

Inoculation of Soil With Cadmium-Resistant Actinomycetes Flora Reduces Cadmium Accumulation in Rice (*Oryza Sativa* L.)

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Abstract—The microorganism and other amendments were immobilized in pellet carrier as microbial reverse screening model and were applied to the simulated Cd contaminated soil. Microbial flora(*Streptomyces* XW8, *Actinomycetes* XW3, *Actinomycetes*XW5) reduces Cd accumulation in rice when combined with biochar, humic acid and Carbon silicon functional liquid fertilizer. Microbial flora(*Bacteria* XW6, *Actinomycetes* XW3, *Actinomycetes* XW5) has highest TF and raises the bioavailability of Cd in soil. But *Bacteria* XW6 activate Cd in soil, which is a premium candidate for application in phytoremediation Cd farmland contamination. The compatibility of microbial flora had a significant effect in Cd reduction.

Keywords: Cd farmland contamination, screen model, microbial flora, bioremediation, amendments

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Abbreviations: cadmium (Cd), Cd-remediation microorganism (CRM), Cd tolerance strains(CTS), Translocation factor (TF)