

Variation among Rice Cultivars in Root Acidification and Its Relation to Cadmium Uptake [PDF]

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摘要: To understand the mechanisms of Cd uptake and accumulation in rice, soil acidification by root activities was investigated in six rice cultivars differing in Cd accumulation. The results showed a significant difference among the cultivars in pH of pot water and root exudate. Soil acidification abilities varied with rice cultivars. Both pH of pot water and root exudate were lower in indica cultivars than in japonica ones. The difference in root acidification was larger in Cd treated cultivars than the control. Under Cd stress, the pH of pot water and root exudate correlated negatively and significantly with Cd concentrations in rice plants. It was suggested that the soil acidification by root exudates, especially in Cd contaminated soils, may be one of the mechanisms responsible for Cd uptake in rice cultivars.

关键词: cadmium; rice (*Oryza sativa*); root acidification; uptake

Rice Science. 2006, 13(4): 278-282

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