

**STUDY ON THE EFFECTS OF SOIL P^H AND ADDITION OF N-P-K FERTILIZER ON
DEGRADATION OF PETROLEUM HYDROCARBON PRESENT IN OIL
CONTAMINATED SOIL**

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ABSTRACT

Many of the hydrocarbons are resistant to degradation in the natural environment. The overall degradation rate of hydrocarbons biodegradation in soils is strictly limited by a variety of parameters. Two of the most important soil factors that affect degradation are soil p^H and available nutrients. Soil p^H is an important parameter that predominantly affects the biodegradation process. This is because each type of microorganisms has a preferred p^H range for optimal growth and activity. The positive effects as well as the negative effects of different N-P-K levels on the biodegradation of hydrocarbons have been reported by different authors. In the present study, role of soil p^H and N-P-K fertilizer on the degradation of petroleum hydrocarbons was evaluated. Remediation studies using petroleum hydrocarbon contaminated soil (artificially contaminated with crude oil of Assam) were conducted under different p^H values and different N-P-K environments. The set up of the experimental samples along with the test conditions applied to study the effect of p^H and N-P-K fertilizer on degradation of petroleum hydrocarbons has been evaluated. The present study shows the effects of p^H on degradation of petroleum hydrocarbons in order to determine the optimum soil p^H that gives best result for degradation. The effect of different N-P-K levels in soil on the biodegradation of hydrocarbons was also determined in the study.

KEYWORDS: Crude Oil Contaminants, Hydrocarbons, Soil P^H, N-P-K Fertilizer, T_p^H, Biodegradation, Remediation