



## **Leaching potential of chlorpyrifos in an Andisol and Entisol: adsorption-desorption and degradation studies**

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Ecological status of tropical soils like high OC content and microbial activity plays a key role to reduce the leaching of insecticide chlorpyrifos through the soil profile and therefore into groundwater. We found that chlorpyrifos has “transitional” leaching potential (GUS values varied between 1.8 and 2.5) throughout the soil depth, which differs from the “nonleacher” classification for temperate soils as based on surface level  $t_{1/2}$  and Koc values from international databases. These findings provide strong evidence of the importance of estimating the transport parameters and insecticide concentrations in different soil layers, especially when the amount and type of OC content vary throughout the soil profile. We got to such conclusions after studying the soil profile structural composition of soil organic matter and the adsorption/desorption characteristics of the insecticide in two different soil profiles (Andisol and Entisol) under agriculture production using Fourier transform infrared spectroscopy, nuclear magnetic resonance, and batch analysis methods.