

ABSTRACT

Investigating The Presence of Aflatoxin M₁ by ELISA Method in Kashar and Cream Cheeses Sold in Retail Market in Aydın and İzmir Provinces

Aflatoxins are toxic metabolites produced by a variety of molds such as *Aspergillus flavus* and *Aspergillus parasiticus*. Aflatoxins were classified as Group 1 carcinogens in 1993 by the WHO International Agency for Research on Cancer. Crops may be contaminated by one or more of the four following sub-types of aflatoxin: B₁, B₂, G₁ and G₂. While the other sub-types of aflatoxin present a significant danger at high concentration levels, aflatoxin B₁ is the most toxic and frequently detected form. Aflatoxin M₁ is a hydroxylated derivative of aflatoxin B₁ (AFB₁), which occurs in the milk of lactating animals. It is estimated that approximately 1 to 3% of the AFB₁ initially present in animal foodstuff appears as AFM₁ in milk. The presence of aflatoxin in cheese can be due to the contamination of AFM₁ in raw milk as a consequence of the carry over of AFM₁ from contaminated dairy cow feed to milk.

In this study the total 90 cheese samples (45 kashar cheese, 45 cream cheese) were examined in terms of AFM₁. The AFM₁ content and concentrations of the samples were researched by competitive ELISA method. According to Turkish Food Codex limit (250 ng/kg), the sample incidence exceeding the acceptable limits were 44.4 % kashar cheese and 40 % cream cheese samples, respectively. As understood from these results, high AFM₁ level determined in some cheese types is an important problem threatening the public health in Turkey.