



شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم



شبكة المعلومات الجامعية
@ ASUNET



شبكة المعلومات الجامعية التوثيق الالكتروني والميكرو فيلم



شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
على 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%

يصعب قراءة بعض الوثائق

وثائق لم ترد بلاصل

Advisor's Committee

**Title of Thesis: BREEDING STUDIES ON CUCUMBER
CROP (*Cucumis sativus* L.)**

By

Asem Abd Al-Mageid Abd Al-hady Al-Araby

B.Sc. (Agric.), Tanta University, 1999

**in
VEGETABLE CROPS**

Supervised by

Prof. Dr.

**El-Mahdy Ibrahim Metwally
Prof. of Vegetable Crops
Horticulture Department
Faculty of Agriculture, Kafr El-Sheikh
Tanta University**

Prof. Dr.

**Adel Yousef Mazrouh
Prof. of Vegetable Crops
Horticulture Department
Faculty of Agriculture, Tanta
Tanta University**

**Horticulture Department
Faculty Of Agriculture, Tanta
Tanta University**

2004

0 2

APPROVAL SHEET

Title of Thesis: **BREEDING STUDIES ON CUCUMBER CROP**
(*Cucumis sativus* L.)

Name: **Asem Abd Al-Mageid Abd Al-hady Al-Araby**

Degree: **M.Sc. in Horticulture (Vegetable crops)**

Thesis Approved by:

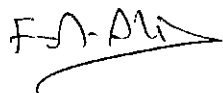
NAME

Prof. Dr. Roshdy M. Khalil
Prof. of Vegetable Crops, Horticulture Department,
Faculty of Agriculture, Minufiya University.

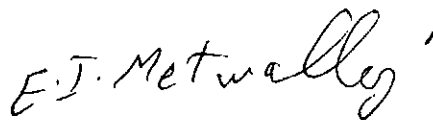
SIGNATURE



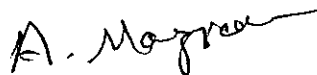
Prof. Dr. Fetoh A. Ali
Prof. of Vegetable Crops, Horticulture Department,
Faculty of Agriculture, Minufiya University.



Prof. Dr. El-Mahdy I. Metwally
Prof. of Vegetable Crops, Horticulture Department,
Faculty of Agriculture, Kafr El-Sheikh, Tanta
University.

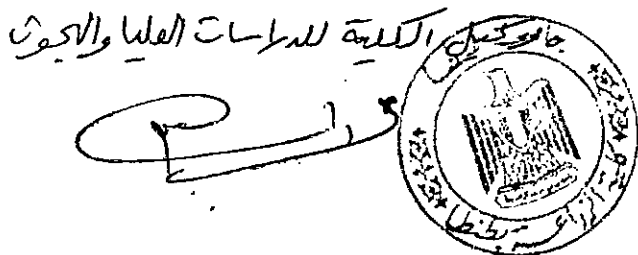


Prof. Dr. Adel Y. Mazrouh
Prof. of Vegetable Crops, Horticulture Department,
Faculty of Agriculture, Tanta, Tanta University.

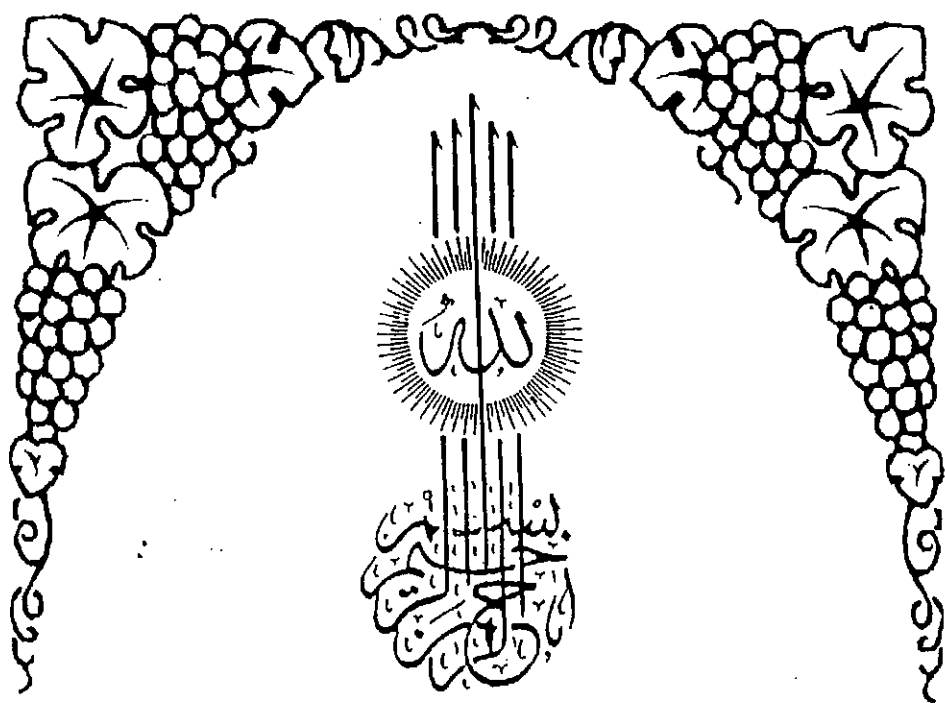


Date: **16 / 2004**

Committee in Charge



12



قَالَ لَوْلَا سُبْحَانَكَ لَا إِلَهَ إِلَّا أَنْتَ
 يَا مَنْ لَا يَمُوتُ وَلَا يَنَامُ وَلَا يَأْكُلُ وَلَا يَشْرَبُ

إِلَّا أَنْتَ يَا مَنْ لَا يَمُوتُ وَلَا يَنَامُ وَلَا يَأْكُلُ وَلَا يَشْرَبُ
 يَا مَنْ لَا يَمُوتُ وَلَا يَنَامُ وَلَا يَأْكُلُ وَلَا يَشْرَبُ



إِلَّا أَنْتَ يَا مَنْ لَا يَمُوتُ وَلَا يَنَامُ وَلَا يَأْكُلُ وَلَا يَشْرَبُ
 يَا مَنْ لَا يَمُوتُ وَلَا يَنَامُ وَلَا يَأْكُلُ وَلَا يَشْرَبُ

البقرة - آية ٢٢



and the

at

to the

of the

of the

of the

of the

of the

of the

of the

of the

of the

of the

of the

of the

ACKNOWLEDGMENT

*First and foremost thanks are due to **ALLAH**, the great merciful and the great benefit.*

*A Special thanks to **Dr. Todd C. Wehner**, Professor of Vegetable crops, Department of Horticultural Sciences, North Carolina State University, USA, for providing the genetic materials used in this study, without these genetic materials this investigation could not be carried out.*

*I would like to express my deepest gratitude to my advisory committee, **Dr. El-Mahdy Ibrahim Metwally**, Professor of Vegetable crops, Department of Horticulture, Faculty of Agriculture at Kafr El-Sheikh, Tanta University and **Dr. Adel Yousef Mazrouh**, Professor of Vegetable crops, Department of Horticulture, Faculty of Agriculture at Tanta, Tanta University for their help throughout my professional education at Tanta University, suggesting the problem, their advice, guidance, professionalism, understanding of the scientific process have greatly contributed to my learning experience and for their great help in preparing and reviewing the manuscript.*

I would like to express my deep gratitude to staff members of Horticulture Departments, Faculty of Agriculture at Tanta and Kafr El-sheikh for their help and for providing all facilities for my work.

I finally would like to thank my family members for their help and support over past years.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

CONTENTS

1. INTRODUCTION.....	1
2. REVIEW OF LITERATURE.....	3
2.1. Vegetative traits.....	3
2.1.1. Main stem length.....	3
2.1.2. Number. of branches/plant.....	5
2.1.3. Number. of leaves/plant.....	6
2.1.4. Leaf area/plant.....	8
2.1.5. Total chlorophyll content.....	9
2-2- Flowering traits.....	10
2.2.1. Number of nodes to first male flower.....	10
2.2.2. Number of nodes to first female flower.....	10
2.2.3. Number of days to male flowering.....	12
2.2.4. Number of days to female flowering.....	12
2.2.5. Number of male flowers/plant.....	14
2.2.6. Number of female flowers/plant.....	16
2.2.7. Sex ratio.....	18
2.3. Yield and its components.....	20
2.3.1. Early yield (number of fruits/plot).....	20
2.3.2. Early yield (weight of fruits/plot).....	21
2.3.3. Total yield (number of fruits/plot).....	23
2.3.4. Total yield (weight of fruits/plot).....	26
2.4. Fruit characteristics.....	29
2.4.1. Average fruit weight.....	29
2.4.2. Fruit length.....	30
2.4.3. Fruit diameter.....	33
2.4.4. T.S.S.%.....	35
3. MATERIALS AND METHODS.....	36
3.1. Experimental design.....	38
3.2. Data recorded.....	39
3.3. Statistical procedure.....	41
4. RESULTS AND DISCUSSION.....	48
4.1. Test of significance and performance	48

4.2. Performance of the parents and their F_1 and F_2 populations.....	48
4.2.1. Vegetative traits.....	49
4.2.2. Flowering traits.....	52
4.2.3. Yield and its components.....	55
4.2.4. Fruit characteristics.....	60
4.3. Heterosis and inbreeding depression.....	62
4.3.1. Vegetative traits.....	62
4.3.2. Flowering traits.....	70
4.3.3. Yield and its components.....	80
4.3.4. Fruit characteristics.....	87
4.4. Combining ability.....	94
4.4.1. Vegetative traits.....	95
4.4.2. Flowering traits.....	99
4.4.3. Yield and its components.....	105
4.4.4. Fruit characteristics.....	111
4.5. Heritability.....	115
4.4.1. Vegetative traits.....	115
4.4.2. Flowering traits.....	117
4.4.3. Yield and its components.....	119
4.4.4. Fruit characteristics.....	120
5. SUMMARY.....	122
6. REFERENCES.....	126
ARABIC SUMMARY.....	----