

ANALYTICAL CHALLENGES IN THE WORLD WIDE IMPORT/EXPORT OF AGRICULTURAL COMMODITIES

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Abstract.

The analytical chemistry can represent some significant barriers and solutions to barriers to trade in the global agricultural market, especially the quantification of fumigant and other pesticide residues in compliance with MRLs. This work discusses the challenges in the extracting phosphite (PO_3^{3-}) from tree nuts, along with separating and quantifying phosphite residues in the presence of high levels of phosphate (PO_4^{3-}) interference. Quick, accurate, and solvent free methods for the quantification of methyl bromide, phosphine and sulfur dioxide residues in fresh fruit, through the use of a headspace trap autosampler in tandem with a gas chromatograph / mass spectrometer, are also presented.