

Title Effect of phosphine (ph₃) in controlling aflatoxin production in stored groundnut (*Arachis hypogea*) and wet maize (*Zeamais*)

Author M.N. Adindu, J.O. Williams, E.C. Adiele and S.I. Robert

Citation Plant Foods for Human Nutrition (Formerly Qualitas Plantarum) 58(3): 1-7. 2003.

Keywords Aflatoxins; *Aspergillus flavus*; wet maize; phosphine; storage

Abstract

The potentials of phosphine in controlling aflatoxin production by *Aspergillus flavus* on groundnut and wet maize stored in sealed containers under ambient conditions in the laboratory were studied. Groundnut and wet maize inoculated with spore suspensions of *A. flavus* and exposed to phosphine in sealed containers for toxin production had a very low mold counts and an aflatoxin B₁ of less than 5 mg/kg during 6 months storage. The grains remained fresh without loss in quality at the end of storage. Similarly treated groundnut and wet maize stored in air in sealed containers had a very high mold count and aflatoxin B₁ contents within 10 and 2 days, respectively. The results of the study will be useful in post-harvest handling of damp grains in the humid zone where the harvesting period of maize coincides with the wet season.