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## Liquid Chromatography Mass Spectrometry and High performance liquid chromatography with fluorescence detection of aflatoxins from bakery food products

Aflatoxins are a group of toxic compounds produced by certain molds, particularly *Aspergillus flavus* and *Aspergillus parasiticus*. These molds are found on bakery food products. Aflatoxins are known for their potential to contaminate food supplies, leading to serious health risks. This study aimed to assess the occurrence of toxigenic fungi and mycotoxin contamination in bakery food products using advanced molecular and analytical techniques. TLC, was established for rapid identification of mycotoxigenic fungi, and an improved analytical method was developed simultaneous multi-mycotoxin determination in bakery food products by LC-MS and HPLC technique. The method was applied for evaluation of 83 samples collected from rural areas for the presence of mycotoxin producing fungi, and a few samples were found positive for *Fusarium*, *Penicillium sp*, *A.flavus* and *A.parasiticus*. Further analysis revealed that 25 samples contained mycotoxins above the level of detection, but 19 isolates showed positive results for mycotoxins from 25 different bakery food products. The results showed a strong correlation between the presence of mycotoxin biosynthesis genes as analysed by LC-MS and HPLC technique. The present findings indicate that a combined approach might provide rapid, accurate and sensitive detection of mycotoxigenic species and mycotoxins in bakery food products.

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