
Microbial degradation of LDPE microplastics from the microbes found in sediments of dump area

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Abstract

Low density polyethylene products are widely used in our day to day life as they are convenient, durable and cheap. But LDPE is hard to degrade. Present available techniques for disposal of plastic waste are dangerous to environment and produces microplastics which is global threat. This study aims to determine the microbe mediated degradation of microplastics by isolating microbe from the sediment sample. The isolated strains were found to be potential plastic degrading bacteria by loss in weight of LDPE beads. FTIR analysis that LDPE beads had undergone oxidation which is the sign of mineralization by test bacteria. This study highlighted natural bacteria present in the environment have the potential to degrade LDPE and can be used for plastic remediation process.

Keywords: LDPE, microbe, mediated degradation, FTIR

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