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Occurrence of aflatoxin M₁ in retail milk samples from Bogotá, Colombia

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Abstract

A study was conducted to establish the occurrence and levels of contamination of aflatoxin M₁ (AFM₁) in retail milk from Bogotá, Colombia. A total of 241 samples were analysed during 2004 and 2005. Samples were cleaned up by an immunoaffinity column and AFM₁ was quantified by liquid chromatography with fluorescence detection. A total of 69.2 and 79.4% of the samples analysed during 2004 and 2005, respectively, were found to contain levels of AFM₁ above 10 ng l⁻¹. Levels of contamination ranged from 10.7 to 213.0 ng l⁻¹ in 2004, and from 10.6 to 288.9 ng l⁻¹ in 2005. Despite the high incidence of AFM₁ found in the milk samples analysed, all samples complied with current local regulations, which allow AFM₁ content in milk up to 400 ng l⁻¹. However, due to the high incidence of AFM₁ in milk found in the present study, it is recommended that a permanent surveillance programme be established for

milk consumed in Bogotá in order to prevent milk lots containing levels above the regulatory level entering the food chain.

Keywords:

- Aflatoxin M₁
- survey
- immunoaffinity clean-up
- liquid chromatography

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