Food Additives & Contaminants ›

Volume 21, 2004 - Issue 6

305 Views | 75 CrossRef citations to date | 0 Altmetric

Original Articles

Occurrence of aflatoxin M_1 in randomly selected North African milk and cheese samples

A. M. Elgerbi, K. E. Aidoo, A. A. G. Candlish & R. F. Tester

Pages 592-597 | Received 12 Oct 2003, Accepted 24 Feb 2004, Published online: 20 Feb 2007

Cite this article https://doi.org/10.1080/02652030410001687690

Sample our Environment & Agriculture Journals

>> Sign in here to start your access to the latest two volumes for 14 days

Abstract

Forty-nine samples of raw cow's milk and 20 samples of fresh white soft cheese were collected directly from 20 local dairy factories in the north-west of Libya and analysed for the presence of aflatoxin M_1 (AFM_1). The samples were analysed using a high-performance liquid chromatography technique for toxin detection and quantification. Thirty-five of the 49 milk samples (71.4%) showed AFM_1 levels between 0.03 and 3.13 ng ml^{-1} milk. Multiple analyses of five milk samples free of AFM_1 artificially contaminated with concentrations of AFM_1 at 0.01, 0.05, 0.1, 1.0 and 3.0 ng ml^{-1} showed average recoveries of 66.85, 72.41, 83.29, 97.94 and 98.25%, with coefficients of variations of 3.77, 4.11, 1.57, 1.29 and 0.54%, respectively. Fifteen of 20 white soft cheese samples (75.0%) showed the presence of AFM_1 in concentrations between 0.11

and 0.52 ng g^{-1} of cheese. Multiple assays of five cheese samples free of AFM_1 spiked with different concentration of AFM_1 (0.1, 0.5, 1.0 and 3.0 ng g^{-1}) showed average recoveries of 63.23, 78.14, 83.29 and 88.68%, with coefficients of variation of 1.53, 9.90, 4.87 and 3.79%, respectively. The concentrations of AFM_1 were lower in the cheese products than in the raw milk samples.

Keywords:

aflatoxin M1 | cheese | milk | immunoaffinity columns | high-performance liquid chromatography (HPLC)

Acknowledgements

The authors thank Dr Mohamed Omer Mohamed, Department of Food Science, Al-Fateh University, Tripoli, Libya, for collaboration in the study.

Related Research Data

Aflatoxin M_1 in Parmesan Cheese: HPLC Determination
Source: Journal of Food Science
Ability of Dairy Strains of Lactic Acid Bacteria to Bind Aflatoxin M1 in a Food Model
Source: Journal of Food Protection
Survey of the Occurrence of Aflatoxin M1 in Dairy Products Marketed in Italy
Source: Journal of Food Protection
A study on the occurrence of aflatoxin M1 in milk and milk products produced in Van province of Turkey
Source: Food Control
Carry-over of aflatoxin from cows' food to milk
Source: Animal Science
Binding of Aflatoxin B1 to Bifidobacteria In Vitro
Source: Journal of Food Protection
A survey of ethnic foods for microbial quality and content aflatoxin
Source: Food Additives & Contaminants

Related research

People also read | Recommended articles | Cited by 75

Information for

Authors
R&D professionals
Editors
Librarians
Societies

Open access

Overview
Open journals
Open Select
Dove Medical Press
F1000Research

Opportunities

Reprints and e-prints
Advertising solutions
Accelerated publication
Corporate access solutions

Help and information

Help and contact
Newsroom
All journals
Books

Keep up to date

Register to receive personalised research and resources by email

Sign me up

Copyright © 2026 Informa UK Limited Privacy policy

Cookies Terms & conditions Accessibility

Registered in England & Wales No. 01072954
5 Howick Place | London | SW1P 1WG