

بسم الله الرحمن الرحيم

قال تعالى : " واضرب لهم مثلاً رجلين جعلنا لأحدهما جنتين من
أعناب وحففناهما بنخل وجعلنا بينهما زرعاً " .

[سورة الكهف : آية ٣٢ - مكية]

صدق الله العظيم





Alexandria University
Faculty of Agric. (Saba-Bacha)
Plant Production Dept.,

**EFFECT OF N, K FERTILIZATION AND IRRIGATION
RATES ON YIELD, QUALITY AND STORAGE OF GRAPES**

THESIS



Presented to the Graduate School

Faculty of Agriculture

(Saba-Bacha)

Alexandria University

6/2 99

In Partial Fulfillment of the Requirements

For the Degree of

634.8
N. M

MASTER OF AGRICULTURAL SCIENCE

IN

(HORTICULTURE)

BY



NAGLAA MOHAMED ABD EL-REHIME YASSIN

1998



Alexandria University
Faculty of Agric. (Saba-Bacha)
Plant Production Dept.,

**EFFECT OF N, K FERTILIZATION AND IRRIGATION
RATES ON YIELD, QUALITY AND STORAGE OF GRAPES**

Presented by

NAGLAA MOHAMED ABD EL-REHIME YASSIN

For the degree of

**MASTER OF AGRICULTURAL SCIENCES
(HORTICULTURE - POMOLOGY)**

Examiner s'Committee:

Prof. Dr. M.N. HAGGAG

Professor of Pomology, Faculty of Agriculture,
Alexandria University

Prof. Dr. F.A. El-MORSHEDY

Professor of Pomology, Faculty of Agriculture,
Kafr El-Sheikh, Tanta University

Dr. A.M. El-KOBBLA

Associate Professor of Pomology, Faculty of
Agriculture, Alexandria University

Dr. Thanaa M. EZZ

Associate Professor of Pomology, Faculty of
Agriculture, Saba Bacha, Alexandria University

Approved

[Signature]

[Signature]

[Signature]

[Signature]

ADVISORS' COMMITTEE

Prof. Dr. Mohamed N. Haggag

**Professor of Pomology
Faculty of Agriculture
Alexandria University**

Dr. Thanaa M. Ezz

**Associate Prof. of Pomology
Faculty of Agriculture (Saba-Bacha)
Alexandria University
(Supervisor)**

Dr. Mohamed M.M. Harhash

**Lecturer of Pomology
Faculty of Agriculture (Saba-Bacha)
Alexandria University**

ACKNOWLEDGEMENT

The author wishes to express her sincere gratitude and appreciation to **Prof. Dr. Mohamed N. Haggag**, Professor of Pomology, Faculty of Agriculture, Alexandria University for his supervision and valuable help in accomplishing this work.

The author is also deeply grateful and greatly indebted to **Dr. Thanaa M. Ezz**, Associate Professor of Pomology, Faculty of Agriculture, Saba Bacha, Alexandria University, for suggesting this research problem, her guidance and supervision and her continued assistance in writing and preparing this thesis.

Many thanks are due to **Dr. Mohamed M.M. Harhash**, Lecturer of Pomology, Faculty of Agriculture, Saba Bacha, Alexandria University, for his valuable assistance and guidance.

Also, I wish to express my particular and great thanks to my parents, all my brothers and all my friends, who helped me to continue my research study and complete this thesis.

Finally, I would like to express my great appreciation to all staff members of Faculty of Agriculture, Saba Bacha, Alexandria University for their encouragement and valuable advices.

CONTENTS

	Page
INTRODUCTION.....	1
REVIEW OF LITERATURE.....	2
1. Effect of NK fertilization on growth, nutritional status, yield and fruit quality of fruit trees.....	2
2. Effect of NK fertilization on storage behaviour of fruits...	10
3. Effect of irrigation on yield and fruit quality.....	14
4. Effect of irrigation on storage behaviour of fruits.....	19
MATERIALS AND METHODS	21
RESULTS AND DISCUSSION	27
I.a. Effect of NK fertilization on petiole NPK content and fruit quality of Flame Seedless grapevines.....	27
b. Effect of NK fertilization on storage behaviour of Flame Seedless grapevines.....	44
II. Effect of irrigation on NPK contents, yield, fruit quality and storage behaviour of Flame Seedless grapevines.....	54
a. Effect of irrigation on NPK content, yield and fruit quality.....	54
b. Effect of irrigation on storage behaviour of Flame Seedless grapes.....	63
TABLES.....	71
SUMMARY.....	126
LITERATURE CITED.....	130
ARABIC SUMMARY.....	

INTRODUCTION

