

### Seventh Article (Common - Published).

<b>Article title</b>	<b>RESPONSE OF <i>Solanum melongena</i> L. SEEDLINGS GROWN UNDER SALINE CALCAREOUS SOIL CONDITIONS TO A NEW ORGANO-MINERAL FERTILIZER</b>
<b>Participants</b>	W. M. Semida, T. A. A. El-Mageed*, S. M. Howladar**, G. F. Mohamed*** and M. M. Rady*** Horticulture Department, Faculty of Agriculture, Fayoum University, 63514-Fayoum, Egypt *Soil and Water Department, Faculty of Agriculture, Fayoum University, 63514-Fayoum, Egypt **Biology Department, Faculty of Sciences, Al-Baha University, Al-Baha 65441, Saudi Arabia ***Botany Department, Faculty of Agriculture, Fayoum University, 63514-Fayoum, Egypt
<b>Article status</b>	Common – Published
<b>The Journal</b>	<b>J. Anim. Plant Sci. 25(2):2015</b>
<b>Impact Factor</b>	0.549

### **Abstract**

This study was planned to investigate the effect of soil application with an organo-mineral fertilizer [OMF; a 5:2:1(w/w/w) mixture of green waste compost, elemental sulphur (S) and humic acid (HA), respectively] on physical and chemical characteristics of a reclaimed saline calcareous soil ( $E_{ce} = 6.47 \text{ dS m}^{-1}$  and  $\text{CaCO}_3 = 15.63\%$ ). In addition, growth, physiological and anatomical characters of eggplant (*Solanum melongena* L.) seedlings grown under the tested soil were investigated. The experiments were arranged in a completely randomized design with 4 experimental OMF treatments (i.e., 0, 10, 20, or 30 g  $\text{kg}^{-1}$  soil) with 10 replicates. The OMF-treated plants showed increased growth, concentrations of total soluble sugars, free proline, anthocyanin, K and Ca, ratios of Ca:Na and K:Na, and photosynthetic efficiency. An enhanced seedling anatomy was also observed with soil amendment by OMF. On the other hand, the OMF application led to a substantial reduction in soil salinity ( $E_{ce}$ ) and pH and an increase in field capacity and available water. The tested organo-mineral fertilizer could be recommended as a soil amendment for vegetable crops, including eggplant to overcome the adverse effects of salinity stress in newly-reclaimed soils.