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# RESPONSE OF *VINCA ROSAE* (L.) DON (*CATHARANTHUS ROSEUS* L.) PLANT TO DIFFERENT IRRIGATION AND SALINITY LEVELS

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## ABSTRACT

The present experiment was consummated throughout two successive seasons (2015 and 2016) at the nursery of Horticulture Research Institute, Agriculture Research Center, Giza, Egypt**,** with the aim to minimize the water used in agriculture production. Thus, the effects of different irrigation levels (50, 75 and 100% of field capacity), different salinity levels of saline water (0, 1000, 2000 and 4000 ppm) and their interaction on growth flowering and chemical constituents of periwinkle (*Vinca rosae*) (L.) Don. plant were investigated. The results emphasized that all vegetative growth parameters (vegetative growth height, number of leaves/plant and fresh and dry weights of vegetative growth parts), all root parameters (root length, fresh and dry weights) and either number of flowers or branches/plant were progressively increased by raising irrigation level in both seasons. Meanwhile, the opposite was the right for the effect of salinity, where all the above mentioned traits were descendingly decreased by raising salinity level. Results showed also, the prevalence of supplying plants with the highest irrigation level (100% of field capacity) in raising pigments content in the leaves (chlorophyll a, b and carotenoids), in contrast, it decreased either phenols or proline contents in the leaves, while showed an increment due to raising salinity level.

From the aforementioned results and interactions it could be recommended to supply plants with the highest or the moderate irrigation levels (100 and 75 % of field capacity, respectively) with using tap water or the lowest level of saline water (1000 ppm) and in some instances using the moderate level (2000 ppm) in irrigation for obtaining good plant quality of *Vinca rosae* (L.) Don. plant,with minimizing the fresh water used in irrigation.

**Key words:** irrigation levels, salinity levels**.** *Vinca rosae* (L.) Don.,