

POSTER #8 — QuEChERS Procedure and GC-MS/SIM

Poster Title: **Multiresidue Analysis of Organohalogen Pesticides in Fresh Produce by the QuEChERS Procedure and GC-MS/SIM**

Brief Abstract:

A multiresidue method for the analysis of organohalogen pesticides in fresh produce has been developed using the QuEChERS (Quick, Easy, Cheap, Effective, Rugged and Safe) procedure and gas chromatography-mass spectrometry in selected ion monitoring mode (GC-MS/SIM). The procedure involves extraction of pesticides from the sample with 1% acetic acid/acetonitrile, magnesium sulfate (MgSO₄) and sodium acetate; and clean-up of the resulting extracts with dispersive solid-phase extraction (SPE) using primary-secondary amine and graphitized carbon sorbents and MgSO₄. Fortification studies were performed for over 100 organohalogenated pesticides in 10 different pesticide-free commodities (apple, broccoli, carrot, grape, green leaf lettuce, orange, pea, peach, potato, tomato). Recoveries greater than 80% were achieved for most of the pesticides tested in each commodity. A comparison of dispersive SPE and SPE column cleanup procedures was also evaluated for performance and cost.

U.S. FDA, CFSAN and U.S. FDA, ORA

Authors: Jon W. Wong¹, Michael K. Hennessy¹, Alexander J. Krynitsky¹, Alesia N. Parker², and Frank J. Schenck²

Address: ¹U.S. FDA, CFSAN, College Park, MD, 20740 and ²U.S. FDA, ORA, Atlanta, GA, 30309.

Correspondence to: Jon W. Wong, U.S. FDA, CFSAN/OPDF, 5100 Paint Branch Pkwy, HFS-336, College Park, MD, 20740, Tel: 301-436-2171, FAX: 301-436-2632, email: jon.wong@cfsan.fda.gov