

气相色谱法分析甘蓝及其土壤中的烯啶虫胺残留

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Determination of nitenpyram residue in cabbage and soil using gas chromatography

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摘要 建立了气相色谱测定甘蓝植株和土壤中烯啶虫胺残留量的分析方法。样品采用丙酮-水(4:1, v/v)进行提取,经佛罗里硅土柱净化,用电子捕获检测器进行测定。实验结果表明,添加水平为0.02~2.00 mg/kg时,烯啶虫胺在甘蓝植株和土壤中的平均回收率分别为88.73%~94.13%和90.82%~96.27%,相对标准偏差分别为3.09%~7.39%和2.01%~4.92%;方法的最低检出限为0.02 mg/kg。该方法快速简便、灵敏度高、重现性好,可用于环境系统中烯啶虫胺残留量的检测分析。

关键词: 气相色谱 烯啶虫胺 甘蓝 土壤

Abstract: An analytical method for the determination of nitenpyram residue in cabbage and soil using gas chromatography was established. The nitenpyram residue was extracted from cabbage and soil with acetone-water (4:1, v/v), cleaned up by a Florisil column, and then detected by gas chromatography-electron capture detection (GC-ECD). At the spiked level range from 0.02 to 2.00 mg/kg, the average recoveries of nitenpyram were 88.73%~94.13% and 90.82%~96.27% with the relative standard deviations (RSDs) of 3.09%~7.39% and 2.01%~4.92% in cabbage and soil, respectively. The limit of detection of nitenpyram was 0.02 mg/kg. The method is fast, sensitive, simple, reproducible and practical for the determination of nitenpyram residue in environmental systems.

Keywords: gas chromatography (GC) nitenpyram cabbage soil

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