

Second Article (Shared with others inside the specialization – Published in national Journal – Printout from master thesis).

<p>Combined effect of deficit irrigation and foliar-applied salicylic acid on physiological responses, yield, and water-use efficiency of onion plants in saline calcareous soil. Archives of Agronomy and Soil Science, vol. 63, no. 9, pp. 1227–1239 (2017)</p>		
<p>Wael M. Semida^a, Taia A. Abd El-Mageed^b, Sabry E. Mohamed^a and Nevein A. El-Sawah^a</p> <p>^aHorticulture Department, Faculty of Agriculture, Fayoum University, Fayoum, Egypt.</p>		
Article status	<p>Considered single - Shared with others outside the specialization – Published in International Journal. – Printout from master thesis</p>	<p>Impact Factor: 2.254</p>
<p style="text-align: center;">Abstract</p> <p>Field-applied salicylic acid (SA) could provide a potential protection against drought stress in onion large-scale production. Two-season field experiments were consecutively conducted in 2013/2014 and 2014/2015 to study the effect of 1 and 2 mM SA on growth, yield, plant water relations, chlorophyll a fluorescence, osmoprotectants, and water-use efficiency (WUE) in onion plants under four levels of irrigation ($I_{120} = 1_{20\%}$, $I_{100} = 100\%$, $I_{80} = 80\%$, and $I_{60} = 60\%$ of crop evapotranspiration). Foliar application of SA enhanced drought stress tolerance in onion plants by improving photosynthetic efficiency and plant water status as evaluated by membrane stability index and relative water content. These results were positively reflected by improving plant growth, productivity, and WUE under drought stress conditions. Therefore, SA application may, in future, find application as a potential growth regulator for improving plant growth and yield under deficit irrigation by 20–40%.</p>		