

بسم الله الرحمن الرحيم



-Call 1600-2

COEFOR COEGORIO





شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



CORRECT CORRECTOR



جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم قسم

نقسم بالله 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

-Caro-

COEFERS CARGORNOR





بعض الوثائق

الأصلية تالفة



CORRECT CORRECTION





بالرسالة صفحات

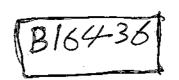
لم ترد بالأصل



COEFECT CARGOSTON



Mansoura University Faculty of Agriculture Pomology Department



STORAGE LIFE OF THOMPSON SEEDLESS GRAPES AS AFFECTED BY SOME FIELD PRACTICES

BY MOHAMED ATEF EL-SHOBKY

B. Sc. (Agric.,) Mansoura University (1978) M. Sc. (Hort.,) Mansoura University, (1989)



THESIS

Submitted in Partial Fulfillment of the Requirements for the Degree of DOCTOR OF PHILOSOPHY

IN
Pomology
Faculty of Agricultural, Mansoura University

SUPERVISORS

Dr. GHAZI IBRAHIM EL-BANNA Dr. ABDEL-FATTAH MANSOUR

Professor of Pomology Faculty of Agriculture Mansoura University

Professor of Pomology Faculty of Agriculture Mansoura University

Dr. FOUAD HASSAN FAWZI

Professor of Pomology Head of Viticulture Department Hort. Inst. Ministry of Agriculture



Mansoura University Faculty of Agriculture Pomology Department

STORAGE LIFE OF THOMPSON SEEDLESS GRAPES AS AFFECTED BY SOME FIELD PRACTICES

BY MOHAMED ATEF EL-SHOBKY

B. Sc. (Agric.,) Mansoura University (1978) M. Sc. (Hort.,) Mansoura University, (1989)

THESIS

Submitted in Partial Fulfillment of the Requirements for the Degree of DOCTOR OF PHILOSOPHY

IN Pomology

Faculty of Agricultural, Mansoura University

SUPERVISORS:

Dr. GHAZI IBRAHIM EL-BANNA Dr. ABDEL-FATTAH MANSOUR

Professor of Pomology Faculty of Agriculture Mansoura University Professor of Pomology Faculty of Agriculture Mansoura University

Dr. FOUAD HASSAN FAWZI

Professor of Pomology Head of Viticulture Department Hort. Inst. Ministry of Agriculture

DEDICATED

TO

THE SOUL

 \mathbf{OF}

MY DEAR FATHER

Mansoura University Faculty of Agriculture Pomology Department

SUPERVISORS

Title: STORAGE LIFE OF THOMPSON SEEDLESS
GRAPES AS AFFECTED BY SOME FIELD
PRACTICES

The Researcher: MOHAMED ATEF EL-SHOBKY

Thesis supervised by:

No.	Name	Position
1	Dr. Ghazi Ibrahim EL-Banna	Professor of Pomology Faculty of Agriculture Mansoura University
2	Dr. Abdel-Fattah Mansour	Professor of Pomology Faculty of Agriculture Mansoura University
3	Dr. Fouad Hassan Fawzi	Professor of Pomology Head of Viticulture Dept., Hort. Inst. Ministry of Agric.

APPROVAL SHEET

Title: STORAGE LIFE OF THOMPSON SEEDLESS
GRAPES AS AFFECTED BY SOME FIELD
PRACTICES

The Researcher: MOHAMED ATEF EL-SHOBKY

Approval Committee:

No.	Name	Position
1	Dr. Awad Mohamed Hussien	Professor of Pomology Faculty of Agriculture Alexandria University
2	Dr. Mohamed Abd EL-Rheem Iraqi	Professor of Pomology Faculty of Agriculture Mansoura University
3	Dr. Ghazi Ibrahim EL-Banna	Professor of Pomology Faculty of Agriculture Mansoura University

Date of discussion: / / 1994

Approved by:

No.	Name	Signature
1	Dr. Awad Mohamed Hussien	A. Hu
2	Dr. Mohamed Abd EL-Rheem Iraqi	M.A gaal
3	Dr. Ghazi Ibrahim EL-Banna	Gh-El-Barna

ACKNOWLEDGMENTS

The writer is indebted to Prof. Dr. Ghazi I. EL-Banna,
Professor of Pomology, Faculty of Agriculture, Mansoura
University, for suggesting the problem, supervision and his kind
help through the preparation of this manuscript.

The author also wishes to express his deepest gratitude and sincere appreciation to Prof. Dr. Abd EL-Fattah M. Mansour for his supervision and valuable help and criticism during the progress of this study.

Grate full acknowledgment is also due to Prof. Dr. Fouad Hassan Fawzi Prof. of Pomology, Agriculture Research Center and Head of the Viticulture, Research Department for his supervision and great help during this work.

Deep thanks are due to **Dr. Seif, EL-Deen Soliman EL-Shahat**, Researcher in Viticulture, Research Department in the Hort. Ins. Ministry of Agriculture for his continuous help and encouragement during this work.

I am also deeply grateful to all members in the same Department and to all the members of the Laboratory of Soil and Plant Nutrition in Mansoura for their valuable help.

CONTENTS

	Page
INTRODUCTION	1
REVIEW OF LITERATURE	3
PART (1): Field studies	3
A) Effect of gibberellin, ethephon and potassium	
sulphate on yield, cluster and berries quality	3.
B) Effect of pruning dates on bud behaviour, yield	
and berries qulity	12
PART (2): Storage studies	19
A) Effect of gibberellin, ethephon and potassium	
sulphate on	19
I. Physical changes in grapes during room storage	19
II. Chemical changes in grapes during room storage	27
B) Effect of pruning dates on the physical and chemical	
changes in grapes during room storage	29
MATERIALS AND METHODS	30
RESULTS	36
PART (1): Field studies	36
A) Studies concerning the effect of gibberellic acid	
(GA3), ethephon (CEPA) and potassium sulphate	
(KSO ₄) each alone or in combination	36
B) Studies concerning the effect of pruning dates	60

	Page
PART (2): Storage studies	83
A) Results concerning the effect of gibberellic acid	
(GA ₃), GA ₃ + potassium sulphate (KSO ₄) +	
ethephon (CEPA), GA ₃ + KSO ₄ + CEPA, KSO ₄ ,	
and CEPA	83
B) Results concerning the effect of pruning dates on	
the storage life of fruits	120
DISCUSSION	157
PART (1): Field studies	157
A) Effect of gibberellic acid (GA3), ethephon (CEPA)	
and potassium sulphate (KSO4) each alone or in	
combination on yield, cluster weight, cluster length,	
berries moisture, T.S.S, acidity and T.S.S/scid ratio.	157
B) Effect of pruning dates on time of bud burst and on	
all parameters mentioned before	158
PART (2): Storage studies	159
A) Physical and chemical changes in berries during	
room storage	159
B) Effect of pruning dates on physical and chemical	
changes in grape berries during room storage	161
SUMMARY AND CONCLUSION	162
LITERATURE CITED	170
ARARIC SHMMARV	

INTRODUCTION

INTRODUCTION

The grape (Vitis vinfera, L.) is the first fruit crop in both area and production all over the world.

In Egypt, grape area increased in the last few years under the new land reclamation. Thus, the total area reached about 137851 feddans producing about 658 061 metric tons according to the last statistics of the Ministry of Agriculture (1992).

Thompson seedless grapes is considered the most important cultivar grown in Egypt. Its acreage reached about 87 397 feddans giving an annual production of about 362 597 metric tons. Therefore, it is imperative to find out the best filed practices to increase its cropping and finally its net income. Moreover, it is very important to give some light on its keeping quality during storage after applying these field practices.

In this respect, gibberellin is one of the growth regulate which obviously increase the yield of Thompson grapes (Coombe, 1959; Antecliff and May, 1961; EL-Banna, 1981; Tourky, 1983; EL-Shahat, 1992 and Abdel-Latief, 1993).

Moreover, pruning also plays a vital role in grape production (Rangelov, 1968; Shrivastav, et al. 1972; EL-Banna and Weaver, 1978; Sarooshi and Roberts, 1978; Huang, 1981; EL-Shahat, 1984 and Al-Dujaili, 1988).

Concerning the effect on berries quality, it was found by several investigators that ethephon and potassium sulphate produced