

Remediation of Pb-Polluted soil using composted organic waste

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Composted organic waste has widely been used for improving soil properties and increasing soil organic matter for better agricultural production. Many trials were made to study the role of compost application on remediation of lead (Pb^{+2}) polluted soil, a problem that endangered different soils in Sudan. A laboratory experiment was conducted using composted organic waste and Pb^{+2} treated soil. Different rates of compost (13%; 19%; 25%) were applied to the soil characterized by low organic matter treated with different concentrations of Pb^{+2} - solution (0.1N; 0.2N; 0.3 N). The mixtures were incubated for 6 weeks and were irrigated with 400 ml of water on daily basis. Samples were collected from each treatment and analyzed for Pb^{+2} concentrations. In addition, a pot experiment was conducted to study the performance and uptake of lead Pb^{+2} by *Sorghum bicolor* grown in the soil treated with different concentrations of Pb^{+2} solution and Composted organic waste in different rates to assess the efficiency of compost on remediating polluted soil and plant growth. The height of plants and the number of leaves/plant were measured on 7, 10, 14, 17, 20, 32 and 35 days from planting. The results revealed that compost application to Pb^{+2} treated soil affected Pb^{+2} concentration as