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Isolation of bacterial strain for biodegradation of fats, oil and grease (Article)

[Isolation of bacterial strain for biodegradation of fats, oil and grease]

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Abstract

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Fat, oil and grease (FOG) deposition is one of the major problems that harm the environment and cause dissatisfaction for human. Uncontrolled and un-pre-treated FOG removal from the kitchen could lead to its accumulation in the piping system. Problems include the interference of fat with the aerobic microorganisms that are responsible in treating the wastewater by reducing oxygen transfer rates and for anaerobic microorganisms; their efficiency could also be reduced due to the reduction of the transport of soluble substrates to the bacterial biomass. Biodegradation could be one of the effective means to treat FOG. The main objective of this study is to isolate bacterial strains from the FOG waste and identify the strains that are capable in biodegrading FOG waste. FOG sample was collected from a sewer manhole. Enrichment technique was applied, followed by isolation of bacterial strains to determine which strain is able to degrade the FOG deposition. Some morphology for the bacterial strain was done to determine its characteristics. © 2015, Malaysian Society of Analytical Sciences. All rights reserved.

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