SURVEYS OF MYCOTOXIN CONTAMINATION IN FOODS IN TAIWAN DURING THE RECENT DECADE

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Taiwan is located in the subtropical zone, and the typical weather is hot and humid which benefit the growth of fungi. Mycotoxins are the toxic metabolites produced by some species of fungi genera such as *Aspergillus*, *Penicillium* and *Fusarium*. Surveys of mycotoxins in market foods have been implemented by Bureau of Food and Drug Analysis (BFDA) in Taiwan for several years. The results were used as database to establish related regulations by Department of Health (DOH) and provided for local health authorities to prevent unsafe food products from being consumed.

Aflatoxin, ochratoxin A, fumonisin, deoxynivalenol (DON), patulin and T-2 toxin were tested and surveyed in various kinds of foods during the past ten years. From 1997 to 2006, a total of 1,056 peanut product samples were tested and 339 samples (32.1%) contained aflatoxins. Among them, 65 samples which contained aflatoxins above 15 μg/kg exceeded action levels of Taiwan. According to the results of the surveys in 2005 and 2006, most of violative products were imported from foreign country. In 2002, aflatoxin M1 was tested in 113 dairy products including fresh milk, milk powder, infant formula and drinking yogurt. Most of them contained a trace of aflatoxin M1, but none exceeded action levels of Taiwan. In 2000, 2003, 2005 and 2006, 441 samples were collected and examined for ochratoxin A, and 68 samples (15.4%) contained less than 5 μg/kg, including grain products, wine, coffee products and so on. In 2002, 76 corn products were tested and 11 samples (14.5%) contained fumonisins (B1+B2) ranging from 0.05 to 0.16 mg/kg. The survey of DON in rice, flour, noodle, corn, oat and other products was implemented in 2004. One hundred and fifty samples were tested and the results showed that 3 samples contained DON ranging from 0.11 to 0.45 mg/kg. Fifteen samples of apple juice and 2 samples of apple paste were tested in 2005. Only one apple juice contained patulin (8.6 μg/kg). In the survey of T-2 toxin in 2005, 31 food products were tested and 4 samples (12.9%) contained T-2 toxin ranging from 0.7 to 8.9 μg/kg.

The results showed that the violative rate of aflatoxins in imported peanut products grew in recent years. Other mycotoxins including ochratoxin A, fumonisins, DON, patulin and T-2 toxin were detected in some food commodities, but the contamination levels were pretty low.