

农学—研究报告

代森锌在花生和土壤中残留测定分析方法的研究

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摘要:

为了研究以代森锌为代表的乙撑双二硫代氨基甲酸酯类农药在土壤和花生中的提取和残留测定方法。本研究样品用碱性EDTA溶液处理,使二硫代氨基甲酸酯的锌盐转变成水溶性的钠盐。二硫代氨基甲酸酯阴离子在pH为6.5~8.0范围内作为四丁基胺的离子对被氯仿-正己烷(3:1)混合液萃取,经碘甲烷烷基化以后形成乙撑双二硫代氨基甲酸酯,使用FPD-S检测器的气相色谱测定。研究结果表明代森锌的最小检测量为 $2.5 \times 10^{-10}$  g,土壤和花生仁中的最低检测浓度为0.03 mg/kg,添加标准样品的回收率和变异系数分别为88.99%~92.80%、2.78%~4.65%。本研究说明建立的方法精密准确,操作简便且适用范围较宽,能满足农药残留分析的要求。

关键词: 残留分析方法

Determination the Residue of Zineb 80% WP in the Peanut and Soil by Gas-Liquid Chromatographic

Abstract:

In order to studying ethylenebis dithiocarbamates that take the case of zineb on the extraction from peanuts and determination. The S-methyl dithiocarbamates residues of derivative of zineb in peanut and soil were determined by GLC method. In that method the sample was treated with alkaline EDTA solution in order to transform zine salts of dithiocarbamic acids into their readily water-soluble sodium salts. The dithiocarbamate anions were extracted at Ph 6.5-8.0 to chloroform-hexane (3:1) as ion pairs of tetrabutylammonium and alkylated with methl iodide to form s-methyl dithiocarbamates. The residue was reextracted, then quantitatively determined by gas chromatography coupled with FPD-S detector. The minimum detection limit for was  $2.5 \times 10^{-10}$  g and the lowest detection concentrations in soil and peanut were 0.03 mg/kg respectively. The recoveries of prochloray spiked in soil and peanut sample were 88.99%-92.80%, with variable coefficients of 2.78%-4.65% respectively. Present study explained the method correctly, simple and precision, the scope was wide to meet the pesticide residue analysis requirements. The residue was reextracted, then quantitatively determined by gas chromatography coupled with FPD-S detector. The minimum detection limit for was  $2.5 \times 10^{-10}$ g and the lowest detection concentrations in soil and peanut were 0.03mg?kg-1 respectively. The recoveries of prochloray spiked in soil and peanut sample were 88.99%~92.80%, with variable coefficients of 2.78%~4.65% respectively.

Keywords: residual analysis

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