

Qualitative and quantitative analysis of mycotoxins.

ABSTRACT

Mycotoxin toxicity occurs at very low concentrations, therefore sensitive and reliable methods for their detection are required. Consequently, sampling and analysis of mycotoxins is of critical importance because failure to achieve a suitable verified analysis can lead to unacceptable consignments being accepted or satisfactory shipments unnecessarily rejected. The general mycotoxin analyses carried out in laboratories are still based on physicochemical methods, which are continually improved. Further research in mycotoxin analysis has been established in such techniques as screening methods with TLC, GC, HPLC, and LC–MS. In some areas of mycotoxin method development, immunoaffinity columns and multifunctional columns are good choices as cleanup methods. They are appropriate to displace conventional liquid–liquid partitioning or column chromatography cleanup. On the other hand, the need for rapid yes/no decisions for exported or imported products has led to a number of new screening methods, mainly, rapid and easy-to-use test kits based on immuno-analytical principles. In view of the fact that analytical methods for detecting mycotoxins have become more prevalent, sensitive, and specific, surveillance of foods for mycotoxin contamination has become more commonplace. Reliability of methods and well-defined performance characteristics are essential for method validation. This article covers some of the latest activities and progress in qualitative and quantitative mycotoxin analysis.

Keyword: Mycotoxin; Analysis; Review; Qualitative; Quantitative.