HYDROCARBON DEGRADATION POTENTIALS OF YEAST ISOLATES FROM A POLLUTED LAGOON

Authors: OO Amund, N Nwokoye

Abstract

The population counts of heterotrophic and hydrocarbon-utilising yeasts were monitored at six sampling stations in the Lagos lagoon over a four-week period. Although the population counts were relatively constant in each locality, the highest counts occurred in areas heavily polluted by domestic and industrial effluents. A total of thirty-two hydrocarbon-degrading yeasts were isolated from water at the sampling stations using n-hexadecane as sole carbon source. The isolates were identified as belonging to the genera Candida (25 strains), Endomycopsis (4 strains) and Schizosaccharomyces (3 strains). All the organisms grew on long-chain n-alkane, kerosene, diesel oil and crude oil but failed to grow on short-chain n-alkane, aromatic and alicyclic hydrocarbons. Measurement of growth attributes of the isolates using n-hexadecane, diesel oil oil and crude oil as substrates showed that the Candida species were better utilizers of hydrocarbon substrates relative to Endomycopsis and Schizosaccharomyces species.

Keywords: Hydrocarbons, Degradation, Yeast

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