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### **RESOLVING MATRIX AND INTERFERENCE PROBLEMS DURING THE GC/MS ANALYSIS OF FOODS FOR PESTICIDE RESIDUES**

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National and state authorities monitor food products for chemical residues to protect Australia's export market. Our Laboratories use GC/MS to test animal and plant products for pesticide residues and contaminants, e.g. PCB's.

Our main work is with animal samples include cattle, sheep, kangaroos, deer, etc. and are obtained from farms, feedlots and game hunters. The variations in samples and collection / handling processes can have an impact on the analysis. Sample management, matrix, condition and others factors can produce adverse and unexpected matrix effects and interferences.

Obviously analytical methods should prevent or minimise these negative effects. Many products have very low MRL's set. Consequently the LOR's required to achieve these are extremely low and it only takes a small amount of extraneous compounds to interfere with the analysis.

This poster presents details of the following most significant interferences and effects which are:

- Compositional variations
- Amount of appropriate sample
- Rancidity
- Co-extractives, including fatty acids and cholesterols
- Interferences

Approaches and solutions to solving these problems and ways of eliminating or minimising these adverse effects are presented.