

BIODEGRADATION OF CRUDE OIL BY FUNGI BELONGING TO *MUCORALES*

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Living microorganisms (including filamentous fungi) can alter and/or metabolize various compounds present in oil. This process, called biodegradation, affects oil spills and surface seeps and can be very useful for the bioremediation of contaminated areas. The identification of new fungal strains able to degrade oil is challenging. Therefore, strains of different fungi belonging to *Mucorales* order (*Mucor circinelloides*, *M. hiemalis*, *M. mucedo*, *M. plumbeus*, *M. polymorphosporus*, *M. ramannianus*, *M. racemosus*, *M. ramosissimus*, *Absidia corymbifera* and *Cunninghamella elegans*) were tested for oil degradation. Materials and Methods: The test was carried out in 24-well microplates. In each well, 1.8 ml of the medium Bushnell-Haas (without any carbon source), 8×10^5 conidia of each fungus/ml and 50-100 μ l of Arabian oil were added, creating a film on the surface of the medium. During the 96-h incubation period, oil biodegradation was determined visually by searching for any alteration of the oil film. Results: All strains tested showed detectable changes in the oil films, indicating that biodegradation processes were occurring even without any other carbon sources. A more pronounced alteration of the oil film was observed when the fungi *M. polymorphosporus*, *M. ramosissimus* and *A. corymbifera* were used. Conclusion: Strains belonging to *Mucorales* could be useful for application in bioremediation technologies.

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