

Aspergillus fungal disease and aflatoxins in groundnuts

Aspergillus sp.

	Prevention	Monitoring	Direct Control	Direct Control	Restrictions		
<p>Groundnuts infected with <i>Aspergillus</i> fungi (SCCI)</p>	<ul style="list-style-type: none"> Plant clean certified seeds Dress seeds with a fungicide at planting to prevent infection with the fungal disease (see yellow list) Harvest as soon as the crop reaches maturity, and not later. Remove mechanically/ insect damaged, cracked, strange coloured, or infected nuts from harvest. Do not feed to animals as aflatoxins from the fungi are toxic. Dry the good pods elevated and not on the ground, and until very dry. Spread a tent, and assure air flow. Pack very dry nuts into clean non-damaged polythene sacks. Never do this with slightly moist nuts, as fungi will grow. Rotate with crops like cotton. 	<ul style="list-style-type: none"> This is a fungal disease that produces aflatoxins, which are toxic to humans and animals. Check for discoloured groundnuts and pods that are infected by fungi. Search for greenish-grey or beige powder of the fungus At planting – check for infected seeds and discard if any are found. At harvest – check for and discard mechanically/ insect damaged, cracked or infected nuts. In storage – check for coolness, dryness, airiness, cleanness (no spillages) and water. Rodent proof the storage. Weekly monitor for infected nuts in storage. Check the condition of the bags in storage if they are damaged or not and scope a few seeds/grains from some bags and check for fungi symptoms. Threshold: Any nuts with symptoms need to be removed (see green direct control). 	<ul style="list-style-type: none"> Every few days during drying and every few weeks during storage: Remove mouldy, discoloured, decayed, shrivelled and damaged groundnuts to avoid spreading of fungi. Discard by well-composting on in a compost heap or burying. Do not feed them to animals, as they get the toxins. Never sell infected groundnuts. 	<ul style="list-style-type: none"> Seed dressing at planting with systemic fungicides only little prevents fungal infection of groundnuts, as infections often happen much later. 			
<p>Brownish fungi on pods and groundnuts (photo National Agricultural Research Organisation-UGANDA)</p>						<ul style="list-style-type: none"> Seed dressing can only be done by seed companies or trained personal. Do not treat seeds yourself, as the chemicals are highly concentrated and toxic. Stored and consumed groundnuts should not be treated as the chemicals can be toxic to consumers. When using a pesticide or botanical, always wear protective clothing and follow the instructions on the product label, such as dosage, timing of application, pre-harvest interval, max number of sprays, restricted re-entry interval. Do not empty into drains and water sources. WHO toxicity class II pesticides might not be allowed in local IPM schemes. 	
<p>Green-greyish fungi infection on groundnuts (Photo by National Agricultural Research Organisation-UGANDA)</p>						<ul style="list-style-type: none"> Buy seeds dressed with Thiram for planting. Dithiocarbamate group of pesticides. Buy seeds dressed with Benomyl –based products (such as Benlate and others) Benzimidazole group of fungicide. Has protective and some curative systemic activity. 	<ul style="list-style-type: none"> WHO toxicity class II (moderately acute hazardous); No consumption of the seeds once treated with the fungicide, even not washed. WHO toxicity class U (unlikely to present acute hazard in normal use). No consumption of the grain once treated with the fungicide, even not washed seeds.

Zambia

CREATED/UPDATED: July, 2015

AUTHOR(S): Mundia Silumesii, Seed Certification and Control Institute SCCI (MAL), Lusaka, Zambia. email:

mundiageorge506@gmail.com

EDITED BY: Plantwise

