



Effect of cow and compost on growth and chemical composition corn and copper concentration in two calcareous soils

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One of the most important problems in semiarid and arid regions' soil is the organic

matter loss. Provided that the amount of organic matter is low in agriculthre soil of Iran, using organic matter and manure have been the center of attention since long time ago.

Interaction between micronutrient and organic matter is considered important on the bioavailability of these elements to plants. A greenhouse experiment was conducted to study the effects of copper and two kinds of organic matter (compost & cow manure) and also their interaction on the concentration of copper, iron, manganese, zinc, in corn plant and DTPA-extractable copper in two calcareous soil. Treatments consisted of two

levels of copper (0 and 5 mg kg soil) in the form of $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$, and two kinds of

organic matter (compost and cow manure) with two levels (0 and 2% wt. basis) in two calcareous soil (chitgar and kamfiroz). The experiment was designed with tree replications in the frame of a completely randomized factorial design. Plants were cut for

analysis 8 weeks after planting. Result indicate that organic matter treatment had positive

and significant effect on the shoot dry matter weight and had scientific effect on copper,

manganese, zinc, and iron concentration in plants shoot. Copper application increased soil DTPA-extractable Cu and Cu Concentration in shoot of plants. Organic matter had

scientific effect chitgar soil DTPA-extractable Cu. Interaction between organic

matter

and copper also increase concentration Cu in soil.

Keywords: Calcareous soil, Corn, Copper, DTPA