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ISOLATION OF BACTERIA FROM SOIL TO PRODUCE BIOSURFACTANT

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ABSTRACT

Biosurfactants are amphiphilic compounds produced extracellularly by microorganisms on cell surfaces. The present study was focused on isolation of biosurfactant producing bacteria from soil sample using plate dilution methods and assessing the potential of these isolates by various standard methods. Five bacteria were isolated from the soil sample of which only one isolate, identified as *Pseudomonas aeruginosa* was positive for biosurfactant activity when oil spreading and drop collapse methods were used to screen the bacteria. The *P. aeruginosa* was then used to produce biosurfactant in a mineral salt medium utilizing crude oil as a sole carbon source. After 10 days of

incubation, 4.15g/L of surfactant was obtained. The results of this study suggest that *P. aeruginosa* have potential to utilize crude oil as a carbon source in a mineral salt medium to produce biosurfactant, and could be improved for large scale production of biosurfactant.

Key words: Biosurfactant, *Pseudomonas*, amphiphilic