**Abstract**

General agricultural use of pesticides carries with it potential hazards to man and directly by exposure to toxic residues in food and indirectly to the environment. An effort is undertaken in the present study for developing active microbial strains that could be of relevant in bioremediation of pesticides contaminated soil. The bacterial isolates were screened through biochemical and microbial analysis from the soil of agricultural land in Omalur region, Tamil nadu. An efficient strain having organophosphorus - Monostar insecticide (monocrotophos) degrading ability was isolated and identified on the basis of 16S rDNA sequence analysis as *Bacillus thuringiensis.* The isolated sequences were submitted in NCBI (national centre for biotechnological information) for the analysis of homology. As a result the *Bacillus thuringiensis* sequences of BLAST shows the 100 % similarity with *Bacillus cereus*