

Required Report: Required - Public Distribution

Date: December 27, 2022

Report Number: TC2022-0011

Report Name: Agricultural Biotechnology Annual

Country: United Arab Emirates

Post: Dubai

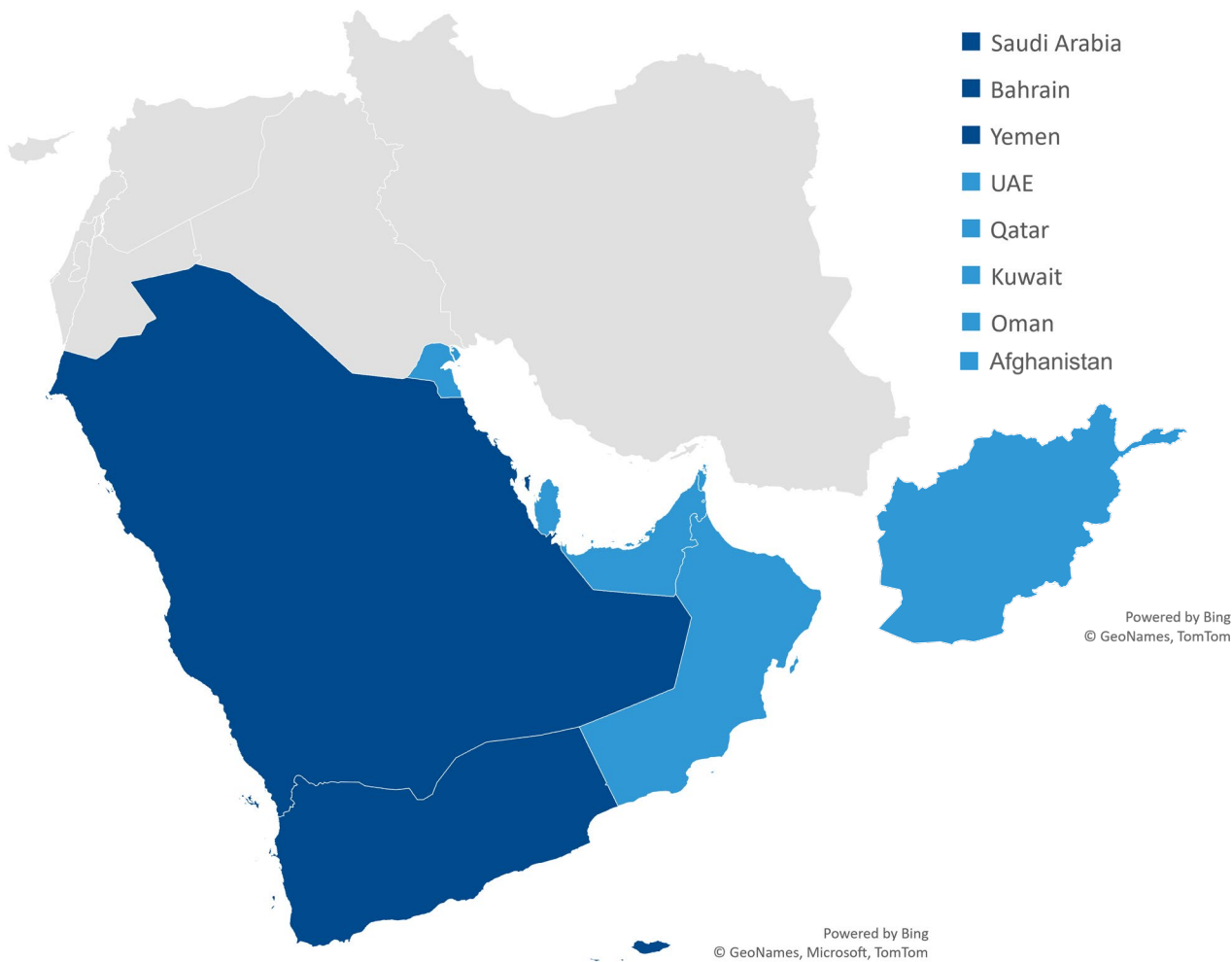
Report Category: Biotechnology and Other New Production Technologies

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Report Highlights:

Kuwait, Oman, Qatar and the UAE (GCC-4) permit the importation of GE food products of plant origin. GCC-4 countries have established several technical regulations that require labeling for both raw and further processed food and feed that may contain GE plant products. Importation and domestic production of GE animals and related products are not permitted in the GCC-4. In the event “GMO Free” is claimed on a product label, the supplier must provide a GMO-free certificate from a government competent authority issued in the country of origin.



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GCC Countries

With limited food production due to a shortage of arable land and water, the Arabian Gulf region depends heavily on imports to meet its food needs. Nearly 90 percent of all food consumed within the United Arab Emirates (UAE), Oman, Kuwait, and Qatar (the GCC-4) countries are imported. U.S. agricultural and related exports to the GCC-4 were valued at \$1.654 billion in 2021, while U.S. food exports to the entire Arabian Gulf region were approximately \$3 billion. The United States exports a wide variety of agricultural goods to the GCC-4 with consumer-oriented food products as the largest single category.

In 2011, GCC-4 countries passed several technical regulations focusing on genetically engineered (GE) food issues such as detection, risk analysis, traceability, and general requirements for plants and plant products. In May 2020, the United Arab Emirates passed a new law regulating the import, export, re-export, transit, trading, development, manufacture, production, and transfer of food and agricultural products containing GE ingredients. In the event UAE were to implement the new biosafety law, a lack of consumer understanding about GE products could negatively impact U.S. food exports to the region. Additionally, obtaining the proposed permit to import GE products will delay the export-import process and may add additional risk and costs. As of this report’s publishing, the May 2020 law remains unenforced. As for Animal Biotechnology, GE animal products remain banned within the GCC-4.

Within the past year, the following report/s were updated to reflect any issues pertaining to agricultural biotechnology in the United Arab Emirates:

[United Arab Emirates: Food and Agricultural Import Regulations and Standards Country Report](#)

Table of Contents

CHAPTER 1: PLANT BIOTECHNOLOGY	3
PART A: PRODUCTION AND TRADE	3
PART B: POLICY	5
PART C: MARKETING	9
CHAPTER 2: ANIMAL BIOTECHNOLOGY	9
PART D: PRODUCTION AND TRADE	10
PART E: POLICY	10
PART F: MARKETING	10
CHAPTER 3: MICROBIAL BIOTECHNOLOGY	11
PART G: PRODUCTION AND TRADE	11
PART H: POLICY	11
PART I: MARKETING	11

CHAPTER 1: PLANT BIOTECHNOLOGY

PART A: PRODUCTION AND TRADE

- a) **RESEARCH AND PRODUCT DEVELOPMENT:** The GCC-4 agricultural sector is limited to only a few varieties of fruits and vegetables grown seasonally like dates and fresh greens. Due

to lack of water and land resources, there is no commercial production of GE products in the GCC-4. Some GCC-4 countries have conducted limited research on the use of biotechnology to enhance production of citrus, dates, tomatoes, eggplant, and turf grass.

In Kuwait, the Kuwait Institute for Scientific Research (KISR) has developed a biotechnology program to design and develop innovative methods and products to enhance environmental and agricultural systems. The program's researchers blend modern molecular biology, genomics, and genetic engineering techniques with biotechnological processes and product development tools to produce a multidisciplinary approach for enhancing the quality of the environment and creating a sustainable and viable national agriculture system. To meet the local demand for dates and grow the capacity of the industry, the biotechnology program is working to develop unique date palm cultivating technologies optimized for commercial-scale production. KISR also has done preliminary research on biotechnology in date palm trees to combat red weevils, a plant pest that causes serious crop damage and threatens the future of date production in the region.

In the UAE, the Khalifa Center for Genetic Engineering & Biotechnology (KCGEB) was inaugurated in 2014 to focus on exploring flora of the arid region to generate scientific knowledge to address the global challenges in food security and sustainable agricultural practices through genomics, genetic engineering, and biotechnological innovation. The research at the center focuses on the development of crops tolerant to abiotic stresses through knowledge generation and translational research. The center is also focused on developing crops with enhanced agronomic traits to expand value chains of existing industrial crops. The center focuses primarily on gene editing techniques as opposed to transgenics. Around 40 hectares of land and a range of cutting-edge research facilities are made available by KCGEB for scientists and students from various specializations to develop and test innovative strategies that support food security in the region. The center contains a tissue culture lab and plant growth facilities which are used to propagate different species for research purposes. In August 2022, the Abu Dhabi Agriculture and Food Safety Authority (ADAFSA) signed a collaborative agreement with KCGEB to implement a detailed plan for all phases of Abu Dhabi's Agricultural Genome Program. The program is the first of its kind in the region and aims to apply the best in-the-field international practices related to agricultural genetic research. The program promotes sustainable agricultural production by improving plant and animal species and will help to establish a scientific database and qualify national specialists in genomics research. The program acts as a local and regional reference in using genomic technologies to improve agricultural production and rationalizes natural resource consumption. KCGEB will use the latest technologies to decode genomes of different organisms and reuse them in speeding up crop development. Currently, KCGEB has field trials ongoing for multiple varieties of turf grass that are more drought and salinity tolerant. They also have lab trials ongoing for many species of crops, including eggplant, tomatoes, tobacco, corn, etc.

b) **COMMERCIAL PRODUCTION:** As of this report's publishing, no genetically engineered or innovative biotechnology crops have been commercialized in the UAE or GCC-4. Currently, there remains no legal framework to facilitate commercialization.

c) **EXPORTS:** There is no export of GE agricultural products from the GCC-4.

d) **IMPORTS:** GE crops and foods that contain GE ingredients have been permitted to enter GCC-4 countries both directly and through transshipment.

e) **FOOD AID:** While the Arabian Gulf does not have domestic production of GE crop varieties, the United Nations World Food Program and the U.S. Agency for International Development both have offices, storage space, and agreements with the United Arab Emirates. Both organizations use the UAE as a logistical hub to deliver food aid in the Middle East and North Africa. Such food aid often contains GE products.

f) **TRADE BARRIERS:** There are currently no trade barriers.

PART B: POLICY

a) **REGULATORY FRAMEWORK:** No biotechnology crops are produced in the GCC-4 countries. There are no established procedures to regulate the production of biotech crops, and without established procedures there is no path to commercialization.

Since the Gulf Cooperation Council's inception, its Member States have pursued a policy to harmonize the food laws and regulations within the region. GCC-4 countries are moving towards customs unification to facilitate and simplify trade within the region. A greater emphasis is being placed on the harmonization of technical regulations, standards, and import procedures for food and food labeling.

As per the recommendation of the GCC Standards Organization (GSO) biotechnology subcommittee, GCC-4 countries have developed the following mandatory technical regulations to monitor and test imported, raw biotech commodities and processed foods with biotechnology ingredients:

- GSO 2141/2011 "General requirements for genetically modified unprocessed agricultural products." This technical regulation is mandatory and concerned with unprocessed genetically modified agricultural products that are cultivated and intended for human or animal consumption, contain or are produced from genetically modified organisms, and contain more than one percent genetically modified components. Examples include seeds, row crops like grains and cereals, etc.
- GSO 2142/2011 "General requirements for genetically modified processed food and feed." This technical regulation is mandatory and concerned with the health, efficacy, labeling, certification, allergens, maximum residue limits and other limits, traceability, and risk assessment for processed food and feed obtained through certain techniques of genetic engineering, and processed food and feed that contains or is produced from genetic engineering and contain more than one percent genetically modified components.
- GSO 2143/2011 "General Requirements for risk assessment and traceability for genetically modified products." This technical regulation is mandatory and concerned with risk assessment and impact tracking which must consider the safety of each new ingredient within the processed food and unprocessed genetically modified agricultural products, as well as the potential effects in existing genetic modification both intended and unintended.

In addition, the following GSO standards are voluntary:

- GSO ISO 24276:2007 “Food stuffs- Methods of analysis for the detection of genetically modified organisms and derived products- General requirements and definitions.”
- GSO ISO 21570: 2009 (adopts ISO 21570:2005) “Foodstuffs: Methods of analysis for the detection of genetically modified organisms and derived products-Quantitative nucleic acid-based methods”
- GSO CAC/GL 44:2009 (adopts GAC/GL 44:2033) “Principles for the risk analysis of foods derived from modern biotechnology”
- GSO CAC/GL 45:2009 “Guidelines for Assessing the Safety of Foods Derived from Genetically Modified Plants (DNA)”
- GSO CAC/GL 46:2009 “Guidelines for Assessing the Safety of Food Produced using Genetically Modified Microorganisms (DNAs)”
- GSO 2371:2014 “Terms and definitions of the Genetically Modified Foods” GSO ISO 21569-3:2022 “Horizontal methods for molecular biomarker analysis — Methods of analysis for the detection of genetically modified organisms and derived products — Part 3: Construct-specific real-time PCR method for detection of P35S-pat-sequence for screening for genetically modified organisms”

In May 2020, the United Arab Emirates passed Federal Law no. (9) regulating the import, export, re-export, transit, trading, development, manufacture, production and transfer of food and agricultural products containing 0.9 percent or more in components derived from bioengineering. The biosafety law requires that companies obtain a permit to import GE products into the UAE and requests the creation of a registry of applications. It also outlines requirements for labeling of GE food products and describes penalties if rules are broken.

The law in Arabic can be found here:

<https://www.moccae.gov.ae/assets/download/2de95d5b/c3c2994c.pdf.aspx?view=true>

For the unofficial translation, please check FAS Dubai GAIN report here:

UAE Passes New Mandatory Biotech Labeling Law | Biotechnology and Other New Production Technologies, Biotechnology and Other New Production Technologies Addendum, Biotechnology - Plants and Animals, Cloning | Dubai | United Arab Emirates | October 19, 2020 | TC2020-0024

https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=UAE%20Passes%20New%20Mandatory%20Biotech%20Labeling%20Law_Dubai_United%20Arab%20Emirates_10-17-2020

Legal term (in Arabic)	Legal Term (in English)	Laws and Regulations where term is used	Legal Definition (in English)
التحوير الوراثي altahwir alwarathaa	Genetic Modification	Federal Law no. (9) of 2020	Modification of genetic material using Modern Biotechnology
الكائن المحور وراثيا alkayin almihwir wirathiana	Genetically Modified Organism	Federal Law no. (9) of 2020	Organism having a new combination that is different of its original combination of genetic materials obtained through the use of Modern Biotechnology.
التكنولوجيا الاحيائية الحديثة altiknulujya alahyayiyat alhaditha	Modern Biotechnology	Federal Law no. (9) if 2020	Application of intube techniques for DNA and direct injection of DNA into cells or organelles, or integrating cells until they fall outside their taxonomic rank and overcome the natural physiological barriers of reproduction or recombination, and they are not considered techniques used in natural breeding and selection.

b) **LABELING AND TRACEABILITY:** The existing mandatory technical regulation GSO 2142/2011 provides details on the labeling requirements for processed food and feed. The following is a translation¹ of text from the technical regulation describing labeling requirements:

Without prejudice to what is stated in GSO mentioned in item 2.1, and the requirements stated in the GSO Standards for each product. The following requirements shall be clearly identified on the label:

• If the product consists of more than one ingredient, the words (genetically modified) or (produced from genetically modified, name of the ingredient) shall 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.

• 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) shall appear clearly and easily to be read in the list of ingredients with same font size and different color.

• If there is no list of ingredients, the words (genetically modified) or (produced from genetically modified, name of organism) shall appear clearly and easily on the labeling.

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

• 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 to be read on the labeling.

• 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, in font sufficiently large for it to be easily identified and read.

• According to technical regulation GSO-9 2019 “Labelling of Prepackaged Foodstuffs” the exporter must provide an official certificate issued by a competent authority to prove any claims made on the product label, including the use of the term “GMO Free.” The following is a text from the technical regulation describing the requirement. “When use of any logo as special for quality or organic product...etc., must provide proof of the validity of this claim.”

¹ The original text of GSO 2142/2011 is purchasable from the GSO website:
<https://www.gso.org.sa/store/standards/GSO:563265?lang=en>

c) **MONITORING AND TESTING:** UAE has several laboratories that have the capacity to monitor and test for GE products if needed. The list of accredited laboratories is as follows:

- Al Hoty Stanger Laboratories ICAD, Abu Dhabi
- SGS Gulf Food and Chemical Testing Laboratory, Dubai
- Inspectorates International Limited, Dubai
- Holistic International Testing Services, Dubai
- Advance Biotechnology Center, Dubai
- Dubai Central Lab (Dubai Municipality)

d) **LOW LEVEL PRESENCE POLICY (LLP):** Other than the requirements described in previous sections of Part B, additional policies for LLP do not exist.

e) **ADDITIONAL REGULATORY REQUIREMENTS:** N/A

f) **INTELLECTUAL PROPERTY RIGHTS (IPR):** N/A

g) **CARTAGENA PROTOCOL RATIFICATION:** Among the GCC-4, Oman and Qatar are the only countries that have ratified the Cartagena Protocol on Biosafety. While biosafety committees do exist in all GCC-4 member-states, the role of the committees in each country is still under development.

h) **INTERNATIONAL TREATIES/FORA:** GCC-4 countries are members of the International Plant Protection Convention (IPPC) and Codex Alimentarius.

i) **RELATED ISSUES:** N/A

PART C: MARKETING

a) **PUBLIC/PRIVATE OPINIONS:** Regulatory officials in nearly all GCC-4 countries have highlighted the need for improved consumer education on the safety and efficacy of biotech crops as well as advocating for the development of the regulatory capacity to test for GE residue in foods. Most consumers in the GCC-4 are highly skeptical of biotechnology. A significant educational gap remains in risk communication. GCC-4 governments increasingly respond to public skepticism by adopting hazard-based rules and approaches.

b) **MARKET ACCEPTANCE/STUDIES:** N/A

CHAPTER 2: ANIMAL BIOTECHNOLOGY

No animal biotechnology activities are currently conducted in GCC-4 countries. There are no technical regulations or standards that govern animal biotechnology. However, the use of animal biotechnology in

food is closely scrutinized over concerns that genes from banned animals under Islamic rules could be used in animal breeding or production.

PART D: PRODUCTION AND TRADE

- a. **PRODUCT DEVELOPMENT:** There is no research or development of GE animal products in the GCC-4.
- b. **COMMERCIAL PRODUCTION:** There is no commercial production of GE animal products in the GCC-4.
- c. **EXPORTS:** There is no export of GE animal products from the GCC-4.
- d. **IMPORTS:** There is no import of GE animal products to the GCC-4.
- e. **TRADE BARRIERS:** N/A

PART E: POLICY

- a) **REGULATORY FRAMEWORK:** Animal biotechnology is currently not allowed in the GCC-4. The new biosafety law does not cover animal biotechnology.
- b) **INNOVATIVE BIOTECHNOLOGIES:** N/A
- c) **LABELING AND TRACEABILITY:** N/A
- d) **INTELLECTUAL PROPERTY RIGHTS (IPR):** N/A
- e) **INTERNATIONAL TREATIES/ FORA:** N/A
- f) **RELATED ISSUES:** N/A

PART F: MARKETING

- a) **PUBLIC/ PRIVATE OPINIONS:** Skepticism around animal biotechnology in the UAE takes a different form and shape than hesitance around plant biotechnology. Islamic law and cultural practices in the region, including Halal rules, create an environment where public acceptance is difficult. Cloning, genetic engineering, and genome editing as interpreted by current Halal rules is not allowed. Religious acceptance strongly informs public and private opinions and creates significant barriers to adoption of these technologies.
- b) **MARKET ACCEPTANCE/STUDIES:** N/A

CHAPTER 3: MICROBIAL BIOTECHNOLOGY

PART G: PRODUCTION AND TRADE

- a) **COMMERCIAL PRODUCTION:** Given the expense of manufacturing food and food products domestically, no production using microbial biotechnology currently exists in the GCC-4. Qatar and the UAE have growing dairy sectors, but do not currently use microbial biotechnology in production.
- b) **EXPORTS:** The GCC-4 is a re-export hub for the region but is not the origin of any products that contain microbial biotech-derived food ingredients including alcoholic beverages, dairy products, and processed products.
- c) **IMPORTS:** The GCC-4 imports alcoholic beverages, dairy products, and processed products which may contain microbial biotech-derived food ingredients. The largest portion of UAE imports is consumer oriented.
- d) **TRADE BARRIERS:** N/A

PART H: POLICY

- a) **REGULATORY FRAMEWORK:** Governments in the GCC-4 have only recently begun to adopt regulations around plant biotechnology. There are currently no regulations in place concerning microbial biotechnology.
- b) **APPROVALS:** N/A
- c) **LABELING AND TRACEABILITY:** There are currently no labeling or traceability requirements on products derived from or containing microbial biotechnology.
- d) **MONITORING AND TESTING:** N/A
- e) **ADDITIONAL REGULATORY REQUIREMENTS:** N/A
- f) **INTELLECTUAL PROPERTY RIGHTS (IPR):** N/A
- g) **RELATED ISSUES:** N/A

PART I: MARKETING

- a) **PUBLIC/PRIVATE OPINIONS:** There is currently little public awareness around microbial biotechnology or its use in the food sector.
- b) **MARKET ACCEPTANCE/STUDIES:** N/A

Attachments:

No Attachments