

عنوان مقاله:

The introduction of a new genus as the degrading crude oil from industrial sewage in Shiraz

محل انتشار:

بیستمین کنگره بین المللی میکروب شناسی ایران (سال: 1398)

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خلاصه مقاله:

Introduction and Objectives: Oil hydrocarbons have the highest environmental pollution. The entry of petroleum hydrocarbons into groundwater pollution also results. Biology is a technology to eliminate oil pollution. The purpose of this study was to identify the molecular components of oil degrading bacteria from industrial waste water from Shiraz. **Materials and Methods:** Water and soil samples were collected from industrial waste water from Shiraz. The oil degradation bacteria were identified after Bushnell-Hass enrichment. The identity of the bacteria was determined based on biochemical and molecular tests and by sequencing the 16S rRNA gene. The ability to isolate bacteria for crude oil degradation was studied through gravimetric experiments. **Results:** Among the isolated bacteria, *Cellulosimicrobium cellulans* showed the best performance in biodegradation of crude oil. This bacterium was able to degrade a maximum 61% of crude oil after 10 days of incubation. **Conclusion:** The results of this study indicate that bacteria can be used in the biological process and reduce the pollution of oil in the environment. The bacteria showed great potential in mixed and single cultures at different concentrations of nutrients, which in turn contributes to increasing the efficiency of eliminating oil pollution.

کلمات کلیدی:

Bioremediation, Crude Oil, Industrial sewage, Bacteria

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