Screening of aflatoxin M_1 occurrence in selected milk and dairy products in Terengganu, Malaysia

ABSTRACT

The study was conducted to screen the occurrence of aflatoxin M1 (AFM1) in 53 selected milk and dairy product samples (11 liquid milk, 12 powdered milk, 8 3-in-1 beverages, 6 condensed sweetened milk, 2 evaporated milk, 7 cultured milk drink, 5 yogurt and 2 cheese samples). These samples were purchased from selected markets in Terengganu, Malaysia in January 2014 based on a questionnaire survey among 212 respondents on the types and brands of milk and dairy products that were frequently consumed. Based on the responses, 53 milk and dairy products were purchased and the competitive enzyme-linked immune-absorbent assay (ELISA) method was used to determine the level of AFM1 in the samples. Of 53 samples, 19 samples were positive with AFM1 (35.8%) ranging from 3.5 to 100.5 ng/L. Although 4/53 (7.5%) of the tested samples had the contamination level greater than the European Commission (EC) limit (>50 ng/L), the contamination levels were still below the Malaysia Food Regulation 1985 limit (less than 500 ng/L). This study provided a pioneering data on the occurrence of AFM1 in milk and dairy products in Malaysia.

Keyword: Aflatoxin; Aflatoxin M_1; Milk and dairy products; Terengganu; Malaysia