USDA Foreign Agricultural Service
GAIN Report
Global Agricultural Information Network

Required Report - public distribution

Date: 11/7/2016

GAIN Report Number: MO1610

Morocco

Agricultural Biotechnology Annual

2016

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Report Highlights:
Agricultural biotechnology continues to be a politically sensitive topic in Morocco. Neither plant nor animal derived from biotechnology is being produced commercially in Morocco. While Morocco imports genetically engineered (GE) products for use in the animal feeds sector, no GE products for human consumption are allowed to be imported. In 2008, Morocco circulated a draft law to regulate the introduction, use, and marketing of biotech products, but the draft was subsequently withdrawn for revision in 2011, without any action since. FAS/Rabat continues to work with Moroccan institutions to build their biotechnology research capacity and enhance bilateral cooperation on biotechnology issues of mutual interests.

Section I. Executive Summary:

Morocco neither produces nor allows importation of agricultural products derived from biotechnology for human consumption. Notwithstanding, biotech commodities such as GE corn, soybeans and soybean meal may be imported for animal feed.

Agricultural biotechnology is a politically sensitive topic in Morocco as many negative perceptions have spilled over from Europe, Morocco's close neighbor and trading partner. Morocco's heavy reliance on the EU market as the principal destination for its agricultural exports has instilled a reluctance among policy makers and producers to accept biotechnology products. The scientific community in Morocco is relatively advanced and clearly understands that biotechnology has much to offer the developing world, but the application of science-based public policy remains a challenge. Although there is a National Biosecurity Committee (NBC) that was officially formed in April 2005, there is currently no legal framework for biotechnology in Morocco.

In 2008, Morocco circulated a draft law to regulate the introduction, use and marketing of biotech products. However, the law was dismissed in 2011 with no further updates. Morocco tolerates biotech products for use in its animal feed sector, but bans genetically engineered (GE) products for human consumption.

In April 2011, Morocco ratified the Cartagena Protocol on Biosafety. The ratification of the protocol, which entered into effect in July 2011, served as a catalyst for Morocco to publish its National Biosafety Framework in February 2013. Since that time, however, the legislation has languished and is no longer a government priority. According to the Moroccan constitution, the international treaties and protocols to which Morocco is a signatory supersede national legislations.

On December 9, 2011 Morocco signed the Nagoya Protocol on Access and Benefit-sharing. Morocco adheres to the Protocol strategic plan effective 2011-2020, which represents its expression of explicit consent at the international level. To date, the Government of Morocco (GOM) has not ratified the Protocol, and it has not gone into effect.

Imports of biotech seeds for planting are not allowed into Morocco, and all seed imports require a "GMO-free" certificate for customs clearance.

Morocco does not use GE technologies or cloning in its livestock production.

Acronyms used in this report:

BSE	Bovine spongiform encephalopathy
Codex	Codex Alimentarius
DCFTA	Deep and Comprehensive Free Trade Agreement
EU	European Union
FMD	Foot and mouth disease
FTA	Free Trade Agreement
INRA	National Agronomic Research Institute
GOM	Government of Morocco
GE	Genetically Engineered
NBC	National Biosecurity Committee
ONSSA	National Office for Food Safety
IPPC	International Plant Protection Convention

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Section II. Plant and Animal Biotechnology

CHAPTER 1: PLANT BIOTECHNOLOGY

PART A: Production and Trade

a) Product development:

Morocco has developed no biotechnology crops, seeds or other propagation materials, to date. There are, nevertheless, several Moroccan institutions engaged in GE research projects. The National Agronomic Research Institute (INRA), for example, has been actively seeking solutions through biotechnology to issues affecting widely cultivated crops in Morocco. In particular, developing fava beans resistant to orobanche (broomrape); date palms resistant to Fusarium; and wheat resistant to drought.

b) Commercial production:

Morocco does not commercially cultivate any biotech crops or biotech seeds for production.

c) Exports:

Morocco does not export GE crops or products that contain GE materials to the United States or any other country.

d) Imports:

Morocco allows importation of GE products for animal feed, but prohibits imports of such products for human consumption. The share of GE material in animal feed shipments is not registered. Morocco's livestock production is dependent on imported soybeans, soybean meal and corn as a feed protein source. In 2015, Morocco imported from the United States the equivalent of $52 million of soybean meal, $41 million of soybeans, $23 million of distiller's dried grains with soluble (DDGS), $8.7 million of corn gluten feed and $1.4 million of corn feed. The United States is the main supplier of corn gluten, soybean meal and DDGS to Morocco.

Imports of planting seeds with biotech events are not allowed into Morocco. The mandatory registration of any new planting seeds with the Ministry of Agriculture addresses GE presence, and no GE varieties will be approved. To our knowledge, no U.S. seed exporter has tried to register GE seeds. Over the last few years, Morocco has imported about $65 million worth of planting seeds annually, 90% of which comes from Europe, and just 3% from the United States. In 2015, Morocco imported about $1.6 million of planting seeds from the United States; this represents about 3 percent of the Moroccan market. Imported U.S. planting seeds are mainly vegetables, watermelon, alfalfa, tomatoes and grass seeds.

e) FOOD AID:

N/A (Morocco is neither a recipient nor provider of food aid.)

f) TRADE BARRIERS: Morocco does not allow importation of GE commodities for human consumption, although it permits some GE commodities for animal feed.

PART B: Policy

a) Regulatory Framework: The National Office for Food Safety (ONSSA) is the authority in charge of implementing regulations and agreements related to biotechnology. The Ministry of Water and Environment is the focal point for environmental safety issues. Morocco does not have a legislative or regulatory framework related to biotechnology, either for domestic production or imports of GE commodities. In 2008, a draft law relevant to the introduction, use, and marketing of biotech products was sent by the Ministry of Agriculture to various ministries for review. After circulating among government agencies for over two years, the draft was rescinded in 2011, for further revision by the Ministry of Agriculture. It does not appear that establishing a biotechnology regulatory framework is currently high on Morocco's political agenda.

i. Background and Current Situation

Morocco is still using an internal memorandum, dated August 1999, as the legal foundation on which the Ministry of Agriculture bases its claim that GE products are officially banned from Morocco. This two paragraph memo, signed by subordinates from the Ministry of Agriculture, was issued at a time when various food safety and health related issues (GE, BSE, Dioxin, FMD, etc.) were dominating headlines in Europe. The memorandum imposes a blanket prohibition on imports of biotechnology products and includes no details on the product coverage, certification, testing, or threshold levels.

This memo initially raised concerns among agricultural and food importers because of the uncertainties of its implementation. The memo also added significant risk for traders, as it could be used at any time or sporadically. Nevertheless, concerns have diminished over time as there has been no mention of the memo for many years now. Moroccan imports of biotech commodities such as corn, soybeans and soybean products have entered undisrupted since 2001.

ii. National Biosafety Committee (NBC)

In October 2011, ONSSA became the competent government authority in charge of implementing regulations and agreements related to biotechnology; formerly the function of the National Biosafety Committee (NBC). Consequently, the role of the NBC has significantly diminished over the last five years. The NBC was created in April 2005 to provide counseling on the use, handling, transportation, import, distribution and marketing of biotech organisms. The responsibilities of the NBC encompass national policy, risk assessment, legal framework, and research.

iii. Concern about the EU

Moroccans tend to be more exposed and aligned to the European position—particularly French—than to the United States' position on many issues. Political sensitivities in Europe (re. food safety of biotech products, dioxin, BSE, FMD, etc.) tend to regularly spillover to Morocco due to close historical ties to Europe; Morocco being a former French Protectorate. In fact, Morocco and the European Union (EU) began negotiations for a Deep and Comprehensive Free Trade Agreement (DCFTA) on March 1, 2013. EU regulations on biotech products favor imports of non GE products. Morocco is expected to continue aligning its regulation with the EU.

Morocco's biggest challenge in biotechnology is the misconception that acceptance of biotechnology may negatively affect demand in the EU for Moroccan agricultural exports, especially fruits and vegetables. The leading agricultural exporting groups in Morocco, (through which many of the new technologies including Genomics, Plant biotechnology and Tissue Engineering made their way to Moroccan farms) which would be the best potential users of biotech seeds, are sensitive to biotech issues and reflect the concerns of their European customers. On several occasions, European customers and consumer groups have requested from their Moroccan suppliers that the exported products be free from GE products (vegetable oil in canned sardines, "GMO free" tomatoes, etc.).

The European Union has approved more than 50 transgenic products for import. Currently five Member States cultivate GE corn. Morocco's proximity to the EU makes it highly dependent on the EU as a market for Moroccan agricultural exports. The EU has imposed many restrictions with regard to biotechnology, which Morocco must abide by because of the importance of the EU market. Any change in Europe would have a huge impact on Moroccan decision makers with regard to the future of biotechnology in Morocco.

Morocco's decree # 1-69-169 dated July 25, 1969 is the basic law regulating seed production and marketing. This law instituted a seed varieties catalogue with two lists. Morocco's reluctance to approve biotech seeds is driven by EU importers' fear of biotech products. The two lists are available at the following link: http://www.onssa.gov.ma/onssa/fr/doc_pdf/dahir_1-69-169.pdf

b) Approvals: The Moroccan Government follows the advice of the National Office for Food Safety (ONSSA), although there are no approved GE plants.

c) Stacked or Pyramided Event Approvals: Not Applicable

d) Field Testing: ONSSA does not allow field-testing of GE crops. However, Morocco's main agronomical research institute (INRA) previously expressed interest in doing field-testing of GE crops.

e) Innovative Biotechnologies: Morocco has not yet determined the regulatory status of innovative biotechnologies in plants or plant products. There is no discussion of these technologies.

f) Coexistence: Not applicable

g) Labeling: GE labeling is not required. Nevertheless, for products that are used directly for human consumption (especially canned corn) importers print "BIOTECHNOLOGY Free" on the label to avoid being asked to provide a "BIOTECHNOLOGY-Free" certificate. A product that is labeled "contains BIOTECHNOLOGY products" is unlikely to clear customs.

h) Monitoring and Testing: Testing for GE products occurs, though not systematically, and remains limited to the point of entry.

i) Low Level Presence (LLP) Policy: Not applicable

j) Additional Regulatory Requirements: Not applicable

k) Intellectual Property Right (IPR): Morocco has a legislative framework to address plant and plants protection, but does not apply it to biotech crops. In 1997, Morocco issued its basic law # 9/94 for IPR and plant varieties protection. Morocco enforced law #9/94 on October 28, 2002 with the publication of various implementing orders.
http://www.onssa.gov.ma/fr/index.php?option=com_content&view=article&id=200&Itemid=138

The Moroccan Ministry of Agriculture has published a list of 76 species for which the breeders' rights can be protected. The list outlines the elements of each species, that can be protected. see link:http://www.onssa.gov.ma/fr/images/controle_semences/bulletin/bulletin-protection-des-obtentions-vegetales-n24-septembre-2015-onssa-dcsp.pdf

A GAIN report on IPR in Morocco is available in at the following link:
http://apps.fas.usda.gov/gainfiles/200301/145785132.pdf

l) Cartagena Protocol Ratification: Morocco signed the Cartagena Protocol on Biosafety on May 25, 2000. The Moroccan Parliament ratified the Protocol on April 25, 2011, and it entered into force on July 24, 2011. The Ministry of Energy, Mining, Water and Environment is the focal point, which serves as a liaison for information and compliance. In October 2011, ONSSA took charge of the implementation of the Cartagena protocol. On February 15, 2013, Morocco published its National Biosafety Framework. Morocco has yet to establish the legal framework to draw upon the benefits of this protocol. Morocco's National Biosafety Framework is available under the link:
http://bch.cbd.int/about/countryprofile.shtml?country=ma

On December 9, 2011 Morocco signed the Nagoya Protocol on Access and Benefit-sharing. The Moroccan Government Council and the Ministerial Council approved the Protocol on March 22 and June 17, 2012, respectively. Morocco adheres to the Protocol strategic plan effective 2011-2020, which represents its expression of explicit consent at the international level. The Moroccan Parliament has approved the Protocol, but the Government of Morocco (GOM) has yet to ratify it; thus Protocol has not gone into effect.

m) International Treaties/Fora: Morocco participates and votes, when necessary, in international treaties and conventions such as the International Plant Protection Convention (IPPC), or the Codex Alimentarius (Codex). Morocco's position on biotechnology is primarily influenced by the EU, its largest trading partner.

n) Related Issues: Not applicable

PART C: Marketing

a) Public/Private Opinion:

i) **Consumer Organization:** The National Federation of Consumers Associations (FNAC) has twenty associations, most of which are relatively inactive in the biotechnology segment. To our knowledge, none of these organizations have explicitly and specifically expressed their position on biotechnology issues. Regular spillovers from the EU media tend to provide negative perceptions about biotechnology to leaders of consumer associations. FNAC members are listed under the following link: http://www.khidmat-almostahlik.ma/portal/fr/acteurs/association-consommateur?field_siege_adc_value=&page=5

ii) **Government Positions**: The Government of Morocco is still forming its position on biotechnology. The Ministry of Agriculture has the benefit of a number of U.S.-educated scientists, including at high levels, who have the most experience with the subject, amd are most aware of the potential benefits to Morocco. The Ministry of Agriculture is also realistic about Morocco's dependence on agricultural imports, particularly with regard to feed protein for the livestock sector. The Ministry of Environment has responsibility for biodiversity and therefore is another key Ministry in decisions affecting biotechnology. In this Ministry, as well as in the Ministry of Health and the Ministry of Higher Education and Research, there are individual scientists who understand the value of the technology, but the GOM's position is not yet officially formed.

b) Market Acceptance:

i) **Society at Large:** The average, educated Moroccan consumer tends to get most of the information about biotechnology from the local Arabic and French newspapers or the widely accessible European (French) and Middle-Eastern satellite TV channels. There is very little exposure to English language channels, including U.S. channels. Occasionally, articles on biotechnology are published locally by non-specialized journalists and newspapers, and they tend to be negative and reflect the fears and concerns raised by the European media.

ii) **Local Food and Feed Industry:** Unless local food processing companies are involved in exporting to the EU, and are required to fulfill traceability requirements, concerns about the use of biotechnology ingredients is believed to be small. If the issue of biotechnology is raised in public, there is a good chance that the government and food processors will be forced to take measures to reassure consumers. While currently tolerated by the government for animal feed, food products of GE crops (corn starch, soya flour, etc.) will likely not be admitted for food use

if explicitly labeled as "containing BIOTECHNOLOGY products."

iii) **Free Trade Agreement:** There is a risk that, if aggressively pushed, local consumers might perceive biotechnology products as a direct result of the FTA with the United States; which would be against the United States' general policy to promote free trade in Morocco.

iv) **Research:** Although there is relatively well-developed biotechnology research in Morocco at various universities, the area of developing transgenic plants has not yet been tapped. Currently biotechnology research includes areas such as tissue culture, vaccine production, fermentation, gene markers, etc. Interest in the technology is high in the research community. INRA is actively seeking solutions, through biotechnology, to issues affecting widely cultivated crops; namely, fava beans resistant to orobanche (broomrape), date palm resistant to Fusarium, and wheat resistant to drought.

c) Marketing Studies: Not applicable

CHAPTER 2: ANIMAL BIOTECHNOLOGY

Part D: Production and Trade

a) Product Development: No GE animals or animal cloning is developed in Morocco.

b) Commercial Production: There are no livestock clones or GE animals or products for commercial use or production in Morocco.

c) Biotechnology Exports: N/A

d) Biotechnology imports: N/A

Part E: Policy

a) Regulation: No legislation or regulation related to the development, commercial use, and or import of GE animals or cloned animal product is in place. ONSSA is the authority in charge of animal biotechnology.

b) Labeling and traceability: Morocco does not allow the production, sale, or importation of GE or cloned animals.

c) Trade Barriers: No country-specific legislation

d) Intellectual Property Rights (IPR): Not Applicable

e) International Treaties/FORA: Morocco is a member of Codex Alimentarius, the World Organisation for Animal Health (OIE).

Part F: Marketing

a) Public/Private Opinions: Not Applicable

b) Market Acceptance: Not Applicable