

THIS REPORT CONTAINS ASSESSMENTS OF COMMODITY AND TRADE ISSUES MADE BY  
USDA STAFF AND NOT NECESSARILY STATEMENTS OF OFFICIAL U.S. GOVERNMENT  
POLICY

Required Report - public distribution

**Date:** 8/1/2014

**GAIN Report Number:**

## **Senegal**

### **Agricultural Biotechnology Annual**

#### **2014 Francophone West Africa Biotechnology Report**

**Approved By:**

Joani Dong, Regional Agricultural Attaché, West Africa

**Prepared By:**

Fana Sylla, Agricultural Specialist

**Report Highlights**

Since January 2014, the Burkinabe *National Biosafety Agency* (NBA) has been converting the status of the organization to a technical and scientific public institution (EPSET) for greater autonomy. Legal texts have been submitted to parliament for adoption. The *Burkinabe National Institute of Environment and Agricultural Research* (INERA) would like to conduct confined field trials on Bt cowpea with two local varieties. If authorized by the NBA, research could start this 2014/2015 agricultural campaign. Monsanto research on Bolgard II Roundup ready flex cotton, which started in 2006, is undergoing confined field trials. The company will start developing hybrid corn later in 2014. WAEMU, CILSS, and ECOWAS met in Mali in July 2014 and arrived at a consensus on the common regional biosafety law. A final draft could be issued by the end of 2014. In April 2014, Senegal finally assigned a new director to head the National Biosafety Authority (NBA). In May 2014, the Government of Cote d'Ivoire adopted a bill to authorize correction of an error made on the Cartagena Protocol draft law seven years ago.

## Section I: EXECUTIVE SUMMARY

### Section II: PLANT AND ANIMAL BIOTECHNOLOGIES

#### CHAPTER 1: Plant Biotechnology

PART A: Production and Trade

PART B: Policy

PART C: Marketing

PART D: Capacity Building and Outreach

#### CHAPTER 2: ANIMAL BIOTECHNOLOGY

### Section I. EXECUTIVE SUMMARY

A year after the President of Burkina Faso signed the amended biosafety law in February 2013, the National Biosafety Agency (NBA) started the process of registering the agency as a scientific and technical public institution in January 2014 to be more autonomous in decision making and flexible to distribute tasks among ministries. Documents as well as twenty legal texts have been submitted to the parliament for adoption.

A national biosafety laboratory was built and equipped with new instruments, and the NBA recruited staff.

The *Government of Burkina Faso* (GOBF) continues to support Bt cotton production. It is anticipated to reach 80 percent of Bt cotton for MY 2014/15 compared to 69 percent in MY 2013/14.

Monsanto, which opened a regional office in 2013 in Bobo-Dioulasso (Burkina Faso), continues to conduct research through the *National Institute of Environment and Agricultural Research* (INERA) on Bt cowpea and hybrid corn. Bt cowpea *Confined Field Trials* (CFTs) could start during 2014/15 agricultural campaign if authorized by the NBA. About 40 variety of hybrid corn will be tested in 2014 throughout the country.

In July 2014, the three organizations WAEMU<sup>1</sup>, ECOWAS<sup>2</sup>, and CILSS<sup>3</sup> met in Mali to discuss the regional biosafety law. They arrived at a consensus to harmonize positions. Post met with the WEAMU biosafety program director who believes that a final draft could be issued by the end of 2014.

---

<sup>1</sup> WAEMU (UEMOA) - West African Economic and Monetary Union members includes: Benin, Burkina Faso, Cote d'Ivoire, Guinea Bissau, Mali, Niger, Senegal, and Togo.

<sup>2</sup> ECOWAS members include: Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo

<sup>3</sup> CILSS members include Benin, Côte d'Ivoire, Gambia, Guinea, Guinea-Bissau, Mauritania, Senegal, Togo, Burkina Faso, Mali, Niger, Chad Cape Verde

In April 2014, the *Government of Senegal* (GOS) nominated a new Executive Director for the *National Biosafety Authority* (NBA) to replace the former one who resigned in September 2012. Post and FAS Washington are working with the International Food Information Council (IFIC) to organize a two and a half day regional communication workshop for policy makers and media in August 19-21, 2014 to help them better understand and articulate agricultural biotechnology. Seventy participants from WAEMU countries, four speakers from the States, and five from West Africa are expected to take part to the event. Cartagena Protocol focal points from nine West African Countries are expected to attend.

*For more information on the national biosafety law, please visit the previous GAIN reports.*

## **Section II. PLANT AND ANIMAL BIOTECHNOLOGY**

### **Chapter 1: Plant Biotechnology**

#### **Part A: Production and Trade**

##### a. PRODUCT DEVELOPMENT

Bt cotton production in Burkina Faso continues to be supported by the government of Burkina Faso (GOBF) and cotton producers. In MY 2013/14, 69 percent of the cotton production was Bt cotton. In MY 2014/15, farmers forecast planting 80 percent of Bt cotton, representing 11 percent increase.

Monsanto has been issued a new authorization from the NBA to continue commercialization of Bt cotton for ten years (2013-2023). Meanwhile, the NBA will perform socio-economic studies on Bt cotton.

The National Institute for Agricultural and Environmental Research (INERA) continues work on developing Bt cowpea resistant to the Maruca pod borer. The research institute requested an authorization by the NBA to start confined field trials (CFTs) with two good local varieties containing Bt gene. The NBA told Post it will study the request and if approved, INERA could start trials during 2014/15 agricultural campaign.

INERA has conducted a gene flow study on bio-fortified sorghum, but research has not started yet.

Monsanto opened a new office to cover West Africa in September 2013 in Bobo-Dioulasso and recruited new employees. The company commercializes Bt cotton seeds through cotton companies. Foundation seeds are produced in partnership with INERA. Monsanto started developing hybrid corn in 2014 and experimentation should start during the MY 2014/15 campaign supported by \$2.6 million from WAEMU. The best corn varieties will be selected. Monsanto believes that they could start commercialization of hybrid corn within two years. Monsanto also started experimenting with Bt cotton in Ghana and Nigeria and may proceed to Benin and Togo. The Bolgard II with Roundup ready flex cotton has been tested since 2006 in Burkina Faso. Tests remain at the CFTs level.

SOFITEX, the largest cotton company in Burkina Faso, aims to obtain certification of its seed

laboratory by the International Seed testing Association (ISTA) with the assistance of Monsanto.

b. COMMERCIAL PRODUCTION

Bt cotton is the only crop commercialized in Burkina Faso and Francophone West Africa. The next GM crop will probably be Bt cowpea.

SOFITEX is planning to produce enough Bt seeds to sell to other cotton companies and to neighboring countries such as Ghana and Nigeria which express a demand. Togo and Benin may be the next customers in the longer run.

Bt Cotton production has increased by 11 percent from a low of 69 percent in MY 2013/14 to 80 percent in MY 2014/15. This is the maximum percentage allowable as 20 percent must be left for conventional cotton. There was no shortage of seeds.

c. EXPORTS:

SOFITEX is planning to supply Bt cotton seeds to neighboring countries produced by irrigated systems. The textile cotton company will plant about 2,000 hectares of Bt cotton seeds.

d. IMPORTS

In francophone West Africa, Senegal imports 80 percent of its food, and part of it could contain GE product. In 2012, Senegal imported 22,913 MT of soybean meal in 2013. Argentina supplies 75 percent of the market followed by the United States (25 percent).

e. FOOD AID RECIPIENT COUNTRIES

Of the francophone West African countries, Senegal, Mali, and Burkina Faso are food aid recipients.

**Part B: Policy**

a. REGULATORY FRAMEWORK

**Regional Initiatives**

Post met with the WAEMU biosafety regional coordinator to inquire about the status of the regional ECOWAS/WAEMU biosafety framework. Since experts met in Abuja in 2012, the three regional organizations CILSS, WAEMU, and ECOWAS have been working to harmonize their positions

regarding the draft of the regional biosafety law. Discordance was mainly on the repair and reparation in case of damage, and on intellectual property. After two years of discussions, the organizations finally met in Bamako and arrived upon a consensus in July 11, 2014. The law will be readjusted accordingly and adopted by the three entities. The regional coordinator hopes to see the process completed by December 2014, and ECOWAS will likely be the implementing body.

## **Burkina Faso**

As mentioned, Burkina Faso amended its biosafety law which was signed by the President in February 2013. What distinguishes this amended law from the previous one is: the new law does not address derived products; the strict liability sanction with imprisonment has been removed; and the paragraph on damage, redress, and responsibility determine the liability of all actors and how redress should be conducted.

In January 2014, the NBA started the process of changing the status of the agency. It will be transformed into a technical and scientific public organization (EPSET) in order to be administratively independent, allowing it to take sovereign decisions and better manage administrative tasks among government institutions. All the necessary documentation was sent to the parliament for adoption including twenty legal texts.

Burkina Faso built a national biosafety laboratory which has been equipped with new instruments. Staff is being recruiting and will likely probably need practical training.

The next GM crop in Burkina Faso could be Bt cowpea for which authorization for confined field trials has been submitted to the NBA. Tests could start this 2014/15 agricultural campaign.

The NBA issued a new authorization to cover the period of 2013-2023 to Monsanto to continue the commercialization of Bt cotton. During this period, the NBA will continue to consider socioeconomic impacts.

## **Mali**

There has been no development on Malian Biosafety activities except for the signature of the biosafety law in December 2008 and the decree to adopt GE testing procedures in December 2010.

The *Malian National Rural Economy Institute* (IER)'s Board of Directors authorized research on GE cotton in collaboration with *Compagnie Malienne des Fibres Textiles* (CMDT) in 2011, but nothing has been done yet. Cotton producers have expressed willingness to plant Bt cotton. However, the Government will need to revise its biosafety law to better facilitate development including trade and research of GM crops.

The African Biosafety Network of Expertise (ABNE) is planning to organize a Workshop on "Key Considerations for Confined Field Trials of GM crops" this year. Mali is involved in the genetically modified mosquitoes "project which should start this year, and recently, in a new regional project for a

"Plea for the Adoption and Safe Management of Biotechnology in West Africa funded by USAID under the "Feed the Future" initiative". This regional project will assist participating countries to build regulatory systems so that research biotech crops can be conducted.

## **Senegal**

Senegal appointed a new head of the National Biosafety Authority (NBA) in April 2014 to replace the former one who resigned in 2012. His priority is to increase the visibility of the NBA by creating a logo, to revitalize the NBC and NBA, and to reinforce collaboration with the biosafety laboratory at the University of Cheikh Anta Diop (UCAD) for control and inspection in biotechnology. He also wants to sensitize the Senegalese authorities to move forward.

There are still eight ministerial orders that need to be written to complement the law. It is one of the NBA priorities, and it has decided to issue a tender to have them written by experts. The NBA needs help in improving communication in biosafety and biotechnology. Post and USDA-FAS Washington will assist the NBA to organize a regional communication workshop in August for regulators and media in partnership with the International Food Information Council (IFIC).

In the long run, the NBA would like to revise the actual law and align to other West African countries.

## **Togo**

Since 2013, Togo is revising its biosafety law to ensure it is in line with the Nagoya protocol and more practicable. A draft has been adopted during a stakeholders meeting two months ago. The Government of Togo, which is supporting the process, is now drafting implementing regulations. An internal committee including researchers and government bodies has been created to monitor the process of revising the law and make sure the road map is followed. Togo is interested to develop Bt cowpea and Bt cotton.

## **Cote d'Ivoire**

In 2007, the President of Cote d'Ivoire could not sign the Cartagena Protocol due to an error on the word "biotechnical" instead of "biotechnology on the draft law." Seven years later, the council of ministers adopted a draft law in May 2014 which authorized making a correction that attests to the Government of Cote d'Ivoire (GOCI) willingness to adhere to the Cartagena Protocol on biological diversity. The declaration stated that "the accession of the country to this instrument appears increasingly urgent in light of the expansion of transgenic crops in the world and in the WAEMU countries." Post met with the Director of the National Laboratory of Biotechnology in Cote d'Ivoire who mentioned that a previous biosafety law was submitted to the GOCI for approval in August 2012. It has since been revised in July 2014, and resubmitted to the Ministry of Environment for approval by the parliament. To get an early start, the Ministry of Agriculture requested proposals to draft a National Strategy of Development on Biotechnology and Biosafety. It was awarded six months ago to the French research center Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD). It will conduct a feasibility study on genetically modified cotton in Cote d'Ivoire to determine its feasibility. Post was told that the study had been completed, but not yet

released.

The next GM crop in Cote d'Ivoire could be cassava, resistant to the mosaic virus and papaya, resistant to ringspot virus.

b. APPROVALS

The only country in francophone West Africa that has approved a GE crop for cultivation is Burkina Faso. Bt cotton, developed by Monsanto in collaboration with INERA, is the only GE crop approved and registered in Burkina Faso for cultivation.

c. FIELD TESTING

Only Burkina Faso allows field testing of GE crops.

Bt cowpea resistant to the *Maruca Vitrata* pod borer causes significant yield loss to the cowpea crop in West Africa. The Bt gene has been introduced to local varieties of cowpea in Burkina Faso. The National Research Institute (INERA) has submitted an authorization to conduct Confined Field Trials (CFTs) on two selected varieties. Tests could start in 2014/015 agricultural campaign.

Monsanto through INERA will start hybrid corn field tests for 42 varieties in 2014. Tests will be performed in different stations throughout the country. The selected variety could be commercialized within two years.

d. STACKED EVENT APPROVALS

N/A

e. ADDITIONNAL REQUIREMENT

Seed registration is required as well as re-registration in Burkina Faso.

f. COEXISTENCE

N/A

g. LABELING

See 2013 West Africa francophone biotechnology report for Burkina Faso, Senegal, and Mali.

<http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Agricultural%20Biotechnology%20Annual%20Dakar%20Senegal%207-29-2013.pdf>

h. TRADE BARRIERS

There are no trade barriers. Importers should follow the regulation based on the country biosafety law.

i. INTELLECTUAL PROPERTY RIGHTS (IPR)

See previous GAIN report

[http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Agricultural%20Biotechnology%20Annual%20Dakar\\_Senegal\\_7-29-2013.pdf](http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Agricultural%20Biotechnology%20Annual%20Dakar_Senegal_7-29-2013.pdf)

j. CARTAGENA PROTOCOL

**Mali** ratified the Cartagena protocol in 2002.

**Senegal** ratified the Cartagena Protocol on Biosafety in October 2003.

**Togo** ratified the Cartagena Protocol on Biosafety in 2004.

**Cote d'Ivoire** did not ratify the Cartagena Protocol on Biosafety related to the Convention on Biological Diversity due to an error on the word "biotechnical" instead of "biotechnology."

**Burkina Faso** ratified the Cartagena protocol in July 2001.

k. INTERNATIONAL TREATIES/FORA

Mali, Burkina Faso and Senegal are members of international organization i.e. FAO, Codex Alimentarius.

l. RELATED ISSUES

All biotechnology research in Burkina Faso is related to Bt cotton and Bt cowpea for pest resistance and nutrition and bio fortified sorghum food security.

m. MONITORING AND TESTING

WAEMU countries received laboratory equipment to monitor and test for GE products. However, tests are not active yet.

n. LOW LEVEL OF PRESENCE POLICY

Countries do not have a policy on low level of presence.

### **Part C: Marketing**

Among all Francophone West African countries, Bt cotton is the only commercialized crop. It is grown only in Burkina Faso where government and farmers support the initiative.

- a. *Market acceptance:* The president of Burkina Faso supports Bt cotton, and cotton farmers have increased Bt cotton planting from 69 percent in MY 2013/14 to 80 percent in MY 2014/15.
  
- b. *Public/private opinions:* The NBA organizes communication workshop to sensitize farmers, students, and all actors including regulators, government members, and parliament about biotechnology and biosafety.
  
- c. *Marketing studies:* Post is not aware about any marketing studies of GE Plants.

### **Part D: Capacity Building and Outreach**

- a. WAEMU organizes capacity building programs on:
  - Training laboratory staff for new equipment donated by the organization for detection, analysis, and dosage methods. Eight national laboratories will be working collaboratively. The one in Burkina Faso will serve as the reference laboratory.
  - Training the trainers (10 persons per country member) on the regional biosafety law (regulations and directives); communication, sensitization, and information in biosafety and biotechnology issues

The Burkinabe NBA has many capacity building programs on its agenda including:

- Sensitizing producers, associations, and government on the amended biosafety law (7 regions already received training out of 13)
- Training high school and university students in 4 regions in 2014 year on biosafety and biotechnology
- Training phytosanitary agents, scientific police, forestry agents, and customs at the

borders for a better implementation of the biosafety law in term of imports of GE products. They will learn techniques of detection of GE crops

- b. Post will be facilitating a two-and-a-half day communication workshop under the initiative and funding of the USDA – FAS Office of Agreements and Scientific Affairs, New Technologies and Production Methods Division. The workshop will be organized by the International Food Information Council (IFIC) in partnership with the Senegalese NBA. It will be a regional workshop with 70 participants including all national focal point from WAEMU countries and international speakers taking place from August 19-21, 2014. The third day is dedicated to the media to train them on how to better communicate in biotechnology and biosafety.
- c. The NGO Catholic Relief Services (CRS) is implementing a \$10.3 million USDA project on organic cotton in Burkina Faso. The project started with a baseline study in 2014 and aims to:
- Increase organic and fair trade cotton production, and rotational crops, by improving farm management
  - Build capacity of producer groups and cooperatives
  - Establish organic seed multiplication and management systems
  - Expand trade of organic and fair trade cotton by improving post-production processing and handling, facilitating agriculture lending
  - Improve market linkages
  - Promote women's participation in the organic cotton sector and upholding standards to prevent child labor.

The project is anticipated to end in 2018

## Chapter 2: Animal Biotechnology

INERA, in Burkina Faso, has requested authorization to start working on *Metarhizium anisopliae*, a fungi which has demonstrated effectiveness against anopheles larvae to help fight malaria.

Mali is also involved in the genetically modified mosquito project which could start in 2014.

## References

- African Centre for Biosafety – <http://www.biosafetyafrica.net>
- African Union - New partnership for Africa's development (AU-NEPAD)  
<http://www.africa-union.org/root/au/AUC/SpecialPrograms/nepad/nepad.htm>  
<http://www.nepad.org>

- Convention on Biological Diversity – <http://www.cbd.int/biosafety>
- Interstate Committee for Reducing Desertification in the Sahel (Comité permanent Inter-Etats de Lutte contre la Sécheresse dans le Sahel) - <http://www.cilss.bf>
- Cochran program <http://www.fas.usda.gov/icd/cochran/cochranarchive.asp>
- African Intellectual Property Organization (OAPI) <http://www.oapi.wipo.net>
- West and Central African Council for Agricultural Research and Development CORAF/WECARD - <http://www.coraf.org>
- West African Economic and Monetary Union (WAEMU) - <http://www.uemoa.int>

## Acronyms

ABNE	African Biosafety network of Expertise
AU- NEPAD	African Union New Partnership for Africa's Development
CFTs	Confined Field Trials
CILSS	Interstate Committee for Reducing Desertification in the Sahel
CMDT	Compagnie Malienne pour le Développement des Textiles
CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement
CORAF/WECARD	West and Central African Council for Agricultural Research and Development
CRS	Catholic Relief Services
ECOWAS	Economic Community of West African States
EPSET	Technical and Scientific Public Institution
FAS	Foreign Agricultural Service, the Agency that represents USDA overseas
GE	Genetically Engineered
GOBF	Government of Burkina Faso
GOS	Government of Senegal
IER	Institut d'Economie Rurale
IFIC	International Food Information Council
INERA	Institut de l'Environnement et de Recherches Agricoles
ISTA	International Seed Testing Association
NBA	National Biosafety Authority
NBC	National Biosafety Committee
OAPI	African Intellectual Property Organization
SOFITEX	Société Burkinabé des Fibres Textiles
UCAD	University of Cheikh Anta Diop
UEMOA/WAEMU	West African Economic and Monetary Union
USDA	U.S. Department of Agriculture

