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表面活性剂与EDTA对雪菜吸收镉的影响

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Effect of surfactants and EDTA on cadmium bioaccumulation by Brassica juncea var. multiceps

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摘要 采用表面活性剂与螯合剂处理,强化雪菜吸收土壤镉的盆栽试验表明,影响植物吸收镉的主要因子是表面活性剂类型。阴离子型与非离子型表面活性剂的强化修复效果要优于阳离子型表面活性剂,其中以十二烷基硫酸钠和Tween80为好。表面活性剂与EDTA复合使用,可以降低土壤对镉的吸附(顺序依次为EDTA/DBSS>EDTA/TX-100>EDTA/CTAB>EDTA>DBSS>TX-100>CTAB),增加土壤对镉的解吸,进而促使土壤镉向植物转移,有利于强化镉污染土壤的植物修复。

关键词： 表面活性剂 螯合剂 镉 植物修复 表面活性剂 螯合剂 镉 植物修复

Abstract： The pot-experiments with the treatments involving surfactants and chelators EDTA were conducted to investigate their enhancement of cadmium accumulation of *Brassica juncea* var. *multiceps*. The results showed that the key factor affecting cadmium uptake was the surfactant types, which anionic and nonionic surfactants were more effective than cationic surfactants, and in particular in them the sodium laurylsulfonate and polysorbate-80 were better. The joint (application) of surfactants and EDTA could significantly accelerate the extraction of cadmium from the soil (the order was (EDTA/DBSS)>EDTA/TX-100>EDTA/CTAB>EDTA>DBSS>TX-100>CTAB); consequently, the amount of (cadmium) uptake by the plants increased, accounting for the mechanism of SAA-EDTA-enhanced phytoremediation of (Cd-conta)minated soil.

Keywords：

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