

# Management of groundnuts to reduce aflatoxins

## Recognize the problem

Groundnuts can get contaminated with poisons, called aflatoxins. These poisons are produced by several fungal plant diseases. These fungi are soil-borne, and can attack the crop both in the field and after harvest. This can be a problem if a farmer delays harvesting when the crop has already matured. The infected groundnut plants in the field show symptoms of yellowing which can be confused with other diseases. The major loss of quality occurs after harvest when farmers are shelling by hand. The contaminated nut is difficult to recognize but at heavy infestation it becomes greyish-green and is dangerous to humans. It also loses its market value.

Fungi-infested aflatoxin containing groundnuts. (Photo by IITA, CC BY-NC)



## Background

Aflatoxin contamination is a problem for farmers who shell their groundnuts by hand as they use water to soften the pods for easy shelling. This watering process increases the chance of the nuts being contaminated with fungi and aflatoxins. Using a manual groundnut sheller helps to prevent such contamination, thus preserving the quality of the nuts. The sheller is fitted with a sieve which is changed according to the variety of groundnut grown by farmers and is manually operated. It is also portable to support more farmers. Dry conditions are the most important factor to prevent fungal growth.

Groundnut manual sheller in operation. (Photo by IITA, CC BY-NC)



## Management

- Maturity is confirmed by pulling 2-3 plants out of the soil to check some of the nuts. Nuts are opened and checked inside the shells for the presence of dark markings, original seed colour and texture. This shows maturity.
- The harvested plants are sundried for 3 weeks by hanging them on a rack in the field until they show signs of dryness such as darkening of leaves, leaf drop and dry pegs with easy-to-remove pods
- The manual groundnut sheller is fitted with the right sieve for a particular variety and size of groundnut to start shelling
- After shelling, nuts must be stored dry
- No watering of nuts to make them softer is allowed, as fungi may grow. Only directly before eating can nuts be watered, washed, and cooked
- Other measures to reduce fungal diseases and aflatoxins include the use of fungal-resistant varieties and proper land preparation. Crop rotation is difficult because these fungal diseases have many hosts.

Scientific name(s) > *Aspergillus spp.*

The recommendations in this factsheet are relevant to: Zambia



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