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Aflatoxin management in groundnuts in Malawi

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Abstract

Groundnuts are one of the widely grown legumes in Malawi and they have the potential to contribute to food and income security. However, its production is marred with a lot of challenges and some of these challenges include; delayed planting, diseases like rosette and pests such aphids, planting recycled seed, low plant population and aflatoxin contamination. Aflatoxins contamination makes groundnuts unsafe for consumption and trade. Aflatoxins commonly called 'chuku' are toxins that are produced by fungus that are strains of Asperagillus flavus and Asperagillus parasiticus under suitable conditions during pre or post-harvest activities. Good agronomic practices such as use of resistant varieties, crop protection, insect control and timely planting can reduce pre-harvest aflatoxin contamination and post-harvest contamination can be reduced by proper drying of the groundnuts after harvest, proper storage, transportation, sorting, grading and packaging. It has been observed that Malawi loses 40 % of its export groundnuts due to aflatoxins each year. It is with this background that the study aims at training farmers in producing groundnuts with no aflatoxin or with acceptable aflatoxin levels. The study will explore the use of *Moringa oleifera* leaf extract in the control of aflatoxin in groundnuts. field trials will be conducted in aflatoxin-prone regions, using different application methods of *moringa* extracts on groundnut crops. The aflatoxin levels will be quantified at various stages of growth and post-harvest storage to determine the efficiency of *Moringa* in reducing aflatoxin contamination. If proven effective, the integration of moringa-based interventions in groundnut production can significantly improve food safety, protect human health, and enhance economic outcomes for farmers. The study will contribute to the knowledge of harnessing natural plant-based solutions to address aflatoxin contamination in groundnuts. The findings will have an impact on food safety, public health, sustainable agriculture, trade for Malawi and promote the adoption of nature-inspired strategies in the fight against aflatoxins.

Keywords: Aflatoxin, contamination, groundnuts, management

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