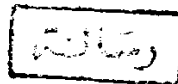


**COMPARATIVE STUDIES ON GROWTH OF
SOME GRAPEVINE CULTIVAR
TRANSPLANTS UNDER DIFFERENT
IRRIGATION LEVELS**



By

MOHAMED SAYED MOHAMED

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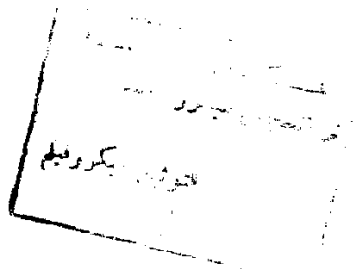
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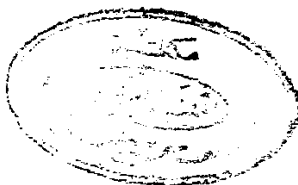
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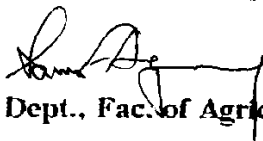
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**"COMPARATIVE STUDIES ON GROWTH OF SOME
GRAPEVINE CULTIVAR TRANSPLANTS UNDER
DIFFERENT IRRIGATION LEVELS"**

By

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ABSTRACT

Mohamed Sayed Mohamed, Comparative studies on growth of some grapevine cultivar transplants under different irrigation levels. Published for Master of Science-Ain Shams University, Faculty of Agriculture, Department of Horticulture, 1996.

Pot experiments were carried out during 1993 and 1994 seasons to study the effect of different depletions from available water from 20 to 80 % with 3000 ppm of saline water from salt mixture NaCl , CaCl_2 and MgCl_2 on Flame seedless, Thompson seedless, Early Superior and King's Ruby grapevine transplants. Proline amino acid was sprayed on tested transplants at concentration of 100 or 200 ppm as external application. Vegetative growth parameters namely plant height, shoot number, leaves number, leaf area, stem diameter and shoot & root dry weight were recorded. Also, total carbohydrates, internal proline content, chlorophyll content and minerals content were determined. Data indicated that each of 100 and 200 ppm of external proline caused increase in leaves number, shoot number, leaf area, stem diameter, shoot & root dry weight, chlorophyll and carbohydrates contents. N, P, K, Ca, Mg, Mn and Zn elements were increased, however, Na, Cl and Fe were decreased with spraying proline. Also, all used vegetative parameters and nutrients (N, P, K, Ca, Mg, Mn and Zn) were decreased with increasing depletion of available water from 20 to 80%, whereas, Na, Cl and Fe were increased. Flame seedless transplants recorded the highest values in plant height, stem diameter, shoot & root dry weight and carbohydrates in shoots, whereas, King's Ruby transplants inhibited the higher value in shoot number, chlorophyll, shoot dry weight and total carbohydrates in roots. Early Superior transplant was highest in root dry weight.

Key words: Grape, Salinity stress, Water regime, Water stress, sandy culture, Flame seedless, Thompson seedless, Early Superior, King's Ruby grapevine transplants, Vegetative growth parameters, Minerals content, Chlorophyll, Total carbohydrates, Amino acid proline.

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