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PRAPAPAN PROMHIRANGUL : STUDY OF AFLATOXIN CONTENT IN NOODLE DISHES SOLD IN THREE AREAS OF BANGKOK. THESIS ADVISORS: SONGSAK SRIANUJATA Ph.D., SOMSRI CHAROENKIATGUL D.Sc., WANNEE KUSAMRAN Ph.D., 123 P. ISBN 974-663-368-6.

Aflatoxins are known to be carcinogens in animal and human. They can contaminate food, ground peanut in particular, which is popularly added to noodle dishes. It is the intention of this study to investigate aflatoxin contamination in noodle dishes. Two styles of noodle dishes with pork, normal and tom yam-style, collected from 3 areas in Bangkok, were analyzed for aflatoxins by using a liquid chromatographic technique. There were 61 out of 120 (51%) of the samples contaminated with aflatoxins, median total aflatoxins (B_1 , B_2 , G_1 , and G_2) concentration was $0.4 \mu\text{g}/\text{kg}$ for positive samples, ranging from 0.01 to $17.3 \mu\text{g}/\text{kg}$. Tom yam-style noodle dishes, with large amount of chili and ground peanut added, were most frequently contaminated, 55 out of 60 (92%) of the samples, median total aflatoxins concentration was $0.5 \mu\text{g}/\text{kg}$ for positive samples, ranging from 0.01 to $17.3 \mu\text{g}/\text{kg}$. Normal-style noodle dishes were less contaminated, 6 out of 60 (10%) of the samples, median total aflatoxins concentration was $0.02 \mu\text{g}/\text{kg}$ for positive samples, ranging from 0.01 to $0.2 \mu\text{g}/\text{kg}$. Most samples contaminated with AFB_1 , and B_2 . The highest concentration of contamination was AFB_1 $12.3 \mu\text{g}/\text{kg}$.

The analysis of positive samples showed that people consume 1 dish of noodle dish per day every day, consume an average amount of 9.4 ng total aflatoxins per dish, for normal-style and, 221.3 ng total aflatoxin per dish for tom yam-style. Positive samples, were also used to calculate the estimated risk of liver cancer per 100,000 persons per year. The results were 2 and 3 cases per 100,000 persons per year for the assumption of the every day consumption of positive normal-style and tom yam-style noodle dish (1 dish per day), respectively.

There were many problems of aflatoxins analysis in noodle dish samples using methods from various literature. The modification and development of some procedures were performed to obtain an acceptable method for analysis of aflatoxins in noodle dishes.