

***EFFICIENCY OF POTASSIUM FERTILIZATION FOR WHEAT GROWN ON SALINE SOIL AS AFFECTED BY BIOFERTILIZATION AND COMPOST APPLICATION***

Sahar M. Zakaria(1) ,H. M . EL Zemrany(2),,

(1) Soils, Water and Environment Res. Insti., Agri. Res. Center, Giza, Egypt., Soil Sci. Dept. Faculty of Agric., Menoufiay Uni.,

***ABSTRACT:***

The field study was carried out through two successive growth season (2009/2010 and 2010/2011) on sandy loam soil of Galbana area, east Suze Canal of North Sina Governorate. to evaluate the efficiency of potassium mineral fertilization applied at different rate on wheat plants growth and yield grown in saline as affected by biofertilization and compost application. The effect of the studied treatments on soil pH, EC (dSm-1) and its content of available macro-and micronutrients were studied. The obtained data showed that the individual mineral K fertilizers application at rates of 20, 40 and 60 K<sub>2</sub>O Kg fed-1 significantly increased grains and straw yield as compared with that non treated one in both seasons. Also, K fertilization either added as an individual or under biofertilizer and compost application promoted protein content in grain wheat plant. The values of EC however, pH in soil was decreased with the increase of added rate of mineral K fertilizer. These decreases were more clear at the higher application rates of mineral K fertilization especially in the combined treatments of mineral K fertilizer with biofertilizer. Though the contents (mg/g) of Fe, Mn and Zn in soil was decreased with the increase of added rate of mineral K fertilizer.

***Key words:*** Potassium, compost, saline soil, wheat, biofertilizer, potassium solubilizing bacteria.