Characterization of Diesel Degrading Bacterial Species from Contaminated Tropical Ecosystem

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ABSTRACT

The bacterial diversity in a diesel contaminated tropical soil was investigated using diesel oxidation in gradient cultures dynamics (pH and OD) of the pure cultures. The diesel dependent growths of these isolates were assessed for 15 days by monitoring the gradient fluxes in the pH and Optical density OD of the media. Results showed an increase in OD as well as fluctuations in pH values. The mean OD data obtained was 0.515-1.187 with pH of 6.95-7.2. From the morphological and biochemical characterization and comparison with respect to the standard references, the isolates S1P1, S2P1, S3P1, S4P1, and S5P1 were presumably the members of the genera Bacillus, Pseudomonas and Mycobacterium species. From the study, it was apparent that the tropical ecosystems contained unique organisms with the ability to deal with diesel contamination.

Key words: Diesel, Optical density, Turbidity, Tropical Ecosystem, bacterial strains, pH


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