The Turkish Journal of Occupational / Environmental Medicine and Safety

Vol:2, No:1 (1), 2017 Web: http://www.turjoem.com ISSN : 2149-4711

P149. MYCOTOXIN DETECTION AND FOOD SAFETY

Aysun METE, Esin ORHAN, Kamuran AYHAN

Ankara University, Faculty of Engineering, Food Engineering Department, TR 06110 Ankara, Turkey

Mycotoxins are toxic natural secondary metabolites of certain fungi belonging mainly to the Aspergillus, Penicillium and Fusarium genera, that are one of the most serious food safety problems, contaminating a wide range of agricultural commodities. Several mycotoxins have been identified and reported in contaminated agro-foodproducts are aflatoxins (AFs) which are classified as Group1 carcinogens consisting of B1, B2, G1 and G2 (AFB1, AFB2, AFG1 and AFG2), ochratoxin A (OTA - Group 2B carcinogens), deoxynivalenol (DON), fumonisins (FB), zearalenone (ZEN) and patulin. Furthermore, fungal and mycotoxin contaminations are expected to rise in the next years due to global changes of environment and climate. Mycotoxin toxicity in foodstuff can occur at very low concentrations necessitating early availability of sensitive and reliable methods for their detection until it reaches the consumer is important for assessing food related health risks. There are several analytical methods for detection of mycotoxins include based on HPLC and LC-MS/MS. In recent advances in mycotoxin analysis are highligting on electrochemical biosensors, Nanotechnological concepts and ELISA techniques, Immuno assay-based kits, Microarray-based immunoassays give as promising tools to replace conventional expensive chromatographic techniques for assuring food safety and consumers' health protection.

* kayhan@ankara.edu.tr