

Survey of Aflatoxin in Spices Marketed in Taiwan

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ABSTRACT

A survey of aflatoxin content in marketed spices was conducted by the Bureau of Food and Drug Analysis. Sixty samples including 22 chilli powder, 12 chilli paste, 11 pepper, 2 sichuan pepper and 13 curry samples were collected by the local health officials from retailers from May to July in 2009. Samples were extracted with 80% methanol. The extracts were diluted with 2% Tween 20 in phosphate buffer, and then passed through an immunoaffinity column. Aflatoxins were separated by Cosmosil C18-MS column, and then derivatized with in-line post-column photochemical derivatization (PCD) to determine levels of aflatoxin B₁, B₂, G₁, and G₂ in spices. The results indicated that the average recoveries from chilli, pepper and curry samples spiked with standard aflatoxins ranged from 72.3% to 97.4%. The detection limits of aflatoxins in chilli, pepper, and curry samples were all 0.2 ppb. Aflatoxins were detected in twelve samples (20% of incidence) including 6 chilli powder, 1 white pepper, and 5 curry samples. The contamination levels ranged from 0.2 ppb to 9.2 ppb as total aflatoxin. The aflatoxin levels in spices were all in compliance with the regulatory limits (10 ppb) of total aflatoxin in spices set in Taiwan.

Key words: spices, aflatoxin

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