World Academy of Science, Engineering and Technology
International Journal of Civil and Environmental Engineering
Vol:8, No:04, 2014

Plants and Microorganisms for Phytoremediation of Soils Polluted with Organochlorine Pesticides

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Abstract : The goal of presented work is the development phytoremediation method targeted to cleaning environment polluted with organochlorine pesticides, based on joint application of plants and microorganisms. For this aim the selection of plants and microorganisms with corresponding capabilities towards three organochlorine pesticides (Lindane, DDT and PCP) has been carried out. The tolerance of plants to tested pesticides and induction degree of plant detoxification enzymes by these compounds have been used as main criteria for estimating the applicability of plants in proposed technology. Obtained results show that alfalfa, maize and soybean among tested six plant species have highest tolerance to pesticides. As a result of screening, more than 30 strains from genera Pseudomonas have been selected. As a result of GC analysis of incubation area, 11 active cultures for investigated pesticides are carefully chosen.

Keywords : DDT, Lindane, organochlorine pesticides, PCP, phytoremediation
Conference Title : ICEET 2014 : International Conference on Civil, Environmental Engineering and Technology
Conference Location : Paris, France
Conference Dates : April 28-29, 2014

Open Science Index, Civil and Environmental Engineering Vol:8, No:04, 2014 publications.waset.org/abstracts/3753.pdf