

研究论文

液相色谱-串联质谱检测蔬菜和茶叶中吡虫啉的残留量

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摘要 介绍了利用液相色谱-串联质谱(LC-MS/MS)快速、准确地测定蔬菜、茶叶产品中吡虫啉残留量的方法。前处理方法为用乙腈提取,再用弗罗里硅土和活性炭混合柱净化。用多反应监测技术确定吡虫啉的两对离子(m/z 256.0/209.3, m/z 256.0/175.2)为定性离子对, m/z 209.3为定量离子。方法的定量限为0.01 mg/kg,线性范围为0.01~0.5 mg/L,加标回收率为76%~90%,相对标准偏差(RSD)为7.4%~11.0%。

关键词

[液相色谱-串联质谱](#) [吡虫啉](#); [残留量](#) [蔬菜](#) [茶叶](#)

分类号

Determination of Imidacloprid Residues in Vegetable and Tea Samples Using Liquid Chromatography-Mass Spectrometry/Mass Spectrometry

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Abstract

A liquid chromatography-mass spectrometry/mass spectrometry (LC-MS/MS) method was developed for the determination of imidacloprid in vegetable and tea samples. The sample was first extracted with acetonitrile and then cleaned up with Florisil and active charcoal column. The precursor ion/product ion transitions m/z 256.0/209.3 and m/z 256.0/175.2 were monitored, and m/z 209.3 was used for quantification. The good linearity was obtained in the range of 0.01-0.5 mg/L with the correlation coefficients (r^2) more than 0.997. The limit of quantification was 0.01 mg/kg. The recoveries were 76%-90% at the spiked levels of 0.01, 0.05 and 0.2 mg/kg with the relative standard deviations of 7.4%-11.0%. The method is rapid, sensitive and specific for imidacloprid analysis.

Key words

[liquid chromatography-mass spectrometry/mass spectrometry \(LC-MS/MS\)](#)
[imidacloprid](#) [residues](#) [vegetable](#) [tea](#)

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