

No.10-1/2014/OS/CA
Govt. of India
Ministry Of Agriculture
Department of Agriculture & Cooperation

Krishi Bhawan, New Delhi
Dated: 1st January, 2014

To

The Principal Secretary of Agriculture
Government of AP, Assam, Bihar, Chhattisgarh,
Gujarat, Haryana, J&K, Jharkhand, Karnataka, MP, Maharashtra,
Nagaland, Odisha, Punjab, Rajasthan, Tamil Nadu, Nagaland,
Telangana, Tripura, Uttar Pradesh and West Bengal
CMD/MD NSC, NAFED, KRIBHCO, HIL, IFFDC (IFFCO), SFAC

Sub: Bulletin on Minimizing Aflatoxin Contamination in Groundnut-reg.

Sir/Madam

In response to a report of Aflatoxin Contamination in the export consignment of groundnut, an advisory was issued to the States for adopting good agricultural practices vide letter dated 16th October, 2014 to prevent loss from aflatoxin contamination in groundnut. Subsequently, a Brain Storming Session was organized to deliberate on the issue and Directorate of Groundnut Research (DGR), Junagarh was assigned the job of bringing out a bulletin on suitable pre- and post-harvest management practices to minimize the risk of aflatoxin contamination in groundnut. Accordingly, DGR, Junagarh has developed a bulletin on "Good Agricultural Practices for Minimizing Aflatoxin Contamination in Groundnut". The scanned copy of the bulletin is enclosed for circulation among all stakeholders including farmers. The same can be accessed from the NMOOP website: www.nmoop.gov.in also. The bulletin may be translated into Hindi and other local languages for the benefit of farmers.



(Dr. Anupam Barik)

Addl. Commissioner (Oilseeds)

Encl: As above

Copy to:

1. PPS to Secretary, (A&C), Krishi Bhawan, New Delhi
2. PPS to Addl. Secretary, (AKS), DAC, Krishi Bhawan, New Delhi
3. PPS to Agriculture Commissioner, DAC, Krishi Bhawan, New Delhi
4. PPS to Joint Secretary (Oilseeds), Krishi Bhawan, New Delhi
5. Director, Directorate of Oilseeds Development, Hyderabad
6. Director, Directorate of Groundnut Research (DGR), Junagarh-362001, Gujarat

Good Agricultural Practices for Minimizing Aflatoxin Contamination in Groundnut



ICAR - Directorate of Groundnut Research
Junagadh - 362 001

Aflatoxins



Aflatoxins are naturally occurring mycotoxins and at least 20 different types are known to be produced by species of *Aspergillus*. Aflatoxins B1, B2, G1 and G2 are important in view of trade, produced by *Aspergillus flavus* and *A. parasiticus*. Aflatoxin B1 is genotoxic carcinogen and its presence in commodities is a great health hazard especially to liver. Aflatoxin producing fungi can colonize and contaminate grains before harvest or in transit or during storage.

Management of aflatoxin contamination in groundnut

The problem of aflatoxin can be overcome by adopting good agricultural practices, hygienic storage practices and good manufacturing practices. In addition to the recommended practices for groundnut cultivation, special practices to be followed for production of groundnut free of aflatoxin contamination.



Special practices for management of aflatoxin contamination in groundnut

Aflatoxin contamination in groundnut is contained at

- Pre harvest stage
- Harvest and post harvest stages

Pre-harvest management practices

Follow crop rotation with onion/garlic.

Select short/medium duration groundnut varieties.



Advance sowing by a fortnight with a pre-sowing irrigation to evade end-of-season drought.

Follow inter-row water harvesting by adopting paired row method of planting for conservation of moisture.



Avoid end-of-season drought by providing supplemental irrigation for rain-fed groundnut.

Harvest and post-harvest management practices



The patches of field that have undergone stress or harboured diseases or pest infested should be harvested, dried and stocked separately as their produce is likely to contain aflatoxin.

Avoid mechanical damage to the pods during harvesting.

Pick the immature pods and mechanical or insect damaged pods and do not mix them with harvested mature pods.



Collect and keep the gleaned pods separately.

Dry the pods to a safe moisture level of below 8%





Defective (mouldy, discoloured, rancid, decayed, shrivelled, insect damaged) pods/kernels should be separated.

Follow dry shelling; avoid re-wetting of pods before shelling

Post-harvest processing technologies viz., sorting of peanuts with camera/laser sorter and by hand picking are likely removes aflatoxin contaminated kernels.



Value addition process like blanching, roasting etc. minimize the aflatoxin contamination.

Recommended practices for groundnut cultivation



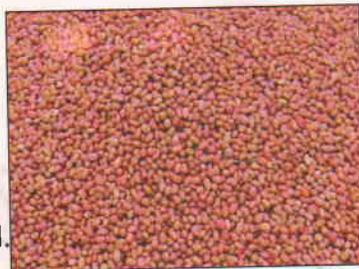
Follow deep ploughing (8-10 inches) in summer.

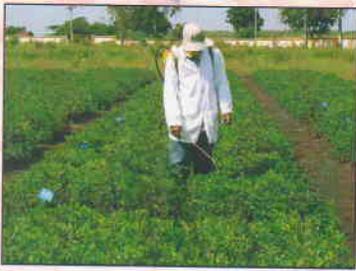
Apply well decomposed farm-yard manure/compost @ 5-10 tons/ha.



Apply neem/castor cake @ 500 kg/ha in furrow at the time of sowing, if available. Also, mix 2.5 kg of commercial formulation of *Trichoderma* with the neem/castor cake, a week before applying to the soil.

Select quality seeds and treat with Carbendazim 50WP @ 2 g or Tebuconazole 2DS @ 1.5 g per kg seeds OR with commercial formulations of *Trichoderma harzianum* or *T. viride* @ 10 g/kg seed.





Follow recommended nutrient, weed and plant protection measures. Also apply gypsum @ 400-500 kg/ha at flowering.

Harvest the crop at full maturity in that inner wall of the shell turn brown.



Dry the uprooted plants along with the pods by keeping them up-side-down (windrow drying) i.e. foliage towards ground and pods upwards.

Store the produce in clean polythene lined gunny bags and stack them on wooden or plastic planks or on tarpaulin.

To prevent damage of pods by insects in storage, fumigate with aluminum phosphide 56% @ 10 g/tons of pods. Keep the storage space free from any kind of seepage or leakage water.





हर कदम, हर डगर
किसानों का हमसफ़र
भारतीय कृषि अनुसंधान परिषद

*Agri*search with a human touch

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