



# Cadmium Sorption and Desorption Characteristics of Tropical Alfisols from Different Land Uses

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*Cadmium (Cd) sorption and desorption characteristics by Alfisols from different land uses were examined, and the relationships between soil and sorption/desorption characteristics were investigated. Adsorption studies were done using Cd concentrations (0–100 mg Cd kg<sup>-1</sup>) in 0.01 M CaCl<sub>2</sub>. The Cd sorbed by the soils was then subjected to two desorption runs. The soils' adsorption conformed to Freundlich and Langmuir equations. The amount of Cd sorbed by the soils varied. Two desorption runs detached more than 95% of sorbed Cd, but the first accounted for more than 80% of the total. Desorption of Cd in degraded soils was more than in soils from other land uses. The amount of Cd desorbed correlated with amount applied ( $r = 0.90^{**}$ ), solution concentration ( $r = 0.83^{**}$ ), and amount sorbed ( $r = 0.70^{**}$ ). A positive relationship exists between the adsorption maxima of the soils and soil organic matter ( $r = 0.13$ ,  $p = 0.87$ ). The relationship between amount of Cd desorbed and sorbed is quadratic for all the soil.*

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