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# **Report Name:** Agricultural Biotechnology Annual

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**Report Highlights:**

Although Saudi Arabia has adopted regulations that allow for the import of biotech seeds, Saudi farmers have not shown an interest in importing or planting biotech seeds. Saudi Arabia requires that products must be labeled if they contain more than one percent genetically engineered (GE) plant or microbial ingredients. As a result, the import of biotech retail food products is extremely limited. However, Saudi Arabia imports large quantities of biotech U.S. corn and soybeans. Meanwhile, Saudi Arabia and the Gulf Standardization Organization (GSO) regulations prohibit the import of genetically modified animals, birds, fish and their products. Currently, there are no ongoing commercial development activities for GE plants in Saudi Arabia.

## EXECUTIVE SUMMARY

The Kingdom of Saudi Arabia (KSA) depends on imported food and agricultural products to meet approximately 80 percent of its consumption demands. Dairy and poultry farms depend entirely on feed corn, soybean meal, and soybeans produced in the leading plant biotech producing countries. KSA has officially allowed the import of GE plant products and microbial food products since 2001 if they are approved in the country of origin for human or animal consumption as well as labeled if the GE content is more than one percent.

In 2011, Saudi Arabia was the first country in the GSO to issue plant biotech regulations that applied to the six other member countries (Bahrain, Kuwait, Oman, Qatar, United Arab Emirates, and Yemen). The seven GSO countries issued two main regulations GSO 2141/2011 (General Requirements for Genetically Modified Unprocessed Agricultural Products) and GSO 2142/2011 (General Requirements for Genetically Modified Processed Agricultural Products). The seven countries have not revised their plant biotech regulations since 2011, and no changes are expected soon.

The United States has historically been a significant supplier of corn, soybeans, soybean meal, and soybean oil to the Kingdom. In 2019, KSA imported 3.6 million tons (MMT) of yellow corn (U.S. 17 percent); 66,369 metric tons (MT) of corn oil (U.S. 96 percent); 566,218 MT of soybeans (U.S. 41 percent); and 124,678 MT of Distiller's Dried Grains with Solubles (DDGS) and the United States accounted for 11 percent.

Although Saudi Arabia has adopted regulations that allow for the import of biotech seeds, Saudi farmers have not shown an interest in importing or planting biotech seeds. Saudi Arabia does not have a separate policy on microbial biotechnology, and it considers microbial biotechnology identical to agricultural biotechnology. As such, all regulations and standards applicable to the production and consumption of agricultural biotechnology are applicable to products produced using microbial biotechnology. Saudi Arabia and the six other GSO member countries prohibit the import of GE animals, birds, fish and their products to all member countries. Currently, there are no discussions taking place to rescind the ban.

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CHAPTER1: PLANT BIOTECHNOLOGY

## PART A: PRODUCTION AND TRADE

a) PRODUCT DEVELOPMENT

There is no ongoing development of GE plants in Saudi Arabia

b) COMMERCIAL PRODUCTION

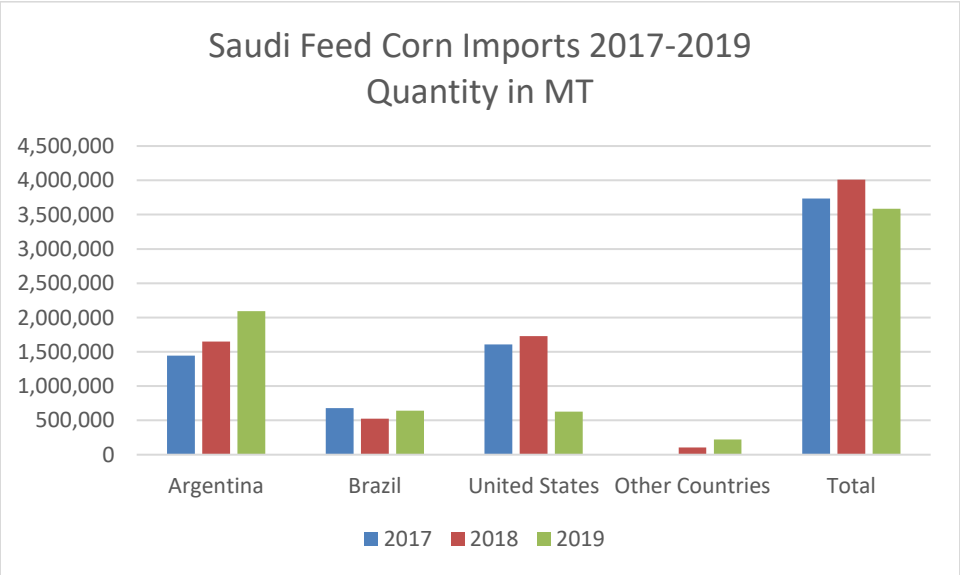
Although Saudi Arabia has implemented the 2011 GSO biotech regulations, which allows for the import and planting of biotech seeds under strict conditions, so far Saudi farmers have not shown interest in importing or planting biotech seeds.

c) EXPORTS

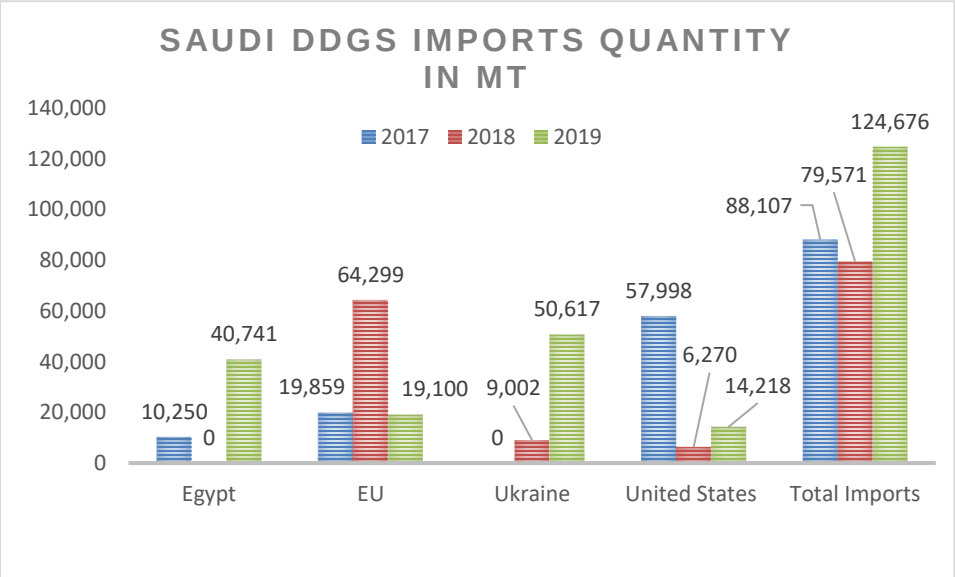
Not applicable.

d) IMPORTS

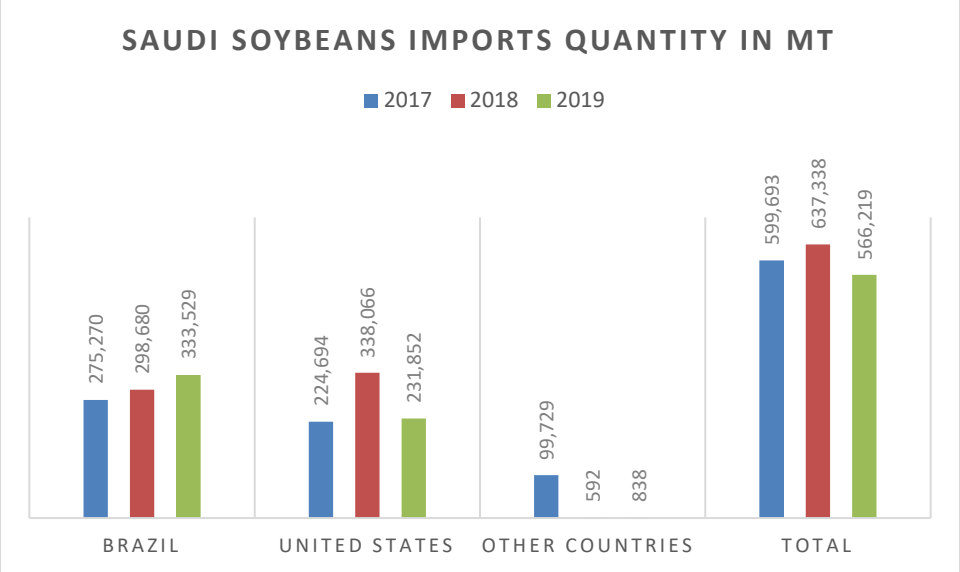
In 2019, Saudi Arabia imported approximately $18 billion worth of food and agricultural products, of which nearly 50 percent was highly processed food products. It is likely that a significant percentage of the processed foods contained GE plant ingredients. The Saudi Food and Drug Authority (SFDA) inspects imported high-value food products and processed feed at Saudi ports of entry. The inspection of unprocessed animal feed and planting seeds is the responsibility of the Ministry of Environment, Water and Agriculture (MEWA). Saudi Arabia imports animal feed ingredients (e.g., corn, soybeans and soybean meal) directly from the main GE producing countries (e.g., Argentina, Brazil and the United States). In 2019, Saudi Arabia imported 66,369 MT of corn oil of which the United Sates supplied 96 percent of total imports (chart below).



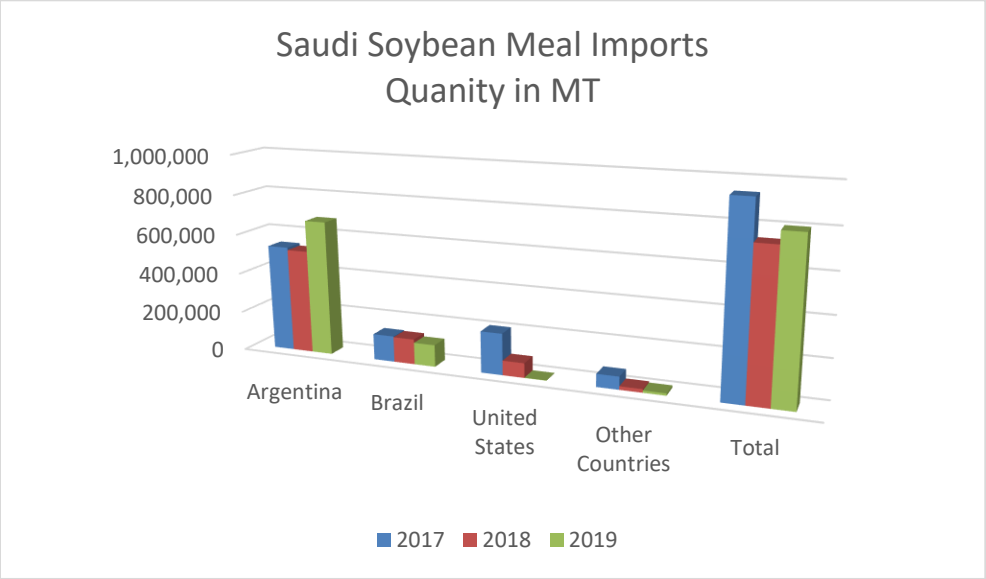
Saudi Arabia is becoming a significant importer of DDGS, mainly dry milled corn used for ethanol production. Please note the following chart.




A Saudi soybean crushing plant has been importing a significant quantity of soybeans from the United States and Brazil for over the past two decades. In 2019, the company imported more than 566,000 MT of soybeans and the United States supplied approximately 41 percent the total imports. Please note the chart below.



Last year, Saudi Arabia imported approximately 802,000 MT of soybean meal, and Argentina has been the dominant supplier of the product.




e) FOOD AID

Saudi Arabia is not a recipient of Food Aid.

f) TRADE BARRIERS

GE labeling discourages the import of retail-packed food products due to concerns by importers that biotech labeling could jeopardize their image and result in a lower market share. Saudi consumers have limited knowledge about agricultural biotechnology. (Please note the labeling section below.)

**PART B: POLICY**

a) REGULATORY FRAMEWORK

In February 2005, the Saudi government established a National Committee for Biotechnology (NCB) that was headed by the Saudi Arabian Standard Organization (SASO) and included members from four ministries (Agriculture, Commerce, Health, and Municipalities) as well as members from Saudi universities and the private sector. This committee, which is now headed by SFDA, is responsible for reviewing government policy concerning biotech activities and standards in the Kingdom. SFDA is an influential member in the GSO and plays a leading role in setting the GCC food and agricultural regulations and standards.

The regulatory framework of the Saudi NCB is mostly based on the Cartagena Protocol on Biosafety. The NCB finalized the country's biosafety framework, laws, regulations, guidelines and mechanism of implementation, which is currently waiting for the government's approval for implementation.

The NCB has been working with Saudi Ministry of Environment, Water and Agriculture (MEWA) to ensure that biotech animal feed grain imports are safe for human and animal health and do not have adverse effects on biological diversity.

Until the end of 2011, Saudi Arabia was the only GCC country that regulated the import of processed and unprocessed biotech agricultural products. The Saudi Ministry of Commerce and Industry (MOCI) and MEWA implemented GE decrees on processed foodstuffs and animal feed, which was issued in January 2001 and December 2004, respectively. The decrees mandated positive biotech labeling if a product contained more than 0.9 percent of biotech vegetable (plant) ingredients.

In October 2011, Saudi Arabia implemented two new GSO agricultural biotech technical regulations GSO 2141/2011 (General Requirements for Genetically Modified Unprocessed Agricultural Products) and GSO 2142/2011 (General Requirements for Genetically Modified Processed Agricultural Products). These technical regulations updated and replaced the old Saudi agricultural biotech labeling decrees. (please note the labeling section).

GSO issued standards are implemented in the seven member countries: Bahrain, Kuwait, Oman, Saudi Arabia, Qatar, the United Arab Emirates, and Yemen. Saudi Arabia implements GSO regulations and standards if they are more recently updated than existing SFDA ones. English copies of GSO standards mentioned in this report and other food/agricultural related regulations are available for purchase from the GSO headquarters in Riyadh by clicking on this link: **GSO Standards Store.** **This link** leads to SFDA enforced regulations and standards on food and agricultural products while SFDA regulations may be purchased **at this link.**

REGULATIONS

KSA implements several regulations and standards on the production, import and export of food products produced using agricultural and microbial biotechnologies. SFDA.FD GSO 2371 defines biotechnology as any technical application using biological systems, organisms or derivatives to make or modify products or processes for a particular purpose. The regulation states, "***In this technology, organisms (microorganism, plants, and animals) are treated at molecular and sub-molecular levels where a range of genetic modifications is carried out to achieve maximum industrial, agricultural and eventually economic benefits***."

Most of the Kingdom's enforced technical regulations are either prepared by the Gulf Standardization Organization (GSO), or standards adopted from the International Organization for Standardization (ISO). The two main GSO issued mandatory agricultural biotechnology regulations are GSO 2141/2011 "General Requirements for Genetically Modified Unprocessed Agricultural Products" and GSO 2142/2011 "General Requirements for Genetically Modified Processed Agricultural Products". The two technical regulations require positive biotech labeling if unprocessed agricultural products, processed food products, feed products or seeds contain more than one percent GE plant or microbial ingredients. GSO 2141/2011 prohibits the import of genetically modified animals, birds, fish and their products.

The 2011 GSO regulations superseded the Saudi Ministry of Commerce and Industry's (MOCI) December 2001 ministerial decree, in which Saudi Arabia became the first GCC country to regulate

biotech food imports. (MOCI was renamed the Ministry of Commerce and Investment [MCI] in 2016). The December 2001 MOCI decree required positive biotech labeling if a processed food product or animal feed contained more than 0.9 percent GE vegetable (plant) ingredients.

Currently, Saudi Arabia implements the following additional regulations and standards on food and agricultural products using agricultural and microbial biotechnologies.

1. SFDA.FD GSO CAC/GL 44 “Principles for the Risk Analysis of Foods Derived from Modern Biotechnology”. The purpose of these Principles is to provide a framework for undertaking risk analysis on the safety and nutritional aspects of foods derived from modern biotechnology. This document does not address environmental, ethical, moral or socio-economic aspects of the research, development, production and marketing of these foods.
2. SFDA.FD GSO CAC/GL 44 “Principles for the Risk Analysis of Foods Derived from Modern Biotechnology”. The GSO Technical Subcommittee for Genetically Modified Foods Standards adopted the International Standard No. CAC/GL 44:2003 "Principles for the risk analysis of foods derived from modern biotechnology" that was issued by Codex Alimentarius Commission (Codex) in its original language.

3. SFDA.FD GSO CAC/GL 4 “Guideline for the Conduct of Food Safety Assessment of Foods Derived from Recombinant-DNA Plants”. This guideline supports the Principles for the Risk Analysis of Foods Derived from Modern Biotechnology. It addresses safety and nutritional aspects of foods consisting of, or derived from, plants that have a history of safe use as sources of food that have been modified by modern biotechnology to exhibit new or altered expression of traits.

4. SFDA.FD GSO CAC/GL 46 “Guideline for the Conduct of Food Safety Assessment of Food Produced Using Recombinant-DNA Microorganisms”. This guideline supports the Principles for the Risk Analysis of Foods Derived from Modern Biotechnology and addresses safety and nutritional aspects of foods produced through the actions of recombinant-DNA microorganisms. The recombinant-DNA microorganisms that are used to produce these foods are typically derived using the techniques of modern biotechnology from strains that have a history of safe, purposeful use in food production. However, in instances where the recipient strains do not have a safe history, their safety will have to be established. Such food and food ingredients may contain viable or non-viable recombinant-DNA microorganisms or may be produced by fermentation using recombinant-DNA microorganisms from which the recombinant-DNA microorganisms may have been removed.

b) APPROVALS

Saudi Arabia does not approve individual biotech events. If imported food, feed, or seed contains more than one percent biotech content, each shipment must be accompanied by a health certificate issued by a competent government agency stating that “the GE ingredient/s used in the foodstuff or grains is/are approved in the country of origin for human or animal consumption or for planting seeds.”
For U.S. corn, soybeans and soybean meal, MEWA still accepts the one-time biotech grain certification

statement that was issued in 2003 by the USDA's Grain Inspection, Packers and Stockyards Administration (GIPSA). The statement certifies that the exported transgenic feed grains and oilseeds (corn, soybean, and soybean meal) are the same as those consumed in the United States. The approved statement eliminates the need for a shipment-by-shipment positive biotech certification for unprocessed agricultural products that is required in section 4.1.5 of the GSO 2141/2011.

SFDA accepts health certificates issued by the Federal Drug Administration (FDA), federal or state departments of agriculture for high value and processed feed products containing more than one percent biotech level. Post has not received any complaints from Saudi food products importers about the ability of U.S. suppliers to provide required biotech certificates. Biotech health certificates issued by exporting companies or other private organizations, including notary public statements, are not recognized.

c) STACKED or PYRAMIDED EVENT APPROVALS

Stacked or pyramided events are not treated separately and are covered by the product approvals as outlined above.

d) FIELD TESTING

Saudi Arabia allows for the import and planting of GE seeds under strict conditions. However, Saudi farmers have not shown interest in importing or planting GE seeds.

e) INNOVATIVE BIOTECHNOLOGIES

Saudi Arabia does not have an official position on genome edited plant-based food products. The general rule for food, feed and seed produced by innovative biotechnologies is that the products must be approved by competent authorities in the countries of origin, safe for consumption by targeted group and widely consumed in the exporting countries to be allowed entry into the Kingdom market.

f) COEXISTENCE

Not applicable.

g) LABELING and TRACEABILITY

Since October 2011, Saudi Arabia has applied the two GSO agricultural biotech technical regulations: GSO 2141/2011 (General Requirements for Genetically Modified Unprocessed Agricultural Products) and GSO 2142/2011 (General Requirements for Genetically Modified Processed Agricultural Products) for labelling and traceability.

The GSO regulations increased the biotech threshold level from 0.9 percent to one percent and rescinded the ban on the import of biotech planting seeds. The GSO biotech regulations stipulate the import requirements for food products produced through agricultural biotechnology if the biotech content is higher than one percent. The regulations allow for the import of plant biotech agricultural and microbial food products if they are approved in the country of origin for human or animal consumption or

planting. The two GSO regulations have the following labeling requirements:

- Positive GE labeling: If a product contains one or more GE plant ingredients with more than one percent GE content, the words "genetically modified" or "produced from genetically modified" (name of the ingredients must be included) should appear clearly and easily in parentheses immediately following the ingredients along with the same font size and different color. GSO biotech regulations do not allow for the import of foods that contain GE animal products. According to SFDA, local food producers must also abide by the biotech labeling requirements.

- Labeling and adjoining explanatory statements must be in Arabic and, where another language is used, it should also be alongside Arabic. All information that is provided in another language must be identical with what is written in Arabic. The biotech statement must be clearly written in Arabic and English in the same font size and a different color from that of the main product label.

- If the GE food product is different from its conventional counterpart, the label must mention any characteristic or property concerning the following:
    - Composition
    - Mode of storage and packing
    - Nutritional value or nutritional effects
    - Intended use of product
    - Any health implications on certain groups of people, certain animals, or the environment
    - Physical characteristics (color, odor, taste, and touch).
    - Methods for safe handling, storage, transport and use

- If the food product does not have a conventional counterpart, the label must contain appropriate information about the nature and characteristics of the food product concerned.

- If the mode of storage, preparation or cooking of the product is no longer equivalent, or differs significantly from the corresponding conventional food, clear instructions for use must be given on the label of the product.

The following additional SFDA\GSO and ISO regulations and standards are implemented in labeling plant agricultural products:

- SFDA.FD GSO 2143 "General Requirements for Risk Assessment and Traceability for Genetically Modified Products". This standard provides details on the labeling requirements for processed food and feed, and following is a text from the technical regulation describing the labeling requirement:

  4/2 LABELLING REQUIREMENTS: Without prejudice to what is stated in GSO item 2.1, the following requirements must be clearly identified on the label:

  4/2/1 If the product consists of more than one ingredient, the words (genetically modified) or (produced from genetically modified, name of the ingredient) must appear clearly and easily to

be read in the list of ingredients in parentheses immediately following the ingredient concerned with same font size and different color.

4/2/2 If the ingredient is designated by the name of a category, the words (contains genetically modified, name of organism) or (contains, name of ingredient, produced from genetically modified, name of organism) must appear clearly and easily be read in the list of ingredients with same font size and different color.

4/2/3 If there is no list of ingredients, the words (genetically modified) or (produced from genetically modified, name of organism) must appear clearly and easily to be on the labeling.

4/2/4 Labeling must not mislead the purchaser as to the characteristics of the foodstuff and among other things to its nature, identity, properties, composition, method of production and manufacturing.

4/2/5 The indications referred to in (4/2/1 and 4/2/2) may appear in a footnote to the list of ingredients and in this case, they must be printed in a font at least the same size as the list of ingredients. If there is no list of ingredients, they must appear clearly and easily be read on the label.

4/2/6 If the food is offered for sale to the final consumer as non-pre-packaged food or as prepackaged food in small containers of which the largest surface has an area of less than 10 cm square, the information required in (4/2/1 and 4/2/2) must be permanently and visibly displayed either on the food display or immediately next to it, or on the packaging material and in a font sufficiently large to be easily identified and read. The main focus of this standard is polymerase chain reaction (PCR) based methodologies. However, because of the rapid rate of technological change in this area, other technologies may be considered in the future.

- SFDA.FD GSO ISO 24276:2006 "Food Stuffs - Methods of Analysis for the Detection of Genetically Modified Organisms and Derived Products- General Requirements and Definitions". ISO 24276 was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 275, *Food analysis — Horizontal methods* in collaboration with Technical Committee ISO/TC 34, *Food products*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

- SFDA.FD GSO 9 "Labelling of Prepackaged Food Stuffs" stipulates that it must be declared on the label of a food product in case biotechnology is used to obtain this product or any of its ingredients.

- SFDA.FD GSO 2502 "Compilation of Codex Texts Relevant to the Labelling of Foods Derived from Modern Biotechnology. The purpose of this document is only to recall and assemble in a single document some important elements of guidance from Codex texts, which are relevant to labelling of foods derived from modern biotechnology.

Even though Saudi Arabia implemented its agricultural biotech labeling in 2001, the labeling requirement has not affected the import of biotech food and feed grains. However, no retail packed food

products with positive biotech labeling have been imported into the Kingdom to date. In general, Saudi importers of retail-packed food products do not import foods with GE content over one percent as it requires labeling, and they are concerned that biotech labeling could jeopardize their product image and result in losing market share; especially since Saudi consumers have limited knowledge about agricultural biotechnology. Locally produced food products that use imported biotech oil, corn or soybean by-products are not labeled for biotech content.

h) MONITORING AND TESTING

The GSO has adopted six ISO standards on methods of analysis for the detection of genetically modified organisms and derived products in its original language. The GSO has also adopted three Codex standards for its risk analysis and safety assessment of foods derived from agricultural biotechnology.

In 2009, SFDA took over the responsibilities of inspecting imported as well as domestically produced processed food, feed and feed concentrates. MEWA is responsible for inspecting imported fruits, vegetables, planting seeds and unprocessed animal feed.

SFDA randomly tests new-to-market processed foods for biotech contents using the PCR Real Time Method for random GE testing in processed food products. Samples for laboratory analysis are taken according to GSO ISO standards numbers 21098, 21569, 21570, 21571, 21572 and 24276. Food product importers are required to declare biotech levels of more than one percent and must provide the competent authority an attested certificate indicating the biotech ingredient(s) is used in foods consumed in the country of origin.

i) LOW LEVEL PRESENCE (LLP) POLICY

KSA does not approve or disapprove biotech plant varieties by event but accepts those approved by supplying countries for human or animal use. This policy prevents most LLP issues.

j) ADDITIONAL REGULATORY REQUIREMENTS

**Requirements for Unprocessed GE Agricultural Products for Human Consumption:**

- If the products are sold in the market by weight, number or volume, the products should be kept in separate places and isolated from conventional products.
- The product should have a clearly defined and difficult to eliminate label or printed card placed on a suitable place on the specified food stating that “this product is genetically modified using biotechnology".
- It should not be used for agricultural purpose or for any kind of plant propagation.
- It should comply with the GSO traceability and risk assessment requirements.

**Requirements for Unprocessed GE Agricultural Products for Animal Feed:**

- It is prohibited for use in human food.

- It should be placed on the market in a separate location and isolated from conventional products. The product should have a clearly defined and difficult to eliminate label placed in a suitable location on the specified feed stating that "this product is genetically modified using biotechnology".

- The label should also state that "this product is not for human consumption or for agricultural use", meaning it cannot be used for planting purposes.

- It should not be used for agricultural purposes or for any kind of plant propagation.

k) INTELLECTUAL PROPERTY RIGHTS (IPR)

The newly established Saudi Authority for Intellectual Property (SAIP), a Saudi government agency, is working on regulations that will better protect intellectual property rights.

**Requirements for GE Planting Seeds:**

- The seed import process should not contradict with regulations of the importing countries, particularly in regards to plant diseases, harmful weeds, narcotic plants, germination, purity and humidity percentages.

- Written permission should be obtained from competent authorities at least 10 days before the arrival of the consignment.

- All chemicals and their concentrations used in the treatment of the seed must be declared.

- The GE planting seed should be treated with different color for easy differentiation from the conventional counterparts.

- The final user adheres to agricultural planting land surveyor rules and guarantees not to mix with the non-GE seeds.

- If the GE planting seed does not have a conventional counterpart, the label or the accompanying documents must contain appropriate information about its nature and characteristics.

- The product must have a clearly written, easy to read and difficult to remove label stating that the product is for agricultural use and not for human and animal consumption.

- Information on safe handling, storage, transport and use should be provided.

- Should comply with the GSO traceability and risk assessment for the GE unprocessed agricultural products for agricultural use according to item 2.16 (GSO 2143/2011).

- Sampling shall be taken according to the following standards: GSO ISO 21098, 21569, 21570, 21571, 21572 and 24276 and sampling stated in the GSO standard for each product.

**Requirements for GE Processed Food and Feed, as specified in GSO 2142/2011:**

- Must be compatible with the ethical regulation applied in the importing country.
- No adverse effects on human health, animal health, plant health or the environment.
- Should not differ from the product, which is intended to replace to such an extent that its normal consumption would be nutritionally disadvantageous for humans or animals.
- The product must be accompanied with a certificate proving that it is allowed to be consumed in the country of production.
- Must declare the presence of any food, or food ingredients, obtained through certain techniques of genetic modification or genetic engineering of an allergen transferred in any foods or ingredients.

l) CARTAGENA PROTOCOL RATIFICATION

Saudi Arabia ratified the Cartagena Protocol on Biosafety in August 2007. It is reported that Saudi Arabia is considering signing the Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety.

m) INTERNATIONAL TREATIES & FORUMS

Saudi Arabia is a member of international agricultural products standards setting organizations, such as Codex, the International Organization for Standardization (ISO), the World Organization for Animal Health (OIE), and the World Trade Organization's (WTO) TBT and SPS Committees. It regularly attends meetings of these organizations and does not often take positions until an international consensus is reached. In general, Saudi and GSO agricultural biotech regulations and standards are based on Codex and ISO standards.

n) RELATED ISSUES

Not applicable.

**PART C: MARKETING**

a) PUBLIC/PRIVATE OPINIONS

Local newspapers have published articles about agricultural biotechnology that focused mostly on the alleged negative impact of biotech products on human health and the environment. Some articles, taken from European newspapers, and mostly written by Greenpeace and other anti-agricultural biotechnologies groups, have been re-published in Saudi newspapers. Government agencies and

agricultural research centers have not initiated media campaigns to provide unbiased information on biotech food to the public. SFDA has made it clear on several occasions that the primary reasons for requiring labeling of biotech foods is the consumers' right to know. Consequently, importers have asked their U.S. suppliers to put "biotech free" symbols on product labels to match initiatives taken by many European suppliers. Shoppers in local supermarkets can now find many American and European foodstuffs with biotech free labels. Food products with less than one percent GE content are considered biotech free.

b) MARKET ACCEPTANCE/STUDIES

Since the establishment of biotech labeling requirements in Saudi Arabia in 2001, no GE retail packed food products have been imported into the country. Major Saudi food importers do not import food products derived in part from genetic engineering, and therefore do not put biotech labels on their products. They are concerned that dealing with biotech products could jeopardize their product image and result in losing market. Saudi consumers have a limited knowledge about agricultural biotechnology and, in general, hold negative attitudes towards biotech products. On the other hand, some Asian, European, and local food producers put the "biotech free" symbol on their product labels to promote their products.

## CHAPTER 2: ANIMAL BIOTECHNOLOGY

### PART D: PRODUCTION AND TRADE

a) PRODUCT DEVELOPMENT

There is no ongoing development of GE animals in Saudi Arabia.

b) COMMERCIAL PRODUCTION

Not applicable.

c) EXPORTS

Not applicable.

d) IMPORTS

Section 4.1.7 of GSO 2141/2011 prohibits imports of any GE animals, birds, fish and their products to all member countries (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, UAE, and Yemen).

e) TRADE BARRIERS

Saudi Arabia is a member of the GSO, which bans the import of GE animals and animal products.

## PART E: POLICY

a) REGULATORY FRAMEWORK

Section 4.1.7 of GSO 2141/2011 prohibits the import of any GE animals, birds, fish and their products to all member countries (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, UAE, and Yemen).

b) APPROVALS

Not applicable.

c) INNOVATIVE BIOTECHNOLOGIES

Not applicable.

d) LABELING and TRACEABILITY

Not applicable.

e) ADDITIONAL REGULATORY REQUIREMENTS

Not applicable.

f) INTELLECTUAL PROPERTY RIGHTS (IPR)

Not applicable.

g) INTERNATIONAL TREATIES & FORUMS

Not applicable, but KSA is an active member of OIE.

h) RELATED ISSUES

Not applicable.

## PART F: MARKETING

a) PUBLIC/PRIVATE OPINIONS

Not applicable.

b) MARKET ACCEPTANCE/STUDIES

Not applicable.

# CHAPTER 3: MICROBIAL BIOTECHNOLOGY

As discussed in the Plant Biotechnology Section, SFDA's microbial biotechnology definition is identical to the plant biotechnology definition. As such, all regulations and standards implemented in the production, trade and marketing of food products produced using plant biotechnology are applicable to

food products produced using microbial biotechnology, and the same plant biotech policy applies to microbial biotechnology.

## PART G: PRODUCTION AND TRADE

a) COMMERCIAL PRODUCTION

KSA allows for the production of food products using the microbial biotechnology as long as products containing more than one percent total amount of microbial biotechnology ingredients are labelled.

b) EXPORTS

Permissible to export food products obtained by the use of microbial biotechnology as long as pertinent labeling regulations are met.

c) IMPORTS

Permissible to import food products obtained by the use of microbial biotechnology as long as pertinent labeling regulations are met.

d) TRADE BARRIERS

Other than the required labeling regulation, no trade barriers are identified.

## PART H: POLICY

a) REGULATORY FRAMEWORK

Based on GSO and ISO regulations and standards as discussed in the Plant Biotechnology Section.

b) APPROVALS

Products approved in the country of origin are automatically approved entry to Saudi Arabia if they meet the labeling requirements discussed earlier.

c) LABELING and TRACEABILITY

If a product contains one or more percent microbial biotech content, immediately following the ingredient(s) concerned, the words “genetically modified” or “produced from microbial genetically modified” must appear clearly and easily read in parentheses in the same font size and different color. See Plant Biotech Section for detailed discussion.

d) MONITORING AND TESTING

SFDA makes use of several ISO standards on methods of analysis for the detection of genetically modified organisms and derived products in its original language. PCR is widely used to determine the presence of GE ingredients in food and feed products.

e) ADDITIONAL REGULATORY REQUIREMENTS

Not applicable.

f) INTELLECTUAL PROPERTY RIGHTS (IPR)

The newly established Saudi Authority for Intellectual Property (SAIP), a Saudi government agency, is working on regulations to better protect intellectual property rights.

g) RELATED ISSUES

Not applicable.

**PART I: MARKETING**

a) PUBLIC/PRIVATE OPINIONS

Microbial biotechnology is not covered in the local media either positively or negatively.

b) MARKET ACCEPTANCE/STUDIES

Microbial biotech has not been discussed, and the general public does not have adequate information on the technology. As such, the issue does not warrant market acceptance studies.

**Attachments:**

No Attachments