



## **Biosurfactant Producing Microbes from Oil Contaminated Soil - Isolation, Screening and Characterization**

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**Abstract:** This paper basically deals with isolation, production and characterization of biosurfactant producing microbes from oil contaminated soil sample. In this paper, we are comparing and discussing different methods to screen & characterize microbes from soil which can degrade oil due to their biosurfactant producing activity which helps in reduction of surface tension of oil. Oils used to check the biosurfactant activity of microbes, were engine oil and vegetable oil. Further isolation of microbes were done using serial dilution and spread plate methods. They were screened by using two methods: turbidostatic and oil spreading techniques. Among 7 cultures, 5 strains of bacteria showed biosurfactant activity i.e. they gave positive results during screening tests. To characterize these strains Bergey's manual was used. Identification was done using simple microbiological and biochemical tests such as gram staining, catalase test, endospore test, glucose fermentation test, lactose fermentation test, indole test and nitrate test. The strains WC1 and WC2 were identified as *Sporosarcina sp.*, PPC1 as *Neisseria flavescens*, PPC2 as *Neisseria sicca*, PPC4 as *Proteus mirabilis*. During screening, the strain which used to degrade oil layer first was WC1 (*Sporosarcina sp.*). It showed maximum activity during turbidometric as well as oil spreading technique.

**Keywords:** *Biosurfactant, Bergey's manual, catalase test, endospore test, glucose fermentation test, indole test, nitrate test.*

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