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 agricultural 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 CuSO₄·5H₂O, 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 three
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.

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