شبكة المعلومات الجامعية

بسم اللّه الرحمن الرحيم

شبكة المعلومات الجامعية

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم باللّه العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

شبكة المعلومات الجامعية

بعض الوثائق الأصلية تالفة

شبكة المعلومات الجامعية

بالرسالة صفحات
لم ترد بالأصل

EFFECT OF ORGANIC AND BIO-FERTILIZATION ON GROWTH AND PRODUCTIVITY OF CANTALOUPE

BY

HALA HASSAN ABO EL-NOUR

B.Sc.Agric.Sc. (Horticulture), Ain Shams University, 1995

M.Sc.Agric.Sc. (Horticulture), Ain Shams University, 2003

A thesis submitted in partial fulfillment

of

the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

Agricultural Science
(Vegetable Crops)

Department of Horticulture

Faculty of Agriculture

Ain Shams University

2009

Approval Sheet

EFFECT OF ORGANIC AND BIO-FERTILIZATION ON GROWTH AND PRODUCTIVITY OF CANTALOUPE

By

HALA HASSAN ABO EL-NOUR

B.Sc.Agric.Sc. (Horticulture), Ain Shams University 1995

M.Sc.Agric.Sc. (Horticulture), Ain Shams Univerdity 2003

This thesis for Ph.D. degree has been approved by:

Prof. Dr. Shamel Ahmad Shanan **……....**

Prof. Emeritus of Vegetables Crops, Faculty of Agriculture El-Azhar University

Prof. Dr. Ibrahim Ibrahim El-Oksh **…….**

Prof. Emeritus of Vegetables Crops, Faculty of Agriculture Ain Shams University

Prof. Dr. Mohamed Hashem El-Deeb **…….**

Prof. of Vegetables Crops, Faculty of Agriculture Ain Shams University

Date of Examination: 22 / 12 / 2008

EFFECT OF ORGANIC AND BIO-FERTILIZATION ON GROWTH AND PRODUCTIVITY OF CANTALOUPE

BY

HALA HASSAN ABO EL-NOUR

B.Sc.Agric.Sc. (Horticulture), Ain Shams University 1995

M.Sc.Agric.Sc. (Horticulture), Ain Shams University 2003

Under the supervision of

Prof. Dr. Mohamed Hashem El-Deeb

Prof. of Vegetable Crops, Department of Horticulture,
Faculty of Agric., Ain Shams University (Principal Supervisor)

Dr. Salah El-Dein Mahmoud El-Miniawy

Associate prof. of Vegetable Crops, Department of Horticulture,
Faculty of Agric., Ain Shams University

Prof. Dr. Ibrahim Zaki Abd El-Whab El-Shimi

Prof. of Vegetable Crops, Horticulture Research Institute,
Agricultural Research Center

ABSTRACT

Hala Hassan Abo El-Nour Effect of Organic and Bio-fertilization on Growth and Productivity of Cantaloupe Unpublished Ph.D. Thesis, Department of Horticulture, Faculty of Agriculture, Ain Shams University 2009

This investigation was carried out in sandy loam soil at the experimental farm of El-Kassasien Horticulture Research station, Ismaelia Governorate, during the two successive winter seasons 2005 and 2006, to study the effect of different types and rates of organic and bio-fertilizers on plant growth, yield component and yield quality. Results revealed that the highest vegetative growth, i.e., plant height, number of leaves and branches, leaf area as well as fresh and dry weight of cantaloupe plant were recorded by using chicken manure at different rates plus bio-fertilizer followed by cattle manure plus bio-fertilizer treatments and the lowest values were recorded by compost treatment at different rates plus bio-fertilizer.

Concerning plant chemical contents, i.e., N, P, K and chlorophyll as well as fruit chemical contents, i.e., T.SS, nitrate and heavy metals Cd and Pb the results showed that, in general N, P and chlorophyll concentrations in leaves as well as nitrate content in fruits were higher by using chicken manure at different rates plus using mixture of Biovit plus Biomagic than the other treatments. The plant supplied with cattle manure at different rates recorded the highest values of fruit Cd content. Furthermore, the K concentration in leaves as well as fruit T.SS content were significantly increased by using cattle manure at different rates and mixture of Biovit plus Biomagic. On the other hand, concentration of Pb in fruit was higher by using compost treatment at different rates which gave the lowest values. Cantaloupe plants which were fertilized with chicken manure at

different rates plus using mixture of Biovit plus Biomagic produced the highest fruit yield components, i.e., early, marketable and total yield, as well as fruit characters as compared with the other tested treatments in this study. Concerning root rhizosphere of *Fusarium spp*. populations, results showed that counts of *Fusarium spp/*1g dry soil were higher in plots treated by low rates of organic fertilizers meanwhile the lowest *Fusarium spp.* was recorded with high rates of organic fertilizers plus using mixture of Biovit plus Biomagic.

Keywords:

Cantaloupe, Muskmelon (*Cucumis melo* var reticulatus), Cattle manure, Chicken manure, Compost, Bio-fertilizers, plant growth, yield quality.

ACKNOWLEDGEMENT

Praise and thanks be to **ALLAH,** the most merciful for directing me to the right ways.

The writer would like to express my deepest thanks and gratitude to Prof. Dr**. Mohamed Hashem El-Deeb.** Professor of vegetable crops, Horticulture Department, Faculty of Agriculture, Ain Shams Univ. for his creative advises from the beginning of this investigation.

My deepest and sincere gratitude to Dr. **Salah El-Dein Mahmoud El-Miniawy** associate Professor of vegetable crops, Horticulture Department, Faculty of Agriculture. Ain Shams Univ. for his supervision, great help and kind support during writing the manuscript and carrying out this work.

My deepest and sincere gratitude to Dr. **Emad El-Dein Ali Gado** associate Professor of plant disease, Phytopathology Department, Faculty of Agriculture. Ain Shams Univ. for his supervision, great help, and continuous support during preparing this work.

My deepest grateitude to Prof. Dr**. Ibrahim Zaki Abd El-Whab.** Head research of vegetable crops, Ismailia Agricultural Research station, for his supervision, valuable and constructive discussion throughout preparing this work.

The writer would like to offer my grateitude to the members of the Phytopathology Department, Ismailia Agricultural Research station specially **Dr. Mohamed Ismail and Dr. Samir Saeed shalaby** for their assistance and co-operateion.

Finally, deepest grateitude for my family for their continuous help and encouragement through this work.

CONTENTS