



THE REPUBLIC OF UGANDA

Ministry of Agriculture, Animal Industry and Fisheries

# BEST PRACTICES TRADERS SHOULD ADOPT DURING TRANSPORTATION, STORAGE, AND MARKETING OF PRODUCE TO PREVENT AFLATOXINS.

## SAVE LIVES!!



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The U.S. Government's Global Hunger & Food Security Initiative



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# Preamble

This booklet provides best practices for handling of aflatoxins-prone foodstuffs by traders (transporters, aggregators, wholesalers, and shopkeepers) to prevent aflatoxin contamination. Aflatoxins are poisonous compounds produced by moulds/fungi when they invade not-well-dried foods like maize, groundnuts, sorghum, soybean, millet, cassava, sweet potatoes, spices, and fish as well as animal feeds if processed from contaminated ingredients like maize and soybean.

These moulds/fungi should be prevented from contaminating foodstuffs and animal feeds because they cause death to humans and animals especially as a result of liver cancer. In children, they reduce growth leading to stunting and kwashiorkor. Generally, the fungi weaken the immune system thus exposing the body to illnesses and hinder effectiveness of medication. In animals, productivity and growth are reduced. As a result, our social and economic status is affected through financial loss and failure to sell produce in national and international markets.

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## TRADERS

### Good practices traders should do before storage:

#### Receive produce with recommended moisture content for storage

- Check moisture content using moisture meter regularly



#### Always check the following before storage:

- Smell
- Moisture content
- Diseased/mouldy and discoloured grains
- Broken kernels
- Soil contaminated grain
- Foreign matter (soil, dust, chuff and stones)
- Insects and insect damaged grain
- Mycotoxin contamination

## Good practices traders should do during storage:

Store sorted, clean, and graded grain only.



- Winnow and sort all the damaged, shriveled, diseased grains and foreign material. to remove bad grains.



Store produce with recommended moisture content in clean, dry environment.



Place and store dried produce in food grade containers such as gunny, plastic or hermetic bags-drums, that will maintain suitable environment and prevent or restrict moisture pick-up and insect/rodent infestation



**Stack produce bags on pallets and off the walls.**



**Periodically redry produce to recommended moisture content during storage.**



Control insects and rodents using recommended storage pesticides.



- Grain should be accessible throughout the storage period for additional treatment if necessary especially where pesticides are to be used.

Apply first-in-first-out principle while storing produce





## Bad practices to avoid during storage:

Do not Store produce above 13.5% moisture



Do not allow produce to be wetted and soaked by rain



**Do not place bags of produce directly on floor or heap produce**



**Do not store produce in torn gunny or plastic bags.**



**Do not pile bagged produce in a store without good aeration.**



**Do not sprinkle water on dry produce during marketing**



## TRANSPORTERS

### Good practices transporters should do:

Protect produce from rain and dust by ensuring that it is correctly packaged in clean bags and covered

Ensure that produce is dried to required moisture content prior to transportation



- Transport produce as soon as possible.
- Use clean vehicles in good mechanical condition to avoid contamination.
- Offload produce as soon as possible, upon delivery.

## Bad practices transporters to avoid:

Do not delay produce during transportation



Do not expose produce to moisture, dust and foreign materials during transportation



## Do not expose produce to rain during transportation



## Do not transport unbagged, poorly bagged produce to avoid spillages



- Do not use vehicles that are dirty and in bad mechanical condition
- Do not offload on bare ground
- Do not mix produce with other products like petroleum containers, pesticides, charcoal etc.

## RETAILERS AND SHOPKEEPERS

### Good practices retailers and shopkeepers should adopt during storage and marketing of produce.

Procure, store and trade in only clean, undamaged and dry produce below 13.5% moisture content.

- Avoid rewetting/moisture pick-up of produce
- Redry produce if suspected to have picked up moisture
- Store produce in new or clean containers/bags well-sealed and placed on pallets (off the floor) and off the walls



- Store and market from clean, dry and well-ventilated premises
- Control insects and rodents
- Apply first-in-first-out principle
- Always purchase new or current season produce

## Bad practices retailers and shopkeepers should avoid during storage and marketing of produce

Do not store produce above 13.5%

Do not expose produce to moisture during marketing (selling while bags are open, common in shops)



Do not place bags directly on floor or heap produce



Do not use, consume or trade grain treated with chemicals before the recommended period



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