外源砷、铅在三类紫色土中形态分配与其化学、生物有效性研究

Speciation distribution and its chemical, biological availability of arsenic, lead added in acid, neutral and alkali purple soil

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中文摘要：

对比研究了酸、中、石灰性紫色土添加砷、铅后其形态分配变化及化学、生物有效性特征。试验表明：砷、铅在三种紫色土中形态分配不同，外源砷、铅分配与原始土样本底值有较大差异。从提取能力、生物效应方面比较了几种浸提剂效果，认为：用0.5N $NaHCO_3$提取As、2.5%HAc提取Pb可以较好地表征3种紫色土砷、铅的有效量。植物吸收砷、铅与土壤有效量有较好的相关性，但吸收形态却因土而异。试验还证明，As的形态分级中H_3BO_3可以很好地掩蔽F-对比色的干扰。

英文摘要：

As, Pb were added to study the speciation distributions and the characteristic of chemical, biological availability in acid, neutral and alkali purple soil. The results showed that the speciation distribution varied from three purple soils and the differences also existed in the soil between treatments of the primitive samples and the As, Pb added samples. The experiments were conducted to compare the effects of some extraction-reagents in terms of the extraction ability and the living-culture usefulness. The results indicate that the extraction methods by 0.5 mol/L $NaHCO_3$ for As, 2.5% HAc for Pb should be adopted in three purple soils. The As, Pb contents absorbed in plants were well related to its chemical availability in the soil but the absorbed speciation varied from different soils. The experiment also showed that H_3BO_3 could be used to restrain the F-interference in the operation of As speciation separations.

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