November 5, 2015 (13:30–14:30)

VENDOR SEMINAR:

Developments in Routine Mycotoxins Analysis

Masked mycotoxins: is it a real threat?

Chiara Dall'Asta, Università degli Studi di Parma, Italy

The detection of masked mycotoxins is a challenge for analysts. A number of papers have been published in which instrumental and immunochemical methods were employed to reveal hidden mycotoxins in food and feedstuffs. The necessity of detecting both native and metabolized mycotoxins takes origin from the possible release of the parent compound in the gastrointestinal tract of humans and animals. What about the prevalence of masked mycotoxins in real matrices? This presentation provides an overview of known occurrence data.

Routine analysis of DON, 3AcDON and DON3Glc by an immunoassay

Laura Righetti, Università degli Studi di Parma, Italy

Immunochemical test kits are commercially available in different formats for the detection of mycotoxins in different matrices. Although the recent EU 519/2014 requires only a qualitative performance verification, routine users need reliable and accurate results as well. Overestimations in respect of instrumental analysis are normally rejected by analysts, even if they could be linked to the capability of the assay to detect the native analyte and its metabolites. A proper management of screening data should be based on a complete knowledge of the performance of the test kit in matrix, despite the cross-reactivities claimed in the kit insert.

Multiresidual screening of mycotoxins, novel mycotoxins and masked mycotoxins what about the future of immunoassay?

Maurizio Paleologo Oriundi, Tecna s.r.l., Italy

Multiplex screening of contaminants has been subject of many recent publications. Discovering the whole profile of one single sample means giving a value to the sample itself, thus optimizing the costs of its collection and preparation. Coupled with proper extraction and clean-up, LC-MS is suitable for multiresidual characterization of contaminants. On the other hand, immunochemistry-based methods are possibly able to detect a family of structurally related compounds, although the characterization of single contributions is not possible so far. Due to the reasonable interference of the matrix and the uneven pattern of cross-reactivity, results could be hard to understand, since sometimes they don't correlate neither with one single contaminant concentration nor with sum of the whole group of molecules.

Still, immunochemical-base methods could conjugate, in the feature, the well known ease of use, fastness and cost-effectiveness of ELISA and lateral flows with the multiplexing nowadays possible with the expensive LC-MS techniques only.