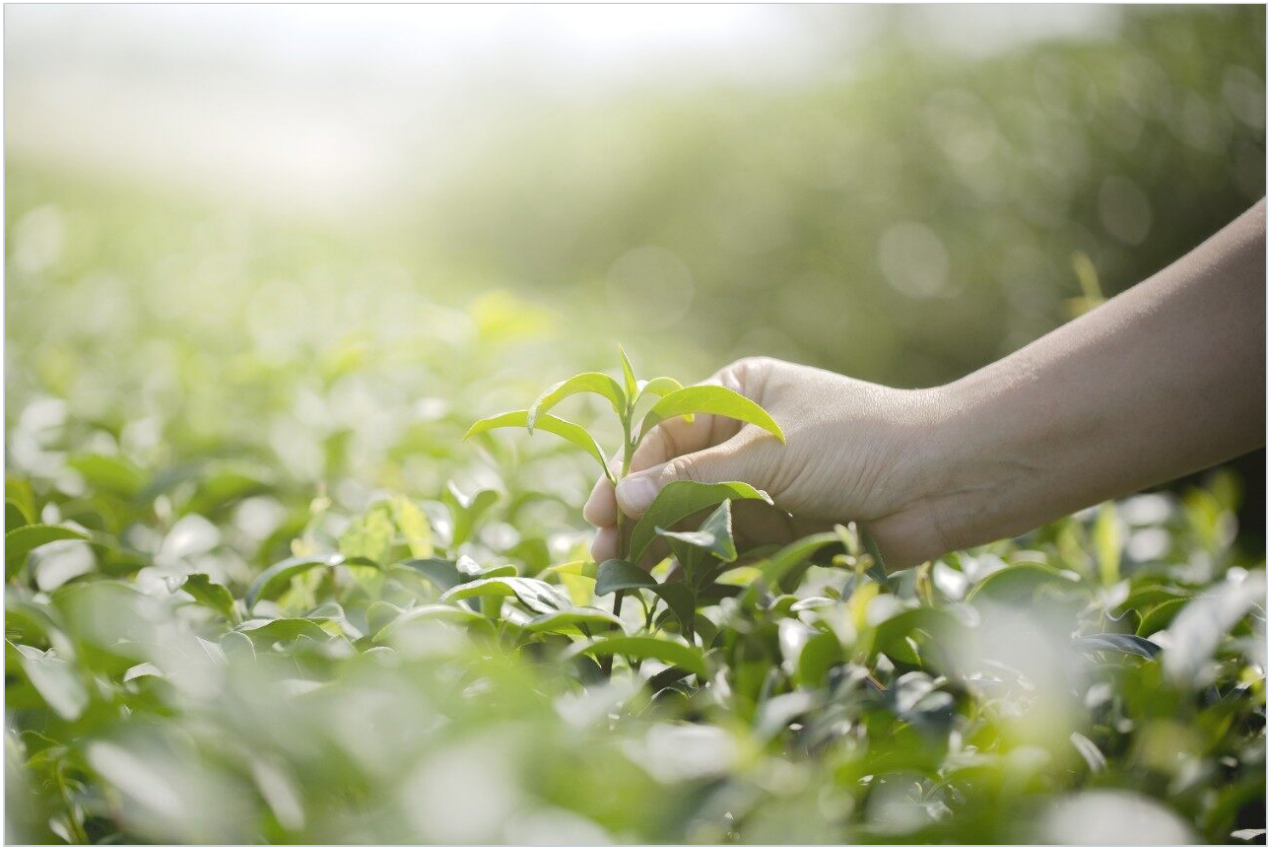
Waters™

Note d'application

Multi-Residue Analysis of Pesticides in Teas Using Modified AOAC QuEChERS Method by UPLC-MS/MS

Waters Corporation



This is an Application Brief and does not contain a detailed Experimental section.

Abstract

This application highlights Multi-Residue Analysis of Pesticides in Tea extracts by UPLC-MS/MS

Experimental

Sample prep procedure

1. Tare weigh an empty beaker.
2. Weigh out 100 g of tea leaves in the beaker.
3. Add in 600 g of hot water at 80-85 °C to the beaker. Brew the tea for 20 minutes.
4. Weigh the beaker with water and tea.
5. Calculate the weight of water loss due to evaporation. Add water to the beaker to make up for the loss of water.
6. Homogenize the sample until it reaches consistent texture.

Extraction Procedure

1. Transfer 15 g of homogenized sample into an empty 50 mL tube.
2. Add any internal standards and standard mixture.
3. Add 15 mL 1% acetic acid in acetonitrile into the 50 mL DisQuE extraction tube 1.
4. Transfer all the powder in the DisQuE extraction tube 1 into the 50 mL containing sample and solvent.
5. Shake vigorously for 1 minute and centrifuge > 1500 rcf for 5 minute.
6. Transfer 1 mL of the acetonitrile extract into the clean-up tube 2.
7. Shake for 30 seconds and centrifuge >1600 rcf for 5 minute.
8. Transfer 100 µL of final extract into an autosampler vial.

9. Add any post-extraction internal standards.

10. Dilute as needed with an appropriate buffer or solvent.

LC conditions

LC System:	Waters ACQUITY UPLC System
Column:	ACQUITY UPLC BEH C_{18}, 2.1 x 100 mm, 1.7 µm
Column Temp:	40 °C
Sample Temp:	4 °C
Flow Rate:	0.3 mL/min.
Mobile Phase A:	Water + 0.1% formic acid
Mobile Phase B:	Methanol + 0.1% formic acid
Injection Volume:	15 µL, Partial loop injection

Gradient

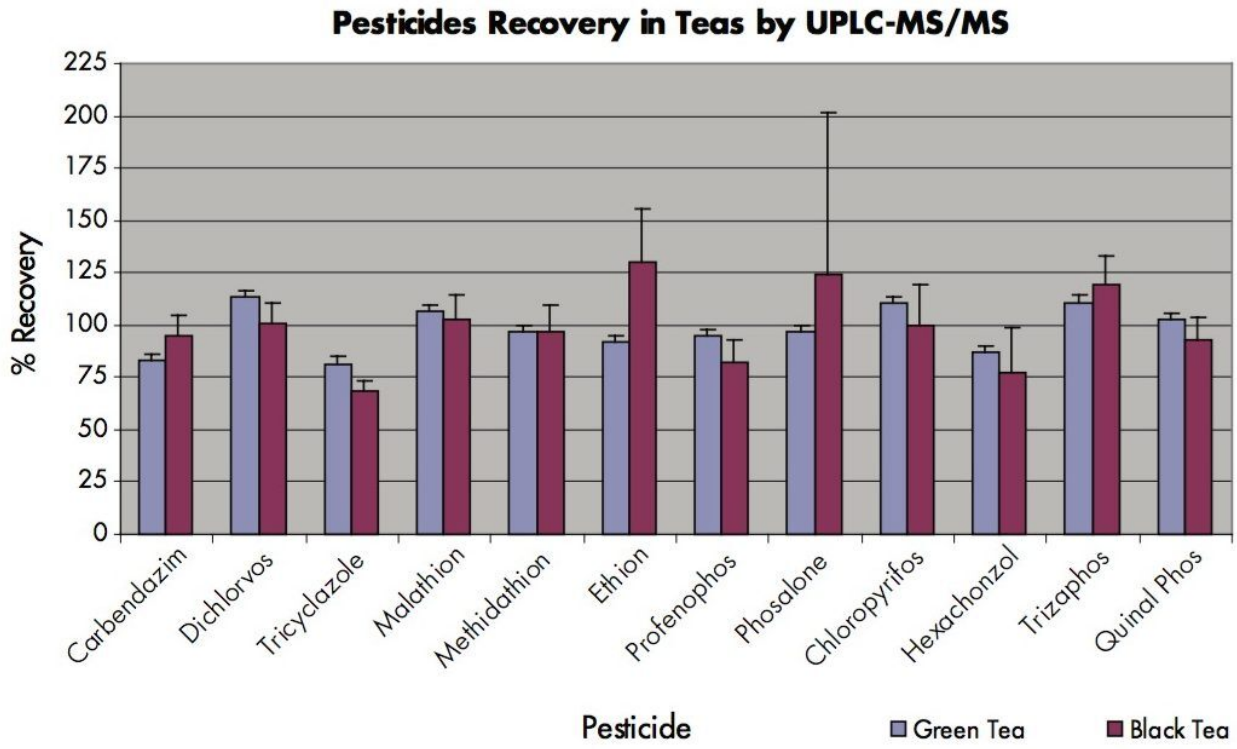
Time	Flow Rate	A%	B%
0	0.3	75	25
0.25	0.3	75	25
7.75	0.3	5	100
8.5	0.3	0	100
8.51	0.5	75	25

Time	Flow Rate	A%	B%
10.5	0.5	75	25
11	0.3	75	25

MS conditions

Instrument:	Waters ACQUITY TQ Detector
Ionization:	Positive electrospray (ESI+)
Acquisition:	Multiple reaction monitoring (MRM)

Results and Discussion



Pesticides in Teas by UPLC-MS/MS

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ACQUITY UPLC System <https://www.waters.com/514207>

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