

Troubleshooting

Stewart Reynolds

Head of Analytical Services

Food Science Group

Central Science Laboratory, York, UK

SELAMAT Training Programme, 3-5 July 2006, Bangkok



Major Problems with pesticide residues analysis

- Mis-identity
- False negative and false positive results
- Poor quantification (accuracy)



Mis-identity

- False positive results



Quantification

- Reasons for errors
- Purity of standards used to prepare calibration curves
- Matrix effects



Matrix-matching

- Standards prepared in pure solvent
- GC
- Reduced detector signal due to loss of analyte on active sites in GC system
- LC-MS(/MS)
- Reduced detector signal due to reduced ionisation of analyte in presence of sample matrix

