

Mycobiota and aflatoxins associated with imported rice grains stored in Uganda

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Milled rice grains imported into Uganda from Pakistan were investigated for natural contamination by fungi and aflatoxins. The direct plating method using five isolation media was used to enumerate and isolate the fungi during a 270-day storage period. Fungi were isolated and identified to species level and the percentage contamination levels were calculated. A total of 35 species belonging to 16 genera were recorded. The broadest species spectrum were found in the genera *Aspergillus*, *Penicillium*, *Eurotium* and *Fusarium*, which were represented by 11, 7, 4, and 3 species, respectively. Throughout the storage period, xerophilic fungi including *Aspergillus candidus*, *Eurotium amstelodami* and *E. chevalieri* were predominantly isolated. Species of the genus *Penicillium* (particularly *P. pinophilum*) and its teleomorph *Talaromyces* ranked second in predominance, while *Aspergillus flavus*, *Fusarium* spp. and other field fungi occurred only sporadically. Aflatoxins were recorded in rice samples during most storage periods with one sample recording 20–50 ppb. The moisture content increased in rice grains attaining values of over 14 % from the 180th day of storage onwards. A positive correlation was observed between moisture content and incidence of xerophiles, including *A. candidus* and *E. amstelodami*.

Key words: rice grain, xerophilic fungi, nephrotoxic penicillia, *Fusarium*, aflatoxins.

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Mletá rýže importovaná z Pakistánu do Ugandy byla studována s ohledem na výskyt hub a aflatoxinů. Bylo zaznamenáno 35 druhů z 16 rodů. Druhově nejpočetnější byly rody *Aspergillus*, *Penicillium*, *Eurotium* a *Fusarium* (11, 7, 4, 3 druhy). Aflatoxiny byly zaznamenány ve vlhkých obdobích. Byla pozorována pozitivní korelace mezi vlhkostí a výskytem xerofilních druhů, včetně *A. candidus* a *E. amstelodami*.