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Distribution and stability of Aflatoxin M₁ during processing and ripening of traditional white pickled cheese


H. H. Oruc , R. Cibik, E. Yilmaz & O. Kalkanli

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Abstract

The distribution of aflatoxin M₁ (AFM₁) has been studied between curd, whey, cheese and pickle samples of Turkish white pickled cheese produced according to traditional techniques and its stability studied during the ripening period. Cheeses were produced in three cheese-making trials using raw milk that was artificially contaminated with AFM₁ at the levels of 50, 250 and 750 ng/l and allowed to ripen for three months. AFM₁ determinations were carried out at intervals by LC with fluorescence detection after immunoaffinity column clean-up. During the syneresis of the cheese a proportionately high concentration of AFM₁ remained in curd and for each trial the level was 3.6, 3.8 and 4.0 times higher than levels in milk. At the end of the ripening, the distribution of AFM₁ for cheese/whey + brine samples was 0.9, 1.0 and 1.3 for first, second and third spiking respectively indicating that nearly half of the AFM₁ remained in cheese. It has been found that only 2–4% of the initial spiking of AFM₁ transferred into the brine

solution. During the ripening period AFM₁ levels remained constant suggesting that AFM₁ was quite stable during manufacturing and ripening.

Keywords:

Aflatoxin M₁

traditional white pickled cheese

stability

distribution

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Related Research Data

[Fate of Aflatoxin M1 in Brick and Limburger-like Cheese](#)

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[Fate of Aflatoxin M1 in Cheddar Cheese and in Process Cheese Spread](#)

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[Occurrence and Stability of Aflatoxin M1 in Milk and Milk Products: A Worldwide Review](#)

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