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Degradation of Endosulfan in Different Soils by Indigenous and Adapted Microorganisms

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Abstract : The environmental fate of organic contaminants in soils is influenced significantly by the pH, texture of soil, water content and also presence of organic matter. In this study, biodegradation of endosulfan isomers was studied in two different soils (Soil A and Soil B) that have contrasting properties in terms of their texture, pH, organic content, etc. Two Nocardia sp., which were isolated from soil, were used for degradation of endosulfan. Soils were contaminated with commercial endosulfan. Six sets were maintained from two different soils, contaminated with different endosulfan concentrations for degradation experiments. Inoculated and uninoculated mineral media with Nocardia isolates were added to the soils and mixed. Soils were incubated at a certain temperature (30 °C) during ten weeks. Residue endosulfan and its metabolites’ concentrations were determined weekly during the incubation period. The changes of the soil microorganisms were investigated weekly.

Keywords : endosulfan, biodegradation, Nocardia sp. soil, organochlorine pesticide
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