

An LC-MS/MS multideterminative method for aflatoxins B1, B2, G1, G2 and ochratoxin A suitable for large scale food control activity in several food matrixes

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Single mycotoxin analysis is not convenient for the large number of toxins potentially present in the same food sample.

This study concerns the multiextractive method optimisation for aflatoxins B1, B2, G1, G2 and ochratoxin A (OTA), using Afla-Ochra[®] immunoaffinity columns (Vicam - USA) on the basis of their working protocol for HPLC-FLD. The extraction method was applied to 11 different food matrixes among dried fruits, breakfast cereals and bakery products.

A 20 min LC-MS/MS run was used to quantitate simultaneously all analytes, with MRM mode on three daughter ions. LODs ranged from 0.1 ppb for afla B1 and G1 to 0.25 ppb for OTA.

Average recoveries were $89 \pm 27\%$ for OTA (4-10 ppb spike), $75 \pm 25\%$ for afla B1 and $80 \pm 23\%$ for afla G1 (both 8-20 ppb spike), $90 \pm 27\%$ for afla B2 and $77\% \pm 21\%$ for afla G2 (both 2-6 ppb spike).