
Toxigenic Fungi and Aflatoxins in Peanut Production Chain

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Resumo

Peanut is a food of high nutritional value and it has a great importance for Brazilian economy. Peanuts are considered to be a high-risk product for contamination with aflatoxins since they are frequently infected with aflatoxigenic species such as: *Aspergillus flavus* and *Aspergillus parasiticus*. The aims of this study were : (i) to isolate and identify fungi from different stages of peanut production chain; (ii) to test the potential for aflatoxins and ochratoxin A production; (iii) to evaluate the presence of aflatoxins in peanuts and (iii) to carry out a risk assessment of aflatoxins by peanut consumption in Brazil. Peanut samples collected in São Paulo and Bahia States were analyzed. The peanuts were superficially disinfected with 0.4% hypochlorite solution and 50 grains transferred to Dichloran 18% Glycerol Agar (DG18), at 25 ° C for 5 days. The results being expressed as percentage of infection. The potential for aflatoxin and ochratoxin A production by the isolates was tested using the agar plug technique. The presence of aflatoxins in peanuts was performed using an immunoaffinity column and quantified by HPLC, reverse phase with fluorescence detection. The limit of detection was 0.2 µg / kg for total aflatoxins. Up to now, *Hyphomycetes*, *Aspergillus* section *Flavi* and *Aspergillus* section *Nigri* were the most common fungi being: 239 *Aspergillus* section *Flavi* in which 163 (68%) were aflatoxin producers; 157 *Aspergillus* section *Nigri* with no one being an ochratoxin A producer. Aflatoxin was found in five samples at concentrations ranging from 0.3 to 100 µg / kg. The data obtained so far show low occurrence of this

Referência:

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mycotoxin in peanuts, while the sample that had the highest concentration was not intended for human consumption but for oil production. More samples are being analyzed at different stages of peanut chain in order to carry out a study on risk assessment of aflatoxins in peanuts consumed by the Brazilian population.

Palavras-Chave: aflatoxins, ochratoxin A, peanuts, risk assessment

Agência de Fomento: