

Quantitative analysis of pesticides and mycotoxins in cannabis flower as defined by Massachusetts state regulations

A single instrument solution for an efficient return-on-investment

Key features of SCIEX QTRAP 6500+ system for cannabis analysis

- Single injection to help meet Massachusetts pesticide¹ and mycotoxin regulations in cannabis flower
- Analysis done entirely in electrospray ionization (ESI)
- Method performance demonstrated in cannabis flower extracts fortified \leq Massachusetts required reporting limits¹
- Isotopic internal standards to correct for matrix effects across multiple matrices
- Quick and easy acquisition method creation using the SCIEX vMethod application
- Technical support and expertise online through SCIEX Now learning hub and via onsite training with cannabis experts



Example chromatograms of imazalil, spiromesifen, and bifenazate are shown here to demonstrate the sensitivity using multiple reaction monitoring (MRM) on the SCIEX QTRAP 6500+ system. Cyfluthrin isomers are shown to demonstrate the sensitivity and selectivity of MS/MS using the QTRAP 6500+ system.

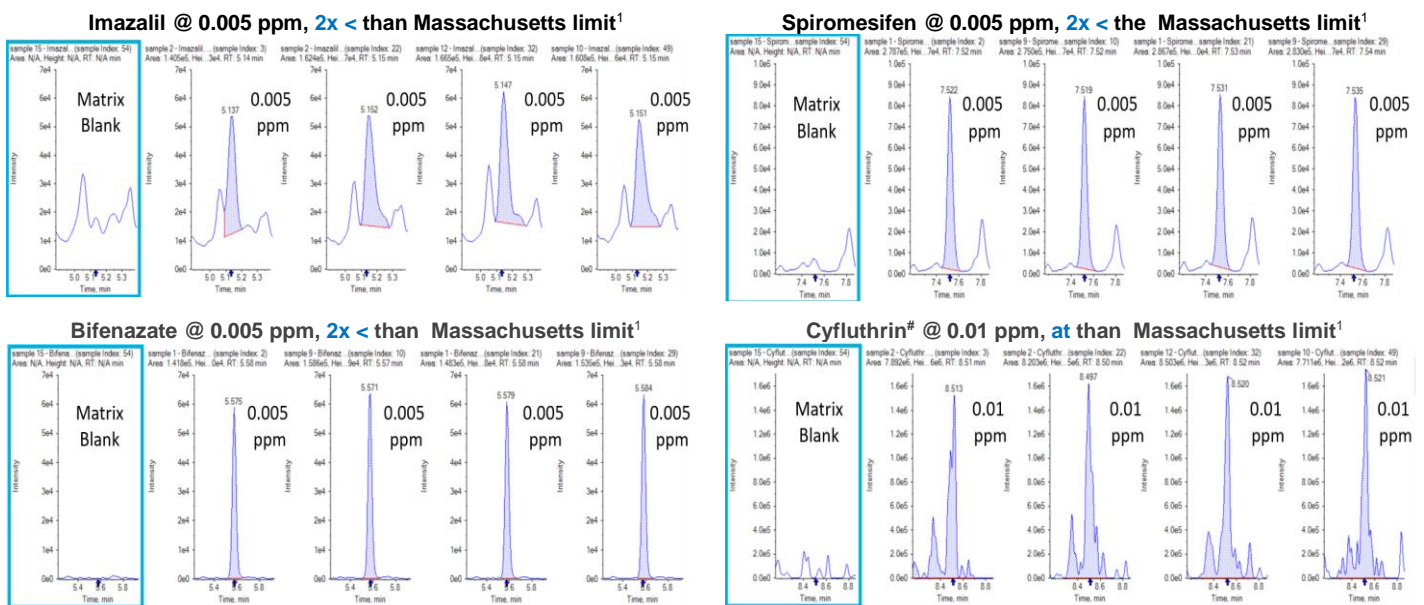


Figure 1. Unfortified cannabis flower (top left in each set) followed by five replicate extractions of fortified cannabis flower. [#] cyfluthrin isomers are summed for a total concentration.

Table 1. The SCIEX Triple Quad 6500+ system can help meet or exceed all the Massachusetts pesticide¹ and mycotoxin testing limits (µg/g or ppm) in cannabis flower summarized below.

Pesticide name	Limit	Ionization	Pesticide name	Limit	Ionization	Mycotoxin name	Limit	Ionization
<i>Bifenazate</i>	0.01	ESI	<i>Imidacloprid</i>	0.01	ESI	<i>Aflatoxin B1</i>	Sum of 4 Aflatoxins ≤ 0.02	ESI
<i>Bifenthrin</i>	0.01	ESI	<i>Myclobutanil</i>	0.01	ESI	<i>Aflatoxin B2</i>		
<i>Cyfluthrin</i>	0.01	ESI	<i>Spiromesifen</i>	0.01	ESI	<i>Aflatoxin G1</i>		
<i>Etoxazole</i>	0.01	ESI	<i>Trifloxystrobin</i>	0.01	ESI	<i>Aflatoxin G2</i>		
<i>Imazalil</i>	0.01	ESI				<i>Ochratoxin A</i>	0.02	ESI

SCIEX supports you

Scan or click the QR codes to browse free online training videos, cannabis testing material and learn how SCIEXNow can help manage your instrument performance.

Learning hub



SCIEX Now



Cannabis Testing



Reference

- As of November 2021. Protocol for the Sampling and Analysis of Finished Marijuana Products and Marijuana Products for Marijuana Establishments, Medical Marijuana Treatment Centers and Colocated Marijuana Operations. 2020.

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