CONFIDENTLY CONFIRM PESTICIDES AND ENVIRONMENTAL POLLUTANTS IN COMPLEX MATRICES

Agilent Pesticides and Environmental Pollutants Analyzer 4.0

Powered by market-leading Triple Quadrupole GC/MS technology, this factory configured, chemically tested analyzer puts you on the fast track to measuring pesticides and environmental pollutants in complex matrices

Concern about trace-level pollutants in food and the environment is driving the demand for rapid and reliable identification of chemical residues. Meeting this challenge requires technologies that can differentiate pesticides, PCBs, PAHs, PBDE, and other targets from organic interferences at low ppb concentrations.

The **Agilent Pesticides and Environmental Pollutants (P&EP) Analyzer 4.0** follows SANTE guidelines and lets you accurately confirm target pesticides while reducing the time required from start-up to results. It combines the leading-edge innovations of the Agilent 7890B GC and 7010B Series Triple Quadrupole GC/MS with pre-tested methods and a comprehensive MRM database to transform your results from acceptable to exceptional.

The Agilent P&EP Analyzer 4.0 includes the following to maximize performance and support your complete workflow:

- Choice of pre-tested, retention time-locked methods
- Dynamic MRM enhances data efficiency by automatically optimizing an analyte's dwell time
- Capillary Flow Technology and backflush-ready configurations
- Reverse sandwich injection saves bench work
- P&EP MRM database with > 1,100 compounds
- Over 7,500 matrix-optimized MRM transitions
- QuEChERS and EMR—Lipid sample prep kits
- Installation with a checkout sample for verification of chromatographic performance
- OPTIONAL: JetClean self-cleaning ion source and Method and Application Services

Agilent Technologies

MARKET-LEADING TECHNOLOGY DELIVERS SUPERIOR ANALYTICAL PERFORMANCE

Automated Retention Time Locking (Auto RTL)
Pre-tested methods provide optimal analysis

A choice of four (4) pre-tested methods to meet your individual analytical needs for performance or flexibility driven method setup. As a core method parameter, Auto RTL precisely matches RTs from column to column, instrument to instrument, and lab to lab for methods that have the same nominal parameters. The result: peaks are where you expect them in the chromatogram. Retention time locking provides the basis for effective dynamic MRM methods.

Capillary Flow Technology (CFT) Backflush
### Three configurations remove heavy sample components

Injecting heavy matrix samples can retain high-boiling compounds at the head of the column, causing analyte interferences and degrading chromatographic performance. Reversing column flow using CFT backflush eliminates the need to bake columns at the end of the run to remove heavy materials, reduces system cycle time, minimizes source cleaning, and provides stable baselines and retention times for target analytes.

Dynamic Multiple Reaction Monitoring (dMRM)
Easier method maintenance and better performance

Enable larger target lists in a single run due to more efficient use of instrument data acquisition time using dMRM with retention-time scheduled MRM transitions. Convert your time segment-based methods to dMRM methods for easier method maintenance and better performance. Achieve faster maximum scan speeds in combined scan/MRM mode for simultaneous analysis of non-targets. dMRM also provides an intuitive way to build and modify acquisition methods using the P&EP MRM database.
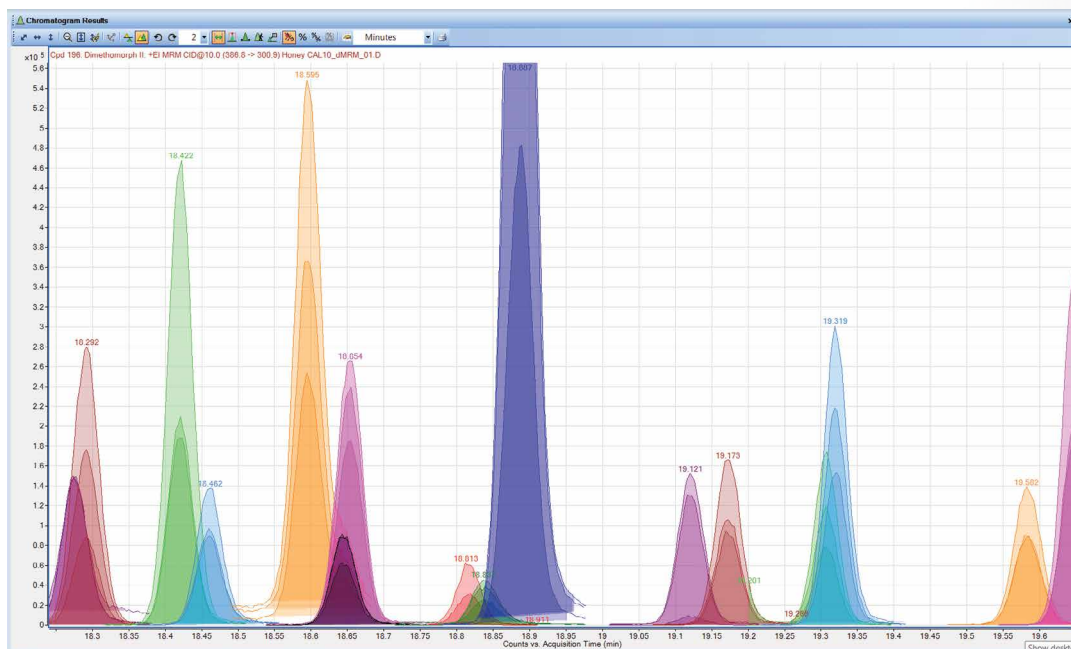
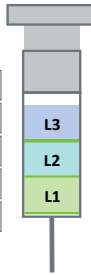MassHunter qualitative chromatogram of an organic honey dMRM run

Reverse Sandwich Injection

Streamlined sample injection

Using sandwich injections can save significant bench work otherwise needed to prepare matrix-matched calibration standards and/or addition of internal standards to the samples. Injecting matrix before the sample benefits the analysis. Updated MassHunter Data Acquisition Software simplifies the sandwich injection options.

Injection Type

3-Layer Sandwich (L1,L2,L3) ▼

L1 air gap:	0.1 µL
L2 volume:	1 µL
L2 air gap:	0.1 µL
L3 volume:	1 µL
L3 air gap:	0.1 µL

L3
L2
L1

Updated P&EP MRM Database

Simplify the creation of compound lists and analytical methods

The P&EP 4.0 Analyzer not only provides the most comprehensive MRM Database on the market, it also guarantees state-of-the-art analyses with a 3-year site subscription with free updates. It also includes over 7500 MRM transitions that have been optimized in a variety of complex matrices like spinach, jasmine rice, and black tea. Alternate MRM transitions help avoid matrix interferences and increase confidence in the identification of target compounds in difficult matrices. The database is fully compatible with Agilent GC/MS MassHunter Data Acquisition's dynamic MRM (dMRM) functionality.

Agilent Technologies MRM Database Control Panel

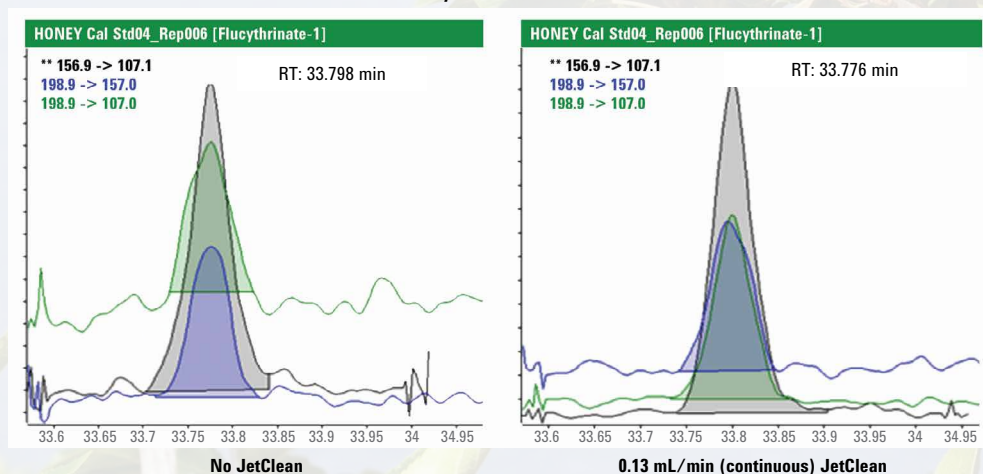| Target Compound List |
| MRM Table |
| View Methods |
| Help |
| Exit |

JetClean Self-Cleaning Ion Source

Reduce source maintenance and get more consistent results

The Agilent JetClean self-cleaning ion source keeps your P&EP Analyzer free of matrix deposits that would otherwise build up over time and degrade instrument performance. Using a carefully controlled hydrogen flow, JetClean technology significantly reduces the need for cleaning the ion source, thereby extending maintenance-free operation periods of the analyzer.

Flucythrinate-1 MW 451

HONEY Cal Std04_Rep006 [Flucythrinate-1]
** 156.9 -> 107.1
198.9 -> 157.0
198.9 -> 107.0
RT: 33.798 min

33.6 33.65 33.7 33.75 33.8 33.85 33.9 33.95 34 34.95

No JetClean

HONEY Cal Std04_Rep006 [Flucythrinate-1]
** 156.9 -> 107.1
198.9 -> 157.0
198.9 -> 107.0
RT: 33.776 min

33.6 33.65 33.7 33.75 33.8 33.85 33.9 33.95 34 34.95

0.13 mL/min (continuous) JetClean

To review our full line of analyzers, visit **www.agilent.com/chem/food-ms-solutions**

Agilent Method and Application Services

Achieve the best scientific outcome at each step of the workflow

Agilent application consultants provide you with comprehensive guidance for trace-level analysis of pesticides and environmental pollutants in food and environmental matrices, including optimization of the MRM acquisition method. Optional sample prep consultancy can provide you with step-by-step guidance.

Agilent QuEChERS and EMR—Lipid Startup Kits

Sample preparation made easy

Agilent offers a broad range of QuEChERS sample prep products for a variety of matrices. The P&EP 4.0 Analyzer includes a QuEChERS+EMR—Lipid Startup Kit applicable to frequently analyzed sample matrices. The innovative sorbent in the Enhanced Matrix Removal—Lipid dispersive SPE (EMR—Lipid dSPE) product selectively removes lipids in complex matrices without losing analytes of interest.

The industry-leading Agilent 7890B GC boosts productivity, protects our environment, and generates data with confidence through better resource management. GC system inertness provides an advantage for pesticide analysis.

The Agilent 7010B Triple Quadrupole GC/MS redraws the boundaries for GC/MS/MS workflow productivity. Its High Efficiency Source (HES) is critical for trace level analysis of pesticides.

MassHunter Software is a single powerful software solution for all Agilent MS platforms, saving training costs in multi-instrument labs.

Agilent P&EP Analyzer 4.0 Ordering Information:

Choose one of the following options when you order an **Agilent 7000D/7010B Series Triple Quadrupole GC/MS** with an **Agilent 7890B GC analyzer system:**

Part No	Backflush Method	Run Time	Dimensions	Backflush
M7411AA	Flexible Constant Pressure	40 min	30 m column x 0.5 m restrictor	Post Column
M7412AA	Constant Flow (CF)	20 or 40 min	15 m column x 15 m column	Mid Column
M7414AA	Selective CF	20 min	5 m column x 15 m column	Mid Column

Put your lab on the productivity *fast track*.

Contact your local Agilent representative or Agilent authorized distributor

Call **800-227-9770** (in the U.S. or Canada) or visit **www.agilent.com/chem/food-ms-solutions**

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