



MYCOFLORA AND AFLATOXIN CONTAMINATION OF SOME FOODSTUFFS

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ABSTRACT

Analysis was made of the mycoflora and aflatoxin contamination of Rice (*Oryza sativa*), Beans (*Phaseolus vulgaris*), Corn (*Zea mays*), and Groundnut (*Arachis hypogaea*) sold in four different markets in Sango-Ota, Ogun state, Nigeria. Sixty four samples comprising of four samples of each foodstuff from four food vendors in four different markets was assayed. The samples were contaminated with different species of fungi to include *Aspergillus flavus*, *Aspergillus tamarii*, *Aspergillus niger*, *Rhizopus nigricans*, *Rhizopus oryzae*, *Saccharomyces cerevisiae*, *Aspergillus parasiticus*, *Fusarium moniliforme*, *Fusarium verticillioides*, *Aspergillus ochraceus*, *Cladosporium cladosporioides*, *Mucor spp*, *Trichodema spp*, *Rhizopus arrhizus* and *Aspergillus fumigates*. *Aspergillus flavus* and *Fusarium spp* had the highest rate of occurrence among the isolated fungi. Aflatoxins B1, B2, G1 and G2 were found associated with the samples at concentration ranging from 9 - 25 ppb, 8 - 12 ppb, 6 - 21 ppb, 4 - 8 ppb respectively. The fungal counts were between 6.3×10^2 to 7.0×10^3 cfu/g. The moisture content and the pH of samples were between 10.9 to 28.0% and 6.20 to 6.66 respectively. Effective storage and adherence to HACCP principles will help prevent contamination of foodstuffs with aflatoxigenic fungi.

Keywords: Aflatoxins, Aflatoxigenic Fungi; Foodstuffs; Food Storage, HACCP

INTRODUCTION

The growth of some fungal spp in food and under conducive environmental conditions results in the production of mycotoxin(s). Some mycotoxins or mycotoxin derivatives have found use as antibiotics, growth promotants, and other kinds of drugs; still others have been implicated in disease and

death in humans and other animals and as chemical warfare agents [1, 2, 3].

The most important mycotoxins associated with human and veterinary diseases, include: aflatoxin, citrinin, ergot alkaloids, fumonisins, ochratoxin A, patulin, trichothecenes, and zearalenone. Others are