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Biodegradation of Organochlorine pesticide,Endosulfan by isolated strain, *Klebsiella oxytoca* KE-8

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Endosulfan degrading microogranisms were sereened not only from the cultivated fields where endosulfan was applied but also several mill soils. From the soil samples indication a high degradation rate an isolated strain KE-8 was selected to be the strongest degrader of endosulfan and it was identified as *Klebsiella oxytoca* by 16S rDNA sequencing. The mineral salt media was as follows; NH_4NO_3 1g, K_2HPO_4 1g, $MgSO_4 \cdot 7H_2O$ 0.5g, $CaCO_3$ 0.2g per 1liter. The bacterium degraded 63% of 542 ㎍/㎖ endosulfan under shaking condition. The removal rate of endosulfan, 58.33 ㎍/㎖/day. In addition, *K. oxytoca* KE-8 was utilized endosulfan as a sole carbon source. During endosulfan degradation, CO_2 was evolved 75.20 ㎍/㎖. Effect of initial pH, pH 7.0 was higher than other pH ranges (pH 5.0, 6.0, 8.0, 9.0) on the endosulfan degradation. Effect of initial temperature, 30℃ was higher than other temperature ranges (20, 25, 35, 40℃) in the endosulfan degradation.

Key words : Endosulfan, Biodegradation, *Klebsiella oxytoca*