
BT 11xMIR 162xGA21 corn ICA resolution 2407 MSP resolution 1694	Syngenta (Switzerland)	Resistant to some lepidopterous insects and tolerant to herbicides	Raw material for feed and food	Approved for feed on 07/19/2010 Approved for food on 06/27/2012
MON 87460 corn MSP resolution 1709 ICA resolution 224	COACOL- Monsanto (United States)	Tolerant to drought	Raw material for food and feed	Approved for food on 05/18/2011 Approved for feed on 02/02/2012
MON 87460 X NK 603 corn ICA resolution 422 MSP resolution 777	COACOL- Monsanto (United States)	Tolerant to drought and herbicides	Raw material for feed and food	Approved for feed on 02/03/2014 Approved for food on 03/13/2014
MON 87460 X MON 89034 X MON 88017 corn ICA resolution 423 MSP resolution 778	COACOL- Monsanto (United States)	Resistant to some lepidopterous insects, tolerant to herbicides and drought	Raw material for feed and food	Approved for feed on 03/02/2014 Approved for food on 03/13/2014
MON 863-5 corn ICA resolution 4475 MSP resolution 1711	COACOL- Monsanto (United States)	Resistant to some lepidopterous insects	Raw material for feed and food	Approved for feed on 12/27/2010 Approved for food on 5/18/2011
BT 11 X MIR 162X MIR 604X GA 21 corn	Syngenta (Switzerland)	Root worm resistant and tolerant to herbicides	Raw material for food	Approved for food on 01/26/2012

MSP resolution 119				
MIR 604 corn MSP resolution 118 ICA resolution 229	Syngenta (Switzerland)	Root worm resistant	Raw material for food and feed	Approved for food on 01/26/2012 Approved for feed on 02/02/2012
MIR 604 X GA 21 corn ICA resolution 230 MSP resolution 769	Syngenta (Switzerland)	Resistant to some lepidopterous insects and tolerant to herbicide	Raw material for feed and feed	Approved for feed on 02/02/2012 Approved for food on 03/12/2014
BT 11XMIR 604X GA 21 corn ICA resolution 3046 MSP resolution 775	Syngenta (Switzerland)	Resistant to some lepidopterous insects and tolerant to herbicide	Raw material for feed and food	Approved for feed on 02/02/2012 Approved for food on 03/13/2014
Liberty Link corn-T25 MSP resolution 121 ICA resolution 3666	Bayer Cropscience (United States)	Tolerant to Roundup herbicide	Raw material for food and feed	Approved for food on 01/26/2012 Approved for feed on 09/16/2011
T25 XMON 810 corn	Bayer Cropscience (United States)	Resistant to some lepidopterous insects and tolerant to Roundup herbicide	Raw material for food	Approved for food on 01/26/2012
T25 X NK 603 corn MSP resolution 115 ICA resolution 228	COACOL- Monsanto (United States)	Tolerant to herbicide	Raw material for food and feed	Approved for feed on 02/02/2012 Approved for food on 01/26/2012
DAS 1507XMON 810 corn MSP resolution 1487 ICA resolution 3573	DUPONT	Resistant to some lepidopterous insects	Raw material for food and feed	Approved for food on 06/13/2012 Approved for feed on 09/28/2012
DAS 1507XMON 810X MON 603 corn MSP resolution 1488 ICA resolution 3571	DUPONT	Resistant to some lepidopterous insects and tolerant to herbicide	Raw material for food and feed	Approved for food on 06/13/2012 Approved for feed on 09/28/2012
DAS 1507X DAS 59122X MON 603 corn MSP resolution 1486 ICA resolution 3578	DUPONT	Resistant to some lepidopterous insects and tolerant to herbicide	Raw material for food and feed	Approved for food on 06/13/2012 Approved for feed on 09/28/2012
MON 89034 X DAS 1507X NK 603 corn ICA resolution 3050 MSP resolution 1861	COACOL- Monsanto (United States) Dow Agrosciences	Resistant to some lepidopterous insects and tolerant to herbicide	Raw material for feed and food	Approved for feed on 07/05/2013 Approved for food on 05/20/2014
BT11 X MIR604 corn	Syngenta	Resistant to some lepidopterous	Raw material for feed and	Approved for feed on 07/05/2013

MSP resolution 120 ICA resolution 3048		insects and tolerant to herbicide	food	Approved for food on 01/26/2012
SYN E3272-5 corn ICA resolution 3043	Syngenta	Modified amylase for ethanol production	Raw material for feed	Approved for feed on 07/05/2013
SYN E5307-1 corn ICA resolution 3047 MSP resolution 5632	Syngenta		Raw material for feed	Approved for feed on 07/05/2013 Approved for food on 02/12/2014
DAS 40278-9 corn ICA resolution 3052 MSP resolution 774	Dow Agrosience	Herbicide tolerant	Raw material for feed and food	Approved for feed on 07/05/2013 Approved for food on 03/13/2014
MON 87427 X MON 89034 X MON 88017 corn MSP resolution 3488	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects and tolerant to herbicide	Raw material for food	Approved for food on 08/19/2014
MON 87427 X MON 89034 X NK 603 corn MSP resolution 3705	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects and tolerant to herbicide	Raw material for food	Approved for food on 08/29/2014
MON 87427 X MON 89034 X TC 1507 X MON 88017 X DAS 59122 corn MSP resolution 3489	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects and tolerant to herbicide	Raw material for food	Approved for food on 08/19/2014
DAS-40278-9 X NK 603 corn MSP resolution 3487	Dow Agrosiences	Resistant to some lepidopterous insects and tolerant to herbicide	Raw material for food	Approved for food on 08/19/2014
MON 87427 corn ICA resolution 424 MSP resolution 1862	COACOL-Monsanto (United States)	Tolerant to herbicide	Raw material for feed and food	Approved for feed on 03/02/2014 Approved for food on 05/20/2014
MON 87460 X MON 89034 X NK 603 corn ICA resolution 427 MSP resolution 776	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects and tolerant to herbicides	Raw material for feed	Approved for feed in 2014 Approved for food on 3/13/2014
MON 89034 X TC 1507 X NK 603 X DAS 40278-9 corn ICA resolution 4135	Dow Agrosiences	Tolerant to herbicide	Raw material for feed	Approved for feed in 2014
TC 1507 X MON 810 X MIR 162 X NK 603	Dupont (United States)	Resistant to some lepidopterous	Raw material for feed	Approved for feed in 2015

corn ICA resolution 002		insects and tolerant to herbicides		
Roundup Ready wheat *1-MON 71800 SEABA ACT II	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide	Raw material for food	Approved for food on 3/29/2004
Roundup Ready soybeans-MON 04032-6/GTS 40302 SEABA ACT VII ICA resolution 2942	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide	Raw material for food and feed	Approved for food on 12/9/2005 Approved for feed on 11/06/2007
Roundup Ready 2Yield soybeans-MON 89788 ICA resolution 1256 MSP resolution 2391	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide	Raw material for feed and food	Approved for feed on 04/09/2010. Approved for food on 06/24/2010
GAT Soybeans- DP 356043 MSP resolution 2392 ICA resolution 2406	Dupont (United States)	Tolerant to herbicide	Raw material for food and feed	Approved for food on 6/24/2010. Approved for feed on 7/19/2010
MON 87701X MON 89788 soybeans MSP resolution 116 ICA resolution 3663	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects and tolerant to Roundup herbicide	Raw material for food and feed	Approved for food on 01/26/2012. Approved for feed on 09/16/2011
Glycine Max soybean-CV 127 MSP resolution 117 ICA resolution 3668	Basf Inc	Tolerant to Roundup herbicide	Raw material for food and feed	Approved for food on 01/26/2012. Approved for feed on 09/16/2011
MON 87705 soybean ICA resolution 3566 MSP resolution 338	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide	Raw material for feed and food	Approved for feed on 09/28/2012 and for food on 02/10/2014
MON 87769 soybean ICA resolution 3565 MSP resolution 339	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide	Raw material for feed and food	Approved for feed on 09/28/2012 and food on 02/10/ 2014
A5547 soybean ICA resolution 3564	Bayer CropScience	Tolerant to herbicide	Raw material for feed	Approved for feed on 09/28/2012
A2704 soybean ICA resolution 3579	Bayer CropScience	Tolerant to herbicide	Raw material for feed	Approved for feed on 09/28/2012
DAS68416-4 soybean	Dow Agroscience	Tolernant to herbicide	Raw material for feed	Approved for feed on 07/05/2013

ICA resolution 3051				
MON 87708 X MON 89788 soybean ICA resolution 420 MSP resolution 1257	Monsanto	Tolerant to herbicide	Raw material for feed and food	Approved for feed in 2014 and for food on 04/22/2015
MON 87708 MSP resolution 1259	Monsanto	Tolerant to herbicide	Raw material for food	Approved for food on 04/22/2015
MON 87705 X MON 89788 soybean ICA resolution 131 MSP resolution 1258	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide	Raw material for feed and food	Approved for feed in 2015 and for food on 04/22/2015
MON 87769 X MON 89788 soybean ICA resolution 132 MSP resolution 1256	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide	Raw material for feed and food	Approved for feed in 2015 and for food on 04/22/2015
DAS 44406 soybean ICA resolution 134	Dow Agrosience	Tolerant to herbicide	Raw material for feed	Approved for feed in 2015
ACS-GM006-4 soybean MSP resolution 3486	Bayer CropScience (United States)	Tolerant to herbicide	Raw material for food	Approved for food on 08/19/2014
ACS-GM005-3 soybean MSP resolution 4083	Bayer CropScience (United States)	Tolerant to herbicide	Raw material for food	Approved for food on 09/22/2014
Roundup Ready sugar beet-H7-1/KM 0071 ICA resolution 1255 SEABA ACT VII	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide	Raw material for food and feed	Approved on for food on 12/9/2005 Approved for feed on 04/09/2010
Liberty-link rice LLRice62 MSP resolution 5333 ICA resolution 308	Bayer CropScience (United States)	Tolerant to herbicide	Raw material for food and feed	Approved for food on 12/26/2008 Approved for feed on 02/11/2008
LLRice601 MSP resolution 3674 ICA resolution 310	Bayer CropScience (United States)	Tolerant to herbicide	Raw material for food	Approved on 12/26/2008 Approved for feed on 02/11/2008
MON 88302-9 canola	COACOL-	Tolerant to herbicide	Raw material	Approved for feed

ICA resolution 421	Monsanto (United States)		for feed	in 2014
Mice 3XTg AD	Universidad de Antioquia		Controlled health research	Approved for food on 7/30/2008
MSP resolution 2836				
Mice ApoE-/- 6 Apoe "knock out"	Universidad de Antioquia		Controlled health research	Approved on 7/30/2008
MSP resolution 2835				

APPENDIX C. COLOMBIA: CURRENT STATUS OF BIOTECHNOLOGY PRODUCT APPLICATIONS FOR ANIMAL USE

Description	Requesting Company	Species	Approved Applications	Approval Date
Small pox vaccine- Vectomune FP-LT ICA resolution 3739	Vetiplus Ltda	Poultry	Small pox	12/15/2006
Small pox vaccine- Vectomune FP-MG ICA resolution 561	Vetiplus Ltda	Poultry	Small pox	03/13/2007
Vaxxitek HVT+IBD ICA resolution 2946	Carval de Colombia	Poultry	Marek and Bolsa disease	11/06/2007
Innovax ND-SB Virus Serotypes 2 and 3. Poultry recombinant vaccine ICA resolution 1250	Intervet Colombia Ltda	Poultry	Marek disease and Newcastle disease	04/09/2010
Poultry Anigen AIV Ab Elisa Kit ICA Resolution 1251	Annar DiagnostICA Import S.A.S	Poultry	Avian Influenza	04/09/2010
Poulvac E. Coli poultry inactivated subunit vaccine ICA resolution 1252	Wyeth Inc	Poultry	Avian Colibacillosis	04/09/2010
Innovax ILT poultry recombinant vaccine ICA resolution 1253	Intervet Colombia Ltda	Poultry	Marek's disease and Laryngotracheitis	04/09/2010
Poultry recombinant vaccine ICA resolution 2399	Vetiplus S.A.	Poultry	Marek and Gumboro disease	07/19/2010

Poultry recombinant vaccine ICA resolution 2400	Vetiplus S.A.	Poultry	Marek and Newcastle disease	07/19/2010
Innofusion ND ICA resolution 5990	Intervet Colombia Ltda	Poultry	Marek and Newcastle disease	12/31/2012
Vectormune FP-LT-EC Vaccine ICA resolution 4125	Vetiplus S.A.	Poultry	Laryngotracheitis and smallpox	10/28/2011
Vectorvac FP-LT ICA resolution 5988	Amerivet SAS	Poultry	Laryngotracheitis and smallpox	12/31/2012
Ingelvac-CircoFlex ICA resolution 2945	Boehringer-Ingelheim	Swine	Circovirus type 2	11/06/2007
Vaccine ICA resolution 3318	Suvaxyn PCV2	Swine	Circovirus type 1	09/24/2008
Porcillis inactivated subunit vaccine ICA resolution 1227	Intervet Colombia Ltda	Swine	Circovirus type 2	2009
Porcilis porcoli DF vaccine ICA resolution 4472	Intervet Colombia Ltda	Swine	Neonatal enterotoxigenic	12/27/2010
Porcillis PCV ICA resolution 5987	Intervet Colombia Ltda	Swine		12/31/2012
Circumvent PCV M ICA resolution 5989	Intervet Colombia Ltda	Swine	Protection for both circovirus and Mycoplasma hyopneumoniae	12/31/2012
Porcillis AR-T DF ICA resolution 4130	Intervet Colombia Ltda	Swine		10/28/2011
Anigen Rapid E. diagnostic kit ICA resolution 4470	Annar Diagnostica Import S.A.S	Dogs	Immuno-chromatography diagnostic kit	12/27/2010
Recombitek C4	Carval de Colombia	Dogs	Distemper, adenovirus, hepatitis, parainfluenza and parvovirus vaccine	
Feline immunodeficiency and leukemia virus	Annar Diagnostica Import S.A.S	Felines	Feline immunodeficiency and leukemia virus	07/19/2010

diagnostic kit				
ICA resolution 2401				
Leucogen	Virbac Colombia Ltda.	Felines	Leukemia	10/28/2011
ICA resolution 4126				
Synbiotics La-EZ/EIA	ADN Internacional S.A.	Equines	Equine infectious anemia	2012
Elisa diagnostic kit				
Ingezim PRRS America	ADN Internacional S.A.	Swine	Porcine reproductive and respiratory syndrome virus	
Elisa diagnostic kit				
Priocheck Ab CSFV 2.0	ADN Internacional S.A.	Swine	Swine fever virus	
Elisa diagnostic kit				
SensPERT FELV Ag/FIV Ab	Gabrica S.A.	Feline	Feline immunodeficiency virus	10/18/2012
ICA resolution 3976				
SensPERT FIV Ab	Gabrica S.A.	Feline	Feline Immunodeficiency Virus	10/18/2012
Elisa diagnostic kit				
ICA resolution 3973				
Recombitek C3	Carval de Colombia	Dogs	Distemper, adenovirus, and parvovirus vaccine	
Ingezim Corona Diferencial 2.0	ADN Internacional S.A.	Swine	Transmissible Gastroenteritis and Porcine Respiratory Corona Virus	
Elisa diagnostic kit				
Priocheck BTV	ADN Internacional S.A.	Cattle	Blue tongue vaccine	
Elisa diagnostic kit				
Innofusion ND	Intervet Colombia Ltda.	Poultry	Marek Newcastle poultry vaccine	
Porcilis Coliclos	Intervet Colombia Ltda	Swine	Infections caused by <i>E. coli</i>	
Virbagen Omega	Virbac Colombia Ltda.	Feline	Recombinant interferon omega vaccine	
Farmune HVY-IBDV-LT	Amerivet SAS	Poultry	Laryngotracheitis, Gumboro and Marek disease	
HerdCheck PRRS X 3	AquaLab SAS	Swine	Porcine Reproductive and Respiratory Syndrome	
Elisa diagnostic kit				
Rhinseng	Hipra	Swine	Atrophic rhinitis	Approved in 2014
ICA resolution 3042				

