

前植物生产层

微波消解石墨炉原子吸收光谱法测定植物中的铅

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摘要:

研究了微波消解石墨炉原子吸收分光光度法测定植物中铅的最佳实验条件、测定方法的准确度和精确度。结果表明, 测定植物中铅的最佳酸体系为5 mL HNO₃-3 mL H₂O₂-2 mL HF、最佳消解条件为微波炉功率600 W、温度180 ℃消解15 min, 石墨炉的最佳工作条件为90 ℃干燥45 s、900 ℃灰化20 s、原子化温度1 400 ℃和洁净温度2 500 ℃。用该法样品加标回收率为95.81%100.09%, 检出限为0.068 4 mg/kg, 相对标准偏差为1.2%~5.6%。

关键词: 微波消解; 石墨炉原子吸收; 铅; 植物

A determination of lead content in plant by microwave heating and GF AAS

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Abstract:

The best experiment conditions, accuracy and precision for determining the microamounts of lead content in plant by microwave heating GF AAS approach were studied. Results indicated that the best acid system is 5 mL HNO₃ 3 mL H₂O₂ 2 mL HF, the best microwave heating condition is under the state of power 600 W、temperature 180 ℃ and microwave heating 15 min. The optimal working condition of Graphite Furnace is the dried 45 s under 90 ℃, cineration 20 s under 900 ℃, atomized temperature 1 400 ℃ and cleaned temperature 2 500 ℃. The limit of detection of this method was found to be 0.068 4 mg/kg, the relative standard deviation error were in the range of 1.2%-5.6%, and recoveries were in the range of 95.81%-100.09%.

Keywords: microwave heating; GF AAS ; lead; plant

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