

Mycoflora and aflatoxin production in pigeon pea stored in jute sacks and iron bins

S. A. Bankole, D. A. Esegbe and O. A. Enikuomihin

Abstract

The mycoflora, moisture content and aflatoxin contamination of pigeon pea (*Cajanus cajan* (L.) Millisp) stored in jute sacks and iron bins were determined at monthly intervals for a year. The predominant fungi on freshly harvested seeds were *Alternaria* spp., *Botryodiplodia theobromae*, *Fusarium* spp. and *Phoma* spp. These fungi gradually disappeared from stored seeds with time and by 5–6 months, most were not isolated. The fungi that succeeded the initially dominant ones were mainly members of the genera *Aspergillus*, *Penicillium* and *Rhizopus*. Population of these fungi increased up to the end of one year storage. Higher incidence of mycoflora and *Aspergillus flavus* were recorded in jute-sack samples throughout the storage period. The moisture content of stored seeds was found to fluctuate with the prevailing weather condition, being low during the dry season and slightly high during the wet season. The stored seeds were free of aflatoxins for 3 and 5 months in jute sacks and iron bins respectively. The level of aflatoxins detected in jute-sack storage system was considerably higher than that occurring in the iron bin system. Of 196 isolates of *A. flavus* screened, 48% were toxigenic in liquid culture (54% from jute sacks and 41% from iron bins).

Key words Aflatoxins - Iron bins - Jute sacks - Mycoflora - Pigeon pea - Storage