Shalaby M H et al., Agrotechnol 2016, 5:3(Suppl)
http://dx.doi.org/10.4172/2168-9881.C1.021



# Impact of different amendments on yield and micronutrients uptake by barley grown on salt affected soils

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This investigation was carried out on three saline sodic alluvial soils, varied in their content of salinity and sodicity; three calcareous soils varied in their EC and content of $CaCO_3$ (%) and other soil properties to study the effect of soil amendments (sulphur and biogas manure) and incubation periods on micronutrients uptake and yield of barley plant. A pot experiment was carried out in split plot design with three replicates. Alluvial and calcareous soils were the main plots; rates of sulphur (0, 1, 2 and 3 ton $fed^{-1}$) or biogas manure (0, 10, 20 to 30 ton $fed^{-1}$) application were the sub plots and the sub plots represented by the incubation periods. Three incubation periods (0, 2 and 4 months) of soils with the pervious treatments of sulphur and biogas manure were carried out before sowing. Seeds of plants were cultivated, left till harvesting, then dry matter yield and micronutrients uptake of plants was determined. Obtained results displayed that, as a general view, dry matter yield of both straw and grains of barley plant and micronutrients uptake (Fe, Mn, Zn and Cu) were decreased with the increase of salinity and sodicity in alluvial and calcareous soils. Furthermore, application of sulphur or biogas manure especially at the high rate (3 ton Sulphur/fed or 30 ton manure/fed) led to the greatest dry matter yield and micronutrients uptake. Also, yield of barley and micronutrients uptake were significantly improved with the elongation of the incubation period with sulphur or biogas manure before sowing.

## Biography

Shalaby M H is the respected Professor of Department of Soil Science, Faculty of Agriculture in Menofiya University, Egypt. He is mainly interested in the research field of Soil Science.

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