

Title Fungal contamination and aflatoxin B₁ of 'Egusi' melon seeds in Nigeria
Author S.A. Bankole, B.M. Ogunsanwo, A. Osho and G.O. Adewuyi
Citation Food Control Volume 17, Issue 10, October 2006, Pages 814-818
Keyword Aflatoxin B₁; Fungi; Melon seeds; Nigeria

Abstract

One hundred and thirty seven samples of melon seeds (*Colocynthis citrullus* L.) from randomly selected farmers' stores in the humid forest and Northern Guinea savanna of Nigeria were analysed for the incidence of diseased seeds, moisture content, associated moulds and levels of aflatoxin B₁ contamination. The proportion of diseased seeds ranged from 2.5 to 37.3% in the forest and 2.1 to 17.9% in the savanna, while the seed moisture content varied from 5.3 to 10.4%, and 4.6 to 9.5% respectively. All the samples contained moulds, with the two genera, *Aspergillus* and *Penicillium* predominating, while *A. flavus* had the highest species count. The other common fungal isolates in order of decreasing incidence were *A. niger*, *P. citrinum*, *Botryodiplodia theobromae*, *Cladosporium* sp and *A. clavatus*. Thin layer chromatography analysis showed that 32% in the forest and 21% samples in the savanna contained aflatoxin B₁ with mean levels of 14.8 µg/kg in the forest and 11.3 µg/kg in the savanna respectively. Significant positive correlations were found between number of aflatoxin B₁ positive samples and the percentage of *A. flavus* infected samples and between the levels of diseased seeds and the levels of aflatoxin B₁ contamination.