

# Feed the Future Malawi Improved Seed System and Technologies (Aflasafe Component)

**Donor:** United States Agency for International Development (Prime Sponsor)

**Timeframe:** 2014 – 2018

**Background:** In Malawi, maize represents 90% of the total cultivated land, is grown by 97% of farm households, and accounts for 60% of total calorie intake and 48% of protein consumption. It is also a major source of income for most households. Although there has been an increase in the quantity of maize, it is unclear if there has been a corresponding improvement in its quality and marketability. Groundnut is an important staple and income-generating crop in Malawi, and constitutes the single most important source of dietary protein and oil. Groundnut also has untapped potential to raise farmer incomes, particularly for women who traditionally manage the crop.

Maize and groundnut are most prone to aflatoxin contamination. High doses of aflatoxins cause serious illnesses such as acute liver cirrhosis and death. Chronic exposure is widespread, associated with stunting and leads to negative nutritional and immunological effects, and cancer.

Crops with more than permissible levels of aflatoxin cannot be traded. Malawi has not been able to realize full potential from groundnut exports due to contamination of the crop with aflatoxin. Therefore, controlling aflatoxins in maize and groundnut can create wealth and health in Malawi along the crop value chains.

**Project Summary:** The goal of the project is to improve income and nutritional health of farmer families and generate wealth in the groundnut and maize value chain through aflatoxin mitigation in seven districts in Malawi.

## Project Objectives:

- to quantify the incidence of aflatoxin in groundnut and maize in Malawi;
- to identify, with farmers, the best atoxigenic *Aspergillus flavus* strains for biocontrol; to formulate the best atoxigenic *A. flavus* strains into a commercial product, and engage in product stewardship for market development and local manufacturing; and
- to enhance the technical capacity of national partners, extension services, farmers, and other participants in the crop value chains for incorporating biocontrol as a component of integrated aflatoxin management.

## Output

- scale of the aflatoxin problem in maize and groundnut value chains quantified in over 2500 grain samples of each crop
- atoxigenic strains of *A. flavus* identified from about 5000 isolates for biocontrol of aflatoxins to reduce maize and groundnut crop contamination
- formulate and register the best atoxigenic strains into a commercial product, and engage in product testing, stewardship and market development
- technical capacities of national technical staff, extension services, farmers, and other participants in the maize and groundnut value chains enhanced for incorporating biocontrol as a component of integrated aflatoxin management

**Major Partners :** Malawian Government, Malawi Program for Aflatoxin Control (MAPAC), Common Market for Eastern and Southern Africa (COMESA), Department of Agricultural Research Services (DARS), Department of Extension Services (DAES), and United States Department of Agriculture - Agriculture Research Service (USDA-ARS)

**Target Country:** Malawi

**Crops:** Maize and Groundnut



John Mtefa of DARS examining fungi to identify biocontrol strains of *Aspergillus flavus* from Malawi. (Photo by J. Atehnkeng)