

# EFFORTS TO REDUCE AFLATOXIN CONTAMINATION OF PEANUT IN UGANDA

## Role played by Peanut Collaborative Research Support Program (Peanut CRSP).



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### Background

One of the major problems affecting the quality of peanuts in Uganda are aflatoxins (AF) caused by *Aspergillus flavus*. Due to their health and economic effects, since 2004, the Peanut CRSP has been at the forefront in conducting research aimed at improving the health and livelihood of people of Uganda by addressing AF and gender-related constraints in groundnut production, processing and marketing.

### Methodology

Several approaches were used throughout the peanut chain that include;

- ♦ Capacity building on AF control practices
  - Training of farmers and extension staff on pre and postharvest AF management
  - Training of traders and processors on handling and processing methods (UNBS standards, HACCP)
  - Training of graduate students (BSc, MSc & PhD)
  - Infrastructure capacity building: Lab equipment for AF testing
  - Support to test peanut for mould and AF contamination in peanut & products.
- ♦ Researched on Gender issues in AF Incidence and Control in Peanut Production
- ♦ Conducted peanut consumption studies in Uganda
- ♦ Support to NAWOU: ethnographic studies to establish peanut preparations
- ♦ Support to Uganda National Bureau of Standards
- ♦ Initiated the Technical Committee on AF
- ♦ Researched on AF binding capacity of bentonite clays of Uganda

Fig 1: Capacity building: FTIR and VICAM equipment for aflatoxin analysis



FTIR Equipment

Vicam equipment

Table 1. Human capacity building (Training of trainers) on AF management practices

District	No. of individuals trained		
	Farmers	Extension staff	Traders/Processors
Mubende	160	12	-
Iganga	120	5	-
Mayuge	120	5	-
Kamuli	40	2	-
Tororo	30	4	12
Kumi	50	6	-
Kampala	-	-	65

Majority of households: Highest proportion of children consume peanuts daily

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### Conclusions and recommendations

The low level of farmer/processor education, cultural beliefs and poverty are among the factors hindering application of AF control strategies in Uganda. Thus, we recommend more AF awareness campaigns in the country to further reduce poisoning of consumers in Uganda.

### Gender and Groundnuts: Important finding

....Women and men grow and manage peanuts in differently. Women farmers produce on a smaller scale than men, use local seed varieties, maintain traditional methods of chopping and planting; and produce mainly for household consumption; and process peanuts into flour and paste. They prepare peanuts for family consumption, most often in a sauce that contributes key protein to the diet 3-4 times a week. Women also use peanuts for social reasons—to entertain guests, and as snacks for family members. The nature of tasks women perform related to the peanut positions them to play a major role in controlling AF contamination in production and post-harvest.....

### Impacts

- Increased awareness of AF problem by the populace
- Over 500 farmers, traders, processors trained on AF management (Table 1)
- Over 1000 simple IEC materials (brochures and posters) developed in 6 commonly spoken languages and distributed in the country to educate the populace about AF control.
- Reduced AF contamination of peanut products
- Capacity building: 10 graduate students trained; 2 AF analytical equipment acquired (Fig 1)
- 3 Publications in refereed journals/Books
- First time to establish peanut consumption levels in the country (Table 2)
- UNBS set AF regulatory standards based on our research results
- 12 members of mycotoxin Technical Committee recruited

Table 2. Households where peanut are consumed in any form by mothers and children

	No. consuming				
	Kampala	Mukono	Kamuli	Hoima	Lira
Total No. of surveyed households	107	96	103	106	77
Households where peanut were consumed in any form	54	46	46	33	14
Households where a child ate peanut	47	41	40	28	12
Households where a woman ate peanuts	53	41	39	29	11

- Farmers, traders/processors and extension staff were trained to train others; thus during M & E, we established that now over 1000 people per district are aware of AF and management systems.
- Majority of traders and processors trained are from Kampala city