Mycotoxin-producing potential of mold flora of dried beans.

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Abstract

To evaluate the potential for mycotoxin production by molds in dried beans, the mold flora of 114 samples was determined both before and after surface disinfection of the beans with 5% NaOCl. Surface disinfection substantially reduced mold incidence, indicating that contamination was mainly on the surface. The flora, both before and after disinfection, was dominated by species of the Aspergillus glaucus group, the toxicogenic species A ochracues, Penicillium cyclopium, and P. viridicatum, and species of Alternaria, Cladosporium, and Fusarium. The toxicogenic species Aspergillus flavis, A. versicolor, Penicillium Citrinum, P. expansum, P. islandicum, and P. urticae were encountered less frequently. Of 209 species of Aspergillus and Penicillium screened for mycotoxin production on sterile rice substrate, 114 produced one or more of the following mycotoxins: A. flavus, aflatoxins; A. ochraceus, ochratoxins; A. nidulans, A. unguis, and A. versicolor, sterigmatocystin; P. cyclopium, penicillic acid; P. citrinum and P. viridicatum, citrinin; P. urticae, patulin and griseofulvin. Sterigmatocystin production by A. unguis is reported for the first time.

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