ChemTech

**International Journal of ChemTech Research**
**CODEN(USA): IJCRGG, ISSN: 0974-4290, ISSN(Online):2455-9555**
**Vol.10 No.4, pp58-67,2017**

# Bioremediation of total petroleum hydrocarbons using cotton plant (*Gossypiumhirsutum*)and applying augmentation teqnique by inoculation with *Pseudomonas aeruginosa*and *Penicilliumexpansum*.

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**Abstract:**Cotton plant (*Gossypiumhirsutum*) was used to remediate crude oil polluted soil applying augmentation teqnique. Results of physical and chemical analysis of soil revealed that soil was sandy loam, slightly alkaline pH, poor of total phosphorus. *Gossypiumhirsutum* and its roots associated microorganisms applied to treat polluted soil withcrude oil (rhizoremedation) applying augmentation teqnique by inoculating polluted soil with *Pseudomonaaeruginosas*bacteria and *Penicilliumexpansum* fungi. Total CFU count of bacteria was increased with time while total CFU fungal count was decreased. The best rhizoremediation value after two months was 97% of the treatment with combination of bacterial and fungal inoculum while the lowest value 89.5% was of polluted non-treated soil.

**Key words:** Total hydrocarbons, Rhizoremediation, Augmentation, *Gossypiumhirsutum*, *Pseudomonas aeruginosa*, *Penicilliumexpansum.*



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