شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار

في درجة حرارة من ١٥-٢٥ مئوية ورطوبة نسبية من ٢٠-٤٠%

To be Kept away from Dust in Dry Cool place of 15-25- c and relative humidity 20-40%

بعض الوثائـــــــق الاصليـــــة تالفـــة

بالرسالة صفحات لم ترد بالاصل

٤٥٥٠م

PHYSIOLGICAL STUDIES ON TOMATO PLANT FOR SALT TOLERANCE USING TISSUE CULTURE

Thesis
Submitted for Partial Fulfilment of the Degree of Master of Science in Botany

(Physiology)

By
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(B. Sc. Botany)

To
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1996

ACKNOLWLEDGEMENT

First of all I am thanking allah the Almighty who enabled me to finish this work.

I wish to present my sincer appreciation and gratitude to **Dr. Abd El Hamid H. Salem** Prof. of Crop Science , Faculty of Agriculture, Zagazig University, **Dr. Ahmed Ghareeb,** Assitant Prof. of Plant genetics and **Dr. El- Sayed Hashem,** Lecturer of Plant Physiology, Botany Department , Faculty of Science, Zagazig University for their supervision, valiable advice, encouragement, guidness, critical reading and reviewing the present work.

I am presenting my thanks also and gratitude to **Dr. Safia M. Gazi,** Prof. of Plant Physiology, Botany Dept., Faculty of Science, Zagazig University, for her encourogement and generous supporting through the fulfilment of this work.

May thanks also to all staff members of Botany Department, Faculty of Science, Zagazig University and Staff members of tissue culture laboratory, Faculty of Agriculture, Zagazig University for their excellent cooperation.

Hossam Mohammed Ali

This thesis has not been
previously submitted for a degree
at this or at any other university.

Dedication
to
My parents

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Chapter. 1
Introduction.

Introduction.

Biological and environmental stress represent the most limiting factors affecting agricultural productivity worldwide. The stresses impact not only crops , that are presently being cultivated , but also considered as a serious barreries towards the introduction of crop plants into areas that are not being used for agriculture at the present time .

Salinity is considered as one of the most environmental types of stresses that reducing the agricultural productivity .

Interestingly, the problem of salinity has been created with man since he started cultivation on the earth, whereas irrigation of water usually tend add salts to land, thus the accumulation of salts in agricultural soils was continually increased and such phenomenon is a widespread on earth and become a very serious problem as affecting at the present time in an approximate , more than one third of the world irrigated lands (**Mass & Hoffman, 1977**) .

Most of salt stresses in nature are due to sodium salts , particularly NaCl, which is the most widespread salt inhibiting plant growth in nature (**Gasey, 1972 & Epestein, 1976**) , other salts, e.g. sodium carbonate , sodium sulfate and magnesium salts may cause similar situations(**Chapman,** 1975)

The fact that saline soils cover about 25 % of all land area was taken into consideration . Hence control of soil salinization is of a great economic significance .

Flowers et al., 1977; have differentiated between plants according to their tolerance toward salinity e.g., plants which able to grow and complete their life cycles in the presence of high levels of salts (300 mM) are termed halophytes, and those lacking such tolerance are termed glycophytes , and it will known that most crop plants are glycophytes .

Interestingly, growth of many halophytes is markedly decreased in absence of salt and improved with adding salt, but halophytes were found to be greatly inhibited at very high salt levels **(Black., 1960).** In contrast, the growth of glycophytes is generally optimal in the absence of salt, but inhibited in the presence of any significant amount of salt **(Strogonov., 1964).** Most of the crop plants which grouped under the glycophytes were found to be usually sensitive to a moderate level of salinity **(Epstein., 1977).**

According to **Levitt (1980)** , who reported that " if the salt concentration is high enough to lower the water potential in plant cell appreciably (0.5-1.0 bar), the stress will be called a salt stress " and on respecting the metabolic effects induced as a results of the salt stress in plant cell . **Tal., (1983)** , have divided such effects into