

**SOME PHYSIOLOGICAL STUDIES
ON SALINITY TOLERANCE FOR SOME
CITRUS ROOTSTOCKS**

By

RASHA ARAFA ANWAR MOHAMED

**B.Sc. Agric. Sci. (Cultural Project Management), Higher Institute for
Agricultural cooperation, 2003**

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APPROVAL SHEET

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APPROVAL COMMITTEE

Dr. MOHAMED NASR EL –DEEN HELAL
Prof. of Agricultural Botany, Fac. Agric., Mansoura University

Dr. MOHAMED RAMDAAN ABO ELALAA NSEEM.....
Prof. of Plant Physiology, Fac. Agric., Cairo University

Dr. ABEER ABD AL RAHMAN MAHMOUD.....
Assistant Professor of Plant Physiology, Fac. Agric., Cairo University

Dr. MOHAMED K. KHALIL
Prof. of Plant Physiology, Fac. Agric., Cairo University

Date: / /

SUPERVISION SHEET

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SUPERVISION COMMITTEE

Dr. MOHAMED KHALIL KHALIL
Prof. of Plant Physiology, Fac. Agric., Cairo University

Dr. ABEER ABD AL RAHMAN MAHMOUD
Assistant Professor of Plant Physiology, Fac. Agric., Cairo University

Dr. Abd Al Rahman Mohamed Abd Al Rahman
Head Research of Citrus, Horti. Res. Inst., ARC, Giza.

Name of Candidate: Rasha Arafa Anwar Mohamed **Degree:** M.Sc.
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Supervisors: Dr. Mohamed Khalil Khalil
Dr. Abeer Abd Al Rahman Mahmoud
Dr. Abd Al Rahman Mohamed Abd Al Rahman Hasanien
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ABSTRACT

The present study was conducted in the nursery of Horticulture Research Institute, Giza, Egypt under greenhouse conditions on Volkamer lemon (*Citrus volkameriana* Ten. And pasq.) "VOL" and Cleopatra mandarine (*C. reticulata* Blanco) "CM" rootstocks seedlings at transplanting stage during 2014 and 2015 seasons.

This study aimed to assess the response of seedlings to saline water under some bio-stimulants treatments and its impact on the growth of the seedlings as well as physiological performance and leaves elements content.

The obtained results indicated: i) Both VOL and CM stocks seedlings vegetative growth , physiological performance as well as leaf N, P, K, Mg, Fe, Zn, and Mn concentrations were significantly improved, whereas Na and Cl contents were reduced, when treated with proline, salycilic acid, glycine betaine or humic acid, and irrigated with well water (cont. treat.) or saline water 1500 ppm. ii) Moreover, CM rootstock was more tolerant to high levels of saline water as compared to VOL stock.

iii) It can be used of CM stock in citrus seedlings production at low levels of saline water without bio-stimulants applications, and with its at the high of salinity level up to 1500ppm. On the contrary, VOL can be used in this respect with bio-stimulants substances under saline water conc. 1500 or 2000ppm as well.

Keywords: *Citrus* rootstocks, Volkamer lemon, Cleopatra mandarine, proline, humic acid, Glycine Betaine and Salycilic acid.

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