

ABSTRACT

Objective: Most of the peanut butter marketed in Nairobi is processed in cottage industry and its aflatoxin contamination status has not been documented. This study was therefore conducted to determine the status of aflatoxin contamination in groundnuts and peanut butter in Nairobi and Nyanza. Methodology and results: Eightytwo fresh samples comprising raw and roasted groundnuts and peanut butter were obtained from market outlets and cottage processors in Nairobi and Nyanza regions. The marketers and processors were asked for information on the source of groundnuts. The incidence of *Aspergillus section Flavi* was determined using standard laboratory methods. Defective nuts in raw groundnuts were determined by manual sorting. Aflatoxin analysis was done using competitive ELISA technique. Groundnuts in Nairobi were imported from Malawi while those Nyanza were grown in the region. The fungal species isolated from the samples were: *Aspergillus flavus* (L and S strains), *A. parasiticus*, *A. niger*, *A. tamari*, *A. alliaceus*, *A. caelestis* and *Penicillium* spp. The percentage of defective nuts among all unsorted groundnuts ranged from 0.0% to 26.3%. The mean percent defective nuts was higher for Nairobi samples than Nyanza. Aflatoxin levels in all samples ranged from 0 to 2377.1 µg/kg. The mean aflatoxin level was higher for raw samples from Nairobi than Nyanza. The source of groundnuts and defective nuts were positively associated with aflatoxin levels. Conclusions and application of findings: The source of groundnuts and presence of defective nuts were identified as the main factors influencing increased aflatoxin contamination in the cottage industry. Mechanisms for inspection and certification of imported groundnuts should be put in place accompanied by effective monitoring for compliance to set aflatoxins standards. All the market players should sort their groundnuts before selling or processing in order to reduce aflatoxin contamination of peanut butter.