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改良剂对重金属污染红壤的修复效果及评价

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Evaluation the remediation effects of amendments in heavy metal polluted red soil

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摘要 | 参考文献 | 相关文章

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摘要 采用盆栽试验，研究了施用改良剂—石灰、有机肥、海泡石对红壤上小油菜生物产量、镉锌吸收量、pH、吸收系数的影响。结果表明，施用改良剂，连续种植3季小油菜 (*Brassia campestris* L.) 的生物产量都显著提高，石灰、有机肥和海泡石配施的产量是对照的15倍。改良剂能不同程度提高红壤的pH，以石灰的效果最好，土壤pH平均升高了2个单位；而且小油菜对镉锌的吸收也较低。小油菜对镉的吸收系数大于对锌的吸收系数，说明镉容易在土壤-植物体系中迁移，施用改良剂后吸收系数降低。施石灰的小油菜中锌含量达到食品卫生标准。改良剂对提高土壤pH的后效逐渐减弱，对抑制小油菜吸收锌的后效不如抑制镉的后效好。

关键词： 改良剂 红壤 重金属污染 修复 改良剂 红壤 重金属污染 修复

Abstract：

A pot experiment was carried out in greenhouse to observe the yield, the absorption amount of cadmium and zinc of rape（*Brassia campestris* L.）, and soil pH responses to different amendments (lime, manure and sepiolite) applied in red soil, a typical soil of China. The results indicated that the biomass yield of rape increased after amendments application. The treatment of lime，manure and sepiolite co-application showed the highest yield, which increased 15 times comparing with no amendments application. The soil pH was increased in various degrees with different amendments or their co-application. Application lime could increase soil pH around 2 units. This made the absorption amount of cadmium and zinc was very low. The uptake coefficient of Cd was bigger than that of Zn, which implied that Cd was easy move from soil to plant. The uptake coefficient was decreased with application lime especially. The content of Zn in rape decreased lower than the food standard after application of lime to red soil. The aftereffect of amendments on soil pH was worn off with time. The aftereffect of amendments to Cd was better than that of Zn.

Keywords：

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