

**FAST GAS CHROMATOGRAPHY – TIME-OF-FLIGHT MASS SPECTROMETRY  
OF PESTICIDES IN FOOD**

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Fast screening methods for pesticides in food products are becoming more important due to increased imports, possible contamination (accidental and intentional), the unauthorized use of pesticides, and the desire to increase the number of imports/products actually tested. One instrument ready to meet these needs is the gas chromatograph – time-of-flight mass spectrometer (GC-TOFMS). TOFMS is a very fast technique, capable of acquiring hundreds of full mass spectra/second, making it the ideal detector for fast GC techniques. Recently, work was presented at the Florida Pesticide Residue Workshop (2002) showing that over 75 pesticides can be monitored in as little as 8 minutes in fruit and vegetable extracts by fast GC-TOFMS. Even non-targeted pesticides were located automatically using powerful peak find and spectral deconvolution algorithms afforded by TOFMS.

This paper will examine the mechanisms within Time of flight GCMS that make Fast screening possible in conjunction with presenting results from the fast GC-TOFMS screening of certain commodities for pesticides that have high detection frequencies as recorded by the USDA's Pesticide Data Program Annual Summary for 2000.