Farmers’ Guide to Management of Aflatoxin in Maize and Groundnuts in Africa

Trainer’s guide

1. Use improved seed varieties
   Plant maize and groundnut varieties recommended in your area and contact extension agents for advice.

2. Source seeds and inputs appropriate for growth conditions
   Obtain seeds for planting and other inputs from a reliable source, such as an agro-dealer. Follow good agronomic practices to grow the crop.

3. Plant on time
   Plant at the right time to avoid crop stressors, synchronise with rainfall patterns for growth, and have enough rain for growth and maturity towards the end of the season.

4. Apply fertilizer and other inputs
   Crops grown under stress are more susceptible to infection by the aflatoxin-producing fungi that cause contamination. Applying fertilizer and other key inputs reduces crop stress.

5. Control insect damage
   Control insects, particularly stem borer, during crop growth. Insects create wounds on the crop that may facilitate fungal infection.

   Sometimes insect attack may completely damage the crop.

6. Remove weeds
   Undertake timely control of weeds to avoid them competing with the crop.

   Weed control can be done manually with a hoe, bull, tractor, or herbicide.

7. Apply Aflasafe at the right crop stage
   The atoxigenic beneficial strains of Aflasafe require moisture to grow, therefore apply Aflasafe after rains, when rains are expected or when the soil is wet.

Pre-harvest recommendations

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1. Harvesting
   Timely harvest of crops limits aflatoxin contamination. Harvest immediately after the crop is mature.

2. Lodging
   Plants should remain erect during harvesting. Maize plants that are fallen on the ground should be lifted up and tied together.

3. Sorting of damaged cobs
   Separate crops from immature, insect damaged or diseased ones to avoid contamination. Damaged crops may have been infected by aflatoxin-producing fungi and may contain high aflatoxin concentrations.

4. Heaping
   Farmers often heap the maize plants in the field and allow for drying. The heaps should remain erect in the form of a cone.

5. Dehusking
   Dehusk the cobs directly into a bag and avoid contact with the soil.

6. Drying
   During drying, sort to remove immature cobs, infected cobs/grains, debris, and broken cobs. Do not dry grains on bare ground either in the field or at home. Avoid crops coming in contact with water/moisture during drying.

7. Sorting during drying
   Do not dry grains with symptoms of infection or diseased along with healthy ones. Separate the healthy cobs from immature, insect damaged or diseased cobs.

8. Determining safe moisture content
   Farmers can test for properly dried maize by cracking kernels between the teeth. If it shatters then kernels are dry. If it is sticky then kernels are not dry.

9. Threshing
   Use well calibrated threshers in order to maintain good grain quality in maize. Do not thresh maize by beating with sticks; this may increase proportions of broken kernels.

10. Storing
    Clean, repair, and disinfect the storage structure before bringing in new harvest. Fumigate the storage structure to control insects and rodents.

11. Transport
    Avoid transportation in uncovered trucks. Transport maize and groundnut in water-proof vehicles to avoid re-wetting of the crop.

12. Sanitation
    Maintain good hygienic conditions during threshing to avoid further contact with soil or contamination by livestock.

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