Application of compost and manure on lead concentration in soil and crop

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Nowadays, Environmental pollution is an important problem in different countries. Increasing industrial practices, population, expansion of cities and human interface in the nature have caused the pollution of air, water and soil. Increasing soil fertility by application of organic manure is one of the most important methods for increasing the agriculture crop. Compost is rich in macro and micro nutrients. However, high concentration of heavy metals in compost may cause pollution of soil, groundwater and human food chain because of uptake of toxic metals by crops. The objective of this study was to investigate the effect of compost and manure on concentration of heavy metals in 2 soil (Clay Loam and Sandy Loam) and corn different levels of 25 and 50 ton ha⁻¹ of compost and manure were applied to the soils. After the 75 days, the corn was also harvested and root, shoot were separately analyzed for the Lead concentration. Compost application in level of 50 ton ha⁻¹ increased total and DTPA extractable concentration of Lead in clay loam significantly and more than manure and control, effect of compost on concentration of mercury in root and shoot was more than manure and control. The result of this study show that compost increased concentration of Lead in soil and corn.

Keyword: Compost, manure, Heavy metals, Lead, Corn, DTPA