

عنوان مقاله:

Natural Occurrence of Aflatoxins Contamination in Commercial Spices in Iran

محل انتشار:

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نویسنده:

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خلاصه مقاله:

A total of 80 sample of spices (red pepper, black pepper, turmeric and cinnamon), commercialized in Iran, was analyzed for aflatoxins B1, B2, G1 and G2 content using high-performance liquid chromatography (HPLC) with a fluorescence detector (FD). A mixture of acetonitrile-methanol-water (17:29:54; v/v) was used as the mobile phase and an immunoaffinity column (IAC) applied as a cleanup method. All kinds of spice samples were spiked with aflatoxins B1, B2, G1 and G2 at levels of 1, 10, and 30 ng/g and recovery values were determined. Results showed recoveries ranged from 76.4±5.6 to 98.3±3.2 for AFG1 in cinnamon (spiked at 1ng/g) and AFB2 in turmeric (spiked at 10ng/g) respectively. Thirty-two out of 80 (40%) samples were contaminated with aflatoxins ranged from 0.85±0.10 to 24.60±0.12. Aflatoxin B1 was detected in all of the contaminated samples at the highest concentration as compared with other aflatoxins. Red pepper was significantly ($p \leq 0.05$) more contaminated than other spices.

کلمات کلیدی:

Aflatoxins; Spices; Red pepper; Black pepper; Turmeric; Cinnamon

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