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Report Highlights:

Colombia's agricultural industry widely utilizes innovative biotechnologies, and its regulatory environment remains open genetically engineered (GE) derived commodities. However, congressional anti-biotechnology initiatives continue to risk undoing decades of scientific advancement, undermining biotechnology development and potentially impacting agricultural trade. In 2023, Colombia increased its GE-corn cultivation 20 percent year-on-year, nearly close to 2021 figures, while GE-cotton decreased 39 percent owing to adverse weather conditions and farmers transitioning to rice and corn. Colombia cultivated GE-soybeans for the first time in its history.

Section I. Executive Summary:

Colombia imports and cultivates GE derived commodities and implements related technologies and has made significant progress to modernize regulations that facilitate biotechnology usage. However, recent anti-biotechnology activism in the Colombian congress could potentially hinder the adoption of new technologies and inhibit trade. The U.S.-Colombia Trade Promotion Agreement (CTPA) propelled Colombia to become the second-largest Latin American market for U.S. agricultural exports. In 2023, U.S.-Colombia bilateral food and agricultural trade reached \$7.8 billion, with the majority commodities derived from genetic engineering.

In 2003, Colombia ratified the Cartagena Protocol on Biosafety (CPB) and in 2005 implemented the CPB through [Decree 4525](#).¹ The Government of Colombia (GOC) has since enacted various regulatory measures on new requirements and procedures for approving and using GE products. Various aspects of Colombia's agricultural biotechnology regulatory framework remain under review. This process provides opportunities to engage GOC regulatory agencies to facilitate the adoption of science-based regulatory policies, especially on low-level presence (LLP), and other related technologies. In 2022, the GOC issued [Resolution 29291](#)² to regulate if crops produced through select technologies are subject to genetically engineered or conventional crop requirements. Through this resolution,³ certain genome-edited products such as waxy corn, blight resistant rice, low-pungent mustard, low raffinose⁴ soybeans, herbicide tolerant rice, reduced browning bananas, and porcine reproductive respiratory syndrome virus (PRRS) resistant pigs were reassessed and determined to fall under conventional agricultural product regulations.

The Colombian government established three distinct biotechnology technical committees to analyze the environmental, biosafety, and food safety impacts of GE products (See Chapter 1, Part B, Sub-paragraph B). Resolution 4254 from the Ministry of Health and Social Protection (MHSP) also established the requirements for labeling foods that use modern biotechnology. Despite the established regulatory framework, various political and regulatory challenges have threatened to impede the usage and acceptance of biotechnology in Colombia. In September 2015, the Constitutional Court ruled in response to a lawsuit that favored of mandatory labeling of genetically engineered products.⁵ Despite the court's previous two-year deadline to develop mandatory labeling regulations, the GOC has yet to produce any final rules. In May 2023, Congress passed a bill prohibiting GE technologies in combatting critical banana diseases. In November 2023, the Constitutional Court issued a ruling to protect native corn seed in indigenous territories, and between July and September 2024, Congress reintroduced three bills targeting biotechnology, including the adoption of GE-free municipalities, established incentives for such territories, and a nationwide GE-seed ban.

¹ Link available only in Spanish.

² Link available only in Spanish.

³ The regulation superseded the previous Resolution 29299, which provided regulatory frameworks and definitions for crops subject to genetically engineered or conventional crop regulations.

⁴ A trisaccharide composed of galactose, glucose, and fructose and prevalent in soybeans and other crops.

⁵ The ruling was a response to a lawsuit against Consumer Law 1480, Article 24, which outlined food labeling requirements, but did not directly address GE products or labeling.

Separately, the GOC has attempted to establish an LLP threshold policy, but internal deliberations continue to impede the process.

In 2002, GE-cotton was the first genetically engineered product cultivated on a non-restricted commercial basis in Colombia, followed by GE-corn in 2007. In 2019, Colombia approved cultivation of the first GE off-patent corn event. Last year, GE-corn remained as the mostly widely cultivated genetically engineered product. According to FAS Bogota (Post) sources, GE-corn planted area in 2023 increased 20 percent year-on-year to 142,710 hectares (ha), nearing the record achieved in 2021. Conversely, GE-cotton planted area fell to 7,408 ha, a 39 percent decrease year-on-year. Despite the government's 2010 approval for environmental release, 4,554 ha of GE-soybeans were planted for the first time in Colombia until 2023. Within each value chain, GE-cotton represents 61 percent of total cotton area planted, GE-corn at 36 percent of total area planted and GE-soybean at 5 percent of total area.

Colombia continues to produce GE-blue carnations, roses, chrysanthemums and gypsophilas⁶ under greenhouse conditions for export to Europe, and GE-blue petal roses for export to Japan. Colombia continues to import vaccines containing genetically engineered components to control certain animal diseases.

⁶ Known commonly as “baby’s breath.”

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CHAPTER 1: PLANT BIOTECHNOLOGY

PART A: Production and Trade

a) Research and Product Development

Several Colombian organizations are engaged in biotechnology research and development. In 2019, the Colombian Agricultural Institute (ICA) authorized the Colombian Grain Producers Association (Fenalce) to cultivate a corn genotype containing the TC-1507 (off-patent) event in Colombia's dry and humid Caribbean regions, Magdalena and Cauca River Valleys, Orinoquia, and the coffee region.

The Colombian Sugar Cane Research Center (CENICANA) is currently developing sugar cane varieties resistant to the yellow leaf virus as well as cultivars with increased sugar, biomass and salt, aluminum, and water stress tolerance. The International Center for Tropical Agriculture (CIAT) is researching GE-rice, cassava, reduced cadmium cacao, and select grass cultivars, and the School of Administration, Finance and Technological Institute (EAFIT) University is working on castor bean oleic content and *sacha inchi*, a perennial fruit with large, edible seeds. The Colombian Coffee Research Center (CENICAFE) is conducting biotechnology research on tobacco, the *Beaveria bassiana* fungus, and a coffee variety resistant to coffee berry borer. The International Corporation for Biological Research is investigating potato varieties resistant to lepidopterous insects. Various Colombian universities and research institutes are also collaborating to develop GE-rice and potato varieties.

b) Commercial Production

Prior to 2006, Bollgard and Roundup-Ready cotton varieties were the only non-restricted genetically engineered crops approved in Colombia. In 2007, the GOC approved the first "stacked" events, a cotton variety which combined both Bollgard and Roundup-Ready traits, as well as controlled plantings of GE-corn. In 2010, GE-soybeans were approved for commercial cultivation but only as an off-patent event by 2020. Genetically engineered blue carnations, blue petal roses, blue chrysanthemums and blue gypsophilas are cultivated solely for export markets, with just 12 ha of total cultivated area.

Colombian farmers continue to utilize biotechnology. The Colombian departments of Meta, Tolima, Cordoba, Valle del Cauca, and Cesar have the highest GE-corn cultivation per area planted, while 24 of Colombia's 32 departments grow GE-corn, cotton, and soybeans. In 2023, Colombia planted 142,710 ha of corn, a 20 percent increase year-on-year, the second highest rate in history after record 2021 figures. For GE-cotton, Colombia cultivated 7,408 ha in 2023, a 39 percent decrease year-on-year mainly due to unfavorable weather conditions and farmers transitioning to rice and corn cultivation. For GE soybeans, 4,557 ha of off-patent GE seeds were planted for the first time in Tolima, Cordoba and Meta mainly intended for feed use (See: Charts 1, 2, and 3).

There are pending applications for other GE-crops and remain in different approval phases (See Appendices A and B).

Figure 1. Colombia: Genetically Engineered Corn, Cotton, and Soybean Planted Area Calendar Year (CY) 2002-2023 (ha)

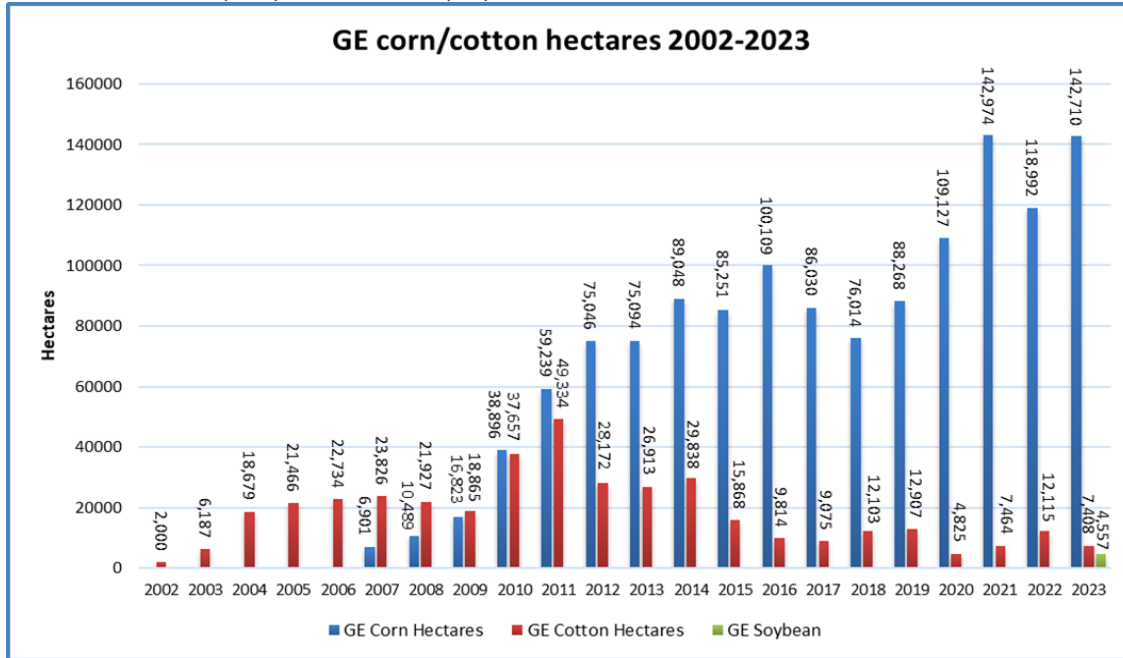
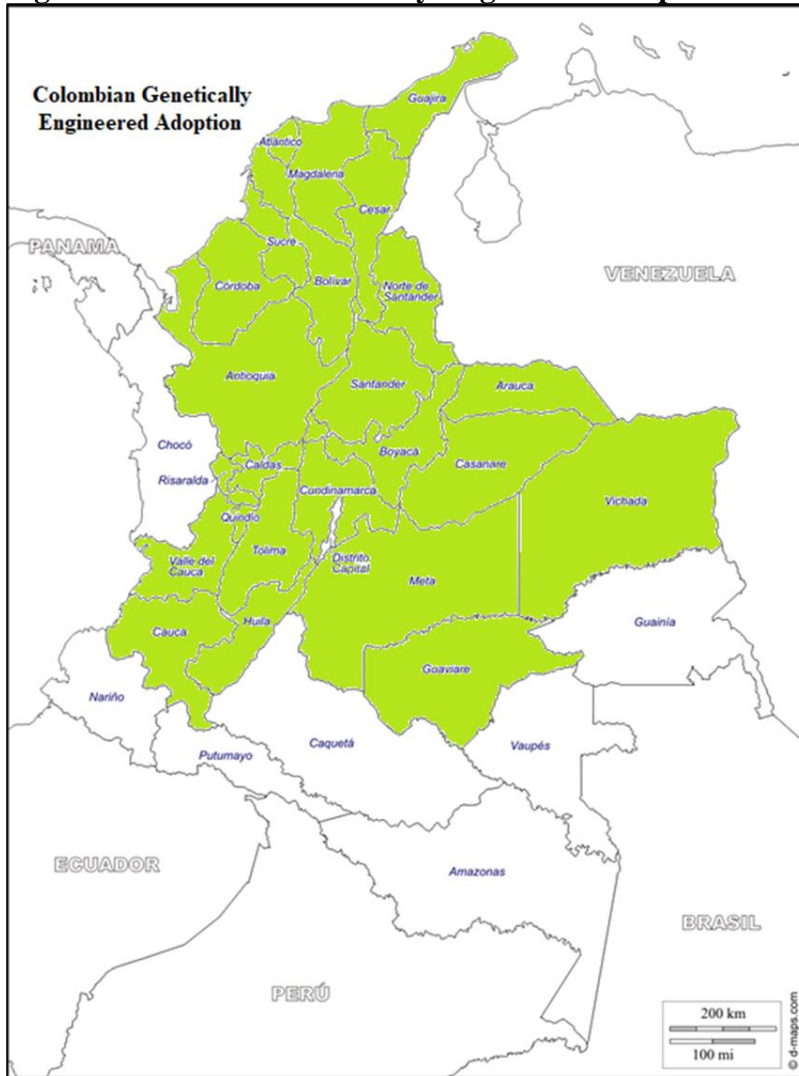


Figure 2. Genetically Engineered Crop Production by Department, CY 2023 (ha)

GE adoption per Department/Hectares					
	Corn		Cotton		Soybean
Meta	57,642	Tolima	2,446	Tolima	435
Tolima	22,707	Cordoba	1,746	Cordoba	1,116
Cordoba	21,659	Huila	897	Meta	3,006
Valle del Cauca	14,707	Meta	690		
Cesar	11,402	Cesar	639		
Quindio	2,222	Guajira	592		
Huila	1,731	Casanare	259		
Cauca	1,442	Magdalena	75		
Risaralda	1,407	Atlantico	64		
Santander	1,402				
Vichada	1,320				
Arauca	1,045				
Casanare	1,041				
Bolivar	863				
Antioquia	654				
Caldas	593				
Sucre	382				
Cundinamarca	188				
Norte de Santander	124				
Guaviare	60				
Boyaca	56				
Magdalena	50				
Guajira	15				
TOTAL	142,710		7,408		4,557

Figure 3. Colombia Genetically Engineered Crop Cultivation by Department



Data source: Figures 1-3 data provided by ICA-Colombian Agricultural Institute.

c) Exports

Genetically engineered blue carnations and chrysanthemums are exported to Europe, and GE-blue petal roses to Japan. In 2023, area planted for blue carnations, blue petal roses, blue chrysanthemums, and blue gypsophilas remains unchanged at 12 hectares.⁷

d) Imports

The United States supplies most GE-cotton seed (132 metric tons [MT]) while GE-corn and soybeans are imported from Brazil (4,429 MT and 68 MT respectively). In 2023, Colombia imported approximately \$2.2 billion of GE-derived agricultural products from the United States,

⁷ Colombian blue petal roses are a lucrative market in Japan, which routinely sell for approximately \$40-50 per flower (stem).

including GE-corn, cotton, dried distiller’s grains with solubles, soybeans, and soybean products (e.g., soybean meal, oil).

e) Food Aid

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

f) Trade Barriers

Since July 2020, anti-biotechnology advocacy groups have successfully petitioned certain Colombian legislative and government officials to restrict GE applications. These initiatives include the Colombian government attempting to impose mandatory GE labeling on consumer food products, a congressional law mandating ICA to facilitate “non-transgenic” resistant varieties to combat Fusarium R4T, under [Law 2303](#),⁸ the Constitutional Court’s ruling to protect native corn seed in indigenous territories. Most recently, Congress reintroduced three bills targeting biotechnology, including the adoption of GE-free municipalities, established incentives for such territories, and a nationwide GE-seed ban. These initiatives create significant regulatory uncertainty and if passed, would hinder the adoption of new technologies and impact bilateral agricultural trade. Additional anti-biotechnology initiatives could be introduced during the current legislative year (July 2024-June 2025), or later.

PART B: Policy

a) Regulatory Framework

Table 1. Legal Definitions

Legal Term (Spanish)	Legal Term (English)	Law and Regulations Where Term is Used	Legal Definition (English)
Organismo Vivo Modificado (OVM)	Living Modified Organism (LMO)	Decree 4525 Resolution 91505 Resolution 91506 Resolution 957 Resolution 2535 Resolution 29291	Any living organism that possesses a novel combination of genetic material obtained using modern 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 info. Living modified organisms (LMO) referred in the Cartagena Protocol on biosafety and biotechnology are included within this concept.

⁸ Link available only in Spanish.

All developed genetically engineered products must go through a regulatory approval process, whether intended for environmental release, ornamentals, for human consumption, or for animal feed. The following ministries participate 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 through *Colciencias*)
- National Institute for the Surveillance of Food and Medicines (INVIMA)

[Decree 4525 \(2005\)](#)⁹ established three interagency committees, consisting of the aforementioned ministries, which are responsible for biosafety issues as well as the evaluation and approval of biotechnology products. The committees responsible for biotech regulation include:

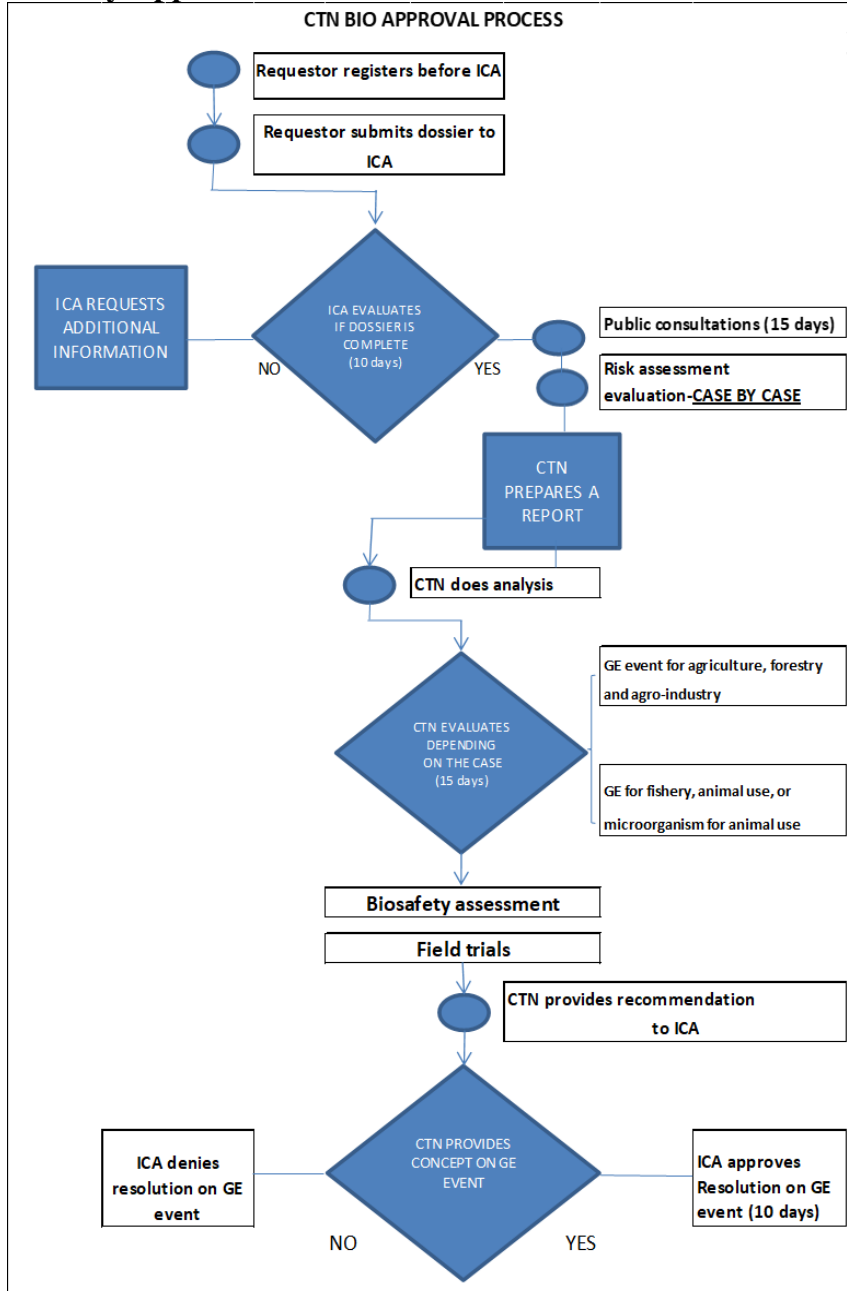
The National Technical Committee for Agriculture, Fishery, Forestry and Agro-industry (CTN-Bio): [Resolution 91506 \(2021\)](#),¹⁰ established CTN-Bio's internal regulations for assessing genetically engineered events for non-food genetically engineered products. Figure 4 illustrates the CTN-Bio approval process, which was reviewed and amended in 2021 as per [Resolution 91505](#).¹¹ This streamlined process allows for more predictable timelines.

⁹ Link available only in Spanish.

¹⁰ Link available only in Spanish.

¹¹ Link available only in Spanish.

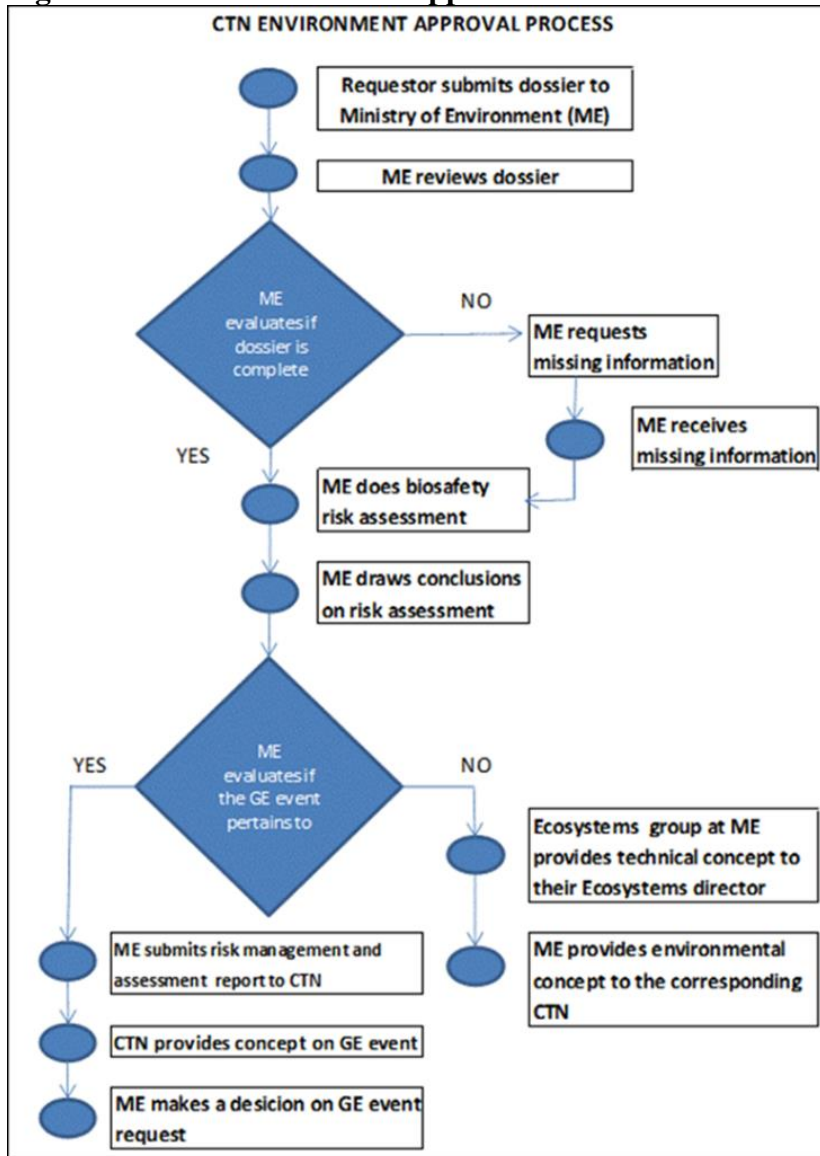
Figure 4. National Technical Committee for Agriculture, Fishery, Forestry and Agro-industry Approval Process



The National Technical Committee for Environment (CTN-Environment): CTN-Environment’s function is to assess genetically engineered events and their environmental impact. However, CTN-Environment has never received any requests to review genetically engineered events. In 2010, MEHTD issued [Resolution 957](#)¹² that describes evaluation requirements for companies and the procedures for assessing genetically engineered events. Figure 5 illustrates the CTN-Environment approval process:

¹² Link available only in Spanish.

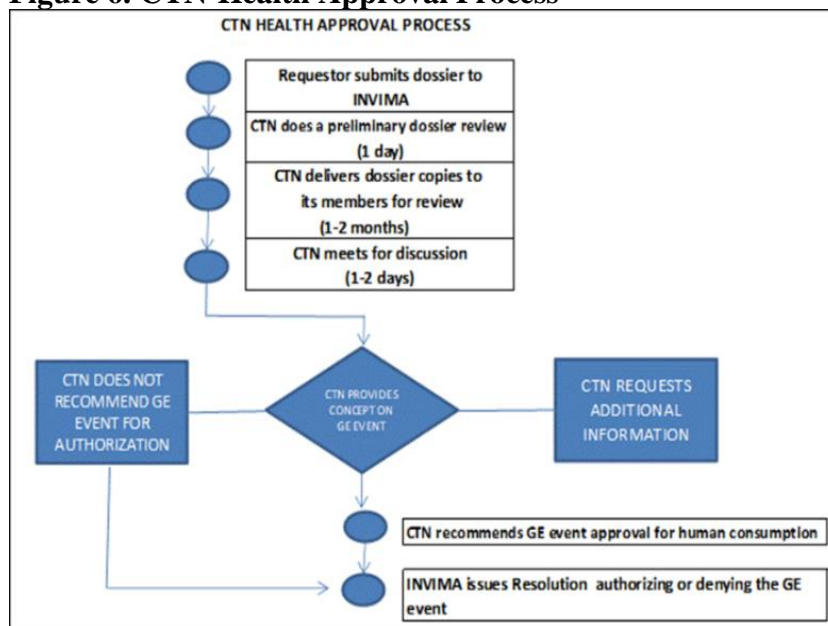
Figure 5. CTN-Environment Approval Process



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](#)¹³ which transferred regulatory approval responsibility to INVIMA, and in turn has streamlined the approval procedures with predictable timelines. Figure 6 illustrates the CTN-Health approval process:

¹³ Link available only in Spanish.

Figure 6. CTN-Health Approval Process



b) Approvals and Authorizations

The GOC must approve all genetically engineered events for commercial cultivation, food consumption, and animal feed. Both CTN-Bio and CTN-Health oversee the approval process for GE-derived feed and food materials, and committee decision timelines are not coordinated. These parallel timelines can result in internal asynchronous approvals (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 provided additional requirements after the initial expiration renewal.

Refer to Appendix A for a full list of biotechnology products approved for planting in Colombia.

c) Stacked Events or Pyramided Event Approvals/Authorizations

All stacked genetically engineered events for commercial cultivation and animal feed must be approved individually (by trait) per ICA's [Resolution 91505](#).¹⁴ In 2017, CTN-Health established an internal procedure to facilitate the approval process for stacked events for food consumption when their single events have already been approved. The procedure has reduced the current approval period and alleviated asynchronous approvals between exporting and importing countries.

d) Field Testing

According to ICA's [Resolution 91505](#),¹⁵ Colombia requires field-testing for genetically engineered crop cultivation (Appendix A) after a risk assessment is submitted to CTN-Bio for

¹⁴ Link available only in Spanish.

¹⁵ Link available only in Spanish.

review and subsequent approval. Field testing must be completed within Colombia’s different agroecological regions, which typically lengthens the review period.

e) Innovative Biotechnologies

Some of the primary groups conducting genome editing research include: CIAT Research Center, the Colombian Agricultural Research Corporation (Agrosavia), and EAFIT University. The CIAT Research Center primarily focuses on rice products, including fortified rice (iron and zinc), varieties with greater yields, and virus and bacteria-resistant rice. In addition, CIAT is developing herbicide-tolerant cassava, improved bean nutritional quality, cadmium absorption in cacao, and deep root forage grasses and rice for carbon capture. Agrosavia is developing reduced-toxin potatoes and phosphorus-altered rice.¹⁶ EAFIT University is researching oleic content in castor bean.

[Resolution 29291 \(2022\)](#)¹⁷ superseded Resolution 29299 which additionally covers genome-edited animals, microbes, and any other product using the technology, and creates a process to determine if genome-edited cultivar/animal/microbes should be considered “living modified organisms” (LMO) or conventional organisms. The interested party is required to apply to ICA for review. Within a period of sixty business days, should no further information be required, ICA will determine if the new product is considered genetically engineered and, therefore, if it is within the scope of regulation for GE-organisms. If deemed as an LMO, the cultivar/animal/microbe is required to go through the existing regulatory biotechnology framework. If judged not an LMO, the product is regulated by existing conventional legislation and regulations. ICA has reviewed various genome-edited crops and an animal submission and concluded that the following crop and animal traits are not subject to biotechnology regulations (Table 2):

Table 2. Colombia: Products not Subject to Colombian Government GE-Regulations

Crop/Animal	Trait	Evaluation Year
Corn	Waxy corn modified for altered starch composition	2020
Rice	Phosphorus use efficiency	2020
Rice	Xanthomonas tolerant	2020
Mustard leaves	Improved flavor profile	2021
Soybeans	Low raffinose soybeans	2022
Corn	Blight resistant	2022
Pigs	Porcine reproductive respiratory syndrome virus (PRRS) resistant	2023
Rice	Herbicide tolerant	2023
Banana	Reduced browning	2024
Blackberries	Altered growth	2024

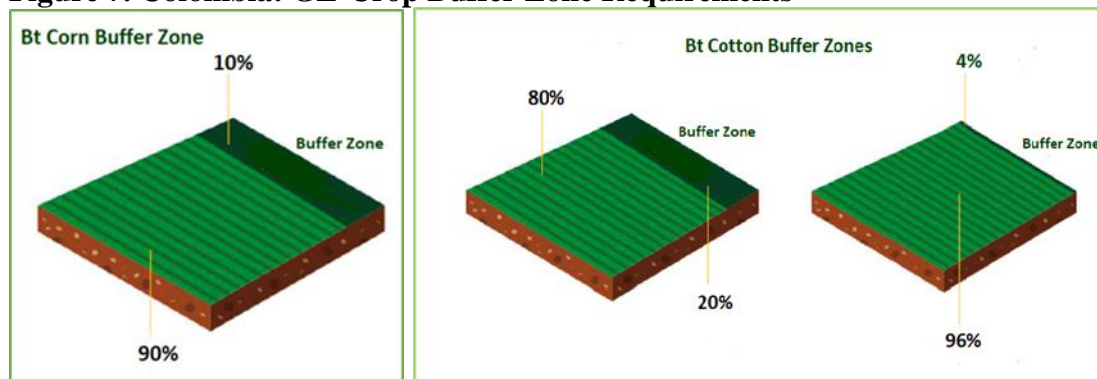
¹⁶ Phosphorus-altered rice results in decreased phosphorus in the grain, but with higher levels in the plant tissue and leaves.

¹⁷ Link available only in Spanish.

f) Coexistence

In 2006, ICA evaluated Colombia's cross-pollination environment and concluded that genetically engineered and non-GE crops coexist without posing risks to non-genetically engineered crops. Regardless, cotton and corn farmers must apply the practice of buffer zones, or allow a natural barrier of fallow terrain, in compliance with ICA [Resolution 72221 \(2020\)](#)¹⁸ which establishes a buffer zone following a 80/20 or 96/4 (percent) scheme for cotton, and a 90/10 scheme for corn (Figure 7). Resolution 72221 also requires a 300-meter planting distance between genetically engineered and non-GE crops. See Chapter 1, Part B, Sub-paragraph H, for more information.

Figure 7. Colombia: GE-Crop Buffer Zone Requirements



Data source: Insect Resistance Management Program (Manejo de Resistencia de Insectos ([[MARI](#)])).¹⁹

g) Labeling and Traceability

Resolution 4254

Colombia's genetically engineered labeling requirements may impact the current GE-regulatory framework and the use of such technologies. In 2012, MHSP issued [Resolution 4254](#),²⁰ which established labeling requirements for foods derived from modern biotechnology. The resolution requires labeling information for product safety and risks such as potential allergenicity. In addition, GE labeling must address significant differences with the product's conventional counterpart.

In 2015, the Constitutional Court of Colombia ruled in favor of mandatory labeling of GE organisms in response to a lawsuit against Consumer Law 1480. From the decision, Congress was required to draft and implement legislation on mandatory labeling of GE organisms within two years of the ruling. Despite the deadline, Congress did not produce final rules. However, on August 14, 2019, a revised bill was submitted calling for mandatory GE labeling. The initiative only reached the first debate of the legislative process, which terminated in June 2020. Although no additional bills have been introduced under the 2023-2024 legislative calendar, in June 2023,

¹⁸ Supersedes Resolutions 682 and 2894. Link available only in Spanish.

¹⁹ Link available only in Spanish.

²⁰ Link available only in Spanish.

the Familiar, Ethnic, and Community Agriculture non-governmental organization petitioned the Ministry of Health to implement mandatory GE labeling.

Resolution 4254 regulates biotechnology labeling. The regulation 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 [IVC-INS-LI15](#)²¹ that establishes the frequency for importers to submit laboratory results to certify that products labeled as “non-GMO” do not contain detectable modified genetic material. These guidelines are intended to 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 primary ingredients are not included in Circular [4000-3988-19](#).²²

Imported packaged products which include the “non-GMO Project Verified” or the “non-GMO/GE Process Verified” labels, continue to increase in the market, which, as per current regulations, are considered equivalent to “GMO-free” claims. Therefore, manufacturers or importers must provide a supplementary label that clarifies the scope of the legend to be able to commercialize their products according to INVIMA Communication [4000-1071-18](#).²³

h) Monitoring and Testing

In 2009, the Colombian government issued Resolution 682, requiring GE-seed companies to adopt a “lifecycle stewardship” approach to guide producers, targeting GE-cotton production. In 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 cotton and corn, the most widely grown GE-crops in Colombia. In 2020, ICA issued [Resolution 72221](#)²⁴ to improve and modify stakeholder responsibilities and standardize stewardship reporting.

INVIMA conducts port of entry testing to check imported commodity shipments for unapproved GE- products destined as raw materials 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” attestations, and requests that importers support their claims with laboratory results before commercialization (See Chapter 1, Part B, Sub-paragraph G for additional information on labeling and testing).

i) Low-Level Presence Policy

Both local industry and exporters have previously expressed concerns that not all commonly traded GE-events have been approved in Colombia, which could delay shipments because of asynchronous approvals. As approval times for food, feed and environmental release remain unparallel, the GOC initially considered a 5 percent LLP threshold in 2014. However, in 2019,

²¹ Link available only in Spanish.

²² Link available only in Spanish.

²³ Link available only in Spanish.

²⁴ The regulation combined Resolutions 682 and 2894. Link is available only in Spanish.

Colombia's National Planning Office began to address LLP in GE products destined for food use under the interagency sanitary and phytosanitary committee and indicated that existing measures would be sufficient to address LLP concerns.

j) Additional Regulatory Requirements

There are no additional requirements for GE-products.

k) Intellectual Property Rights (IPR)

Colombia is a member of, and follows the guidelines for, the Convention for the Protection of Industrial Property, the World Trade Organization, G3 Mexico, the "Colombia and Venezuela Agreement," and the Andean Community. As a member of the Andean Community, Colombia adopted the following regulations related to genetic engineering:

- 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
- Decision 486, Common Regime on Industrial Property

In 2012, Colombia's Constitutional Court declared its accession to the International Union for the Protection of New Plant Varieties (UPOV 91) unconstitutional owing to the government's lack of consultation with Afro-Colombian and indigenous communities. As a result, Colombia has continued to follow provisions under the Andean Community Decision 345.

l) Cartagena Protocol on Biosafety Ratification

As a signatory (and host) to the Cartagena Protocol on Biosafety (CPB), in 2002, Colombia approved the Biosafety Protocol via [Law 740](#).²⁵ The country usually sends a delegation to the CPB bi-annual Conference of the parties serving as the Meeting of the Parties. To date, the regulations to implement the CPB and supporting laws are outlined in [Decree 4525 \(2005\)](#); ICA resolutions [72221 \(2020\)](#), [91505 \(2021\)](#), and [91506 \(2021\)](#); [MHSP Resolution 2535 \(2017\)](#); and [MEHTD Resolution 957 \(2010\)](#).²⁶

m) International Treaties and Forums

Colombia is active in the Nagoya Protocol discussions (access to genetic resources and the fair and equitable sharing of benefits arising from their utilization), the Nagoya-Kuala Lumpur Protocol (redress and liability), and the CPB Conference of the Parties. Colombia is also a signatory to the Convention of Biological Diversity, the International Treaty on Plant Genetic Resources for Food and Agriculture, the International Plant Protection Convention, and participates in the Codex Alimentarius Commission (CODEX) to discuss biotechnology issues. In 2017, Colombia joined the Global Low-Level Presence Initiative to develop international

²⁵ Link available only in Spanish.

²⁶ All aforementioned links available only in Spanish.

approaches on LLP management. In 2020, Colombia became a member of the Organization for Economic Cooperation and Development, and in 2022, ratified the Escazu Agreement.²⁷

n) Related Issues

Over five consecutive legislative years beginning July 2020, bills aimed at establishing “transgenic free” municipalities, protecting farmer rights to save, reuse, and commercialize their seeds, and banning GE-seeds have all been annually introduced in Congress. In July 2023, [Article 64](#)²⁸ from the Colombian Constitution was modified and includes access to seed exchange among other considerations. In November 2023, the Constitutional Court upheld a ruling mandating the Ministry of MARD and ICA to take additional actions within one year to protect native corn seeds in indigenous communities. Still, biotechnology proponents have expressed their concerns and continue advocating for a science-based approach.

PART C: Marketing

a) Public/Private Opinions

In all, Colombia has taken a science-based approach toward regulating biotechnology. However, certain environmental, farmer and indigenous NGOs continue to pressure government officials to reject biotechnology.²⁹ Anti-biotechnology activists have pushed for mandatory GE-labeling, seed bans, GE-free municipalities, and GE-derived agricultural product import bans. In addition, activists have inspired certain social science student groups and indigenous communities to oppose the introduction of GE-crops for cultivation and environmental release based on biodiversity and food sovereignty concerns. As per current regulations, indigenous territories are deemed transgenic-free zones (See Chapter 1, Part B, Sub-paragraph G for additional information on labeling. See Chapter 1, Part A, Sub-paragraph F for additional information on trade barriers.)

b) Market Acceptance/Studies

For over 20 years, biotechnology-derived commodities have been used in Colombia. To date, public opinion and media coverage of biotechnology have been generally favorable, and most consumers have not voiced significant concerns about products containing GE-derived materials.

Various research has been conducted in Colombia on GE acceptance and market benefits. For instance, a 2011 IFPRI study found that GE-cotton cultivation had economic benefits for women farmers, saving both time and money.³⁰ The research highlights the role of women as practitioners and beneficiaries of biotech cotton production. A 2016 Colombian investigation

²⁷ See [Law 2273](#) (link in Spanish only). The Escazu Agreement refers to the Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean.

²⁸ Link available in Spanish only.

²⁹ The government’s basic principle is to adopt technologies that may help rural Colombia’s economic and social development.

³⁰ See: Zambrano et al. (2011) [Women cotton farmers: Their perceptions and experiences with transgenic varieties, a Case Study for Colombia](#), IFPRI.

demonstrated biotechnology as a valuable tool for farmers, with potential benefits to improve rural development and sustainable agriculture.³¹

CHAPTER II: ANIMAL BIOTECHNOLOGY

PART D: Production and Trade

a) Research and Product Development

According to Post sources, various universities are researching animal biotechnology. However, the high costs associated with the technology is a key factor that has discouraged widespread research and adoption. Aquaculture and GE-cattle are areas for additional animal biotechnology research, but funding remains the primary constraint. There are presently no developments in animal cloning.

b) Commercial Production

None presently.

c) Exports

None presently.

d) Imports

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

In 2016, certain international companies and local governments expressed interest in accessing GE-insect technology to control harmful pest populations. These technologies included the control of *Aedes aegypti* mosquito populations, a vector for dengue, Zika, chikungunya, yellow fever, and other arboviruses, as well crop protection against the Mediterranean Fruit Fly (Medfly).³²

e) Trade Barriers

None at present.

³¹ Source: Graham Brookes (2020) [Genetically modified \(GM\) crop use in Colombia: farm level economic and environmental contributions](#), GM Crops & Food, 11:3, 140-153.

³² Technologies to combat the Medfly could be introduced first due to streamlined regulatory considerations, as it only requires CTN-Bio's assessment.

PART E: Policy

a) Regulatory Framework

The Colombian government regulatory framework for plant biotechnology also applies to animal biotechnology. Per [Decree 4525](#),³³ CTN-Bio is the interagency committee responsible to evaluate and approve animal products following an ICA risk evaluation.

b) Approvals/Authorizations

See Appendix C.

c) Innovative Biotechnologies

No developments currently identified.

d) Labeling and Traceability

See Chapter 1, Part B, Sub-paragraph G.

e) Additional Regulatory Requirements

None at present.

f) Intellectual Property Rights

See Chapter 1, Part B, Sub-paragraph K.

g) International Treaties and Forums

Colombia's experience with biotechnology remains mostly specific to plant products. As a member of CODEX and the World Organization for Animal Health (OIE), Colombia routinely participates in these fora to discuss biotechnology issues.

h) Related Issues

None present.

PART F: Marketing

a) Public/Private Opinions

Public knowledge of biotechnology is focused mostly on plant products. Animal biotechnology is less known and receives minimal media attention. Animal biotechnology is related to assisted reproductive technologies.

³³ Link available in Spanish only.

b) Market Acceptance, Studies

See Chapter 2, Part F, Sub-paragraph A.

CHAPTER 3: MICROBIAL BIOTECHNOLOGY

PART G: Production and Trade

a) Commercial Production

No information available.

b) Exports

Colombia annually exports \$92 million in select processed products to the United States, including prepared foods, wine and beer, condiments and sauces, fruit juices, cheese, infant foods, bread, (pastry, cakes and other “bakers wares”), food preparations, and enzymes. These products may contain microbial biotechnology-derived ingredients.

c) Imports

Annually, Colombia imports around \$138 million in select U.S. processed products including prepared foods, wine and beer, condiments and sauces, fruit juices, cheese, infant foods, bread (pastry, cakes, and other “bakers wares”), food preparations, and enzymes. These products may contain microbial biotechnology-derived ingredients.

d) Trade Barriers

None present.

PART H: Policy

a) Regulatory Framework

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

b) Approvals/Authorizations

See Chapter 3, Part H, Sub-paragraph A.

c) Labeling and Traceability

In 2012, MHSP issued Resolution 4254 establishing the requirements for labeling of food derived from modern biotechnology. Foods containing one microbial biotech-derived ingredient, such as additives or enzymes, are exempt from GE labeling requirements.

d) Monitoring and Testing

No monitoring or testing occurs for GE-microorganisms used as food ingredients.

e) Additional Regulatory Requirements

No additional requirements present.

f) Intellectual Property Rights (IPR)

See Chapter 1, Part B, Sub-paragraph K.

g) Related Issues

None.

PART I: Marketing

a) Public/Private Opinions

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

b) Market Acceptance, Studies

See Chapter 3, Part I, Sub-paragraph A.

ADDENDUM:

Appendix A. Colombia: Current Status of Biotechnology Products for Cultivation

Cultivar	Requesting Company	Biotechnology Characteristics	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 ICA resolution 15260	Suntory Global Innovation Center Limited	Blue Petal Roses	Approved in 2020 for field trials. Approved in 2023 for commercial production of cut flowers for exports only (greenhouse conditions).
Chrysanthemum ICA resolution 3785	International Flower Development	Blue Chrysanthemum	Approved for experimental plantings in 2009 (greenhouse conditions).
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 S.A.	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 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 ICA resolution 1006 ICA resolution 366	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide.	Approved in 2004 for commercial plantings in dry and humid Caribbean regions. Approved in 2007 for commercial plantings in upper Magdalena River Valley and Cauca River 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 dry and humid Caribbean regions, upper Magdalena River Valley, Cauca River valley and Meta. Approved in 2007 for commercial plantings in upper Magdalena River Valley, Cauca River Valley, the dry 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 dry and humid Caribbean regions, upper Magdalena River Valley (Tolima and Huila), Cauca River Valley and Meta. Approved in 2003 for commercial plantings in dry and humid Caribbean regions and Orinoquia. Approved in 2007 for commercial plantings in upper Magdalena River Valley and Cauca River Valley.
Bollgard x Roundup Ready Flex Cotton- MON 531XMON 88913 ICA resolution 1726	COACOL-Monsanto (United States)	Resistant to wider variety of lepidopterous insects and completely tolerant to Roundup herbicide.	Approved in 2007 for commercial plantings.
Bollgard II and Roundup Ready Flex Cotton- MON 15985XMON 88913 ICA resolution 30193	Bayer S.A.	Resistant to a wider variety of lepidopterous insects and tolerant to Roundup herbicide.	2008 approval for commercial plantings in dry and humid Caribbean regions, the upper Magdalena River Valley, 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 in 2010 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 S.A.	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 dry and humid Caribbean regions.
Glytol and Twilink cotton ICA resolution 4304 ICA resolution 18599 ICA resolution 30336 ICA resolution 82364	Bayer S.A.		Approved in 2014, 2016, and 2018 and 2020 for commercial plantings.
Glytol x Twinlink x COT102 cotton ICA resolution 3924	Bayer S.A.		Approved in 2016 for biosafety field trials.
COT102 cotton ICA resolution 369 ICA resolution 82365	Bayer S.A.		Approved in 2015 for biosafety field trials. Approved for planting in 2020.
Rice ICA resolution 4041	CIAT (Colombia)	Drought tolerant.	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 amylopectin 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 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	Corporación de Investigaciones Biológicas	Resistant to <i>Tecia solanivora</i> .	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.
Sugarcane ICA Resolution 3995	CENICANA (Colombia)	Resistant to 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 humid Caribbean region, upper Magdalena River, Cauca River. Approved in 2007 for controlled plantings in humid Caribbean region, upper Magdalena River, Cauca River Valley and eastern plains. Approved in 2008 for controlled plantings in the dry Caribbean, upper Magdalena River, 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 dry and humid Caribbean and the coffee regions.
Yieldgard 2 Corn	COACOL-Monsanto (United States)	Resistant to some lepidopterous insects and tolerant to Roundup.	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, 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 dry and humid Caribbean regions, Coffee region, upper Magdalena River Valley, 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 in humid Caribbean region (Cordoba), upper Magdalena River Valley, Cauca River Valley and eastern plains. Approved in 2007 for controlled plantings in Cordoba, upper Magdalena River valley, Cauca River Valley and eastern plains. Approved in 2008 for controlled plantings in dry Caribbean, 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.	Approved in 2009 for controlled plantings in coffee region. Approved in 2011 for controlled plantings in the dry and humid Caribbean regions, upper Magdalena River Valley, Cauca River Valley and eastern plains. 2012 approved 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 humid Caribbean region, upper Magdalena River, Cauca River Valley and eastern plains.
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 Cordoba, upper Magdalena River Valley, Cauca River Valley and eastern plains. Approved for biosafety assessments in 2007 in dry Caribbean and coffee regions. Approved in 2008 for controlled plantings in dry Caribbean and coffee regions.

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 Cordoba, upper Magdalena River Valley, and Cauca River Valley. Approved for biosafety assessments in 2007 in the dry Caribbean and coffee regions. Approved in 2007 for controlled plantings in Cordoba, upper Magdalena River Valley, Cauca River Valley and eastern plains. Approved in 2008 for controlled plantings in coffee region and the upper Magdalena River. Approved in 2012 for controlled plantings in the dry Caribbean region.
Herculex I ICA resolution 859	Dow AgroSciences		Approved for biosafety assessments in 2008 in dry and humid Caribbean regions, Cauca River Valley, coffee region, 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.	Approved for controlled plantings in humid Caribbean region, Cauca River Valley and eastern plains. Approved in 2008 for controlled plantings in coffee region, 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 humid and dry Caribbean region, Upper Magdalena River Valley, Cauca River Valley, Orinoquia, 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 coffee region, humid Caribbean region, 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, humid Caribbean region, Upper Magdalena River Valley, Cauca River Valley and Orinoquia. Approved in 2008 for controlled plantings in humid Caribbean region, Cauca River Valley. Approved 2009 for controlled plantings in Magdalena River Valley and eastern plains.
CCR corn-MON 88017	COACOL-Monsanto (United States)	Tolerant to Roundup and resistant to rootworm.	Approved for biosafety trials.

GA 21 corn ICA resolution 2936 ICA resolution 877	Syngenta (Switzerland)	Tolerant to Roundup EPSPS gene.	Approved for biosafety trials in dry and humid Caribbean regions, Cauca River Valley, upper Magdalena River, coffee region and Orinoquia. Approved in 2010 for controlled plantings in humid and dry Caribbean regions, 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 humid Caribbean region, Upper Magdalena River Valley, Cauca River Valley and Orinoquia.
MON 89034-3 x MON 00603-6 corn ICA resolution 1036 ICA resolution 10492	COACOL-Monsanto (United States)	Tolerant to Roundup herbicide, resistant to some lepidopterous insects.	Approved in 2009 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, resistant to some lepidopterous insects.	Approved in 2016 for controlled plantings in 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 in 2010 for biosafety trials and agronomic assessment in the dry and humid Caribbean regions, upper Magdalena River Valley, Cauca River Valley, Orinoquia. Approved 2012 for controlled plantings for humid Caribbean regions, and Orinoquia. Approved 2014 for controlled plantings in the Cauca River Valley, upper Magdalena River and dry Caribbean regions.
MON VT Triple PRO (VT3P) (MON 89034 X MON 88017) Corn ICA resolution 1260	COACOL-Monsanto (United States)	Tolerant to Roundup, resistant to rootworm.	Approved 2009 for biosafety field trials in the humid, dry Caribbean regions, Magdalena River Valley, Cauca River Valley, Orinoquia.
Bt11x MIR162 x MIR604 x GA21 corn ICA resolution 3572	Syngenta (Switzerland)	Tolerant to herbicide and resistant to insects.	Approved 2012 for biosafety trials and agronomic assessment in dry and humid Caribbean regions, upper Magdalena River Valley, 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 2011 for biosafety trials and agronomic assessment in dry and humid Caribbean regions, upper Magdalena River valley, Cauca River Valley, Orinoquia and coffee region.

MON 89034x TC 1507xNK603 Corn ICA resolution 3049	Dow AgroSciences de Colombia S.A.		Approved for controlled plantings 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 2019 for commercial plantings in dry and humid Caribbean regions, Magdalena, and Cauca River Valleys, Orinoquia, and coffee region.
MON 89034 x TC1507 x MIR162 x NK603 Corn ICA resolution 61761 ICA resolution 61762 ICA resolution 7890	Dupont		Approved 2020 for commercial plantings in humid Caribbean region, Magdalena and Cauca River Valleys and Orinoquia. Approved for commercial plantings 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 dry and humid Caribbean regions, upper Magdalena River Valley, Cauca River Valley. Approved for commercial plantings 2010 in Orinoquia and 2012 in Cauca River Valley.
Round Up Ready 2 Yield Soybean ICA resolution3669 ICA resolution 3660	COACOL-Monsanto (United States)		Approved 2011 for biosafety assessment in dry, humid Caribbean regions, upper Magdalena River Valley, Cauca River Valley, Orinoquia.
Liberty link Soybean A5547-127 ICA resolution 4136			Approved 2014 for biosafety field trials.
FG 72X A5547 Soybean ICA Resolution 18601	Bayer S.A.		Approved in 2016 for biosafety field trials.

FG 72 Soybean ICA Resolution 3999	Bayer S.A.		Approved in 2016 for biosafety field trials.
GTS 4032 Soybean ICA Resolution 72113	COACOL-Monsanto (United States)	Herbicide-tolerant	Approved in 2020 for biosafety field trials. OFF-PATENT.
GTS 4032 Soybean 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.
Glycine Max Soybeans ICA resolution 15257	FENALCE	Herbicide-tolerant	Approved for limited field research in 2023.
Sugar cane ICA resolution 82361	CENICAÑA	Transformed genotypes of sugarcane (<i>Saccharum officinarum</i>) to be used for ethanol production	Approved for confined field trials in 2020.
Banana ICA resolution 4504	AGROSAVIA	Fusarium tolerant	Approved for limited field research in 2024.

Appendix B. Colombia: Current Status of Biotechnology Product Applications for Food, Feed, and Health

Cultivar	Requesting Company	Biotechnology Characteristics	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 ICA resolution 1063	COACOL-Monsanto (United States)	Tolerant to Roundup.	Raw material for food and feed.	Approved for food in 2003. Approved for feed in 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 2009, 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 S.A.	Tolerant to Roundup.	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, 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 S.A.		Raw material for food and feed.	Approved for food in 2016 and 2022. Approved for feed in 2016.
GHB 614 Glytol Cotton ICA resolution 3567 MSP resolution 506 INVIMA resolution 2021023287	Bayer S.A.	Tolerant to herbicide.	Raw material for feed and food.	Approved for feed in 2012. Approved for food in 2016, 2021.
GHB 614 Glytol X Liberty Link Cotton LL25 ICA resolution 3568 MSP resolution 1454 INVIMA resolution 2023007710	Bayer S.A. BASF	Tolerant to herbicide.	Raw material for feed and food.	Approved for feed in 2012. Approved for food in 2017 and 2023.
GHB 614 Glytol x T304 X GHB119 X COT 102 Cotton MSP resolution 1453 INVIMA resolution 2023007708	Bayer S.A. BASF	Tolerant to herbicide.	Raw material for food.	Approved for food in 2017 and 2023.
Bollgard+Roundup Ready cotton-MON 531XMON 1445 MSP resolution 2179 ICA resolution 2943	COACOL- Monsanto (United States)	Resistant to some lepidopterous insects, tolerant to Roundup.	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 2016 and 2021 for food.
DAS 24236-5 Cotton ICA resolution 2660 MSP resolution 4007 INVIMA resolution 2022005637	Dow Agrosciences Corteva Agriscience de Colombia S.A.		Raw material for feed and food.	Approved for feed in 2015. Approved for food in 2016 and 2022.
DAS 21023-5 Cotton ICA resolution 2664 MSP resolution 5853 INVIMA resolution 2022600253	Dow Agrosciences Corteva Agriscience de Colombia S.A.		Raw material for feed and food.	Approved for feed in 2015. Approved for food in 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		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 INVIMA resolution 81910	Dow Agrosciences		Raw material for feed and food.	Approved for feed in 2016 and food in 2022.
Glytol x Twinlink x COT102 Cotton ICA resolution 3922	Bayer S.A.		Raw material for feed.	Approved for feed in 2015.

Glytol x Twinlink MSP resolution 1452	Bayer S.A.		Raw material for food.	Approved for food in 2017.
T 304-40 Cotton MSP resolution 505 INVIMA resolution 2021023286 ICA resolution 5400	Bayer S.A.		Raw material for food and feed.	Approved for food in 2016 and 2021. Approved for feed in 2017.
MON 88701 Cotton MSP resolution 132 INVIMA resolution 2021023288 ICA resolution 4009	COACOL- Monsanto (United States)		Raw material for food and feed.	Approved for food in 2016, 2021. Approved for feed in 2016.
LL Cotton 25 MSP resolution 1731	Bayer S.A.		Raw material for food.	Approved for food in 2016.
DAS 80910 MSP resolution 5852	Dow Agrosiences		Raw material for food.	Approved for food in 2016.
GHB 119 Cotton, MSP resolution 3298 INVIMA resolution 2021023285 ICA resolution 19228	Bayer S.A.		Raw material for food and feed.	Approved for food in 2016, 2021. Feed in 2018.
GHB 119 X GHB 614 Cotton ICA resolution 11236	Bayer S.A.		Raw material for feed.	Approved for feed in 2017.
T-304-40 x GHB119 x COT102 Cotton ICA resolution 82363 INVIMA resolution 2021038704	BASF Quimica Colombiana S.A.		Raw material for feed and food.	Approved for feed in 2020 and food in 2021.
COT 102 x MON15985 X MON88701 X MON88913 MSP resolution 4905 ICA resolution 18593 INVIMA resolution 2022009522	COACOL- Monsanto (United States), Bayer S.A.		Raw material for feed and food.	Approved for feed in 2016. Approved for food in 2016 and 2022.
GHB811 x T304-40 x GHB119 x COT102 Cotton ICA resolution 25689 INVIMA resolution 2023024849	BASF	Resistant to some lepidopterous insects and tolerant to Roundup herbicide.	Raw material for feed and food.	Approved for feed in 2022. Approved for food in 2023.
GHB811 x LLCotton25 x MON88701 Cotton ICA resolution 25688 INVIMA resolution 2023053288	BASF	Tolerant to some herbicides.	Raw material for feed and food.	Approved for feed in 2022. Approved for food in 2023.
GHB811 x T-304-40 x GHB119 x COT102 x MON88701 Cotton ICA resolution 25687 INVIMA resolution 2023024851	BASF	Resistant to some lepidopterous insects and tolerant to Roundup herbicide.	Raw material for feed.	Approved for feed in 2022. Approved for food in 2023.
GHB811 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.

MON 88702 X MON 15985 X COT102 X MON 88701 X MON 88913 Cotton INVIMA resolution 2023024846	Bayer S.A.		Raw material for food.	Approved for food in 2023.
GHB614 x T304-40 x GHB119 Cotton INVIMA resolution 2023007709	BASF		Raw material for food.	Approved for food in 2023.
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.	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 2006
Herculex I X Roundup Ready Corn-TC 1507XNK 603 ICA resolution 3083 MSP resolution 506	Dupont (United States)	Resistant to some lepidopterous insects tolerant to Roundup.	Raw material for feed and food.	Approved for feed in 2009. Approved for food in 2010.
Herculex RW Corn-DAS 59122 ICA resolution 4473 MSP resolution 1708 INVIMA resolution 2021045473	Dupont (United States)	Resistant to some lepidopterous insects.	Raw material for feed and food.	Approved for feed in 2010. 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 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 in 2011, 2021 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 variety of lepidopterous insects and tolerant to Roundup.	Raw material for feed and food.	Approved for feed in 2011. Approved for food in 2010.
CCR corn-MON 88017 MSP resolution 1712 ICA resolution 1254 INVIMA resolution 2021053743	COACOL- Monsanto (United States)	Resistant to some lepidopterous insects and tolerant to Roundup.	Raw material for food and feed.	Approved for food in 2011 and 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.	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, 2019. Approved for feed in 2008.
GA 21 Corn ICA resolution 2402 MSP resolution 1692 INVIMA resolution 2023024847	Syngenta (Switzerland)	Tolerant to Roundup herbicide	Raw material for feed and food.	Approved for food in 2012 and 2023. Approved for feed in 2010.
Bt 11 X GA 21 Corn ICA resolution 4474 MSP resolution 1695 INVIMA resolution 2023024863	Syngenta (Switzerland)	Resistant to some lepidopterous insects tolerant to Roundup.	Raw material for feed and food.	Approved for feed 2010. Approved for food 2012, 2023.
Bt 11 X TC 1507 X GA 21 Corn ICA resolution 19222 INVIMA resolution 2018027787	Syngenta (Switzerland)	Resistant to some lepidopterous insects tolerant to Roundup.	Raw material for feed and food.	Approved for food and feed 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 Agrosiences	Resistant to some lepidopterous insects, rootworm, tolerant to Roundup and 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, 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, 2021. Approved for feed in 2012
MON 87460 X NK 603 Corn ICA resolution 422 MSP resolution 777 INVIMA resolution 2019031454	COACOL- Monsanto (United States)	Tolerant to drought and herbicides.	Raw material for feed and food.	Approved for feed and food in 2014 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, 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 food.	Approved for feed in 2012. Approved for food in 2014.
BT 11XMIR 604X GA 21 Corn ICA resolution 3046 MSP resolution 775 INVIMA resolution 2019040928	Syngenta (Switzerland)	Resistant to some lepidopterous insects tolerant to herbicide.	Raw material for feed and food.	Approved for feed in 2012. Approved for food in 2014 and 2019.
BT11XMIR 604X TC1507X5307XGA 21 Corn ICA resolution 18583	Syngenta (Switzerland)	Resistant to some lepidopterous insects tolerant to herbicide.	Raw material for feed.	Approved for feed in 2016.
Liberty Link Corn - T25 MSP resolution 121 ICA resolution 3666 INVIMA resolution 2022600254	Bayer S.A. BASF	Tolerant to Roundup herbicide.	Raw material for food and feed.	Approved for food in 2012, 2022. 2011 for feed.
T25 XMON 810 Corn	Bayer S.A.	Resistant to some lepidopterous insects tolerant to Roundup.	Raw material for food.	Approved for food in 2012.
T25 X NK 603 Corn MSP resolution 115 ICA resolution 228 INVIMA resolution 2022600256	COACOL- Monsanto (United States) Bayer S.A.	Tolerant to herbicide.	Raw material for food and feed.	Approved for feed in 2012 and food in 2012, 2022.
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 MSP resolution 1488 ICA resolution 3571	Dupont	Resistant to some lepidopterous insects herbicide tolerant.	Raw material for food and feed.	Approved for feed and food in 2012.

DAS 1507X DAS 59122X MON 603 Corn MSP resolution 1486 ICA resolution 3578 INVIMA resolution 2022600252	Dupont Corteva Agriscience de Colombia S.A.	Resistant to some lepidopterous insects herbicide tolerant.	Raw material for food and feed.	Approved for feed in 2012 and food in 2012 and 2022.
TC 1507X MON 810 X MIR 604 X NK 603 Corn MSP resolution 5856 INVIMA resolution 2024030750 ICA resolution 11244	Dupont	Resistant to some lepidopterous insects herbicide tolerant	Raw material for food and feed.	Approved for food in 2016 and 2024. 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 herbicide tolerant	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 herbicide tolerant.	Raw material for food.	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 MSP resolution 120 ICA resolution 3048 INVIMA resolution 2023007706	Syngenta	Resistant to some lepidopterous insects and tolerant to herbicide.	Raw material for feed and food.	Approved for feed in 2013. Approved for food in 2012 and 2023.
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 herbicide tolerant.	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 Agrosiences	Resistant to some lepidopterous insects and	Raw material for food and feed.	Approved for food in 2014, 2020, feed 2014.
DAS 40278 X NK 603 Corn X T25 ICA resolution 82355	Dow Agrosiences	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, some lepidopterous pests, herbicide tolerant.	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 Agrosiences	Herbicide tolerant.	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 Agrosiences	Herbicide tolerant.	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 pests, herbicide tolerant.	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 Agrosiences	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 ICA resolution 4006 INVIMA resolution 2020027962	Dupont (United States)	Resistant to some lepidopterous pests, herbicide tolerant.	Raw material for feed and food.	Approved for feed in 2016. Approved for food in 2020.

TC 1507 X MON 810 Corn INVIMA resolution 2020027965	Dupont (United States)	Resistant to some lepidopterous pests, herbicide tolerant.	Raw material for food.	Approved for food in 2020.
TC 1507 X MON 810 X NK 603 Corn INVIMA resolution 2020027963	Dupont (United States)	Resistant to some lepidopterous pests, herbicide tolerant.	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 and food.	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 INVIMA resolution 2024030751 ICA resolution 11242	Dupont (United States)		Raw material for food and feed.	Approved for food in 2016 and 2024. 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 INVIMA resolution 2021045475	Syngenta		Raw material for food and feed.	Approved for feed in 2016. Approved for food in 2016 and 2021.

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.
BT11xMIR162XMIR604XTC1507XSYN 5307x GA21 Corn MSP resolution 129 INVIMA resolution 2021045476	Syngenta		Raw material for food.	Approved for food in 2016 and 2021.
BT11xMIR162XMIR604XMON89034XS YN5307X GA21 Corn ICA resolution 25845 INVIMA resolution 2018027803	Syngenta		Raw material for feed and food.	Approved for feed and food in 2018.
BT11xMIR162XMON89034XGA21 Corn ICA resolution 19223 INVIMA resolution 2018027795	Syngenta		Raw material for feed and food.	Approved for feed and food 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.
SYN3272XBT11XMIR604XTC1507X530 7XGA21 Corn MSP resolution 3700 289 INVIMA resolution 2024017076	Syngenta		Raw material for feed and food.	Approved for feed in 2017. Approved for food in 2024.
SYN3272XBT11XMIR162XMIR604XTC 1507X5307XGA21 Corn ICA resolution 7888 INVIMA resolution 2024030749	Syngenta		Raw material for feed and food.	Approved for feed in 2022. Approved for food in 2024.
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 INVIMA resolution 2022600206	Syngenta		Raw material for food and feed.	Approved for feed in 2016 and for food in 2016 and 2022.
MIR162XMON89034 Corn ICA resolution 25840 INVIMA resolution 2018027786	COACOL- Monsanto (United States)		Raw material for feed and food.	Approved for feed and food in 2018.

MON 87427 X MON 89034 X MIR 162 X NK 603 Corn MSP resolution 250 ICA resolution 3701 INVIMA resolution 2023007707	Syngenta Bayer S.A.		Raw material for food and feed.	Approved for feed in 2017 and for food in 2017 and 2023.
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 and feed.	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 Agrosiences		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 INVIMA resolution 2018027775	Dow Agrosiences		Raw material for food.	Approved for food in 2018.
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 INVIMA resolution 2021014502	COACOL- Monsanto (United States)	Resistant to insects and tolerant to herbicides.	Raw material for feed and food.	Approved for feed and food 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 Agrosciences Corteva Agriscience de Colombia S.A.		Raw material for food.	Approved for food in 2016 and 2022.
GA21 X T25 Corn MSP resolution 5849 INVIMA resolution 2024017075 ICA resolution 18582	Syngenta		Raw material for food and feed.	Approved for food in 2016 and 2024. Approved for feed in 2016.
MON87427 x MON89034 x TC1507 x MON87411 x DAS59122 x DAS40278 Corn	Dow Agroscience		Raw material for feed.	Approved for feed in 2019.
MON 810 X NK 603 corn INVIMA resolution 2020015747	COACOL- Monsanto	Tolerant to Roundup and insect resistant.	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.
SYN3272 x BT11 x MIR162 x GA21 corn ICA resolution 13535 INVIMA resolution 2024017074	Syngenta		Raw material for feed and food.	Approved for feed in 2022. Approved for food in 2024
DAS 1131 Corn ICA resolution 15258 INVIMA resolution 2023053292	Agro Corteva Colombia S.A.		Raw material for feed and food.	Approved for feed and food in 2023.
DP 910521 Corn ICA resolution 15259 INVIMA resolution 2023053290	Agro Corteva Colombia S.A.		Raw material for feed and food.	Approved for feed and food in 2023.
Roundup Ready Wheat *1-MON 71800 SEABA ACT II	COACOL- Monsanto	Tolerant to Roundup herbicide.	Raw material for food.	Approved for food in 2004.
HB4 Wheat IND-ØØ412-7 ICA resolution 82350 INVIMA resolution 2022500206	Rizobacter de Colombia S.A.S	Tolerance to abiotic stress. Herbicide tolerance.	Raw material for feed and food.	Approved for feed in 2020 and food in 2022.
HB4 Soybeans IND-ØØ412-7 INVIMA resolution 2024017077	Rizobacter de Colombia S.A.S		Raw material for food.	Approved for food in 2024.
Roundup Ready Soybean-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 in 2005 and feed in 2007.
Roundup Ready Soybean-MON 04032- 6/GTS 40302 ICA resolution 82353 and 95614	Alimentos FINCA SAS Agropecuaria ALIAR S.A.		Raw material for feed.	Approved for feed in 2020 (off-patent).
Roundup Ready Soybean-MON 04032- 6/GTS 40302 ICA resolution 13534	FENALCE			Not approved for feed/commercial plantings

Roundup Ready 2Yield Soybean-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 Soybean-DP 356043 MSP resolution 2392 ICA resolution 2406	Dupont (United States)	Herbicide tolerant.	Raw material for food and feed.	Approved for food and feed in 2010.
DP202216 Soybean INVIMA resolution 2021012391	Dupont (United States)	Herbicide tolerant.	Raw material for food.	Approved for food in 2021.
MON 87701X MON 89788 Soybean MSP resolution 116 ICA resolution 3663 INVIMA resolution 2022600255	COACOL- Monsanto (United States) Bayer S.A.	Resistant to some lepidopterous insects and tolerant to Roundup herbicide	Raw material for food and feed.	Approved for food in 2012 and 2022. 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	Resistant to some lepidopterous insects	Raw material for food.	Approved for food in 2019.
MON 87769 Soybean ICA resolution 3565 MSP resolution 339 INVIMA resolution 2019031453	COACOL- Monsanto	Tolerant to Roundup herbicide.	Raw material for feed and food.	Approved for feed in 2012. Approved for food in 2014 and 2019.
A5547 Soybean ICA resolution 3564 MSP resolution 3486 INVIMA resolution 2020018738	Bayer S.A.	Herbicide tolerant.	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 S.A.	Herbicide tolerant.	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 Agrosience	Herbicide tolerant.	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	Herbicide tolerant.	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	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	Herbicide tolerant.	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 Agrosience	Herbicide tolerant.	Raw material for feed and food.	Approved for feed in 2015. Approved for food in 2016.
ACS-GM006-4 Soybean MSP resolution 3486	Bayer S.A.	Tolerant to herbicide.	Raw material for food.	Approved for food in 2014.
ACS-GM005-3 Soybean MSP resolution 4083	Bayer S.A.	Tolerant to herbicide.	Raw material for food.	Approved for food in 2014.
SYHT0H2 Soybean ICA resolution 2661 MSP resolution 307	Syngenta and Bayer S.A.		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 S.A.		Raw material for food and feed.	Approved for food in 2016, 2021. Approved for feed in 2016.
FG72(MST-FG072-2) Soybean ICA resolution 1857 superseded ICA resolution 00012883 due to ownership transfer	Syngenta		Raw material for feed.	Approved for feed in 2019 for BASF and for Syngenta in 2024.
DAS-68416XMON89788 Soybean MSP resolution 5851	Dow Agrosience		Raw material feed, food.	Approved for feed and food in 2016.

FG72 x A5547-27 Soybean ICA resolution 18597 MSP resolution 5854 INVIMA resolution 2022600205	Bayer S.A. BASF Quimica Colombiana S.A.		Raw material for food and feed.	Approved for feed in 2016 and for food in 2016 and 2022.
DP 305423 Soybean MSP resolution 5855 ICA resolution 18588 INVIMA resolution 2022600208	Dupont		Raw material for food and feed.	Approved for feed in 2016 and for food in 2016 and 2022.
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 INVIMA resolution 2022600207	Dow Agrosiences		Raw material for feed and food.	Approved for feed in 2016 and for food in 2022.
MON 87751 Soybean MSP resolution 251 ICA resolution 25838 INVIMA resolution 2023007705	COACOL- Monsanto (United States) Bayer S.A.		Raw material for food and feed.	Approved for food in 2017 and 2023. Approved for feed in 2018.
GMB 151 Soybean INVIMA resolution 2021023145 ICA resolution 102581	BASF	Tolerant to herbicides, 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 S.A.	Herbicide tolerant.	Raw material for food and feed.	Approved for food and feed in 2008.
LLRice601 MSP resolution 3674	Bayer S.A.	Herbicide tolerant.	Raw material food, 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)	Herbicide tolerant.	Raw material for feed and food.	Approved for feed and food in 2014 and 2020.
RF3 Canola MSP resolution 1607 ICA resolution 11239 INVIMA resolution 2023007711	Bayer S.A.	Herbicide tolerant.	Raw material for food and feed.	Approved for feed in 2017 and food in 2017 and 2023.
MS8 Canola ICA resolution 11294 INVIMA resolution 2018027776	Bayer S.A.	Herbicide tolerant.	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 S.A.	Herbicide tolerant.	Raw material for feed and food.	Approved for feed in 2017. Approved for food in 2018.
MS8XMON88302XRF3 Canola ICA resolution 11246 INVIMA resolution 2018027777	Bayer S.A.	Herbicide tolerant.	Raw material for feed and food.	Approved for feed in 2017. Approved for food in 2018.
DP73496 Canola INVIMA resolution 2022009524 ICA resolution 7887	Corteva Agriscience de Colombia S.A	Herbicide tolerant.	Raw material for feed and food.	Approved for feed and food in 2022.
MS11 Canola ICA resolution 15185 INVIMA resolution 2022600210	BASF	Glufosinate ammonium tolerant.	Raw material for feed and food.	Approved for feed and food in 2022.
MON 94100 Canola INVIMA resolution 2024037945	Bayer S.A.		Raw material for food.	Approved for food in 2024.
Mice 3XTg AD MSP resolution 2836	Universidad de Antioquia		Controlled health research.	Approved in 2008.
Mice ApoE-/- 6 Apoe “knockout” MSP resolution 2835	Universidad de Antioquia		Controlled health research.	Approved in 2008.
Mice INVIMA resolution 2019030765	Science, Biotechnology and Health Innovation Institute		Immuno-suppressed mice.	Approved in 2019.
Mice INVIMA resolution 2024039399	Science, Biotechnology and Health Innovation Institute			Approved in 2023.
Mice INVIMA resolution 2024039401	Science, Biotechnology and Health Innovation Institute			Approved in 2023.

Attachments:

No Attachments