

Required Report: Required - Public Distribution

Date: November 18, 2022

Report Number: CO2022-0018

Report Name: Agricultural Biotechnology Annual

Country: Colombia

Post: Bogota

Report Category: Biotechnology and Other New Production Technologies

Prepared By: FAS Staff

Approved By: Adam Klein

Report Highlights:

While Colombia's regulatory environment remains friendly toward the adoption of biotech-derived commodities and other innovative technologies, Congressional anti-biotechnology initiatives continue posing a threat, risking the benefits to consumers and the agricultural sector. In 2021, genetically engineered corn area planted grew 31 percent, reaching record figures, and genetically engineered cotton area planted recovered 55 percent compared to 2020.

Section I. Executive Summary:

Colombia remains open to the adoption of genetically engineered derived commodities and other innovative technologies. The country has made significant progress in implementing regulations that facilitate the use of agricultural biotechnology. However, political developments related to biotechnology regulation have potential to hinder the adoption of new technologies. FAS is monitoring developing legislation on a Congressional bill to ban genetically engineered seeds.

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 2021, food and agricultural trade between Colombia and the United States reached \$6.9 billion. U.S. exports of genetically engineered-derived agricultural products, such as corn, cotton, soybeans, soybean meal, soybean oil, and distillers' grains, were valued at \$2.0 billion.

In 2002, Colombia approved the Cartagena Protocol on Biosafety (CPB). In 2005, Colombia published [Decree 4525](#) to implement the CPB. Since then, the Government of Colombia (GOC) has published several other regulatory measures that outline new requirements and procedures for approving and using genetically engineered products in Colombia. Some of Colombia's agricultural biotechnology regulatory framework remains under review. Additional review provides opportunities to engage GOC regulatory agencies with technical outreach to facilitate the adoption of science-based regulatory policies, especially on low-level presence (LLP), and innovative technologies. In 2018, the GOC issued Resolution 29299, which is currently under review, for crops obtained using innovative technologies to define if the crop is subject to genetically engineered or conventional crop regulations. According to Resolution 29299, three genome-edited products-waxy corn, blight resistant, rice and improved flavor mustard-were assessed and determined to fall under regulations for conventional products.

The GOC has established three technical biotechnology committees to analyze the environmental, biosafety, and food safety impacts of genetically engineered derived products (See Part B, Policy). The Ministry of Health and Social Protection (MHSP) issued Resolution 4254, establishing the requirements for labeling foods derived from modern biotechnology, and in June 2012, the GOC implemented the resolution. In addition, the GOC has been working on establishing an LLP threshold policy for eight years, but internal deliberations continue. In the meantime, on September 8, 2015, the Constitutional Court ruled in favor of mandatory labeling of genetically engineered products in response to a lawsuit attacking Consumer Law 1480, Article 24, which refers to labeling, but does not address genetically engineered labeling. Despite the two-year deadline to develop mandatory labeling regulations, the GOC has not produced final rules. In May 2021, a bill to establish genetically engineered seed-free municipalities and ban genetically engineered-derived agricultural product imports was submitted before Congress and approved in the first House debate but did not advance due to time constraints. In July 2022, an amendment to the Colombian constitution sought to ban the import, export, production, and commercialization of genetically engineered seeds was withdrawn before Congress had the chance to debate it.

In 2002, genetically engineered cotton was the first genetically engineered plant cultivated on a non-restricted commercial basis in Colombia. The GOC approved the first genetically engineered corn traits in 2007. In 2021, genetically engineered corn continued to be more widely planted than genetically engineered cotton. Genetically engineered cotton area planted showed a 55 percent recovery from 2020, and genetically engineered corn showed a 31 percent increase in area planted, reaching record figures in 2021. Genetically engineered cotton represents 91 percent of the total area planted, while genetically engineered corn represents 35 percent of total area planted. Also, Colombian producers continued producing genetically engineered blue carnations, roses, and chrysanthemums under greenhouse conditions for export to Europe, and genetically engineered blue petal roses for exports to Japan. Regarding domestic genetically engineered event development, Colombia approved plantings of the first genetically engineered off-patent corn event in 2019.

Colombia continues to import genetically engineered vaccines for animal diseases (See appendix C).

REPORT HIGHLIGHTS
EXECUTIVE SUMMARY
TABLE OF CONTENTS

CHAPTER 1: PLANT BIOTECHNOLOGY

PART A: Production and Trade

- a) Research and Product Development
- b) Commercial Production
- c) Exports
- d) Imports
- e) Food Aid
- f) Trade Barriers

PART B: Policy

- a) Regulatory Framework
- b) Approvals/Authorizations
- c) Stacked or Pyramided Event Approvals/Authorizations
- d) Field testing
- e) Innovative Biotechnologies
- f) Coexistence
- g) Labeling and Traceability
- h) Monitoring and Testing
- i) Low-level Presence (LLP) Policy
- j) Additional Regulatory Requirements
- k) Intellectual Property Rights (IPR)
- l) Cartagena Protocol Ratification
- m) International Treaties and Forums
- n) Related issues

PART C: Marketing

- a) Public/Private Opinions

- b) Market Acceptance/Studies

CHAPTER 2: ANIMAL BIOTECHNOLOGY

PART D: Production and Trade

- a) Research and Product Development
- b) Commercial Production
- c) Exports
- d) Imports
- e) Trade Barriers

PART E: Policy

- a) Regulatory Framework
- b) Approvals/Authorizations
- c) Innovative Biotechnologies
- d) Labeling and Traceability
- e) Additional Regulatory Requirements
- f) Intellectual Property Rights (IPR)
- g) International Treaties and Forums
- h) Related issues

PART F: Marketing

- a) Public/Private Opinions
- b) Market Acceptance/Studies

CHAPTER 3: MICROBIAL BIOTECHNOLOGY

PART G: Production and Trade

- a) Commercial Production
- b) Exports
- c) Imports
- d) Trade Barriers
- e) ***PART H: Policy***
- f) Regulatory Framework
- g) Approvals/Authorizations
- h) Labeling and Traceability
- i) Monitoring and Testing
- j) Additional Regulatory Requirements
- k) Intellectual Property Rights (IPR)
- l) Related Issues

PART I: Marketing

- a) Public/Private Opinions
- b) Market Acceptance/Studies

CHAPTER 1: PLANT BIOTECHNOLOGY

PART A: Production and Trade

a) Research and Product Development

In 2019, the Colombian Agricultural Institute (ICA), authorized the Colombian Grain Producers Association (Fenalce) to begin plantings of their corn genotype containing the TC-1507 off-patent event in dry and humid Caribbean regions, Magdalena and Cauca River valleys, Orinoquia, and the coffee region.

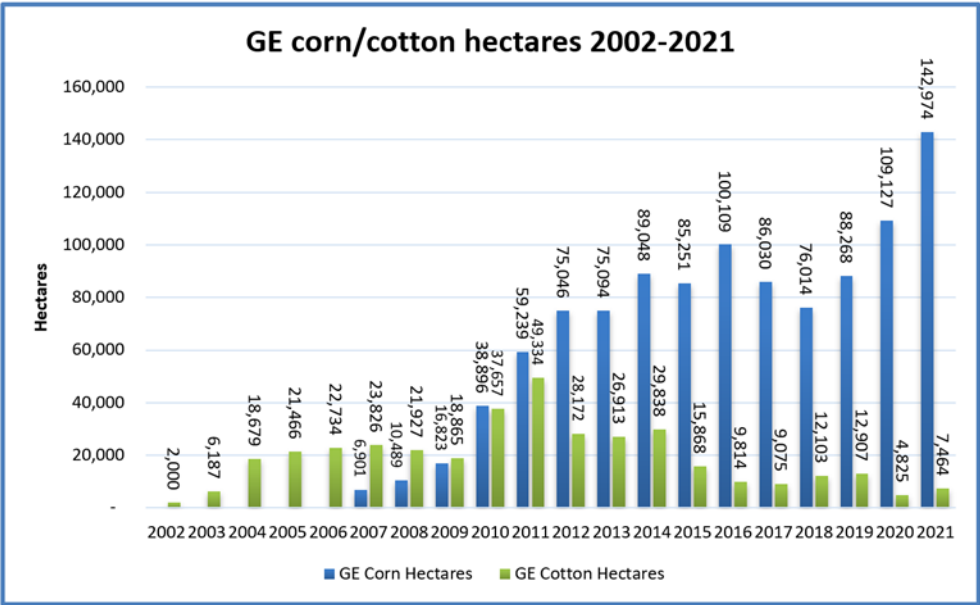
Several other Colombian organizations are also producing valuable research in the GE sector. The Colombian Sugar Cane Research Center (CENICAÑA) is developing a sugar cane variety resistant to the yellow leaf virus and a sugar cane variety with increased sugar and biomass and salt, aluminum, and water stress tolerance. The International Center for Tropical Agriculture (CIAT) is researching genetically engineered rice, cassava, and grass, and EAFIT University is working on the oleic content of castor bean and sacha inchi, a perennial plant that produces fruit with large, edible seeds. The Colombian Coffee Research Center (CENICAFE) is conducting genetically engineered 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 also collaborating to develop rice and potato biotechnology varieties. All genetically engineered products that are developed must go through the regulatory approval process whether intended for ornamentals, for human consumption, or for animal feed.

b) Commercial Production

Prior to 2006, the cotton varieties Bollgard and Roundup-Ready were the only non-restricted genetically engineered approvals in Colombia. In 2007, the GOC approved the first stacked event, a cotton variety combining Bollgard and Roundup-Ready and controlled plantings of genetically engineered corn. In 2010, genetically engineered soybean production was approved for commercial cultivation but only initiated cultivation as an off-patent event in 2020. Biotech blue carnations, blue petal roses and blue chrysanthemums are cultivated solely for export markets, and the area planted for flowers is 12 hectares. Colombian farmers continue to adopt genetically engineered technology; Colombian departments Meta, Tolima, Cordoba, Valle del Cauca, and Cesar have the highest genetically engineered corn adoption per area planted, while 23 out of 32 departments currently grow genetically engineered corn or cotton. In 2021, Colombia planted 142,974 and 7,464 hectares of genetically engineered corn and cotton, respectively, representing a 31 percent genetically engineered corn area growth, the highest in history, and a 55 percent genetically engineered cotton area planted recovery. (See Charts 1, 2, and 3).

There are pending applications for several other crops that are in different 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	52,134	Cordoba	2,365
Tolima	36,825	Tolima	2,088
Valle del Cauca	13,551	Cesar	1,207
Cordoba	16,863	Guajira	907
Casanare	2,816	Huila	632
Vichada	2,796	Valle del Cauca	249
Cesar	6,118	Antioquia	16
Huila	2,265		
Quindio	2,201		
Cauca	1,214		
Santander	1,212		
Risaralda	1,133		
Cundinamarca	1,089		
Bolivar	600		
Sucre	473		
Antioquia	369		
Caldas	358		
Arauca	345		
Magdalena	325		
Guaviare	149		
Norte de Santander	75		
Atlantico	62		
Guajira	3		

Data provided by ICA-Colombian Agricultural Institute

Chart 3



Data provided by ICA-Colombian Agricultural Institute

c) Exports

Genetically engineered blue carnations and chrysanthemums are produced for export to Europe and genetically engineered blue petal roses for export to Japan. In 2021, area planted for both blue carnations, blue petal roses and blue chrysanthemums remains unchanged at 12 hectares. On the Japanese retail market, blue petal roses sell for approximately \$40-\$50 per flower.

d) Imports

According to the Colombian Seed Association, Brazil, Honduras, and Mexico export most of the genetically engineered corn seeds Colombia grows (2,290 tons). GE cotton seeds are imported from the United States (102 tons), and genetically engineered soybeans are imported from Brazil (96 tons). In 2021, Colombia imported approximately \$2.0 billion worth of GE-derived agricultural products such as corn, cotton, soybeans, soybean meal, soybean oil, and distillers' grains from the United States.

e) Food Aid

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

f) Trade Barriers

The lack of an LLP policy and a congressional initiative to declare genetically engineered seed ban have the potential to undermine Colombia's regulatory environment for genetically engineered products and to negate the benefits for consumers and the agricultural sector. In July 2022, an amendment to the Colombian constitution sought to ban genetically engineered seed imports, exports, production, and commercialization. After discussions held with stakeholders at a public hearing in early September 2022, the bill's sponsors withdrew it before debate. It is possible this legislation, or similar legislation, will be introduced again during year (July 2022-June 2023), or in subsequent years.

PART B: Policy

a) Regulatory Framework

Legal Term (in Spanish)	Legal Term (in English)	Law and Regulations where term is being used	Legal Definition (in English)
Organismo Vivo Modificado (OVM)	Living Modified Organism (LMO)	Decree 4525 Resolution 91506 Resolution 91505 Resolution 957	Any living organism that possesses a novel combination of genetic material obtained through the use of modern

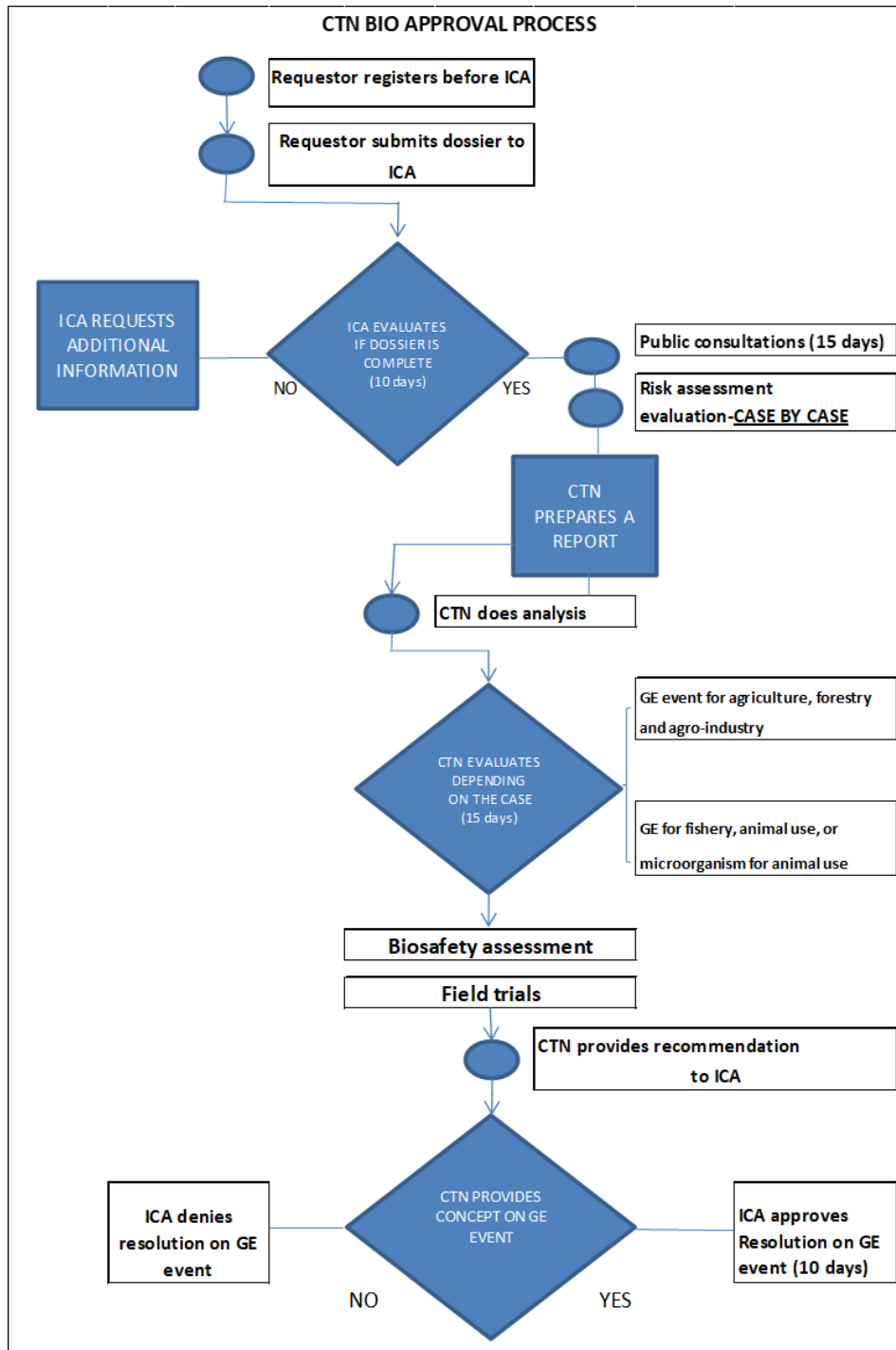
		Resolution 2535 Resolution 29299	biotechnology
Organismo Genéticamente Modificado (OGM)	Genetically Modified Organism (GMO)	Resolution 4525 Resolution 72221 Resolution 4254	Any living organism that has a new combination of genetic material that has been obtained through the application of recombinant DNA technology, its development or advances, as well as its parts, derivatives or products that contain them, with the ability to reproduce or transmit genetic information. Living modified organisms (LMOs) referred to in the Cartagena Protocol on biosafety and biotechnology are included within this concept.

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

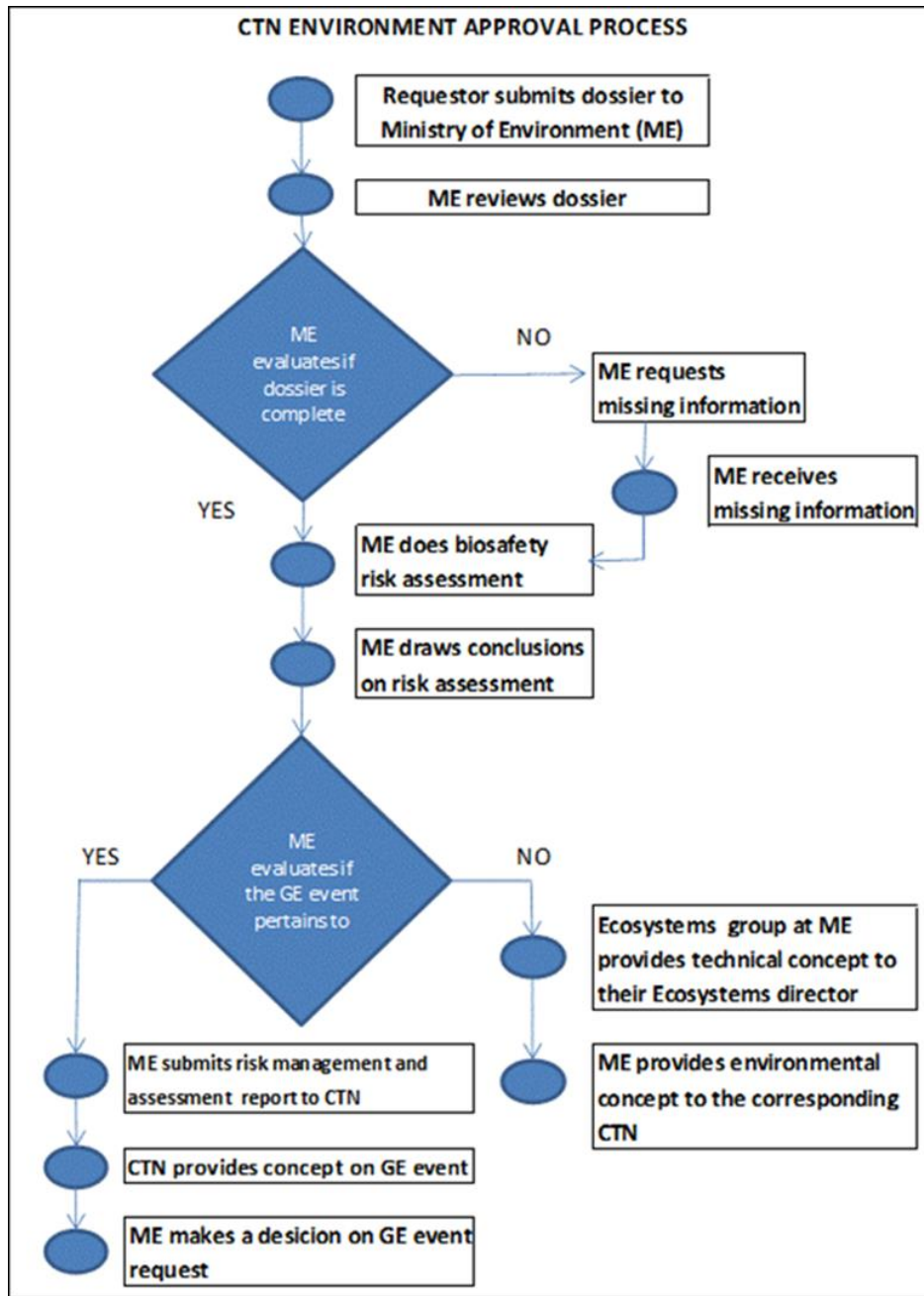
- Ministry of the Environment, Housing and Territorial Development (MEHTD);
- Ministry of Health and Social Protection (MHSP);
- Ministry of Agriculture and Rural Development (MARD), through the Colombian Agricultural Institute (ICA);
- Ministry of Science and Technology (previously Colciencias);
- National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

[Decree 4525 from 2005](#) (available only in Spanish), established three interagency committees, consisting of the ministries mentioned above, responsible for biosafety issues as well as the evaluation and approval of biotech products. The committees responsible for biotech regulation are outlined below:

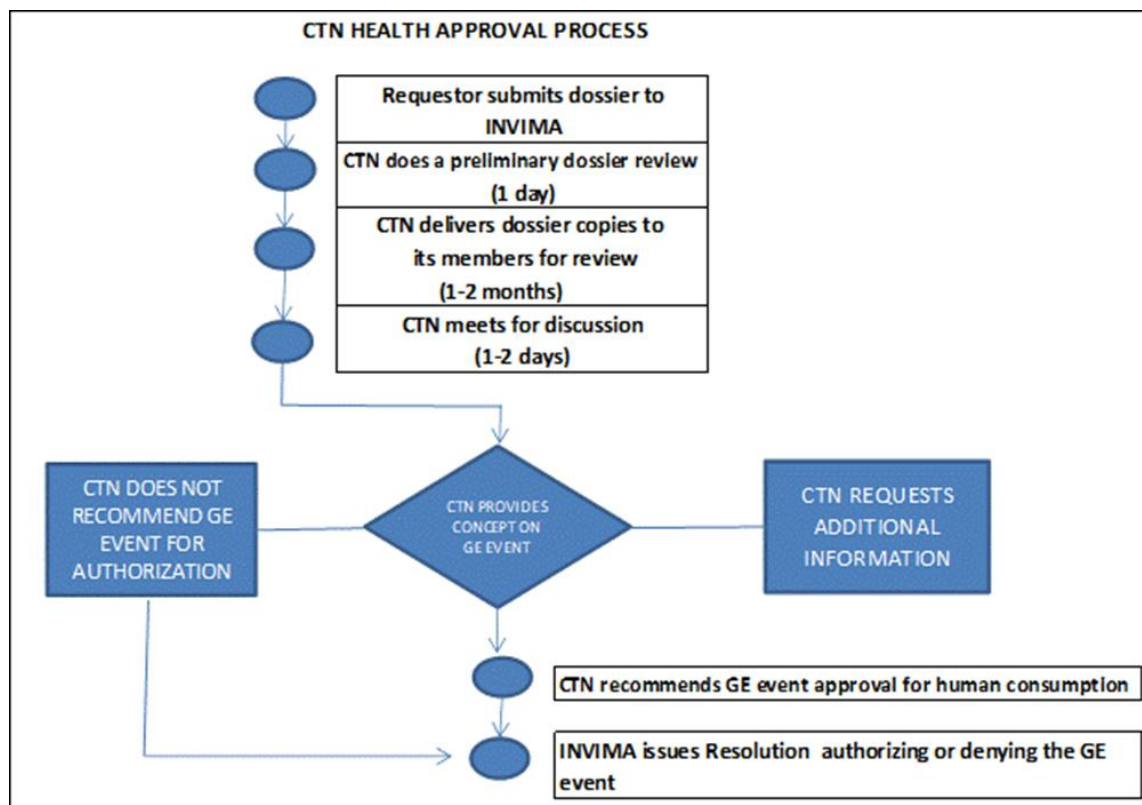
The National Technical Committee for Agriculture, Fishery, Forestry and Agro-industry (CTN-Bio): [Resolution 91506 from 2021](#) (available only in Spanish), established the CTN-Bio's internal regulations for assessing genetically engineered events for non-food-related genetically engineered products. The graph below illustrates the CTN-Bio approval process, which was reviewed and improved in 2021. The improved process allows for more predictable timelines, as per [Resolution 91505 from 2021](#) (available only in Spanish):



The National Technical Committee for Environment (CTN-Environment): CTN-Environment's function is to assess genetically engineered events that may impact the environment. CTN-Environment has yet to receive any requests for review of genetically engineered events. However, in May 2010, the MEHTD issued [Resolution 957](#) (available only in Spanish) describing the information that companies must submit for evaluation and the ministry's procedures for assessing genetically engineered events. The graph below illustrates the CTN-Environment approval process:



The National Committee for Health and Human Nutrition (CTN-Health): CTN-Health's function is to assess the impact of genetically engineered products and by-products on human health. In 2017, MHSP issued [Resolution 2535](#) (available only in Spanish), transferring the responsibility of approving regulatory resolutions to INVIMA, which has streamlined the approval procedures with more predictable timelines. The graph below illustrates the CTN-Health approval process:



b) Approvals and Authorizations

The GOC must approve all genetically engineered events for commercial cultivation, food consumption, and animal feed. CTN-Bio and CTN-Health oversee the approval process for genetically engineered derived feed and food materials, and the committees' decision timelines are not coordinated. These parallel timelines can result in internal asynchronous approvals (see appendix B). Genetically engineered approvals for food expire after 10 years, at which point they must be re-approved. Under current submission guidelines, INVIMA has not included any additional requirements after the initial expiration renewal.

For a full list of biotechnology products approved for planting in Colombia, see Appendix A.

c) Stacked Events or Pyramided Event Approvals/Authorizations

All stacked genetically engineered events must be approved individually, and there is no official process to review stacked events as a whole. However, in 2017, the CTN-Health established an internal procedure to facilitate the approval process for stacked events when their single events have already been approved. This procedure has reduced the current approval timeframe and alleviated asynchronous approvals between exporting and importing countries.

d) Field Testing

Colombia requires field-testing for genetically engineered crop cultivation (see appendix A) after a risk assessment is submitted to CTN-Bio for review and subsequent approval. Field testing must be completed in Colombia's different agro-ecological regions, which considerably lengthens the review.

e) Innovative Biotechnologies

There are currently three research groups working on genome editing: the CIAT Research Center, Agrosavia, and EAFIT University. The CIAT Research Center focuses on herbicide-tolerant cassava, increased rice yields, virus and bacteria-resistant rice, high-zinc and iron rice, bean nutritional quality, and cacao cadmium absorption. Agrosavia is working on reduced-toxin potatoes and phosphorus altered rice; the rice has decreased levels of phosphorus in the grains, but increased levels in the leaves. EAFIT University is researching castor bean oleic content.

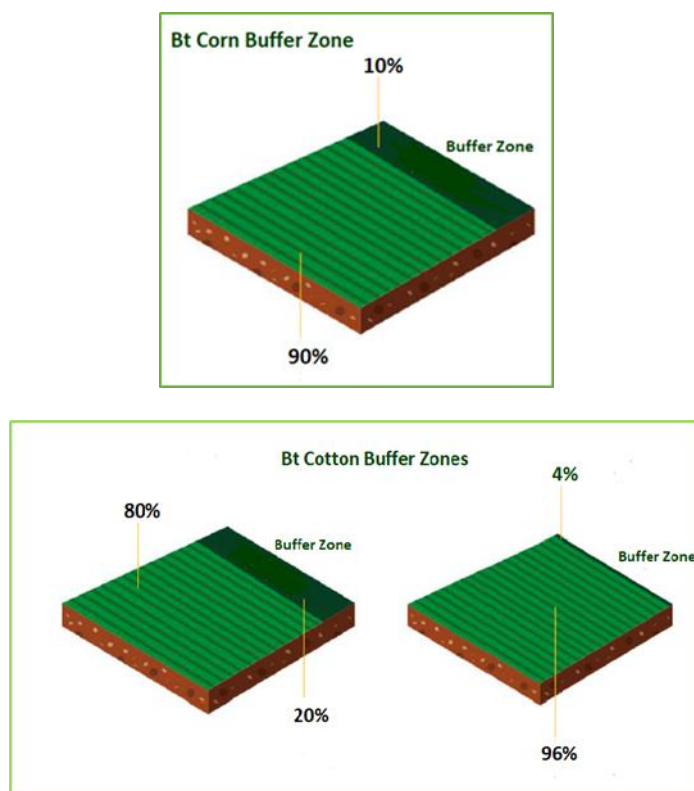
[Resolution 29299 from 2018](#), (available only in Spanish) creates a process to determine if genome-edited cultivars should be considered "living modified organisms" or conventional organisms. The interested party is required to submit an application to ICA for review. Within a period of sixty (60) business days, if no further information is required, ICA will determine if the new cultivar is considered genetically engineered or not and, therefore, if it is within the scope of regulation for genetically engineered organisms. If deemed to be genetically engineered, the cultivar is required to go through the existing regulatory genetically engineered framework. Otherwise, it is regulated by existing conventional crop legislation and regulation. ICA has reviewed three genome-edited crop submissions and concluded that neither crop (described below) would be subject to genetically engineered regulations.

Crop	New Characteristic	Evaluation Results
Corn	Waxy corn modified for altered starch composition	Not subject to genetically engineered regulations
Rice	Resistance to bacterial panicle blight	Not subject to genetically engineered regulations
Mustard leaves	Improved flavor profile	Not subject to genetically engineered regulations

f) Coexistence

In 2006, ICA evaluated cross-pollination and found that genetically engineered and non-genetically engineered crops coexist without posing risks to non-genetically engineered crops. Regardless, cotton and corn farmers actively apply the practice of buffer zones, or a natural barrier of fallow terrain, in compliance with ICA [Resolution 72221 from 2020](#) (available only in Spanish), which establishes a buffer zone following the 80/20 or 96/4 scheme for cotton, and a 90/10 scheme for corn (see Chart 4). The resolution also requires a 300-meter (984 foot) planting distance between genetically engineered and non-genetically engineered crops. See Part B, section H, for more information.

Chart 4



Source: Program MARI, Insect Resistance Management <https://www.programamari.com/>

f) Labeling and Traceability

Genetically engineered labeling requirements may impact the current genetically engineered regulatory framework and the use of genetically engineered technology in Colombia. In 2012, MHSP issued [Resolution 4254](#), which established labeling requirements for food derived from modern biotechnology. The resolution requires labeling information for product safety and risks such as potential allergenicity. Labeling must also address significant differences with the product's conventional counterpart.

In 2015, the Constitutional Court ruled in favor of mandatory labeling of genetically engineered organisms in response to a lawsuit attacking Consumer Law 1480, Article 24, which refers to labeling but does not address genetically engineered labeling. As a result of this decision, Congress was required to draft and implement legislation on mandatory labeling of genetically engineered organisms within two years of the court's ruling. Despite the two-year deadline, Congress produced no final rules. However, on August 14, 2019, a revised bill was submitted to Congress calling for mandatory labeling. The initiative only reached the first debate of the legislative process, which ended in June 2020. Although no additional bills have been introduced under the 2022-2023 legislative calendar, this can undermine Colombia's genetically engineered labeling regulatory environment, depending on the future

approach taken toward mandatory labeling. Currently, Resolution 4254 regulates genetically engineered labeling.

Resolution 4254 does not accept the use of statements such as “GMO free” or “does not contain GMO,” unless the manufacturer demonstrates and sustains that the claim is truthful and not misleading. On April 22, 2020, INVIMA issued [communication IVC-INS-LI15](#) (available only in Spanish), establishing the frequency that importers must submit laboratory results to certify that products labeled as “non-GMO” do not contain detectable modified genetic material. These guidelines reduce delays at ports of entry as lot-by-lot testing is not always required, preserving product shelf life, and alleviating testing costs. The testing requirement does not apply when the main ingredients are not included in the list of genetically engineered foods attached to INVIMA [communication 4000-3988-19](#) (available only in Spanish).

An increased number of imported packaged products entering the Colombian market now bear the “Non-GMO Project Verified” or the “Non-GMO/GE Process Verified” legends, which, as per current regulation, are considered equivalent to “GMO-free” claims. Therefore, manufacturer/importers must provide a supplementary label that clarifies the scope of the legend to be able to commercialize their products as per INVIMA [communication 4000-1071-18](#) (available only in Spanish).

h) Monitoring and Testing

In 2009, the GOC issued Resolution 682, requiring genetically engineered seed companies to adopt a “life cycle stewardship” approach to guide producers, targeting genetically engineered cotton production. In September 2012, Resolution 2894 was issued to address the handling of GE corn, outlining the regulatory expectations for farmers and genetically engineered seed companies. Both resolutions established a production and commercial road map for the two most widely grown genetically engineered crops in Colombia, corn and cotton. In 2020, ICA issued Resolution 72221 to combine Resolutions 682 and 2894, to improve and modify stakeholder responsibilities and standardize stewardship reporting. In 2018, the Colombian Association of Agricultural Biotechnology (Agro-Bio) released MARI, an insect resistance management program, to encourage producers to implement good agricultural practices to assist insect resistance mitigation.

Regarding testing, INVIMA is actively conducting port of entry testing to check import commodity shipments for unapproved genetically engineered products destined as raw material for food and feed. To date, there have been no detections of unapproved events. INVIMA also monitors products that have “Non-GMO Project Verified,” “Non-GMO/GE Process Verified,” and “Non-GMO” claims, and requests that importers support their claims with laboratory results before moving forward with commercialization (see Part B, section G for additional information on labeling and testing).

i) Low-Level Presence (LLP) Policy

Industry and commodity exporters have expressed concern that not all commonly traded genetically engineered events have been approved in Colombia. This could delay shipments as a result of asynchronous approvals. Considering that approval times for food, feed and environmental release are

not parallel, the GOC initially considered a 5 percent LLP threshold in 2014. However, in 2019, Colombia's National Planning Office (DNP) started addressing low-level presence in GE products destined for food use under the interagency sanitary and phytosanitary committee. It indicated that existing measures would be sufficient to address low-level presence.

j) Additional Regulatory Requirements

There are no additional requirements.

k) Intellectual Property Rights (IPR)

Colombia is a member, and follows the guidelines, of the following groups: the Convention for the Protection of Industrial Property, the World Trade Organization, the G3 Mexico, the Colombia and Venezuela Agreement, and the Andean Pact. As a member of the Andean Pact, Colombia adopted the following regulatory decisions:

- Decision 351, Common Provisions on the Protection of the Rights of Breeders of New Plant Varieties;
- Decision 391, Common Regime on Access to Genetic Resources (Hodson & Carrizosa, 2007).

Colombia's constitutional court declared accession to the International Union for the Protection of New Plant Varieties (UPOV) 91 unconstitutional in December 2012 due to the government's lack of consultation with Afro-Colombian and indigenous communities. In the meantime, Colombia has continued to follow provisions under the Andean Community Decision 345, already in effect.

l) Cartagena Protocol Ratification

As a signatory (and 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 72221 of July 2020; MHSP resolution 2535 of July 2017; and MEHTD resolution 957 of May 19, 2010.

m) International Treaties and Forums

Colombia plays an active role in the discussions of the Nagoya Protocol on access to genetic resources and the fair and equitable sharing of benefits arising from their utilization, the Nagoya-Kuala Lumpur Protocol on redress and liability and the CPB Conference of the Parties. 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. In 2017, Colombia joined the Global Low-Level Presence Initiative to develop international approaches to manage LLP. In April 2020, Colombia became a member of the Organization for Economic Cooperation and Development (OECD).

n) Related Issues

Over three consecutive legislative years (July 2020-June 2021, July 2021-June 2022, and July 2022-June 2023), bills aimed at establishing “transgenic” free municipalities, protecting farmers’ rights to save, reuse, and commercialize their seeds, and banning genetically engineered seeds have been introduced before Congress. Biotechnology supporters have expressed their concerns and continue advocating for a science-based approach.

PART C: Marketing

a) Public/Private Opinions

Overall, Colombia has taken a science-based approach toward regulating biotechnology. However, some environmental NGOs are pressuring government officials to reject biotech-derived technologies. The GOC’s basic principle is to adopt the technologies that may help rural Colombia’s economic and social development.

Anti-biotechnology activists have pushed for mandatory genetically engineered labeling, a genetically engineered seed ban, genetically engineered free municipalities, and a genetically engineered-derived agricultural product import ban. In addition, NGOs have inspired some social science student groups and indigenous communities to oppose the introduction of genetically engineered crops for cultivation and environmental release based on biodiversity concerns. As per current regulations, indigenous territories are genetically engineered free zones. See Part B, section G for additional information on labeling. See Part A, section F for additional information on trade barriers.

b) Market Acceptance/Studies

For over 15 years, biotechnology-derived commodities have been used in Colombia. To date, public opinion and media coverage of biotechnology have been favorable, and consumers have not voiced major concerns about products containing GE-derived materials.

An IFPRI study (Zambrano et al. 2011) found that GE cotton cultivation had economic benefits for women farmers, saving them both time and money. The study helped highlight the role of women as practitioners and beneficiaries of biotech cotton production. In 2016, the Colombian Association of Agricultural Biotechnology (Agro-Bio) released a study showing biotechnology as a valuable tool for farmers, with potential benefits to rural development and self-sufficient agriculture.

CHAPTER II: ANIMAL BIOTECHNOLOGY

PART D: Production and Trade

a) Research and Product Development

According to GOC officials, some universities are researching animal biotechnology. However, the high cost associated with the technology is a key factor in discouraging widespread adoption. Aquaculture

and genetically engineered cattle are possible areas for more animal biotechnology research, but funding will likely be the primary constraint. There are no developments regarding cloning at this time.

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).

In 2016, overseas companies and local governments expressed interest in accessing genetically engineered insect technology to control harmful insect populations, but no progress has been reported. These technologies could 1) control the population of *Aedes aegypti* mosquito, a vector for dengue, Zika, chikungunya, yellow fever, and other arboviruses and 2) assist with crop protection from the medfly, which negatively impacts Colombian fruit exports. The latter may be introduced first due to streamlined regulatory considerations, as it only requires the CTN Bio's assessment.

e) Trade Barriers

None.

PART E: Policy

a) Regulatory Framework

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

b) Approvals/Authorizations

See appendix C.

c) Innovative Biotechnologies

No developments have been identified at this time.

d) Labeling and Traceability

See Part B, Section G.

e) Additional Regulatory Requirements

None.

f) Intellectual Property Rights (IPR)

See Part B, Section K.

g) International Treaties and Forums

Colombia's experience with biotechnology is mostly related to plants. As a member of CODEX and the World Organization for Animal Health (OIE), the country attends meetings to discuss issues on biotechnology.

h) Related Issues

None.

PART F: Marketing

a) Public/Private Opinions

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

b) Market Acceptance, Studies

See Part F, Section A.

CHAPTER 3: MICROBIAL BIOTECHNOLOGY

PART G: Production and Trade

a) Commercial Production

There is no information available at this time.

b) Exports

Colombia exports \$87.5 million annually of processed products to the United States (prepared foods, wine and beer, condiments and sauces, fruit juices, cheese, infant foods, bread, pastry, cakes and other bakers' ware, food preparations) and enzymes, which may contain microbial biotech-derived ingredients.

c) Imports

Colombia imports \$146 million annually of processed products from the United States (prepared foods, wine and beer, condiments and sauces, fruit juices, cheese, infant foods, bread, pastry, cakes and other bakers 'ware, food preparations) and enzymes, which may contain microbial biotech-derived ingredients.

d) Trade Barriers

None.

PART H: Policy

a) Regulatory Framework

The Ministry of Health is in charge of regulating food ingredients for human consumption. There is no independent review for microbial biotech-derived components.

b) Approvals/Authorizations

See Part H, Section A.

c) Labeling and Traceability

In 2012, MHSP issued Resolution 4254 establishing the requirements for labeling of food derived from modern biotechnology. According to the resolution, foods containing one microbial biotech-derived ingredient, such as an additive or enzyme, are exempt from genetically engineered labeling requirements.

d) Monitoring and Testing

No monitoring or testing is done for genetically engineered microorganisms used as food ingredients.

e) Additional Regulatory Requirements

There are no additional requirements at this time.

f) Intellectual Property Rights (IPR)

See Part B, Section K.

g) Related Issues

None.

PART I: Marketing

a) Public/Private Opinions

Public knowledge of biotechnology is mostly related to plants. At this time, there is no public opinion toward microbial biotechnology and its use in food production.

b) Market Acceptance, Studies

See Part I, Section A.

Attachments:

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 carnations for exports only (greenhouse 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 (greenhouse conditions).
Carnations ICA resolution 231 ICA resolution 3569	Suntory Holdings Limited	Blue Carnations	Approved for commercial production of cut flowers for exports only (greenhouse conditions).
Roses ICA resolution 3857 ICA resolution 3786	International Flower Development (Holland)	Blue Petal Roses	Approved in 2009 for commercial production of cut flowers for exports only (greenhouse conditions).
Roses ICA resolution 72130			Approved in 2020 for field trials.
Chrysanthemum	International Flower Development	Blue Chrysanthemum	Approved for experimental plantings in 2009 (greenhouse conditions).

ICA resolution 3785			
Chrysanthemum ICA resolution 3570 and 82360	Suntory Holdings Limited	Blue Chrysanthemum	Approved in 2012 and 2020 for commercial production of cut flowers for exports only (greenhouse conditions).
Gypsophila ICA resolution 7169	Imaginature Limited	Blue Gypsophila	Approved in 2016 for commercial production of cut flowers.
LLCotton25 ICA resolution 1037 ICA resolution 1259 ICA resolution 2403 ICA resolution 4137	Bayer CropScience LLC	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.
Bollgard Cotton-MON 531 ICA resolution 1247 ICA resolution 2202	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.
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

ICA resolution 1006 ICA resolution 366			valley.
Bollgard/Roundup Ready Cotton-MON 531XMON 1445 ICA resolution 358 ICA resolution 3852 ICA resolution 2204	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.
Bollgard II and Roundup Ready Flex Cotton- MON 15985XMON 88913 ICA resolution 3851 ICA resolution 2203	COACOL-Monsanto (United States)	Resistant to a wider variety of lepidopterous insects and completely 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 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 x Roundup Ready Flex Cotton- MON 531XMON 88913 ICA resolution 1726	COACOL-Monsanto (United States)	Resistant to a wider variety of lepidopterous insects and completely tolerant to Roundup herbicide.	Approved in 2007 for commercial plantings.
Bollgard II and Roundup Ready Flex	Bayer CropScience LLC	Resistant to a wider variety of lepidopterous insects	Approved in 2008 for commercial plantings in the dry Caribbean and humid Caribbean regions,

Cotton- MON 15985XMON 88913 ICA resolution 30193		and tolerant to Roundup herbicide.	the upper Magdalena River valley (Tolima and Huila), and Orinoquia.
Bollgard II and Roundup Ready Flex Cotton- MON 15985XMON 88913	CORPOICA	Resistant to a wider variety of lepidopterous insects and tolerant to Roundup herbicide.	Approved in 2018 for commercial plantings in the dry and humid Caribbean regions, Cauca River valley, upper Magdalena River valley and Orinoquia
Roundup Ready Flex MON 88913 cotton ICA resolution 880 ICA resolution 1258	COACOL-Monsanto (United States)	Tolerant to Roundup 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 ICA resolution 3053	Bayer CropScience LLC	Tolerant to Roundup 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 ICA resolution 18599 ICA resolution 30336 ICA resolution 82364	Bayer CropScience LLC		Approved in 2014, 2016, and 2018 and 2020 for commercial plantings.
Glytol x Twinlink x COT102 cotton	Bayer CropScience LLC		Approved in 2016 for biosafety field trials.

ICA resolution 3924			
COT102 cotton	Bayer CropScience LLC		Approved in 2015 for biosafety field trials. Approved for planting in 2020.
ICA resolution 369			
ICA resolution 82365			
Rice	CIAT (Colombia)	Tolerant to drought.	Approved in 2010 for field trials in Villavicencio, Meta
ICA resolution 4041			
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 production.	Approved in 2000 for restricted research per risk assessment.
Cassava	CIAT (Colombia)	Modification of cyanide content.	Approved in 2000 for restricted research per risk assessment.
Cassava	CIAT (Colombia)		Approved in 2005 for restricted research per risk assessment.
ICA resolution 3854			
Cassava	CIAT (Colombia)		Approved in 2008 for restricted research per risk assessment.

ICA resolution 858			
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	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),

ICA resolution 3850 ICA resolution 3743 ICA resolution 465 ICA resolution 1727			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 ICA resolution 646	Dupont (United States)	Resistant to some lepidopterous insects.	Approved in 2008 for controlled plantings in the dry and humid, Caribbean and the Coffee region.
Yieldgard 2 Corn	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects and tolerant to Roundup herbicide.	Risk assessment since 2005.
Yieldgard VTPro 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.
Yieldgard VT3Pro Corn 4008 ICA resolution 881	COACOL-Monsanto (United States)	Resistant to a wider variety of lepidopterous insects.	Approved in 2016 for controlled plantings 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)	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

ICA resolution 1728 ICA resolution 3849 ICA resolution 3740			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.
Bt11 X MIR 162 x MON 89034 X GA21 ICA resolution 19507	Syngenta(Switzerland)	Resistant to multiple insects and tolerant to Roundup and glufosinate herbicides.	Approved in 2018 for controlled plantings in the humid Caribbean region, upper Magdalena River, Cauca River valley and eastern plains.
Yieldgard X Roundup Ready Corn	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects and tolerant to	Approved in 2007 for controlled plantings in the humid Caribbean region (Cordoba), upper Magdalena River valley (Tolima,

ICA resolution 2201 ICA resolution 3744		Roundup herbicide.	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	Dupont (United States)	Tolerant to glufosinate.	Approved in 2010 for biosafety and agronomic trials in the

ICA resolution 4469			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	COACOL-Monsanto	Tolerant to Roundup herbicide, resistant to	Approved on 03/16/09

00603-6 corn ICA resolution 1036 ICA resolution 10492	(United States)	some lepidopterous insects.	for biosafety field trials in the humid and dry Caribbean region, Upper Magdalena River valley, Cauca River valley and Orinoquia.
MON 89034-3 x MON 00603-6 corn ICA resolution 10492	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide, resistant to some lepidopterous insects.	Approved on 08/23/2016 for controlled plantings in the dry Caribbean region.
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	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,

ICA resolution 3572			Huila), Cauca River valley, Orinoquia and coffee region.
DAS 59122-7xTC1507xNK603 corn ICA resolution 1419 ICA resolution 3664	Dupont (United States)	Resistance to coleopteran and lepidopteran pests, and glyphosate and glufosinate-ammonium tolerance.	Approved on 03/18/2011 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.
MON 89034x TC 1507xNK603 corn ICA resolution 3049	Dow AgroSciences de Colombia S.A.		Approved for controlled planting in 2013.
MON 810 x TC 1507x MIR 162 x NK 603 corn ICA resolution 4005 and 7889	Dupont (United States)		Approved for commercial plantings in 2016 and 2022.
BT11 X MIR 162 X MIR 604 X TC 1507 X SYN 5307 X GA 21 corn ICA resolution 4134			Approved for biosafety trials.
MZHG0JG corn ICA resolution 19220	Syngenta		Approved in 2018 for controlled plantings in the dry and humid Caribbean regions, Magdalena River valley, and Orinoquia.
Fenaltec22 TC 1507 corn ICA resolution 13025	FENALCE		Approved in 2019 for commercial plantings in the dry and humid Caribbean regions, Magdalena and Cauca River valleys, Orinoquia, and the coffee region.

MON 89034 x TC1507 x MIR162 x NK603 corn ICA resolution 61761 ICA resolution 61762 ICA resolution 7890	Dupont		Approved in 2020 for commercial plantings in the humid Caribbean region, Magdalena and Cauca River valleys and Orinoquia. Approved for commercial planting in 2022.
MON 87427 x MON 89034 x MIR162 x MON 87411 corn ICA resolution 82356	COACOL-Monsanto (United States)	Resistant to insects Tolerant to herbicide	Approved in 2020 for commercial plantings.
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.
FG 72 X A5547 soybean ICA resolution 18601	Bayer CropScience LLC		Approved in 2016 for biosafety field trials.

FG 72 soybean ICA resolution 3999	Bayer CropScience LLC		Approved in 2016 for biosafety field trials.
GTS 4032 soybeans ICA resolution 72113	COACOL-Monsanto (United States)	Herbicide-tolerant	Approved in 2020 for biosafety field trials. OFF-PATENT
GTS 4032 soybeans ICA resolution 82351, 82352, 94973	COACOL-Monsanto (United States)	Herbicide-tolerant	Approved for planting OFF-PATENT
GTS 4032 soybeans ICA resolution 102580	Alimentos FINCA S.A.S	Herbicide-tolerant	Approved for planting OFF-PATENT
Sugar cane ICA resolution 82361	CENICAÑA	Transformed genotypes of sugarcane (Saccharum officinarum) to be used for ethanol production	Approved for confined field trials in 2020

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 ICA resolution 2708	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects,	Raw material for food and feed.	Approved for food and feed in 2003.
Roundup Ready cotton-MON 1445 SEABA ACT V	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide.	Raw material for food and feed.	Approved for food in 2003. Approved for feed in

ICA resolution 1063				2004.
Bollgard II cotton-MON 15985 MSP resolution 4587 INVIMA resolution 2020023676 ICA resolution 310	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects.	Raw material for feed and food.	Approved for food in 2009 and 2020. Approved for feed in 2008.
Roundup Ready Flex cotton-MON 88913 MSP resolution 4582 INVIMA resolution 2020023675 ICA resolution 311	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide and to a wider spectrum of weeds.	Raw material for feed and food.	Approved for food in 2009 and 2020. Approved for feed in 2008.
LL Cotton 25 ICA resolution 307 MSP resolution 1731 INVIMA resolution 2021045474	Bayer CropScience LLC	Tolerant to Roundup herbicide.	Raw material for feed and food.	Approved for feed in 2008. Approved for food in 2016 and 2021.
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 in 2010. Approved for feed in 2007.
MON 88701 X MON 88913 MSP resolution 3005 ICA resolution 18590 INVIMA resolution 2022005640	COACOL-Monsanto (United States) Bayer CropScience LLC		Raw material for food and feed.	Approved for food in 2016 and 2022. Approved for feed in 2016.
GHB 614 Glytol cotton	Bayer	Tolerant to	Raw material for	Approved

ICA resolution 3567 MSP resolution 506 INVIMA resolution 2021023287	CropScience LLC	herbicide.	feed and food.	for feed in 2012. Approved for food in 2016 and 2021.
GHB 614 Glytol X Liberty Link cotton ICA resolution 3568 MSP resolution 1454	Bayer CropScience LLC	Tolerant to herbicide.	Raw material for feed and food.	Approved for feed in 2012. Approved for food in 2017.
GHB 614 Glytol x T304 X GHB119 X COT 102 MSP resolution 1453	Bayer CropScience LLC	Tolerant to herbicide.	Raw material for food.	Approved for food in 2017.
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 in 2008. Approved for feed in 2007.
COT 102 cotton ICA resolution 4131 MSP resolution 128 INVIMA resolution 2021023292	Syngenta	Resistant to some lepidopterous insects.	Raw material for feed and food.	Approved for feed in 2014. Approved for food in 2016 and 2021.
DAS 24236-5 cotton ICA resolution 2660 MSP resolution 4007	Dow Agrosciences		Raw material for feed and food.	Approved for feed in 2015. Approved for food in 2016.
DAS 21023-5 cotton ICA resolution 2664	Dow Agrosciences Corteva Agriscience		Raw material for feed and food.	Approved for feed in 2015. Approved for food in

MSP resolution 5853 INVIMA resolution 2022005637				2016 and 2022.
DAS 21023-5XDAS 24236 X SYN 102 X MON 88913 X DAS 81910 cotton ICA resolution 11243 INVIMA resolution 2018027771	Dow Agrosciences		Raw material for feed and food.	Approved for feed in 2017. Approved for food in 2018.
MON 88913 X MON 15985 cotton INVIMA resolution 2021005564	COACOL- Monsanto (United States)		Raw material for food.	Approved for food in 2020.
MON 88913 X MON 15985 cotton ICA resolution 102583	Agrosavia		Raw material for feed.	Approved for feed in 2021.
DAS 81910 cotton ICA resolution 20952	Dow Agrosciences		Raw material for feed.	Approved for feed in 2016.
Glytol x Twinlink x COT102 cotton ICA resolution 3922	Bayer CropScience LLC		Raw material for feed.	Approved for feed in 2015.
Glytol x Twinlink MSP resolution 1452	Bayer CropScience LLC		Raw material for food.	Approved for food in 2017.
T 304-40 cotton MSP resolution 505 INVIMA resolution 2021023286 ICA resolution 5400	Bayer CropScience LLC		Raw material for food and feed.	Approved for food in 2016 and 2021. Approved for feed in 2017.
MON 88701 cotton	COACOL- Monsanto		Raw material for food and feed.	Approved for food in

MSP resolution 132 INVIMA resolution 2021023288 ICA resolution 4009	(United States)			2016 and 2021. Approved for feed in 2016.
LL cotton25 MSP resolution 1731	Bayer CropScience LLC		Raw material for food.	Approved for food in 2016.
DAS 80910 MSP resolution 5852	Dow Agrosciences		Raw material for food.	Approved for food in 2016.
GHB 119 cotton MSP resolution 3298 INVIMA resolution 2021023285 ICA resolution 19228	Bayer CropScience LLC		Raw material for food and feed.	Approved for food in 2016 and 2021. Approved for feed in 2018.
GHB 119 X GHB 614 cotton ICA resolution 11236	Bayer CropScience LLC		Raw material for feed.	Approved for food in 2017.
T-304-40 x GHB119 x COT102 cotton ICA resolution 82363	Bayer CropScience LLC		Raw material for feed.	Approved for feed in 2020.
COT 102 x MON15985 X MON88701X MON 88913 MSP resolution 4905	COACOL-Monsanto (United States)		Raw material for food.	Approved for food in 2016 and 2022.
COT 102 x MON15985 X MON88701 X MON88913 ICA resolution 18593 INVIMA resolution 2022009522	COACOL-Monsanto (United States) Bayer		Raw material for feed.	Approved for feed in 2016. Approved for food in

				2022.
GHB 811 cotton INVIMA resolution 2020014751 ICA resolution 72112	BASF		Raw material for food and feed.	Approved for food and feed in 2020.
MON88702 cotton INVIMA resolution 2020027966 ICA resolution 82362	COACOL-Monsanto (United States)		Raw material for food and feed.	Approved for food and feed in 2020.
Yieldgard+Roundup Ready corn-MON 810XNK 603 MSP resolution 4583 ICA resolution 1365 INVIMA resolution 2020016747	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects and tolerant to Roundup herbicide.	Raw material for feed and food.	Approved for feed in 2007. Approved for food in 2009 and 2020
Bt Herculex I corn-DAS 01507-1 SEABA ACT V ICA resolution 3745 and 82354	Dupont (United States)	Resistant to some lepidopterous insects.	Raw material for food and feed.	Approved for food and feed in 2006 and 2020
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.	Approved for food in 2003. Approved for feed in 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 in 2009. Approved for food in 2010.
Herculex RW corn-DAS 59122	Dupont (United States)	Resistant to some lepidopterous	Raw material for feed and food.	Approved for feed in 2010.

ICA resolution 4473 MSP resolution 1708 INVIMA resolution 2021045473		insects.		Approved for food in 2011 and 2021.
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 approval as the request was withdrawn.
Yieldgard VTPro -MON 89034 corn MSP resolution 2394 INVIMA resolution 2021005567 ICA resolution 2367	COACOL-Monsanto (United States)	Resistant to a wider variety of lepidopterous insects.	Raw material for feed and food.	Approved for food in 2010 and 2020. Approved for feed in 2007.
MON VT Triple PRO (VT3P) (MON 89034 X MON 88017) corn MSP resolution 1710 ICA resolution 3661 INVIMA resolution 2021053745	COACOL-Monsanto (United States)	Resistant to a wider variety of lepidopterous insects.	Raw material for food and feed.	Approved for food and feed in 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 in 2011. Approved for food in 2010.
CCR corn-MON 88017	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects and	Raw material for food and feed.	Approved for food in 2011 and

MSP resolution 1712 ICA resolution 1254 INVIMA resolution 2021053743	States)	tolerant to Roundup herbicide.		2021. Approved for feed in 2010.
Yieldgard+CCR corn-MON 810X MON 88017 MSP resolution 1904 ICA resolution 3667 INVIMA resolution 2021053743	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects, rootworm and tolerant to Roundup herbicide.	Raw material for food and feed.	Approved for food in 2011 and 2021. Approved for feed in 2011.
Lysine corn-LY p38 MSP resolution 4585 ICA resolution 2405	COACOL-Monsanto (United States)	High lysine content.	Raw material for food and feed.	Approved for food in 2009. Approved for feed in 2010.
Bt 11 corn MSP resolution 1078 ICA resolution 309 INVIMA resolution 2019040929	Syngenta (Switzerland)	Resistant to some lepidopterous insects.	Raw material for food and feed.	Approved for food in 2009 and 2019. Approved for feed in 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 in 2012. Approved for feed in 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 in 2010. Approved for food in 2012.
Bt 11 X TC 1507 X GA 21 corn	Syngenta (Switzerland)	Resistant to some lepidopterous	Raw material for feed and food.	Approved for food and feed

ICA resolution 19222 INVIMA resolution 2018027787)	insects and tolerant to Roundup herbicide.		in 2018.
Smartstax corn -Mon 89034 X TC1507 X MON 88017 X DAS59122-7 MSP resolution 2393 ICA resolution 3662 INVIMA resolution 2021053747	COACOL-Monsanto (United States) and Dow Agrosciences	Resistant to some lepidopterous insects, to rootworm and tolerant to Roundup herbicide and to glufosinate.	Raw material for food and feed.	Approved for food in 2010 and 2021 Approved for feed in 2011.
MIR 162 corn ICA resolution 4471 MSP resolution 1693 INVIMA resolution 2021038688	Syngenta (Switzerland)	Resistant to some lepidopterous insects.	Raw material for feed and food.	Approved for food in 2012 and 2021. Approved for feed in 2010.
BT 11xMIR 162xGA21 corn ICA resolution 2407 MSP resolution 1694 INVIMA resolution 2019040928	Syngenta (Switzerland)	Resistant to some lepidopterous insects and tolerant to herbicides.	Raw material for feed and food.	Approved for feed in 2010. Approved for food in 2012 and 2020.
MON 87460 corn MSP resolution 1709 ICA resolution 224 INVIMA resolution 2021053742	COACOL-Monsanto (United States)	Tolerant to drought.	Raw material for food and feed.	Approved for food in 2011 and 2021. Approved for feed in 2012
MON 87460 X NK 603 corn	COACOL-Monsanto (United States)	Tolerant to drought and herbicides.	Raw material for feed and food.	Approved for feed and food in 2014

ICA resolution 422 MSP resolution 777 INVIMA resolution 2019031454				and 2019.
MON 87460 X MON 89034 X MON 88017 corn ICA resolution 423 MSP resolution 778 INVIMA resolution 2019031455	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects, tolerant to herbicides and drought.	Raw material for feed and food.	Approved for feed and food in 2014 and 2019
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 in 2010. Approved for food in 2011.
BT 11 X MIR 162X MIR 604X GA 21 corn MSP resolution 119 ICA resolution 232	Syngenta (Switzerland)	Rootworm resistant and tolerant to herbicides.	Raw material for food and feed.	Approved for feed and food in 2012.
MIR 604 corn MSP resolution 118 ICA resolution 229	Syngenta (Switzerland)	Rootworm resistant.	Raw material for food and feed.	Approved for feed and food in 2012.
MIR 604 X GA 21 corn ICA resolution 230 MSP resolution 769 INVIMA resolution 2020018737	Syngenta (Switzerland)	Resistant to some lepidopterous insects and tolerant to herbicide.	Raw material for feed and feed.	Approved for feed in 2012. Approved for food in 2014.
BT 11XMIR 604X GA 21 corn	Syngenta (Switzerland)	Resistant to some lepidopterous	Raw material for feed and food.	Approved for feed in 2012.

ICA resolution 3046 MSP resolution 775 INVIMA resolution 2019040928		insects and tolerant to herbicide.		Approved for food in 2014 and 2019.
BT11XMIR 604X TC1507X5307XGA 21 corn ICA resolution 18583	Syngenta (Switzerland)	Resistant to some lepidopterous insects and tolerant to herbicide.	Raw material for feed.	Approved for feed in 2016.
Liberty Link corn-T25 MSP resolution 121 ICA resolution 3666	Bayer CropScience LLC (United States)	Tolerant to Roundup herbicide.	Raw material for food and feed.	Approved for food in 2012. Approved for feed in 2011.
T25 XMON 810 corn	Bayer CropScience LLC (United States)	Resistant to some lepidopterous insects and tolerant to Roundup herbicide.	Raw material for food.	Approved for food in 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 and food in 2012.
T25 X NK 603 corn X DAS40278 INVIMA resolution 2021012389	COACOL-Monsanto (United States)	Tolerant to herbicide.	Raw material for food and feed.	Approved for feed and food in 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 feed and food in 2012.
DAS 1507XMON 810X MON 603 corn	DUPONT	Resistant to some	Raw material for	Approved for feed

MSP resolution 1488 ICA resolution 3571		lepidopterous insects and tolerant to herbicide.	food and feed.	and food in 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 feed and food in 2012.
TC 1507X MON 810 X MIR 604 X NK 603 corn MSP resolution 5856 ICA resolution 11244	Dupont	Resistant to some lepidopterous insects and tolerant to herbicide.	Raw material for food and feed.	Approved for food in 2016. Approved for feed in 2018.
TC 1507X MIR 604 X NK 603 corn ICA resolution 19227 INVIMA resolution 2018027808	Dupont	Resistant to some lepidopterous insects and tolerant to herbicide.	Raw material for feed and food.	Approved for feed and food in 2018.
TC 1507 X MON 810 X MIR 162X NK 603 corn MSP resolution 3118 INVIMA resolution 2020027961	Dupont	Resistant to some lepidopterous insects and tolerant to herbicide.	Raw material for food and feed	Approved for food in 2015 and 2020.
MON 89034 X TC 1507X NK 603 corn ICA resolution 3050 MSP resolution 1861 INVIMA resolution 2020023046	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects and tolerant to herbicide.	Raw material for feed and food.	Approved for feed in 2013. Approved for food in 2014 and 2020.
BT11 X MIR604 corn	Syngenta	Resistant to	Raw material for	Approved

MSP resolution 120 ICA resolution 3048		some lepidopterous insects and tolerant to herbicide.	feed and food.	for feed in 2013. Approved for food in 2012.
BT11 X MIR162 corn MSP resolution 249 ICA resolution 18585 INVIMA resolution 2022005639	Syngenta	Resistant to some lepidopterous insects and tolerant to herbicide.	Raw material for food and feed.	Approved for food in 2016 and 2022> Approved for feed in 2016.
SYN E3272-5 corn ICA resolution 3043 MSP resolution 127 INVIMA resolution 2021038673	Syngenta	Modified amylase for ethanol production.	Raw material for feed and food.	Approved for feed in 2013. Approved for food in 2016 and 2021.
SYN E5307-1 corn MSP resolution 5632	Syngenta		Raw material for feed and food.	Approved for feed in 2013. Approved for food in 2014.
DAS 40278-9 corn ICA resolution 3052 MSP resolution 774 INVIMA resolution 2019040915	Dow Agroscience	Herbicide-tolerant.	Raw material for feed and food.	Approved for feed in 2013. Approved for food in 2014 and 2019.
MON 87427 X MON 89034 X MON 88017 corn MSP resolution 3488 ICA resolution 3047 INVIMA resolution 2020018725	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects and tolerant to herbicide.	Raw material for food and feed.	Approved for food and feed in 2014 and 2020.

MON 87427 X MON 89034 X NK 603 corn MSP resolution 3705 ICA resolution 3048 INVIMA resolution 2020018736	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects and tolerant to herbicide.	Raw material for food and feed.	Approved for food and feed in 2014. Approved for food in 2020.
MON 87427 X MON 89034 X TC 1507 X MON 88017 X DAS 59122 corn MSP resolution 3489 ICA resolution 3043	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects and tolerant to herbicide.	Raw material for food and feed.	Approved for food and feed in 2014.
DAS 40278 X NK 603 corn MSP resolution 3487 INVIMA resolution 2020023674 ICA resolution 3044	Dow Agrosciences	Resistant to some lepidopterous insects and tolerant to herbicide.	Raw material for food and feed.	Approved for food in 2014 and 2020. Approved for feed in 2014.
DAS 40278 X NK 603 corn X T25 ICA resolution 82355	Dow Agrosciences	Resistant to some lepidopterous insects and tolerant to herbicide.	Raw material for feed.	Approved for feed in 2020.
MON 87427 corn ICA resolution 424 MSP resolution 1862 INVIMA resolution 2019040926	COACOL-Monsanto (United States)	Tolerant to herbicide.	Raw material for feed and food.	Approved for feed and food in 2014 and 2019.
MON 87460 X MON 89034 X NK 603 corn ICA resolution 427 MSP resolution 776 INVIMA resolution 2019043839	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects and tolerant to herbicides.	Raw material for feed and food.	Approved for food and feed in 2014. Approved for food in 2019.

MON 89034 X NK 603 corn INVIMA resolution 2021005565	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects and tolerant to herbicides.	Raw material for food.	Approved for food in 2020.
MON 89034 X TC 1507 X NK 603 X DAS 40278-9 corn INVIMA resolution 2022009525 ICA resolution 4135 MSP resolution 4904	Dow Agrosciences	Tolerant to herbicide.	Raw material for feed and food.	Approved for feed in 2014. Approved for food in 2016 and 2022.
MON 89034 X TC 1507 X NK 603 X MIR 162 corn INVIMA resolution 2018027772 ICA resolution	Dow Agrosciences	Tolerant to herbicide.	Raw material for food and feed.	Approved for food and feed in 2018.
TC 1507 X MON 810 X MIR 162 X NK 603 corn ICA resolution 002	Dupont (United States)	Resistant to some lepidopterous insects and tolerant to herbicides.	Raw material for feed.	Approved for feed in 2015.
MON 89034 X TC 1507 X MIR 162 X NK 603 X DAS40278 corn ICA resolution 30339 INVIMA resolution 2018027773	Dow Agrosciences	Resistant to some lepidopterous insects and tolerant to herbicides.	Raw material for feed and food.	Approved for feed and food in 2018.
TC 1507 X MON 810 X MIR 162 corn	Dupont (United	Resistant to some	Raw material for feed and food.	Approved for feed in

ICA resolution 4006 INVIMA resolution 2020027962	States)	lepidopterous insects and tolerant to herbicides.		2016. Approved for food in 2020.
TC 1507 X MON 810 INVIMA resolution 2020027965	Dupont (United States)	Resistant to some lepidopterous insects and tolerant to herbicides.	Raw material for food.	Approved for food in 2020.
TC 1507 X MON 810 X NK 603 INVIMA resolution 2020027963	Dupont (United States)	Resistant to some lepidopterous insects and tolerant to herbicides.	Raw material for food.	Approved for food in 2020.
DP 4114 corn MSP resolution 123 ICA resolution 4004 INVIMA resolution 2021023289	Dupont (United States)		Raw material for food and feed.	Approved for food in 2016 and 2021. Approved for feed in 2016.
DP 202216 corn ICA resolution 82359 INVIMA resolution 2021012391	Dupont (United States)		Raw material for feed.	Approved for feed in 2020. Approved for food in 2021.
DP 4114 x MON 810 x MIR 604 X NK 603 corn MSP resolution 3297 ICA resolution 4936 INVIMA resolution 2022500204	Dupont (United States)		Raw material for food and feed.	Approved for feed in 2016. Approved for food in 2016 and 2022.

DP 4114 X MON 89034 X MON 87411 X DAS 40278 corn INVIMA resolution 2021023291 ICA resolution 102582	Dupont (United States)		Raw material for food and feed.	Approved for food and feed in 2021.
DP 23211 corn ICA resolution 113673 INVIMA resolution 2021045472	Dupont (United States)		Raw material for feed and food.	Approved for feed in 2021. Approved for food in 2021.
DP 915635 ICA resolution 113674 INVIMA resolution 2022500205	Dupont (United States)		Raw material for feed.	Approved for feed in 2021. Approved for food in 2022.
TC 1507 x 59122 X MON 810 x MIR 604 X NK 603 corn MSP resolution 5857 ICA resolution 11242	Dupont (United States)		Raw material for food and feed.	Approved for food in 2016. Approved for feed in 2018.
TC 1507 x 59122 X MON 810 X NK 603 corn ICA resolution 19226 INVIMA resolution 2018027809	Dupont (United States)		Raw material for feed and food.	Approved for feed and food in 2018.
BT11xMIR162xTC1507xGA21 corn MSP resolution 124 ICA resolution 4003 INVIMA resolution 2021038695	Syngenta		Raw material for food and feed.	Approved for food in 2016 and 2021. Approved for feed in 2016.

BT11XDAS59122XMIR604XTC1507xGA21 corn MSP resolution 126 ICA resolution 4002 In 2016 and 2021.	Syngenta		Raw material for food and feed.	Approved for food and feed in 2016.
TC1507XDAS59122 corn ICA resolution 19225 INVIMA resolution 2018027807	Dupont		Raw material for feed and food.	Approved for feed and food in 2018.
DAS59122 x NK603 corn INVIMA resolution 2018027810	Dupont		Raw material for food.	Approved for food in 2018.
TC1507 X NK603 corn ICA resolution 19224 INVIMA resolution 2020027964	Dupont		Raw material for feed and food.	Approved for feed in 2018. Approved for food in 2020.
BT11xMIR162XMIR604XTC1507XSYN5307x GA21 corn MSP resolution 129 INVIMA resolution 2021045476	Syngenta		Raw material for food.	Approved for food in 2016 and 2021.
BT11xMIR162XMIR604XMON89034XSYN5307X GA21 corn ICA resolution 25845 INVIMA resolution 2018027803	Syngenta		Raw material for feed and food.	Approved for feed and food in 2018.
BT11xMIR162XMON89034XGA21 corn	Syngenta		Raw material for feed and food.	Approved for feed and food

ICA resolution 19223 INVIMA resolution 2018027795				in 2018.
MIR604XTC1507XMON810 corn MSP resolution 130	Dupont		Raw material for food.	Approved for food in 2016.
SYN3272XBT11XMIR604XGA21 corn MSP resolution 2463	Syngenta		Raw material for food.	Approved for food in 2016.
SYN3272XBT11XMIR604XTC1507X5307XGA21 corn MSP resolution 3700 289	Syngenta		Raw material for feed.	Approved for feed in 2017.
SYN3272XBT11XMIR162XMIR604XTC1507X5307XGA21 corn ICA resolution 7888	Syngenta		Raw material for feed.	Approved for feed in 2022.
BT11XMIR162XMON89034 Corn ICA resolution 25844 INVIMA resolution 2018027798	Syngenta		Raw material for feed and food.	Approved for feed and food in 2018.
MON 87419 corn INVIMA resolution 2018040210 ICA resolution 30337	COACOL-Monsanto (United States)		Raw material for food and feed.	Approved for food and feed in 2018.
MON 87411 corn MSP resolution 5850 ICA resolution 18592	Syngenta		Raw material for food and feed.	Approved for food and feed in 2016.
MIR162XMON89034 Corn	COACOL-Monsanto (United		Raw material for feed and food.	Approved for feed and food

ICA resolution 25840 INVIMA resolution 2018027786	States)			in 2018.
MON 87427 X MON 89034 X MIR 162 X NK 603 corn MSP resolution 250 ICA resolution 3701	Syngenta		Raw material for food and feed.	Approved for food and feed in 2017.
MON 87427 X MON 89034 X MIR 162 X MON 87419 X NK 603 corn INVIMA resolution 2021005561 ICA resolution 82357	COACOL-Monsanto (United States)		Raw material for food.	Approved for food and feed in 2020.
MON 87427 X MON 89034 X TC 1507 X MON87411 X DAS 59122 corn ICA resolution 25841 INVIMA resolution 2018027783	COACOL-Monsanto (United States)		Raw material for feed and food.	Approved for feed and food in 2018.
MON 87427 X MON 89034 X TC 1507 X MON87411 X DAS 59122 X MON 87419 corn ICA resolution 13024 INVIMA resolution 2019040927	COACOL-Monsanto (United States)		Raw material for feed and food.	Approved for feed and food in 2019.
MON 87427 X MON 89034 X MON87419 X NK 603 corn INVIMA resolution 2019040930 ICA resolution 61761	COACOL-Monsanto (United States)		Raw material for feed and food.	Approved for food in 2019. Approved for feed in 2020.
MON 87427 x MON87419 x NK 603 corn INVIMA resolution 2020023047 ICA resolution 82358	COACOL-Monsanto (United States)		Raw material for food and feed.	Approved for food and feed in 2020.
MON 89034 X TC 1507 X MON87411 X DAS 59122 X DAS 40278 corn INVIMA resolution 2018027774	Dow Agrosciences		Raw material for food.	Approved for food in 2018.
MON 87427 X MON 89034 X DAS 1507 X MON87411 X DAS 59122 X DAS 40278 corn	Dow Agrosciences		Raw material for food.	Approved for food in 2018.

INVIMA resolution 2018027775				
MON 87427 X MON 89034 X MIR162 X MON87411 corn ICA resolution 19218 INVIMA resolution 2018027780	COACOL-Monsanto (United States)		Raw material for feed and food.	Approved for feed and food in 2018.
MON87427 x MON89034 x MON810 x MIR162 x MON87411 x MON87419 corn ICA resolution 94974	COACOL-Monsanto (United States)	Resistant to insects and tolerant to herbicides.	Raw material for feed.	Approved for feed in 2021.
MON 87427 X MON 87460 X MON 89034 X TC 1507 X MON 87411 X DAS 59122 corn ICA resolution 25843 INVIMA resolution 20185027785	COACOL-Monsanto (United States)		Raw material for feed and food.	Approved for feed and food in 2018.
MZHG0JG corn ICA resolution 19221 INVIMA resolution 2018027790	Syngenta		Raw material for feed and food.	Approved for feed and food in 2018.
MZIR098 corn ICA resolution 30332 INVIMA resolution 2019015592	Syngenta		Raw material for feed and food.	Approved for feed in 2018. Approved for food in 2019.
MON 89034 X TC 1507 X MON 88017 X DAS 59122 X DAS 40278 corn MSP resolution 4903 INVIMA resolution 2022009523	Dow Agrosience Corteva Agriscience		Raw material for food.	Approved for food in 2016 and 2022.
GA21 X T25 corn MSP resolution 5849 ICA resolution 18582	Syngenta		Raw material for food and feed.	Approved for food and feed in 2016.
MON87427 x MON89034 x TC1507 x MON87411 x DAS59122 x DAS40278 corn	Dow Agrosience		Raw material for feed.	Approved for feed in 2019.

MON 810 X NK 603 corn INVIMA resolution 2020015747	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide and resistant to insects.	Raw material for food.	Approved for food in 2020.
5307 corn INVIMA resolution 2020032881	Syngenta	Resistant to insects.	Raw material for food.	Approved for food in 2020.
Fenaltec22 TC 1507 INVIMA resolution 2022500207	FENALCE		Raw material for food.	Approved for food in 2022.
Roundup Ready wheat *1-MON 71800 SEABA ACT II	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide.	Raw material for food.	Approved for food in 2004.
Wheat IND-ØØ412-7 ICA resolution 82350	INDEAR	Tolerance to abiotic stress. Herbicide tolerance.	Raw material for feed.	Approved for feed in 2020.
Roundup Ready soybeans-MON 04032-6/GTS 40302 SEABA ACT VII ICA resolution 2942 ICA resolution 82353 and 95614	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide.	Raw material for food and feed.	Approved for food in 2005. Approved for feed in 2007 and 2020 (Off-patent).
Roundup Ready 2Yield soybeans-MON 89788 ICA resolution 1256 MSP resolution 2391 INVIMA resolution 2021005568	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide.	Raw material for feed and food.	Approved for food in 2010 and 2021. Approved for feed in 2010.
GAT Soybeans- DP 356043	Dupont (United	Tolerant to	Raw material for	Approved for food

MSP resolution 2392 ICA resolution 2406	States	herbicide.	food and feed.	and feed in 2010.
DP202216 soybeans INVIMA resolution 2021012391	Dupont (United States)	Tolerant to herbicide.	Raw material for food and feed.	Approved for food in 2021.
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 in 2012. Approved for feed in 2011.
Glycine Max soybean-CV 127 MSP resolution 117 ICA resolution 3668	BASF	Tolerant to Roundup herbicide.	Raw material for food and feed.	Approved for food in 2012. Approved for feed in 2011.
A 270412 soybean INVIMA resolution 2020023048	BASF	Tolerant to Roundup herbicide.	Raw material for food.	Approved for food in 2020.
MON 87705 soybean ICA resolution 3566 MSP resolution 338 INVIMA resolution 2019031452	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide.	Raw material for feed and food.	Approved for feed in 2012. Approved for food in 2014 and 2019.
MON 87701 soybean INVIMA resolution 2019030764	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects	Raw material for food.	Approved for food in 2019.
MON 87769 soybean	COACOL-Monsanto (United	Tolerant to Roundup	Raw material for feed and food.	Approved for feed in

ICA resolution 3565 MSP resolution 339 INVIMA resolution 2019031453	States)	herbicide.		2012. Approved for food in 2014 and 2019.
A5547 soybean ICA resolution 3564 MSP resolution 3486 INVIMA resolution 2020018738	Bayer CropScience LLC	Tolerant to herbicide.	Raw material for feed and food.	Approved for feed in 2012. Approved for food in 2014 and 2020.
A2704 soybean ICA resolution 3579 MSP resolution 4083	Bayer CropScience LLC	Tolerant to herbicide.	Raw material for feed and food.	Approved for feed in 2012. Approved for food in 2014.
DAS68416-4 soybean ICA resolution 3051 MSP resolution 131	Dow Agroscience	Tolernant to herbicide.	Raw material for feed and food.	Approved for feed in 2013. Approved for food in 2016.
MON 87708 X MON 89788 soybean ICA resolution 420 MSP resolution 1257 INVIMA resolution 2021005562	Monsanto	Tolerant to herbicide.	Raw material for feed and food.	Approved for feed in 2014. Approved for food in 2015.
MON 87708 X MON 89788 X A5547 soybean ICA resolution 30333 INVIMA resolution 2018027784	Monsanto	Tolerant to herbicide.	Raw material for food and feed.	Approved for food and feed in 2018.

MON 87708 soybean MSP resolution 1259	COACOL-Monsanto (United States)	Tolerant to herbicide.	Raw material for food.	Approved for food in 2015.
MON 87705 X MON 89788 soybean ICA resolution 131 MSP resolution 1258 INVIMA resolution 2021005632	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide.	Raw material for feed and food.	Approved for feed and food in 2015 and 2020.
MON 87705 X MON 89788 X MON 87708 soybean ICA resolution 19219 INVIMA resolution 2018027782	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide.	Raw material for feed and food.	Approved for feed and food in 2018.
MON 87751 X MON 87708 X MON 87701 X MON89788 soybean ICA resolution 30333 INVIMA resolution 2019030763	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide.	Raw material for feed and food.	Approved for feed in 2018. Approved for food in 2019.
MON 87769 X MON 89788 soybean ICA resolution 132 MSP resolution 1256 INVIMA resolution 2021005563	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide.	Raw material for feed and food.	Approved for feed and food in 2015 and 2020.
DAS 44406 soybean ICA resolution 134 MSP resolution 125 INVIMA resolution 2021045617	Dow Agrosience	Tolerant to herbicide.	Raw material for feed and food.	Approved for feed in 2015. Approved for food in 2016 and 2021.

DAS 68416-4 x MON 89788-1 soybean ICA resolution 2665 MSP resolution 3006	Dow Agroscience	Tolerant to herbicide.	Raw material for feed and food.	Approved for feed in 2015. Approved for food in 2016.
ACS-GM006-4 soybean MSP resolution 3486	Bayer CropScience LLC (United States)	Tolerant to herbicide.	Raw material for food.	Approved for food in 2014.
ACS-GM005-3 soybean MSP resolution 4083	Bayer CropScience LLC (United States)	Tolerant to herbicide.	Raw material for food.	Approved for food in 2014.
SYHT0H2 soybean ICA resolution 2661 MSP resolution 307	Syngenta and Bayer CropScience LLC		Raw material for feed and food.	Approved for feed in 2015. Approved for food in 2017.
FG72(MST-FG072-2) soybean ICA resolution 4001 MHS resolution 2464 INVIMA resolution 2022014893	Bayer CropScience LLC		Raw material for food and feed.	Approved for food in 2016 and 2021. Approved for feed in 2016.
DAS-68416XMON89788 soybean MSP resolution 5851	Dow Agroscience		Raw material for feed and food.	Approved for feed and food in 2016.
FG72 x A5547-27 soybean ICA resolution 18597 MSP resolution 5854	Bayer CropScience LLC		Raw material for food and feed.	Approved for food and feed in 2016.

DP 305423 soybean MSP resolution 5855 ICA resolution 18588	Dupont		Raw material for food and feed.	Approved for food and feed in 2016.
DP 305423 X MON 040326 soybean MSP resolution 702 ICA resolution 18586	Dupont		Raw material for food and feed.	Approved for food in 2017. Approved for feed in 2016.
DAS 81419 X DAS 44406 soybean ICA resolution 18595 INVIMA resolution 2018027770	Dupont		Raw material for feed and food.	Approved for feed in 2017. Approved for food in 2018.
DAS 81419 soybean ICA resolution 3998	Dow Agrosiences		Raw material for feed.	Approved for feed in 2016.
MON 87751 soybean MSP resolution 251 ICA resolution 25838	COACOL-Monsanto (United States)		Raw material for food and feed.	Approved for food in 2017. Approved for feed in 2018.
GMB 151 soybeans INVIMA resolution 2021023145 ICA resolution 102581	BASF	Tolerant to herbicides and resistant to nematodes.	Raw material for food and feed.	Approved for food and feed in 2021.
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 in 2005. Approved for feed in 2010.

Liberty-link rice LLRice62 MSP resolution 5333 ICA resolution 308	Bayer CropScience LLC (United States)	Tolerant to herbicide.	Raw material for food and feed.	Approved for food and feed in 2008.
LLRice601 MSP resolution 3674	Bayer CropScience LLC (United States)	Tolerant to herbicide.	Raw material for food and feed.	Approved for food and feed in 2008.
MON 88302-9 canola ICA resolution 421 MSP resolution 5806 INVIMA resolution 2020016745	COACOL- Monsanto (United States)	Tolerant to herbicide.	Raw material for feed and food.	Approved for feed and food in 2014 and 2020.
RF3 canola MSP resolution 1607 ICA resolution 11239	Bayer CropScience LLC	Tolerant to herbicide.	Raw material for food and feed.	Approved for food and feed in 2017.
MS8 canola ICA resolution 11294 INVIMA resolution 2018027776	Bayer CropScience LLC	Tolerant to herbicide.	Raw material for feed and food.	Approved for feed in 2017. Approved for food in 2018.
MON88302XRF3 canola ICA resolution 11240 INVIMA resolution 2018027779	Bayer CropScience LLC	Tolerant to herbicide.	Raw material for feed and food.	Approved for feed in 2017. Approved for food in 2018.
MS8XMON88302XRF3 canola	Bayer CropScience LLC	Tolerant to herbicide.	Raw material for feed and food.	Approved for feed in 2017.

ICA resolution 11246 INVIMA resolution 2018027777				Approved for food in 2018.
DP73496 canola INVIMA resolution 2022009524 ICA resolution 7887	Corteva Agriscience de Colombia S.A.S	Tolerant to herbicide.	Raw material for feed.	Approved for feed and food in 2022.
Mice 3XTg AD MSP resolution 2836	Universidad de Antioquia		Controlled health research.	Approved in 2008.
Mice ApoE-/- 6 Apoe "knock out" MSP resolution 2835	Universidad de Antioquia		Controlled health research.	Approved in 2008.
Mice INVIMA resolution 2019030765	Science, Biotechnology and Health Innovation Institute		Immunosuppressed mice.	Approved in 2019

Attachments:

No Attachments