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USDA Supports Aflatoxin Mitigation Projects in Mozambique

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Sanitary/Phytosanitary/Food Safety

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Report Highlights:

Mitigation of Aflatoxin with Biocontrol in corn and groundnuts is the name of a new Food for Progress project in Mozambique. With USDA and USAID funding totalizing \$1.6 million, the three year project (2013-2016) was officially launched in Nampula on April 15-16, 2013. The project will be implemented by the International Institute for Tropical Agriculture (IITA) in collaboration with local research partners, namely the University of Lúrio (UniLurio), Eduardo Mondlane University (UEM), the Mozambican Ministry of Agriculture, among others.

Executive Summary:

Trade issues associated with aflatoxins in Mozambican groundnuts and maize are only partially documented. The rise in groundnut exports from Mozambique to the European Union (EU) has been accompanied by a rise in the European Union Rapid Alert System for Food and Feed (RASFF) notifications for Mozambican groundnuts since 2007. There is no existing data on the levels of aflatoxin in Mozambique's corn exports or in domestically consumed maize or groundnuts. However, the importance of aflatoxins in Mozambique are illustrated by the high levels of certain types of cancer in the country, the strong links between HIV infection rates and aflatoxin intake, and negative correlations between aflatoxin in the diet and development in children.

General Information:

The goals of the project are to reduce aflatoxin levels in the Mozambican national diet and provide additional ways for farmers, regulators, input suppliers, and exporters to produce, trade and export groundnuts and maize in compliance with aflatoxin standards set by CODEX Alimentarius through the development of a bio-control product, aflasafe-Moz, for aflatoxin mitigation. However, with limited data available on aflatoxin prevalence in maize and groundnut in Mozambique, a strong initial focus will be on mapping the incidence of aflatoxin in both crops. To support the development and registration of aflasafe, which has already proved effective in Nigeria, a training program of national agricultural extension workers in the public and private sector followed by widespread training of smallholders will be carried out. The introduction of aflasafe-Moz will be accompanied by the reinforcement of the use of existing aflatoxin reduction strategies with smallholders through a widespread training program. Other project activities will be the upgrading and equipping of laboratory facilities at UniLurio in Nampula for mycological work and mycotoxin testing.

Project Objectives

The main project objectives are:

- to quantify the incidence of aflatoxin in maize and groundnut, and to estimate population densities and characterize *A. flavus* in at least 3 provinces of northern Mozambique
- to identify, with farmers, the best Mozambican atoxigenic strains for bio-control in maize and groundnut
- to evaluate the effectiveness of the biocontrol product aflasafe-Moz on aflatoxin management in maize and groundnut
- to commercialize aflasafe-Moz, and engage in product stewardship and market development
- to nurture national capacity in aflatoxin research and monitoring
- to create awareness on aflatoxin contamination

Project Outputs

It is expected that the project that will cover three Northern provinces (Nampula, Cabo Delgado and Niassa) should come up with main outputs, namely:

- Scale of the aflatoxin problem in maize and groundnut value chains quantified and *A. flavus*

- characterized in at least 3 provinces of northern Mozambique;
- Effectiveness of aflasafe-Moz in reducing aflatoxin accumulation in maize and groundnut assessed;
 - Bio-control of aflatoxin to reduce maize and groundnut crop contamination deployed
 - Technical capacity of national partners, extension services, farmers and other actors in the maize and groundnut value chain enhanced, for better integrated aflatoxin; and management to minimize contamination, partly using low-cost aflatoxin measuring tools
 - Awareness of stakeholders of the effects of aflatoxin on human and animal health, and procedures to limit aflatoxin contamination and consumption increased.

Project Launching

The two days of project startup workshop brought to the same table all involved stakeholders, including national and local agriculture authorities as well as representatives of the implementing partners. Among visiting guests, Professor Peter Cotty of the USDA-ARS as well as Dr. Ranajit Bandyopadhyay, chief of part at IITA (Nigeria) attended and served as main project speakers. The USAID/USDA-Southern Africa SPS Coordinator, Dr. Solomon Gebeyehu also chaired some opening sessions.

Project Launching Discussion Themes

The two days project launching took participants discussing, among other operational procedures:

- Development of Survey Questionnaire, Survey logistics and Data Analysis;
- Procedures for Sample Collection from Farms and markets;
- Sample Preparation and Analysis;
- The Opportunity for MSc Students;
- Role and Responsibilities for Activities; and
- Impact of Aflatoxin Contamination on Groundnuts Exports to EU.