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Turkey Agricultural Biotechnology Annual Report 2017

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Report Highlights:
Ever since Turkey published its Biosafety Law and implementing regulations in 2010, this legislation has continued to disrupt trade and Turkey's domestic agriculture and food sectors. As of November 2017, there are only 36 (10 soybean and 26 corn) events approved for feed use in Turkey. No events are approved for food use or cultivation. Testing of imported products remains inconsistent and continues to be a considerable cost for importers. The coup attempt on July 15, 2016 and the subsequent investigations within the Turkish government and academia continued to slow the approval processes and procedures in 2017.

Turkey Agricultural Biotechnology Annual Report 2017

EXECUTIVE SUMMARY:

Turkey's Biosafety Law went into effect on September 26, 2010. After publication of the law, the Turkish Ministry of Food, Agriculture, and Livestock (MinFAL) established an independent Biosafety Board to review genetically engineered (GE) food and feed import applications.
There are currently 36 approved GE soybean and corn traits allowed in Turkish animal feed. The most recent new GE traits were approved in August 2017 and six applications are still pending approval. No GE traits have been approved for human food use, so GE presence in food products is prohibited. The coup attempt on July 15, 2016 and the subsequent investigations within the Turkish government and academia temporarily slowed the approval processes in 2016 and 2017.

Most of Turkey's trading partners have encountered import problems due to Turkey's lags in approvals of GE traits compared to other importing and exporting countries (asynchronous approvals) for food and feed. Several developments, including the reversal of a decision by the High Court to suspend two biotech approvals, MinFAL's regulation amendment that defines "contamination," the reversal of a required GE-free certification for enzymes, as well as the new set of event approvals, brought a decrease in biotech-related violations in 2017, compared to previous years. This resulted in increased trade of some commodities. However, the unpredictable situation has increased corporate risk and costs, contributed to high food prices in Turkey, and led to increased public suspicion of GE products.

There is much misinformation in the Turkish media about GE products and their safety. This has resulted in a very skeptical public and widespread misunderstanding and fear about agricultural biotechnology. The Turkish government does not provide any facts or information to refute the false and unscientific information in the media, nor does it provide information on the safety of GE products.

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ABBREVIATIONS :

Besd-Bir : Turkish Poultry Meat Procedures and Breeders Association
CPB : Cartagena Protocol on Biosafety
EU : European Union
EPPO : European and Mediterranean Plant Protection Organization
FAS : Foreign Agricultural Service of the United States Department of Agriculture
FAO : Food and Agriculture Organization of the United Nations

GE : Genetically Engineered
GEF: The Global Environment Facility
HPC : High Planning Council
IPPC : International Plant Protection Convention
LLP : Low Level Presence
MinFAL : Ministry of Food, Agriculture, and Livestock of the Turkish Republic
NGO : Non-governmental Organization
OECD : Organization for Economic Co-operation and Development
OIE : World Organization for Animal Health
UNEP: United Nations Environment Programme
TAGEM : Agricultural Research and Policies General Directorate
TUBITAK : Scientific and Technological Research Council of Turkey

CHAPTER 1: PLANT BIOTECHNOLOGY

PART A: PRODUCTION AND TRADE

a. **Product Development:**
There are no GE plants under development for commercial purpose in Turkey.

b. **Commercial Production:**
Article 5(1)(c) of the Biosafety Law bans the production of genetically engineered animals and plants. Importation of GE seeds is also forbidden by the Law and by the seed circular, which is usually published every January by MinFAL.

c. **Exports:**
There is no commercial production of GE crops in Turkey and Turkey does not export GE crops to the United States or other countries, aside from transshipments. However, some animal feed material is redirected from Turkey to neighboring countries at discounted prices following Turkish import officials' rejection of shipments that contain unapproved traits.

d. **Imports:**
Due to insufficient domestic production and increasing demand, Turkey imports significant quantities of feed crops for its poultry, livestock and aquaculture sectors. The United States is among the top suppliers to the Turkish market, but imports fluctuate and are affected by the number of events approved and measures taken by MinFAL (see part B).

Soybean exports to Turkey have fluctuated each year, after a record high in 2012. Trade in other higher valued products such as supplements and pet food were also reduced by the impacts of the Biosafety Law, and some non-biotech products were rejected due to presence of transgenic content, such as dust from GE corn or soy.

The number of violations increased in 2014 following Turkey's High Court decision in December 2013 to suspend two biotech approvals (MON810 and MON88017xMON810). In 2014, an estimated 150 import violations of the Law were prosecuted, some under the charge of "biological terror," and

the accusation of causing harm to Turkey's agriculture, feed, and food sectors. With the intention of reducing the instances of prosecution for Low Level Presence (LLP) in imports, MinFAL amended the implementing regulation of the Biosafety Law to define "contamination" in May 2014. In May 2015, the High Court reversed its decision that had suspended the approval of the two biotech corn events. According to some sources, these changes appear to have had some impact in reducing overly harsh penalties, such as imprisonment.

Another challenge was introduced in October 2014 when MinFAL began requiring a government attestation that imports of enzymes and microorganisms, and products that utilize them, are not obtained from GE sources. Due to this requirement, many shipments were detained at the Turkish customs, or could not be imported at all. In May 2015, MinFAL suspended the requirement for importers to provide a certificate for biotech-free/GE free enzymes or for products that utilized enzymes in their manufacture. However, MinFAL continues to require a biotech-free/GE free certificate for the import of microorganisms.

As of November 15, 2017, Turkey has approved 26 corn and 10 soybean events for feed use. No GE traits have been approved for food use, so any GE presence found in food is therefore illegal. Most of Turkey's trading partners have encountered import problems due to Turkey's asynchronous approvals for food and feed. As a result, trade has been severely restricted out of concern that dust or minor LLP of GE traits in food products would lead to the rejection of shipments. Testing of imported products remains inconsistent and continues to be a considerable cost for importers. The unpredictable situation has fueled food price inflation, increased corporate risk and costs, and contributed to increased public suspicion of GE products.

As a result of the above-mentioned amendments to the law regarding the definition of "contamination," and GE-free certification for enzymes, as well as the technical zero level definition of 0.1 percent for pending events, commercial activities in some commodities have increased in 2016 and 2017. Additionally, MON810 being re-allowed for import and the new set of event approvals in 2015 and 2017 partially eased market access for some commodities.

e. **Food Aid:**

Turkey is not a food aid recipient country. However, in September 2013, Turkey rejected a shipment of food aid wheat for Syrian refugees meant to be milled in Turkey. Turkey based its decision on the detection of dust from a soybean or corn trait. This decision resulted in the redirection of the rejected wheat shipment to a different country.

Turkey is currently hosting three million refugees, and there are still around 260,000 living in camps within Turkey. Most of the aid for refugees within Turkey is distributed through a cash transfer debit card program whereby they procure their own food on the local market. Because of Turkey's location, it is also a hub for procurement of food assistance for the regional Syrian crisis. Between 2011 and September 2016, the World Food Program procured over $1.3 billion of food from Turkey. Turkey's Red Crescent (Kizilay) program also provides food assistance to other countries, particularly in Africa. As no GE products are approved for food use in Turkey and Turkey is not a producer of GE products, food assistance products procured in Turkey would not be GE. Transit of GE products through Turkish

ports is allowed but must be permitted through MinFAL who is also in charge of document checks and monitoring.

f. **Trade Barriers:**
It is a point of pride among anti-biotech groups in Turkey that the Biosafety Law is more restrictive than regulations in the European Union. Turkey has zero tolerance for the detection of unapproved GE traits, except for a 0.1 percent tolerance in feed for GE traits pending approval in the application process. The frequency of taking samples and testing them depends on a declaration issued by the competent authority of the loading or origin country which states that the food/feed in question does or does not include GE. Turkey does not accept point of origin testing. The Biosafety Law contains liability clauses that penalize non-compliance with large fines and five to twelve years in prison. The approval process for new traits is based on a risk assessment and socio-economic assessment by the committees under the Biosafety Board. Turkey also approves traits separately for feed, food, and industrial products, which have led to instances of LLP and prosecution under the Biosafety Law's liability provisions.

PART B: POLICY

a. **Regulatory Framework:**
Turkey's regulation of agricultural biotechnology is governed by the Biosafety Law (Law No: 5977), implemented on September 26, 2010, and related implementing regulations. Imports of transgenic agricultural products are only allowed after approval of each event for each use; for example: food, feed, industrial (and products for specific industrial applications, such as: lubricant, ink, paint, and biofuel). The Law bans inclusion of GE ingredients in baby food and supplementary foods for young children, bans cultivation/production of GE plants and animals, and the planting of GE seeds.

Following the adoption of the Biosafety Law, MinFAL established a Biosafety Board. MinFAL's Agricultural Research and Policies General Directorate (TAGEM) acts as the secretariat of the Board. The Board has nine members who may serve two consecutive three-year appointments. The Board members review applications for the approval of transgenic events. Most of the Board members are high-level bureaucrats from MinFAL, the Ministry of Health, the Ministry of Science, Industry and Trade Technology, the Ministry of Environment and Urbanization, the Ministry of Forest and Water Affairs, and the Ministry of Economy. The Ministers of each ministry appoint a member of their staff to serve on the Board. Two non-governmental Board members are appointed by the Minister of MinFAL, and are selected from qualified experts from a university and from a related association (such as agricultural engineers or food engineers). Article 10-(1) of the Law states that "the Board is independent in the performance of its duties. No organization, office, body, or person can issue orders or instructions to the Board."
Approval can only be granted after a detailed application (dossier) is submitted and reviewed by the Risk Assessment and Socio-Economic sub-committees, and then is approved by the Biosafety Board. The Biosafety Board publishes decisions in the Official Gazette.
Each application is reviewed separately. In the beginning, for every application, the Board established separate Risk Assessment and Socio-Economic Committees from a "List of Experts." However both Committees have become permanent in recent years. The members of the committees are confidential. However, the List of Experts, containing 349 experts from academia and the Scientific and Technological Research Council of Turkey (TUBITAK), was public before the coup attempt in 2016. The list has not been public since then. The law says that where required, the Board will also establish

an Ethical Committee. However, this Committee has yet to be established. If established, the members of the committee would be confidential.

MINFAL published two implementing regulations of the Biosafety Law on August 13, 2010. These are "Regulation on genetically modified organisms (GMO) and Products" and "Regulation on the Working Principles of the Biosafety Board and the Committees."

According to the Law, either the gene-owning technology companies or importers of GE crops are allowed to submit applications for the approval of a GE event. The Board should inform MinFAL within 90 days whether or not the application is accepted and also the type of evaluation procedure (simplified or regular) which will be followed. A request for the simplified review procedure is evaluated by the Biosafety Board. In order to apply under the simplified procedure, besides the rules to be set by MinFAL, the following conditions should be met:

- Taxonomy and biology of the gene source and the receptor live organism should be known.
- Sufficient information should be available regarding the possible effects on human, animal, and environmental health and biological diversity.
- Previous risk assessments that can be used regarding the relations of the GE with other live organisms should not have indicated any negative effects.
- Detailed methods and data should be available to enable the definition of the transferred genetic material and its identification within the live organism where it is transferred.

Unlike the regular procedure, decisions made using the simplified procedure are not published in the Biosafety Clearing-House Mechanism of Turkey which is the web platform for information exchange, so the time required for a decision is typically shorter.

Once an application dossier is accepted and a review procedure is determined by the Board, then in principle, the regular procedure reviews are completed within 270 days after that. Note that this time is counted while the Board is doing the assessments. The 270 day clock stops when additional information or documents are requested from the applicant, so in practice, the approval time for an application can take much longer than 270 days. Turkey requires an approval in the country of production before an application can be submitted in Turkey, which guarantees asynchronous approvals.

In the past, MinFAL had requested the international companies that have developed agricultural GE traits to submit applications under the Law as quickly as possible in order to avoid trade problems. However, these companies expressed concerns about the severe yet unclear liability provisions in the Law, as well as the vagueness of the application procedures. The liability provisions of the Law include harsh penalties that may involve lengthy jail terms for unspecified "related parties." It lacks explicit guidance about what documents are required and how the Board will evaluate the applications. Furthermore, it contains onerous labeling and traceability requirements once the product arrives in Turkey. As a result, Turkish agriculture industry associations submitted the dossiers instead and paid the application fees to the Turkish Government so they could import the feed needed for the sector.

In May 2014, with the intention of reducing the instances of prosecution for LLP in imports, MinFAL amended the implementing regulation of the Biosafety Law to define "contamination" in a product and established a 0.9 percent threshold at and under which products are considered as "contaminated," but,

for example, can still be used for feed purposes if the GE trait found under the 0.9 percent threshold was approved for feed use. However, the amendment does not clearly explain how "contamination" changes the ability to market products or commodities with unapproved GE traits. For detailed information, please see GAIN report "Turkey Amends Biotechnology Regulation" dated 5/29/2014.

Beginning in late October 2014, MinFAL began requiring a certificate from the producer's or exporter's government authority that issues a health certificate (plant health), veterinary health certificate (animal health), or certificate of free sale indicating that for:

> "the import of microorganisms, a certificate issued by the authorities of the country of origin or the country of loading or an analysis report issued by an internationally accredited laboratory providing evidence that the microorganism is not genetically modified."

For detailed information, please see GAIN report "Turkey Requires GE-Free Attestation for Enzymes and Microorganisms" dated 10/28/2014. Turkey also had required a GE-free certificate for enzymes, but on May 5, 2015 that requirement was discontinued.

The High Planning Council (HPC) of Turkey adopted the "Biotechnology Strategy and Action Plan" in June 2015 to be implemented in the period of 2015-2018. The Plan is the first adopted document which covers all aspects of biotechnology (agricultural, health, industrial) in one document and is owned by a very high-level government authority. The HPC is chaired by the Prime Minister and the members are from the Cabinet such as ministers from MinFAL, Ministry of Development, Ministry of Finance, Ministry of Environment and Urbanism, Ministry of Transport, Maritime and Communication, Ministry of Energy and Natural Resources, Ministry of Science, Industry and Technology, Ministry of Forest and Water Affairs, and all interested parties such as related government agencies, private sector and academia.
The Plan states the vision is "to improve the level of technological information, increase the number of products with added value, and take place amongst the leading countries within the field of biotechnology." It was prepared by the Ministry of Science, Industry and Technology in cooperation with universities/academia, business sector, and related government agencies. General targets of the plan are:

- to regulate the legal and administrative structure
- to improve technical infrastructure
- to increase production capacity of products from GE components
- to improve agricultural, health and industrial biotechnology sectors

Specific targets related to agricultural biotechnology are:

- to amend the Biosafety Law and other related legislation
- to determine the rules and principles of allocating "specifically controlled fields" to scientists for Research & Development and field trials

The Biosafety Board took this specific target related to the allocation of "specifically controlled fields" in its agenda and has been working on the principles and rules of allocating specifically controlled fields for Research & Development activities. This appears to be the only potential agricultural output of the Plan so far.

MinFAL conducted a project with the support of UNEP-GEF between the years 2013-2017 to further develop and implement the Biosafety Framework of Turkey in line with its national development priorities and international obligations, especially the Cartagena Protocol on Biosafety. In the scope of this project, MinFAL organized training programs on various topics in the area of agricultural biotechnology. In the scope of this project, Turkey's first international workshop on "GMO - Risk Assessment, Socio- economic Assessment, and Risk Management" was organized by MinFAL in December 2015. Participants included Biosafety Board members, Scientific and Socio-economic Committees members, government agencies, members of non-governmental organizations (NGOs) representing consumers, chambers, business sector, as well as representatives and experts from regulatory bodies in other countries. It was the first activity hosted by MinFAL in which all national interested parties and international representatives participated. At the end of the workshop, there was consensus among the participants that GE technology is based on sound science and the current Biosafety Law should be amended (or a new law should be adopted) according to the scientific facts and Turkey's needs.

Another output of the same project are the guidelines on "Application Procedures," "Risk Assessment of Genetically Engineering Crops and Derived Food and Feed," "Socio-economic Evaluation Criteria in Decision-Making Process for "GMO" and "GMO Products" which were prepared by the coordination of TAGEM to be used while doing risk and socio-economic assessments. These guidelines are planned to be available on the website of Biosafety Clearing-House Mechanism of Turkey at the link http://www.tbbdm.gov.tr/en/Home.aspx which is currently under revision.

Research

Turkey's Biosafety Law permits the regulated study and development of plant biotechnology. However, the cumulative disincentives in the forms of official controls, approvals, liability, and prohibition on the cultivation of agricultural biotechnology have discouraged product development. According to the Law and the implementing regulations, an application or permit is not required for agricultural biotech research. The researcher must inform MinFAL TAGEM about the research activity and its result(s). Researchers must apply to TAGEM for permission to import GE material and derived products for the purpose of research, development, and training/educational activities. The amount of GE material and derived products to be imported is determined by TAGEM. The Law requires TAGEM to finalize the permit procedure within 15 days. Many academics agree that the procedures and requirements of the Law discourage research. Universities, however, are still teaching biotechnology courses. The Law's prohibition on cultivation and commercialization also discourages the private and public sector from pursuing the development of GE products.

b. **Approvals:**

Either the gene-owning technology companies or importers of GE crops may apply for approval of a GE trait in Turkey. Applicants are required to provide a dossier containing technical information and data on the trait to be approved, and pay an application fee. For the simplified procedure, which in practice has been available for some events already approved in the EU, the application fee is 20,000 Turkish Lira (TL) per event, which is around $5,200 (where $1 USD=3.85 TL) for 2017. For the regular procedure, the application fee is 50,000 TL. The application fee is updated at the beginning of each year. To date, none of the technology-owning companies have submitted an application to be reviewed by the Biosafety Board. Instead, agriculture industry associations have made the applications.

Currently, there are 36 (10 soybean and 26 corn) events approved in Turkey for feed. Official announcements of approval are announced by the Turkish government, available here: http://www.resmigazete.gov.tr. Please see the current list of approved events given Table-1 below.

Table-1: Approved events in Turkey (for feed)

No	Commodity	Event	Approval Date
1	Corn	Bt11	12/24/2011
2	Corn	DAS1507	12/24/2011
3	Corn	DAS59122	12/24/2011
4	Corn	DAS1507xNK603	12/24/2011
5	Corn	NK603	12/24/2011
6	Corn	NK603 x MON810	12/24/2011
7	Corn	GA21	12/24/2011
8	Corn	MON89034	12/24/2011
9	Corn	MON89034xNK603	12/24/2011
10	Corn	Bt11xGA21	12/24/2011
11	Corn	59122x1507xNK603	12/24/2011
12	Corn	DAS1507x59122	12/24/2011
13	Corn	MON88017XMON810	12/24/2011
14	Corn	MON88017	4/21/2012
15	Corn	MON810	4/21/2012
16	Corn	59122xNK603	4/21/2012
17	Corn	MIR604	7/16/2015
18	Corn	MON863	7/16/2015
19	Corn	T25	7/16/2015
20	Corn	Bt11xMIR604	11/5/2015
21	Corn	MIR162	11/5/2015
22	Corn	MIR604xGA21	11/5/2015
23	Corn	MON863xMON810	11/5/2015
24	Corn	MON863xNK603	11/5/2015
25	Corn	MON89034xMON88017	11/5/2015
26	Corn	MON 87460	8/2/2017
27	Soybean	A2704-12	1/1/2011
28	Soybean	MON40-3-2	1/1/2011
29	Soybean	MON89788	1/1/2011
30	Soybean	MON87701	7/16/2015
31	Soybean	MON87701xMON89788	7/16/2015
32	Soybean	356043	11/5/2015
33	Soybean	A5547-127	11/5/2015
34	Soybean	MON 87708	8/2/2017
35	Soybean	BPS-CV127-9	8/2/2017
36	Soybean	MON87705	8/2/2017

Timeline of Approvals:
In 2010, the Turkish Feed Millers Association submitted dossiers for the approval of three soybean events (feed use only) that are already approved in the European Union (number 1-3 in the chart above). The Biosafety Board decided to review the applications under the simplified procedure.

In January 2011, the Turkish Feed Miller's Association submitted applications for 22 corn events to the Biosafety Board for feed use and they were reviewed under the regular procedure. All of these events are already approved in the European Union. The Biosafety Board approved 16 corn events on December 24, 2011 and on April 21, 2012. The Board rejected six corn events. The Biosafety Board does not publish the reason for rejections. Because of the rejections, corn trade virtually ceased due to the difficulty in segregating the approved and rejected biotech GE events in the supply chain.

In January 2011, the Federation of the Food and Beverages Associations submitted applications for all EU-approved soybean, corn, canola, and potato events for food use. However, because of intensive pressure from anti-biotech NGOs and the media, the Federation withdrew their applications for all events for food use. Therefore, currently, there are no approved events for food use in Turkey.

On April 25, 2013, the Board rejected 22 GE corn varieties to be used in the ethanol sector, three GE rapeseed varieties to be used in the feed sector, and one GE sugar beet variety to be used in the feed sector.

On December 24, 2013, MinFAL acted on a decision by Turkey's High Court to suspend the approval of MON810 (approved and cultivated in Europe) for animal feed. MinFAL implemented the High Court decisions and revoked the approval of MON810 and additionally MON88017xMON810 in animal feed products. They also withdrew these traits from the market and banned the import of the products that contain these traits. On May 25, 2015, the High Court reversed its decision on MON810 maize and subsequently, MinFAL directed the Provincial Directorates, which implement the Biosafety Law at the ports, to implement the High Court's retraction decision for both MON810 and MON88017xMON810.

On May 11, 2015, Turkish Poultry Meat Producers and Breeders Association (Besd-Bir) submitted dossiers to the Biosafety Board for the approval of 37 traits (nine soybean, 14 corn, four canola and 10 cotton) for feed use. The Biosafety Board accepted the applications to review under the simplified procedure. Five events and their products were approved on July 16, 2015 for feed use including 3 corn (MIR604, MON 863, T25) and 2 soybeans (MON87701 and MON87701xMON89788). Eight events (6 corn (MON863 x NK603, MON863 x MON810, MON89034 xMON88017, MIR604 xGA21, Bt11xMIR604, MIR162) and 2 soybean (A5547-127, 356043) events) were approved on November 5, 2015. Following the coup attempt on July 15, 2016, the Turkish government declared a State of Emergency, removed thousands of civil servants from their government positions, and seized businesses which had a suspected connection with the organization accused of being behind the coup attempt. The State of Emergency and subsequent dismissals interrupted some government operations and processes, including slowing down the review of biotech trait approvals. The Biosafety Board is again fully staffed and four events (3 soybeans: MON 87708, BPS-CV127-9, MON87705 and 1 corn: MON 87460) were approved on August 2, 2017.

In October 2017, Besd-Bir withdrew 14 of the 37 applications they had submitted in 2015 (related to cotton and canola). The remaining six traits are undergoing assessment. Besd-Bir submitted a new

application for one soybean event (FG 72) on November 8, 2017 but the status of this application has not yet been determined by the Biosafety Board. Please see the status of applications made by Besd-Bir below. Currently trade is moving but with the risk of rejection due to unapproved events.

Table-2. Status of Full Applications made by Besd-Bir (for feed use only)

Commodity	No	Event	Approval Date
Soybean	1	A5547-127	11/5/2015
	2	356043	11/5/2015
	3	MON87701	7/16/2015
	4	MON87701 x MON89788	7/16/2015
	5	MON 87705	8/2/2017
	6	MON 87708	8/2/2017
	7	MON 87769	Pending
	8	305423	Pending
	9	BPS-CV127-9	8/2/2017
	10	FG 72	Application submitted
Corn	1	T25	7/16/2015
	2	MON863	7/16/2015
	3	MON863 x NK603	11/5/2015
	4	MON863 x MON810	11/5/2015
	5	MIR604	7/16/2015
	6	MON863xMON810xNK603	Pending
	7	MON89034 xMON88017	11/5/2015
	8	MIR604 xGA21	11/5/2015
	9	Bt11xMIR604	11/5/2015
	10	Bt11xMIR604xGA21	Pending
	11	MIR162	11/5/2015
	12	MON89034x1507xMON88017x59122 MON89034×1507×MON88017 MON89034×1507×59122 MON89034×MON88017×59122 1507×MON88017×59122 MON89034x1507 MON89034x59122 1507xMON88017 MON88017x59122	Pending
	13	MON89034×1507×NK603	Pending
	14	MON 87460	8/2/2017
Cotton	1	MON1445	Withdrawn
	2	MON15985	Withdrawn
	3	MON531	Withdrawn
	4	MON531 x MON1445	Withdrawn
	5	LLCotton25	Withdrawn
	6	GHB614	Withdrawn

	7	281-24-236x3006-210-23	Withdrawn
	8	T304-40	Withdrawn
	9	MON 88913	Withdrawn
	10	GHB614xLLCotton25	Withdrawn
Canola	1	GT73	Withdrawn
	2	MS8, RF3, MS8xRF3	Withdrawn
	3	T45	Withdrawn
	4	MON 88302	Withdrawn

c. **Stacked or Pyramided Event Approvals:**
Turkey treats stacked events as novel and requires their approval separate from the approval of each individual event in the stack. The Committees follow the same assessment procedures followed for individual events.

d. **Field Testing:**
Currently Turkey does not have any field testing of products derived from agricultural biotechnology. However, one of the specific targets of the HPC Action Plan related to agricultural biotechnology is to allocate "specifically controlled fields" to scientists for Research & Development field trials. The Biosafety Board is working on the principles for this target.

e. **Innovative Biotechnologies:**
Turkey has not determined a regulatory status of innovative biotechnologies in plants or plant products of said biotechnologies.

f. **Coexistence:**
Since the Biosafety Law prohibits the cultivation of agricultural biotechnology, there is no coexistence policy in place in Turkey.

g. **Labeling:**
According to the Biosafety Law and regulations, any imported food or feed containing, consisting or deriving from GE crops above the labeling threshold set by the Ministry (in January 2011 this threshold was 0.9 percent via an internal Agriculture Ministerial Directive) must be labeled.

Traceability clauses in the Law and implementing regulations require that records be kept for a minimum of 20 years, detailing the unique identifier of the gene, quantity, supplier, and purpose of use, each time a product is processed or handled, from the time of import to the time of distribution to the market. The Turkish government has rolled out a new computer system for recordkeeping and tracking the movement of all GE products, so in the future all handlers and users will need to input detailed information into the system.

The implementing regulations also require that "genetically modified organisms and products thereof are processed and stored in separate production lines. In the event that this is not possible, the production lines and storage facilities must be cleaned by the interested parties in a manner to prevent any

contamination with genetically modified organisms and products thereof and the circumstance must be committed to records."

h. **Monitoring and Testing:**
Commodities accompanied by a declaration issued by the competent authority of the loading or origin country which states that the food/feed in question does not include GE have in practice been subject to less testing frequency. If there is no GE-free declaration accompanying a potentially GE-containing commodity, then it is subject to analysis at the rate of 100 percent to test for the presence for unapproved traits.

Turkey utilizes rapid response PRT tests to detect 35S promoters and NOS terminators. Designated local official laboratories conduct import tests and the National Reference Laboratory in Ankara retests when results are contested. Under the authority of a local prosecutor an undesignated university laboratory tested at least one sample unofficially. Although this occurrence was not part of official procedures, it is a potential risk to imports. Products that receive a positive detection prior to customs clearance may be sent to another country (provided several conditions are met; please contact FAS/Ankara for more details, as the conditions are fluid). The importer of a shipment found to contain an unapproved trait after clearing customs may be prosecuted for violating the Biosafety Law.

According to the Biosafety Law and its implementing regulation, for the purpose of monitoring GE products placed on the domestic market, the business operator (any person at each stage of business such as importer, distributor, wholesaler, retailer etc) must submit documents which contain information related to the GE product in question to MinFAL and keep them for 20 years.

i. **Low Level Presence (LLP) Policy**:
Turkey has a zero tolerance for unapproved LLP in food and industrial products, subject to the liability provisions of the Biosafety Law. On May 29, 2014, MinFAL published a change to the regulation that implements the Biosafety Law to define "contamination" and established a threshold of 0.9 percent for approved genes in their "intended use." This wording infers that feed is the "intended use" category, because so far only feed use is approved. Because genes are approved only for feed use, the threshold does not provide any utility to detections in food. In practice it seems the 0.9 percent "contamination" allowed refers to the limit allowed of an approved gene which is not listed on the import documentation as one of the GE genes in that shipment. MinFAL has yet to clarify the implementation of the definition or threshold. MinFAL intends for the definition and threshold to provide some measure of security from prosecution as "contamination" is unintentional and beyond the control of the domestic party involved (importer, wholesaler, distributor, and retailer).

On July 25, 2011, the Biosafety Board advised MinFAL of the implementation of the rules set by Commission Regulation (EU) No 619/2011 of 24 June 2011 "laying down the methods of sampling and analysis for the official control of feed as regards presence of genetically modified material for which an authorization procedure is pending or the authorization of which has expired" in the official controls. Shortly after the submission of 37 new GE applications in May 2015, MinFAL started to implement the rules of the Commission Regulation (EU) No: 619/2011. This legislation allows trace amounts of unapproved biotech content in feed up to a "technical zero" level of 0.1 percent if the trace amount of GE content found is a trait currently being reviewed for approval.

j. **Additional Regulatory Requirements:**
Article 5(1)(d) of the Biosafety Law prohibits the use of GE and products thereof in baby foods and infant formulas, follow-on formulas and cereal-based supplementary foods for babies and young children.

Article 3(10) of the Regulation on Genetically Modified Organisms and Products thereof requires MinFAL's permission for each transit passage of products containing GE.

k. **Intellectual Property Rights (IPR):**
The cultivation of GE crops is prohibited under the Biosafety Law, and so protection for patented seeds does not apply.

l. **Cartagena Protocol Ratification:**
Turkey ratified the Cartagena Biosafety Protocol on October 24, 2003 and entered it into force on January 24, 2004. MinFAL is responsible for the implementation of the Cartagena Protocol on Biosafety (CPB).

m. **International Treaties/Forums:**
Turkey is a member of several international organizations dealing with plant protection and plant health. These include the European and Mediterranean Plant Protection Organization (EPPO), the Organization for Economic Co-operation and Development (OECD), the Food and Agriculture Organization (FAO), International Plant Protection Convention (IPPC) and Codex. Turkey is not actively participating in discussions related to GE plant or seed varieties with international organizations. MinFAL only participates at the CPB meetings on an irregular basis regarding GE issues.

n. **Related Issues:**
Turkey's Biosafety Law requires approval for use of products derived from agricultural biotechnology, excluding only pharmaceuticals and cosmetics. Therefore, industrial uses of products derived from plant biotechnology must be approved separately.

PART C: MARKETING

a. **Public/Private Opinions:**

Due to anti-GE campaigns and one-sided reporting in the media, including by popular health columnists, public and private opinion in Turkey are dominated by misinformation on possible hazards from the consumption of products derived from agricultural biotechnology. The public widely believes in a purported link between genetic engineering and cancer. The Turkish government rarely refutes misinformation publicly nor clarifies the science and safety behind the crops which are approved for use in Turkey or their approval process.

b. **Market Acceptance/Studies:**
The fear of biotechnology by the Turkish public, producers, retailers, and consumers continues. This is mainly due to anti-GE campaigns run by local and international anti-biotech NGOs such as the Chamber of Agricultural Engineers, Greenpeace and the Friends of the Earth, since 2008. Although public

sentiment is resoundingly anti-GE, Turkey is import-dependent for plant-based protein for animal feed. However, the restrictions on the use of GE soybeans prevented the local industry from crushing (soybean oil cannot be used for any purpose but animal feed), which resulted in a decrease in soybeans and an increase in soybean meal imports in 2013 and 2014.

Misleading health stories, such as claims that eating chicken fed from GE feed has negative health consequences, continue to show up in the media in 2017. However, it appears that consumption of those products has not been affected negatively due to these stories.

To date, Post is unaware of any marketing studies that have evaluated Turkish consumer sentiment towards products derived from agricultural biotechnology. Graham Brookes of PG Economics in Great Britain published the study "Economic impacts of the Biosafety Law and Implementing Regulations in Turkey on the Turkish importing and user sectors" in May 2012. Regarding the cost to the Turkish agricultural sector of Turkey's restrictive regulatory system for biotech, the study concludes "…the on-going annual cost can reasonably be expected to be between $0.7 billion and $1 billion and could be higher."

CHAPTER 2: ANIMAL BIOTECHNOLOGY

PART D: PRODUCTION AND TRADE

a. **Product Development:** Article 5 of the Biosafety Law (Law No: 5977), adopted on March 26, 2010, bans the production of genetically engineered animals and plants. Turkey does not produce animal clones.

b. **Commercial Production:** GE animal production is banned.

c. **Exports:** Not applicable

d. **Imports:** The Biosafety Law does not ban GE animal importation. If there were an application, the Board would have the authority to evaluate it though there has not been an application for the import of GE animals.
e. **Trade Barriers:** Not applicable.

PART E: POLICY

a. **Regulatory Framework:** Turkey's regulation of agricultural biotechnology is governed by the Biosafety Law (Law No: 5977), adopted on March 26, 2010, and related implementing regulations. Import of transgenic agricultural products (and this applies to GE animals) is only allowed after approval of each event for each use. For more information, please see Section II /Chapter I/ Part B (a). There are no regulations in Turkey regarding animal cloning.

b. **Innovative Biotechnologies:** There is no regulatory status of animals or animal products derived from innovative biotechnologies.

c. **Labeling and Traceability:** Products derived from approved GE animals would require a label indicating that it is or contains GE content.

d. **Intellectual Property Rights (IPR):** Not applicable.

e. **International Treaties/Forums:** Turkey is a member of World Organization for Animal Health (OIE), and Food and Agriculture Organization (FAO), which deals with animal health. Turkey is not actively participating in discussions related to GE animals with international organizations.

f. **Related Issues:** Not applicable.

PART F: MARKETING

a. **Public/Private Opinions:** Turkish public opinion is skeptical of benefits from new agricultural technologies in general.

b. **Market Acceptance/Studies:** Not applicable.

Further Information: For the most up-to-date reports on Turkey's agriculture situation and policies, use the search function at http://gain.fas.usda.gov/ or visit our website: http://www.fas.usda.gov/.