



شبكة المعلومات الجامعية  
التوثيق الإلكتروني والميكروفيلم

# بسم الله الرحمن الرحيم



**MONA MAGHRABY**



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# شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلم



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التوثيق الإلكتروني والميكروفيلم

# جامعة عين شمس التوثيق الإلكتروني والميكروفيلم

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**MONA MAGHRABY**

**STUDIES ON THE PRODUCTIVITY OF SQUASH  
(*Cucurbita pepo* L.) PLANTS UNDER SOME NEW  
AGRICULTURE TECHNIQUES**

By

**YASMINE HASSAN ABDELMOHSEN HASSAN**

B.Sc. Faculty of Agriculture, Horticulture, Fayoum University, 2007  
M.Sc.in Agricultural Science, Faculty of Agriculture, Fayoum University, 2014

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B.Sc. Faculty of Agriculture, Horticulture, Fayoum University, 2007  
M.Sc.in Agricultural Science, Faculty of Agriculture, Fayoum University, 2014

**A Thesis for PhD degree has been approved by:**

**Dr. Maher Amin Wally** .....  
Prof. Emeritus of Vegetable Crops, Faculty of Agriculture, Al-  
Azahar University.

**Dr. Usama Ahmad Ali El- Behairy** .....  
Prof. of Vegetable Crops, Faculty of Agriculture, Ain Sham  
University.

**Dr. Mohamed Zaky El-Shinawy** .....  
Prof. of Vegetable Crops, Faculty of Agriculture, Ain Sham  
University.

**Dr. Ayman Farid Abou- Hadid** .....  
Prof. Emeritus of Vegetable Crops, Faculty of Agriculture, Ain Sham  
University.

**Date of Examination:** / / 2021

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**YASMINE HASSAN ABDELMOHSEN HASSAN**

B.Sc. Faculty of Agriculture, Horticulture, Fayoum University, 2007  
M.Sc.in Agricultural Science, Faculty of Agriculture, Fayoum University, 2014

**Under the supervision of:**

**Dr. Ayman Farid Abou-hadid**

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

**Dr. Mohamed Zaky El- Shinawy**

Prof. of Vegetable Crops, Department of Horticulture, Faculty of  
Agriculture, Ain Shams University.

**Dr. Yomna Ibrahim Helmy**

Research Prof. Emeritus of Vegetable Crops, Department of  
Vegetable Research, National Research Center.

## ABSTRACT

**Yasmine Hassan Abdelmohsen Hassan : Studies on the Productivity of squash (*Cucurbita pepo* L.) Plants under Some New Agriculture Techniques. Unpublished PhD. Thesis, Arid Land Agricultural Graduated Studies and Research Institute, Faculty of Agriculture, Ain Shams University, 2021.**

The experiment were carried out in open field and under low plastic tunnel at Kaha Research Station, Horticulture Research Institute (HRI), Agricultural Research Center (ARC), Ministry of Agriculture, Giza Governorate, Egypt during two successive growing seasons of 2015-2016 and 2016-2017 to evaluate the effect of grafting on productivity of squash grown in the open field and under low plastic tunnel. Each experiment contained two Squash hybrids, i.e. Aziad and Raad were grafted onto three rootstocks, i.e. *Lagenaria siceraria* (L.G), *Cucurbita ficifolia* (C.F) and *Cucurbita moschata* (C.M) plus self-grafted squash hybrid (control). The important obtained results are as follows:

Grafting Aziad hybrid on *Cucurbita moschata* (C.M) rootstock which planted under low plastic tunnel conditions obtained the highest results of vegetative growth characters i.e., plant height, number of leaves per plant, leaf area, leaves dry weight and RWC % in the both seasons. The same results were obtained with the physical properties of fruit i.e. number of marketable fruits/ plant, weight of marketable fruits/ plant, number of female flowers/ plant and sex expression in both seasons and the highest number of male flowers/ plant obtained with Self-grafted plants of Raad hybrid in the open field in first season and by grafted Aziad hybrid on *Cucurbita moschata* (C.M) in the open field in second season. While the highest average fruit weight was given by grafted Aziad hybrid on *Cucurbita ficifolia* (C.F) in open field in the both seasons. On the other hand, the heaviest dry weight of 100g fresh fruits obtained with grafted Raad on *Cucurbita moschata* (C.M) under low plastic tunnel in first season and grafted Aziad on *Cucurbita ficifolia* (C.F) in open field in second

season. In addition, the least results of number of unmarketable fruits/ plant and weight of unmarketable fruits/ plant were obtained with grafted Raad on *Cucurbita moschata* (C.M) in open field in the both seasons. The highest chemical results of fruit i.e. ascorbic acid (V.C) and TSS were obtained with Self-grafted plants of Aziad hybrid under low plastic tunnel conditions in the both seasons, while the highest total carbohydrates gained with grafted Aziad hybrid on *Cucurbita moschata* (C.M) rootstock which planted under low plastic tunnel conditions in the both seasons.

The highest results of chemical properties i.e. total chlorophyll, proline, total free amino acids, Ca, N, P, and K were obtained from grafted Aziad hybrid on *Cucurbita moschata* (C.M) rootstock under low plastic tunnel conditions in both seasons. Similare results were recorded with phenols in the first season and with carotenoids in second season. The highest chlorophyll A obtained with the interaction between Aziad hybrid and *Lagenaria siceraria* (L.G) in open field in the first season and by grafted Aziad hybrid on *Cucurbita moschata* (C.M) in open field in the second season. Also, grafted Aziad hybrid on *Cucurbita moschata* (C.M) in open field gave the highest value of chlorophyll B.

**Key words:** Squash, Grafting, Rootstocks, Low plastic tunnel, Vegetative growth, Fruit yield and quality and Chemical properties.



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