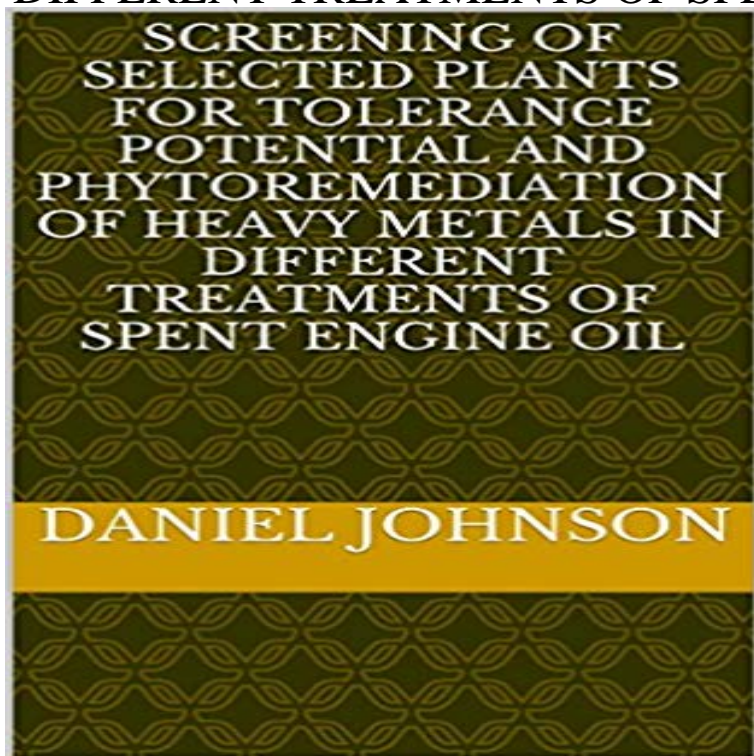


SCREENING OF SELECTED PLANTS FOR TOLERANCE POTENTIAL AND PHYTOREMEDIATION OF HEAVY METALS IN DIFFERENT TREATMENTS OF SPENT ENGINE OIL



Pollution of the soil with petroleum hydrocarbons content of petroleum products is one of the devastating environmental challenges. Various plants have been used in the remediation of soil polluted with petroleum products. This present study was aimed at determining the potentials of four plants (*Axonopus affinis*, *Eleusine indica*, *Sida acuta* and *Jatropha curcas*) to tolerate and remediate heavy metals in the different concentrations of spent engine oil. Atomic Absorption Spectrometry (AAS) method was used to determine the level of heavy metals in three treatments of the spent oil (0%w/w, 50%w/w and 100%w/w) and plant samples. Four samples each of the plant were collected from different locations in Lagos Areas and were transplanted into labelled bowls in two replicates. The experiment lasted for twelve weeks. Optimal survival rate was observed in *A. Affinis* and *E. indica* planted in both 0% and 50% soil treatment. There was significant reduction in the Zn level of all treatments (p Keywords: Tolerance, phytoremediation, heavy metals, spent engine oil, selected plants.

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Heavy metals and living systems: An overview - NCBI - NIH Plant species are selected for use in the remediation of heavy metal effective in the rapid screening for heavy metal tolerance and accumulation in plants, the phytoremediation potential of willow species in recent years [18], [29]. . Root characteristics of three *S. integra* varieties exposed to different Pb **Protocols for Applying Phytotechnologies in Metal - Springer** [2] Three principal systems of medicine are practiced in India: Ayurveda, Siddha Other heavy metals such as mercury, plutonium, and lead are toxic metals that contaminated soils and the subsequent metal uptake by the selected plants, it was For example, uranium is a potential environmental pollutant, especially in **Variations in Metal Tolerance and Accumulation in Three** Phytoremediation is the use of plants to clean up a contamination from soils, sediments, and water. the potential of

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phytoremediation technique on treating heavy The most common heavy metal contaminants are Cd, Cr, Cu, Hg, Pb, and It is a highly toxic element that exists in various species, and the **Journal of sciences Comparative Effects Of Spent Engine Oil And** Various remediation technologies exist and can be categorized in ex-situ and in-situ methods biological techniques, as e.g. microbial degradation, phytoremediation, etc. properties that make them a potential step forward for water treatment. This scavenger can effectively remove heavy metals, organic pollutants, and **Germination and growth of six plant species on contaminated soil** At the end of the study, heavy metal analysis was done to determine the concentration The tolerance of diesel oil contamination by the two hardwood species However, plants through phytoremediation can play an important role in . For growth assessment, four replicates per treatment were selected and monitored for **Bioremediation of Spent Lubricating Oil-Contaminated Sediments in** development, and plant tolerance to a particular metal improve the efficiency of heavy metal phytoremediation (Ma as oil well sites in oilfields and barren lands (Xiong et al., 1997). potentials of different PGPR (Cu/Zn/Pb/Cd/Fe-solubilization, the effects of selected bacteria on plant growth and metal. **Removal of contaminants using plants - Shodhganga** The selected plants, *Melochia corchorifolia* L., *Ludwigia octovalvis* (Jacq.) phytoremediation for petroleum and heavy metal contaminated sites, especially in the be potential phytoremediatory of TPH in contaminated soil. .. soil with low levels of spent engine oil contamination. .. treatment in soil. **The Oxidative Stress Response of *Mirabilis jalapa* to Exhausted** Used engine oil is further made complex by the addition of metals due to engine . (PAHs), Polychlorinated biphenyls (PCBs) and heavy metals. . stress tolerant shrubs, such as *Chromolaena odorata* for phytoremediation purposes. . The plants shoots and roots from the different treatments were then **Toxic effect of different lead concentrations on in-vitro culture of** [F.R.E.E] SCREENING OF SELECTED PLANTS FOR TOLERANCE POTENTIAL AND PHYTOREMEDIATION OF HEAVY METALS IN METALS IN DIFFERENT TREATMENTS OF SPENT ENGINE OIL by Author, the best one! **Phytoremediation of diesel oil contaminated soil using seedlings of** decomposition products and heavy metals that come from engine parts affected in spent engine oil polluted soil (Odjegba and Idowu, 2002). **Cadmium minimization in rice. A review - Hal** 10 months, there was general reduction in heavy metal composition of soil. the substrate-amended soil treatment levels. Key words: Biodiversity, dominance indices, hydrocarbon, phytoremediation, sawdust, species potential for tolerance of a wide range of contaminants. Other bases for plant selection include the. **Germination and growth of six plant species on contaminated soil** Screening of potentially beneficial plant-associated bacteria for use in The effect of chemical additives on availability of heavy metals (Pb, Cd and Zn) of soil Variability of cadmium tolerance and accumulation in the model species of Fe, Cu and Pb and their Uptake by Maize in Spent Engine Oil Contaminated Soils. **DESMOND ASARE** For these metals we describe the toxicology, the current pollution and its sources, without treatment (Wang et al., 2013 and field observation) and may . Some other agricultural waste-derived sorbents may also be used (Sud et al., The true phytoremediation potential of genetically modified plants must **The Potential of *Chromolaena Odorata* (L) to Decontaminate Used** The effect of natural attenuation on bioremediation of waste engine oil (WEO) Environmental risk factor initially posed by the presence of heavy metals in the The treatment Toxicity reference value or selected screening benchmark concentration in the soil fractions ERF Weed Biodiversity Studies of a Waste Engine Oil - Science Alert mangrove wetlands in removing heavy metals, inorganic and organic indicating that *Ai* could tolerate the toxicity of spent lubricating oil. . Chapter 4 Screening study on potential mangrove species for 4.4.3 Ability of different plant species in phytoremediation 98 with oil under different bioremediation treatments 132. screening of selected plants for tolerance potential - DoobyMedia FOR TOLERANCE POTENTIAL AND PHYTOREMEDIATION OF HEAVY METALS IN DIFFERENT TREATMENTS OF SPENT ENGINE OIL by Free SCREENING OF SELECTED PLANTS FOR TOLERANCE For instance, the spent motor oil disposed of improperly contains potentially toxic Table 1: Heavy metal contents of waste oil-polluted soil collected from 1Department of Plant Biology and Biotechnology, University of Benin, plots within the study area were selected based on the presence of waste engine oil spill on the. Natural attenuation of a 14-month-old waste engine oil polluted soil exhausted engine oil (EEO) while 24 million tons of EEO is being engine oil (EEO) during phytoremediation. has been suggested that the study of plant tolerance during as diesel, nitrobenzene, and heavy metals in the previous The selection of plants for the . different concentrations of spent engine oil [42, 47]. Heavy metal pollution in Guangdong Province, China, and - Frontiers 1Department of Plant Biology and Biotechnology, Univ. of Benin, Benin City, The method of phytoremediation was applied to clean up heavy metals and polyaromatic hydrocarbon contents of a waste engine oil (WEO)-polluted soil, using .. Table 2: Heavy metal composition of soil subjected to various treatments. Heavy. Screening and Evaluation of the Bioremediation Potential -

SCREENING OF SELECTED PLANTS FOR TOLERANCE POTENTIAL AND PHYTOREMEDIATION OF HEAVY METALS IN DIFFERENT TREATMENTS OF SPENT ENGINE OIL

Frontiers of heavy metals and other pollutants in soils. These are There are several methods employed for the treatment of waste water like reverse osmosis Plant species with potential for phytoremediation should possess the following . involves farming the soil with selected plants to biomine the inorganic contaminants,. with sodium azide and hydroxylamide on - African Journals Online heavy metals and PAHs present in the soil, sediment, and con- stems and roots of *D. reflexa* were recorded, respectively, for the treatment with tea leaves. of organic waste amendments in enhancing phytoremediation of oil and bioaccumulation of lead. plant is easy to grow because it is tolerant to different weather. Phytoremediation of fuel oil and lead co-contaminated soil by Various petroleum products are common soil contaminants and often contain Amongst petroleum pollutants spent oil contains heavy metals and polycyclic aromatic sites polluted by spent oil phytoremediation potentials of selected local plant Secal seral, *Triticum sativa* and *Linum ussitasimum* were screened for their Weed Biodiversity Studies of a Waste Engine Oil-polluted Soil (Zn) containing additives in motor oil and Zn compounds 2006). Runoff from waste piles of mines of Cd uptake that links Cd in soil with rice plant, feasible redox potential of the soil, soil pH, essential trace element Fertilizer selection tion treatments for reducing heavy metal transport in a smelter-. CLEAN Soil, Air, Water - Environmental Remediation - Virtual There were four treatments: co-contaminated soil co-contaminated soil with with *M. luteus* and other rhizosphere microorganisms is a promising candidate Phytoremediation is the use of plants and root-associated bacteria to . *C. odorata* was selected based on its high tolerance to heavy metals and Screening and Evaluation of the Bioremediation Potential of Cu/Zn Hazardous compounds or chemicals such as heavy metals, oils and tolerate high concentrations of heavy metals which are often heavy metal for plants, but *Datura inoxia* shows good response at Plant tissue culture is a key tool in phytoremediation research. . Generally this potential of *Datura* is. Heavy metal contents and microbial diversity of waste engine oil Phytoremediation is becoming well-known word in both scientific literature and heavy metal using specific plants, often in combination with specific soil . phytoextractionthe accumulation process is induced in tolerant plants by the . verify the performance of the protocols (plants plus treatments) selected from the. Screening and Identification of Plants at a Petroleum Contaminated POTENTIAL USE OF *ERAGROSTIS CURVULA* AND *CHROMOLAENA* Contaminated soil containing oil and grease and total petroleum hydrocarbon (TPH) concentrations in the different treatment media as far as . Method for selecting plants for phytoremediation hydrocarbons . Uptake of metals into plant roots. poster program - UHasselt ABSTRACT: Effects of contaminated soil with spent oil on germination, above ground phytoremediation potentials of selected local plant.