



Short-term application effect of urban compost on zinc and copper concentration in soil and corn plant

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With regard to the fact that, using chemical fertilizer have great negative effects on environment, using the organic matter such as, urban compost to soil in arid region In addition to improve soil fertility it also increases plant yeild, provides essential elements for plant, such as Zn and Cu in low concentration as well. The objectives of this study was to investigate the effects of urban compost, on the absorption of Cu and Zn by corn plant from two different calcareous soils with sandy loam and clay loam textures. This study was in pots in a green house using a factorial experiment design which was completely randomized in each treatment which was replicated three times. Treatments were urban compost at the levels of 0, 25, 50 Mg ha⁻¹ and chemical fertilizers as Cu and Zn sulfates. Sulfates of Cu and Zn were dissolved in distilled water and sprayed on the soil surface of related pots. The application of urban compost significantly ($p < 0.01$) increased the total and DTPA-extractable concentration of Cu and Zn. besides, the adsorption of Zn and Cu in those treatments, receiving more than 50 Mg ha⁻¹ compost, was significantly more than control and chemical fertilizer. Using urban compost in soil had a significant effect on concentration of Zn and Cu in both stems, and total plant yield in two different calcareous soils. It can be concluded that urban compost has a high fertilizing potential that can be used for soil fertility. the results of this study indicated that adding compost to the soil, should be assessed, based on the quantity and increase of adsorption of these micronutrient in the soil.

Keyword: Urban Compost, Copper, Zinc, Soil, Corn plant