Relationship between feeding type and the occurrence of aflatoxin M1 in milk of high yielding dairy cows

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The major problem associated with concentrate feeds used for feeding cattle is declining quality by contamination with Aflatoxins. The objectives of the study were to detect presence of Aflatoxin M1 (AFM1) levels in milk, AFM1 levels related different feeds and to identify the relationship between feed type and Aflatoxin M1 in milk. Ten dairy farms located in Nuwara-Eliya district were randomly selected. AFM1 analysis was done using High Performance Liquid Chromatography (HPLC). The results indicated that AFM1 was present in 50% of samples. Coconut poonac showed the most significant relationship among individual feeds having a correlation of 0.65 and P value of 0.042. Among feed combinations, coconut poonac and beer pulp combination showed the highest correlation of 0.77 and P value of 0.05. Grasses had shown a very poor relationship with the AFM1 occurrence in milk (r=0.053, P=0.885). Relationship between overall concentrate feeds in the study and AFM1 in milk, it was clear that they had a significant relationship having correlation of 0.65 and P value of 0.042. Majority of samples lied between 0-10 ng L^-1 of AFM1 and one sample exceeded above 30 ng L^-1. Two samples had AFM1 concentrations between 22-32 ng L^-1. One sample lied between 32-42 ng L^-1 did not exceed the EU recommended level of 50 ng L^-1. The presence of AFM1 in milk under various management and feeding conditions is yet to be investigated in Sri Lanka.

Biography

G S Sumanasekara has completed BVSc (Bachelor of Veterinary Medicine) degree from University of Peradeniya and postgraduate diploma and Masters of Food and Nutrition degree from University of Kelaniya, Sri Lanka. She is the deputy director of the Department of Animal Production and Health. She was a director of the former Ministry of Economic Development and member of the National Nutrition Steering Committee of the country. Further she employed at the Asian Development Bank Funded project as an Environment Specialist and also worked for the United Nations Development Program funded project as a deputy project coordinator. At present she is a researcher of the Asian Collaboration of Excellence in Non Communicable Diseases Funded by US-NIH.

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