

November 9, 2017 (13:30-14:15)



VENDOR SEMINAR:

Maximizing Laboratory Productivity in Routine Food Analysis (2)

Application of a new GC/Q-TOF for the screening of pesticides and other contaminants in food

Dr. John Lee, Global Food Marketing Manager, Agilent Technologies, UK

The demand on efficiently screening against a wide scope of food contaminants is rapidly increasing owing to the enforcement of regulatory Maximum Residue Levels (MRLs) and a growing interest in untargeted screening for risk assessment. Recent advances in high resolution GC/Q-TOF mass spectrometry are helping to meet this demand by providing enhanced identification as well as accurate quantitation of GC amenable compounds.

Agilent has created an accurate mass EI spectral library to enable facile identification and verification of 100's of pesticides using the 7250's capability. Additionally, it is possible to expand the investigation scope to other contaminants using external public libraries (e.g. NIST) and assess potential hits through fragment formula prediction based on the molecular formula of a proposed hit. Furthermore, the 7250 GC/QTOF can aid hit-verification by seamlessly switching to a new Low energy EI mode which enhances the possibility to preserve molecular ions, with the added capability to deliver high resolution MS/MS for structural elucidation.

Strategies for Rugged GC-MS and LC-MS Analysis in Routine Food Testing

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Food testing laboratories employ GC-MS and LC-MS techniques routinely in many different applications. Modern instruments offer high speed, sensitivity and selectivity, which can be utilized to improve various method performance characteristics and also help deal with challenging food matrices. For instance, increased detection sensitivity can be used to improve analyte limits of detection/quantitation (LOD/LOQ) or to decrease the sample introduction (injection volume) into the analytical system while maintaining the LOD/LOQ levels. The latter option is very attractive in routine food analysis, where matrix can detrimentally affect chromatographic separation, ionization efficiency, method ruggedness and routine maintenance costs. This seminar will discuss the use of high-sensitivity LC and GC triple quadrupole MS/MS systems and their beneficial impact on short- and long-term method performance, especially when combined with other strategies and tools, such as the use of analyte protectants and column backflushing for increased ruggedness in GC-MS or the application of a novel on-line dilution set-up for improved analysis of more polar compounds in LC-MS.