Phytoremediation Of Zinc In Contaminated Soil Using Jatropha curcas.

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Abstract

Has done research on the phytoremediation of zinc using Jatropha curcas in zinc contaminated soil. This study aims to determine the potential Jatropha curcas in remediate zinc contaminated soil and to determine growth of Jatropha curcas in zinc contaminated soil. ZnCl₂, Jatropha curcas, garden soil and dung are used to achieve goal of the research. Providing treatment metal done after acclimatization process plant at the media for one week. Zinc is given in four different concentrations of 0 mg/l, 500 mg/l, 1500 mg/l and 2500 mg/l for 28 days exposure time. Observation of growth parameters and analysis of zinc content in the plant and the media carried out on 7, 14, 21 and 28 days. Data were analyzed by Analysis of Variance (ANOVA), and if any treatment effect will be further tested with Fisher’s test with α 5%. The results showed the variance concentration of zinc influence on plant height, leaf area and, dry weight. Jatropha curcas has the ability to accumulate zinc. Accumulation of Zn in roots was higher than non-root. Value of transfer factor (FT) obtained at the highest concentration of 2500 mg/l and in the exposure time of 28 days is equal to 1.45 (FT>1). Overall Jatropha curcas as potential an accumulator of zinc, but is considered less effective and economical (value of (FT<20) to be applied as phytoremediator agent of zinc.
Key Words: Phytoremediation, Zinc, Jatropha curcas, phytoremediator agent