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EVALUATION TO CHLORPYRIFOS DEGRADATION BY *BACILLUS* SPP. INVITRO AND INVIVO

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ABSTRACT

Out of the sixty nine *Bacillus* isolates, three namely, B1, B50 and B65 were found to be the most efficient isolates in biodegrading and utilizing chlorpyrifos insecticide as a sole source of carbon in (MSL) medium. The three *Bacillus* isolates were identified to the level species based on their Morphological, biochemical and biolog system characteristics and were found to be *Bacillus thuringiensis* (B1), *Bacillus cereus* (B50), and *Bacillus subtilis* (B65). The environmental factors effecting the bacterial growth and biodegradation of substrate chlorpyrifos, concentrations, temperature degrees, pH values and carbon and nitrogen sources were studied. The three isolates of *Bacillus* species were varied in their response to the different environmental factors. An applied experiment was also designated to study the effect of different soil texture on the biodegradation of chlorpyrifos insecticides (100mg/Kg⁻¹) under the natural conditions.

Keywords: *Bacillus* species, Biodegradation; chlorpyrifos; Gas Chromatograph.