

November 6, 2013 (18:30-19:30)



VENDOR SEMINAR:

THE ToxiMet SYSTEM - A REVOLUTIONARY TECHNOLOGY FOR THE ACCURATE, SIMPLE AND AFFORDABLE ANALYSIS OF MYCOTOXINS, AND OTHER FOOD & FEED TOXINS

Introduction to the ToxiMet System

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The *ToxiMet System* is a revolutionary technology for the measurement of mycotoxins in food. It is composed of three main elements: the *ToxiSep cartridge* that cleans up the sample extracted from the raw commodity; the *ToxiTrace cartridge*, on which the cleaned-up sample is immobilised; and, the *ToxiQuant instrument* which rapidly, accurately and *simultaneously* measures the concentrations of individual toxins which have been immobilised on the ToxiTrace cartridge. The ToxiQuant has been specifically designed to be operated by non-scientists, at ambient temperatures as high as 50°C. The results are reported on an interactive touch screen in less than 4 minutes.

The ToxiQuant instrument is composed of highly sophisticated, patent protected spectroscopic analysis hardware and software, together with chemometric algorithms which *simultaneously* identify and quantify the individual toxins immobilised on the ToxiTrace cartridge, *without physically separating the toxins*. This affordable, unique combination delivers outstanding accuracy, at sub-parts per billion levels.

Current applications of the System include the simultaneous quantification of aflatoxins (B1, B2, G1, G2) in edible nuts, rice, corn and figs, and ochratoxin A in dried vine fruit. Further applications will follow very shortly, including the analysis of Fusarium toxins (including zearalenone, deoxynivalenol and fumonisins) in wheat and corn.

The ToxiQuant produces quantitative data that is in excellent agreement with high performance liquid chromatography (HPLC) with an approximately 70% saving in cost.

ToxiMet has carried out extensive research into the ToxiQuant instrument's Limit of Detection (LOD) and Limit of Quantitation (LOQ) levels, using a statistical weighted linear regression method. The LOD and LOQ limits for individual aflatoxins in commodities analysed are well below the EU regulatory limits for these commodities (e.g. AFLB₁ LOD = 0.20ppb, LOQ = 0.67ppb).

The ToxiMet System is currently in the process of gaining AOAC certification.

Demonstration of the ToxiQuant Instrument

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The employment of the ToxiTrace cartridge, containing immobilised toxins, in combination with the ToxiQuant Instrument, to simultaneously measure each of the four individual aflatoxins, in four minutes, will be demonstrated. The simplicity of the ToxiQuant will also be illustrated using its especially designed interactive touch-screen.