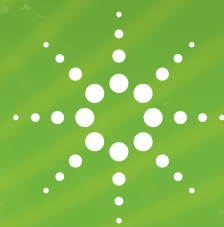


## FOOD ANALYSIS

# A VALIDATED GC/MS/MS SOLUTION FOR THE ANALYSIS OF PESTICIDES IN OLIVE OIL



Solutions for Your Analytical Business  
Markets and Applications Programs



A turn-key application for the analysis of more than 215 pesticides in Olive Oil.

Pesticides and other chemicals are used widely in olive plantations. Residues may persist (especially fat-soluble ones), possibly contaminating olives used to produce olive oil and, finally, the oil itself.

European Community regulations determine the maximum allowed amounts of those compounds in olive oil for its member states.

Agilent offers a turn-key Solution covering:

- Sample preparation
- GC-tandem MS analysis
- Data analysis
- Validation Protocol
- Full Agilent support



### Matrix

- Olive Oil

### Target Compounds

- Pesticides

### Sample Prep

- QuEChERS

The working range goes from 0.01 mg/Kg to 0.50 mg/Kg for all analytes. LOQs, LODs, precision and recoveries are in accordance with DG SANCO guidelines.

Sample preparation is done following QuEChERS approach: extraction with organic solvent followed by dispersive SPE with Bond Elut material. Sample analysis is performed with an Agilent GC 7890 and an Agilent 7000 triple quadrupole. All compounds are determined in a single analytical run.



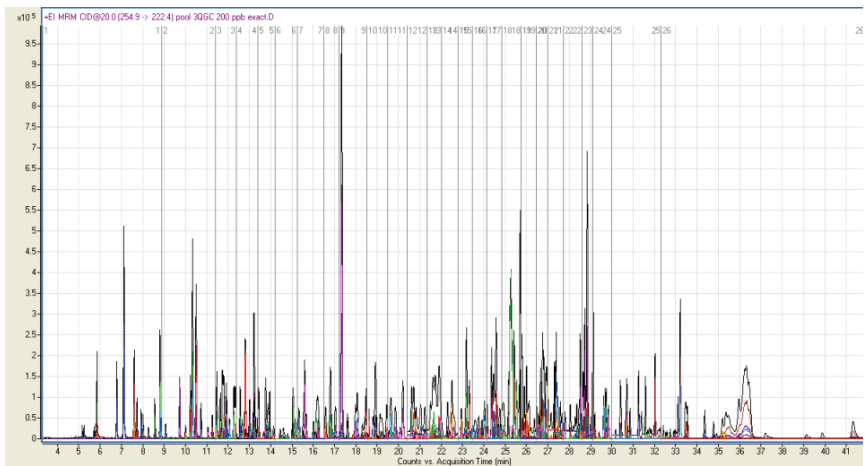
Agilent  
Guaranteed  
Solution

Developed  
Installed  
Tested  
Supported

The Measure of Confidence

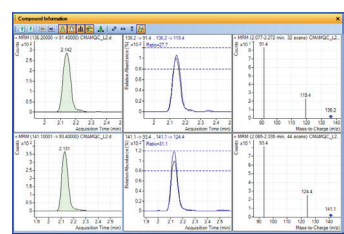
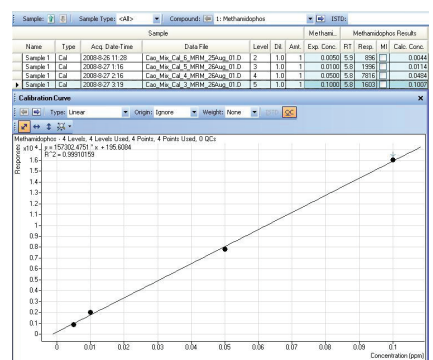


Agilent Technologies



The Agilent Pesticides Solution for olive oil comprises the following

- Complete hardware set-up (Agilent 7890 GC and Agilent 7000 GC/MSD triple quadrupole) with dedicated analytical column;
- Standard operating procedure (SOP) with detailed descriptions of the analysis and validation procedures;
- Method of analysis (a DVD/CD containing sample preparation and sample analysis methods, recommended consumables and materials);
- One week training at Laboratorio Quimico-Microbiologico (Murcia, Spain) on sample prep, validation procedures and analytical methods;
- On-site Training and Support (at customer site) covering Qualitative and Quantitative analysis;



**STANDARD OPERATING PROCEDURE**

**PNTeLQM-FYQ228ev:**  
"MULTIRESIDUE ANALYSIS OF PESTIC USING GAS CHROMATOGRAPHY COUPLED TO TRIPLE QUADRUPOLE (GC-MS/MS) IN OLIVE OILS SAMPLES"

Rev. 00

**STANDARD OPERATING PROCEDURE**

**PNTeLQM-FYQ228ev:**  
"MULTIRESIDUE ANALYSIS OF PESTICIDES USING GAS CHROMATOGRAPHY COUPLED TO TRIPLE QUADRUPOLE (GC-MS/MS) IN OLIVE OILS SAMPLES"

Rev. 00

**2 - Determination of the Accuracy**

Precision can be evaluated for each spiked level in two ways, depending on the

**STANDARD OPERATING PROCEDURE**

**PNTeLQM-FYQ228ev:**  
"MULTIRESIDUE ANALYSIS OF PESTICIDES USING GAS CHROMATOGRAPHY COUPLED TO TRIPLE QUADRUPOLE (GC-MS/MS) IN OLIVE OILS SAMPLES"

Rev. 00

**STEP 3 UNCERTAINTY OF THE REFERENCE**

Once we know the formula which gives the con (RM) and the uncertainty contributions to it, we accept this in this situation the appropriate to divisions.

$$Uncertainty = \frac{\Delta U_{con}}{U_{con}} = \sqrt{\left(\frac{\Delta P}{P}\right)^2 + \left(\frac{\Delta R}{R}\right)^2}$$

In a developed way, we have to consider volume measures and the purity of the stand

**ACCEPTANCE AND REJECT CRITERIA**

For each reference material analyzed and for ea for each concentration level studied. Usua concentration levels are analyzed, subsequently for each pesticide.

The acceptance criteria that must be applied by t

- Concentration levels between 0.01 and 0.



maps\_agilent@agilent.com  
www.solutions-to-win.com/

Agilent Products are for Research Use Only.  
Not for use in diagnostic procedures.  
Information, descriptions and specifications in this publication are subject to change without notice.

© Agilent Technologies, Inc. 2014  
Published in USA, April 2014  
5991-3463EN

The Measure of Confidence

