ABSTRACT

Fungi and Aflatoxin Levels in Traditionally Processed Cassava (*Manihot esculenta* Crantz) Products in Homa Bay County, Kenya

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Cassava (*Manihot esculenta* Crantz) is a major source of carbohydrates, calcium, vitamins (B and C), and essential minerals and is the third most important source of calories in the tropics. However, it is not clear if the traditional processing methods expose the products to microbial contamination. This study assessed the levels of fungi and aflatoxin contamination in traditionally processed cassava products (*Akuoga* and *Abeta*). A total of 38 samples were collected from the local markets in 7 subcounties in Homa Bay County, Kenya. The levels of aflatoxin were determined using an indirect competitive ELISA protocol. Yeast and mould contamination was determined using ISO 21527-2 method. Mean aflatoxin levels in chopped, fermented, and sun-dried cassava (*Akuoga)* were 0.36 μg/kg compared to 0.25 μg/kg in chopped and sun-dried (*Abeta)* products. Aflatoxin contamination was detected in 55% of the samples and ranged from 0–5.33 μg/kg. These levels are within 10 μg/kg recommended by the CODEX STAN 193-1995. Yeast and mould counts in fermented and chopped sun-dried products were 3.16 log Cfu/g and 2.92 log Cfu/g, respectively. The yeast and mould counts were above standards set by East African Standard 739:2010 in 62% (*Akuoga*) and 58% (*Abeta*). The most prevalent fungal species were *Saccharomyces cerevisiae* (68.4%) and *Candida rugosa* (68%) followed by *Candida parapsilosis* (18.4%), *Candida tropicalis* (15.8%), *Candida humilis* (15.8%), and *Aspergillus* spp. (5.3%). *Aspergillus* spp. was the only mycotoxigenic mould isolated from the samples. The study shows that cassava consumers are exposed to the risk of aflatoxin poisoning. The study, therefore, recommends appropriate surveillance to ensure safety standards.

Key words: Aflatoxin, Cassava, Fungi, Contamination, Traditional processing