

陕西渭北苹果园土壤中汞、镉污染与分布特征研究

Spatial distribution and pollution of mercury and cadmium in Weibei apple orchard soils of Shaanxi Province

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作者	单位
梁俊	西北农林科技大学园艺学院, 杨凌 712100
赵政阳	西北农林科技大学园艺学院, 杨凌 712100
樊明涛	西北农林科技大学食品科学与工程学院, 杨凌 712100

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中文摘要:

该文研究了陕西优势苹果产区果园土壤中汞和镉含量、污染情况、分布特征及对苹果绿色食品生产的影响。2003~2006年在陕西全部27个苹果基地县481个代表苹果园,每一果园采用“S”形法选取20个样点,采集0~40 cm层土样,分析了土壤中汞、镉含量。结果表明,果园土壤受到汞、镉的轻度污染;土壤中汞、镉频率分布为对数正态分布,其含量适宜的表示方法为几何平均值,汞,0.051 mg/kg,镉,0.055 mg/kg;土壤中汞、镉浓度与pH值相关性极显著,在pH值7.6~9.7范围内,土壤pH值越高越有利汞、镉的累积。果园土壤受到汞、镉的轻度污染,对绿色食品苹果生产不存在威胁。

英文摘要:

The influences of the concentrations, pollution, spatial distribution of mercury and cadmium in apple orchard soils of Shaanxi Province on the production of green eatable apple were investigated. The 481 apple orchards were chosen from all 27 apple bases of Shaanxi Province from 2003 to 2006. The 20 sampling sites were selected using “S” method in each orchard, and the soil specimens at 0 cm to 40 cm deep were collected for the concentration analysis of mercury and cadmium. The experimental results indicated that the soils of orchard were slightly polluted by mercury and cadmium. The frequency fraction distributions of mercury and cadmium in soils were logarithm normal school. The appropriate expression methods of their concentrations were geometric mean values. The concentrations of mercury and cadmium were 0.051 mg/kg and 0.055 mg/kg, respectively. The concentrations of mercury and cadmium in soils were influenced by the pH value of the soil. In the range of pH 7.6~9.7, the concentrations increased with the increase of soil pH value. The soils were slightly polluted by mercury and cadmium, which did not do harm to the production of green eatable apple.

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