



شبكة المعلومات الجامعية

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



شبكة المعلومات الجامعية
@ ASUNET



شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكرو فيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي 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%

بعض الوثائق الأصلية تالفة

بالرسالة صفحات لم ترد بالاصل

STUDIES ON PROPAGATION OF SOME FRUIT SPECIES BY USING TISSUE CULTURE TECHNIQUES

BY

Mohamed Hemdan Mohamed Baaya

B.Sc. Agricultural Science (Horticulture), (1997)
Zagazig University, Benha Branch

THESIS

Submitted in partial fulfillment of
The requirements for the degree of

Master of Science

In

**Horticulture
(Pomology)**

Department of Horticulture
Faculty of Agriculture, Moshtohor
Zagazig University
(Benha Branch)

2002



195
50

APPROVAL SHEET

STUDIES ON PROPAGATION OF SOME FRUIT SPECIES BY USING TISSUE CULTURE TECHNIQUES

By

Mohamed Hemdan Mohamed Baaya

B.Sc. Agricultural Science (Horticulture), (1997)
Zagazig University, Benha Branch

This Thesis for the M. Sc. Degree has been approved by:

Prof. Dr. Mostafa Atef M. EL-Hammady

Professor of Fruit Science,
Faculty of Agriculture, Kafr El-Sheikh



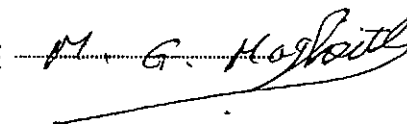
Prof. Dr. Issam Azouz Hassaballa

Professor of Fruit Science,
Faculty of Agriculture, Moshtohor,
Zagazig University
Benha Branch



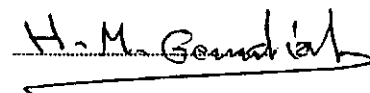
Prof. Dr. Mohamed Gamal El-Din Mogheith

Professor of Fruit Science,
Faculty of Agriculture, Moshtohor,
Zagazig University
Benha Branch



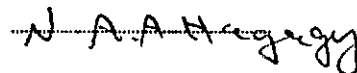
Prof. Dr. Hassan Mansour Gendiah

Professor of Fruit Science,
Faculty of Agriculture, Moshtohor,
Zagazig University
Benha Branch



Prof. Dr. Nabaway Ahmed Ali Hagagy

Professor of Fruit Science,
Faculty of Agriculture, Moshtohor,
Zagazig University
Benha Branch



(Committee in charge)

Date : Sat. 31/ 8 /2002

SUPERVISION COMMITTEE

STUDIES ON PROPAGATION OF SOME FRUIT SPECIES BY USING TISSUE CULTURE TECHNIQUES

BY

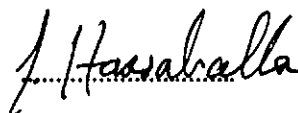
Mohamed Hemdan Mohamed Baaya

B.Sc. Agricultural Science (Horticulture), (1997)
Zagazig University, Benha Branch

Under the Supervision of:


Prof. Dr.: Issam Azouz Hassaballa,

Professor of Fruit Science,
Faculty of Agriculture, Moshtohor,
Zagazig University



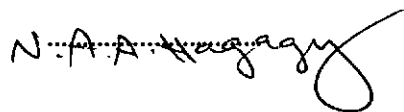
Prof. Dr.: Mohamed Gamal El-Din Mogheith,

Professor of Fruit Science,
Faculty of Agriculture, Moshtohor,
Zagazig University



Prof. Dr.: Nabaway Ahmed Ali Hagagy,

Professor of Fruit Science,
Faculty of Agriculture, Moshtohor,
Zagazig University



**Horticulture Department
Faculty of Agriculture, Moshtohor
Zagazig University, Benha Branch**

2002

ACKNOWLEDGEMENT

I fell grateful to "**ALLAH**" who always help me

The author likes to express his deep gratitude to **Dr. Issam Azouz Hassaballa**, and **Dr. Mohamed G. Mogheith** Professors of Fruit Science, Faculty of Agriculture, Moshtohor, Zagazig University, for suggesting and planning of the research problem, valuable guidance, and advice as well as constructive criticism during this investigation.

Deep thanks and appreciation to **Dr. Nabawi A.A. Hagagy** Professor of Fruit Science, and advisor of Tissue Culture Laboratory, Hort. Dept., Faculty of Agriculture, Moshtohor, Zagazig University, for suggesting and planing of the research problem, direct supervision, providing every facilities needed for this work and guidance during this study and preparation of this manuscript.

I also, wish to express my great thanks to **Dr. Nagwa S. Zaied**, Researcher of Fruit Science, Hort. Dept., National Research Center, for sincere help, continuous encouragement and providing every facility needed for this work.

Thanks also due to **Academic of Scientific Research & Technology** for supporting me and financing the research work.

Sincere thanks are extended to my **Colleagues** and **assistance** at Tissue Culture Laboratory, Hort. Dept., Fac. of Agric., Moshtohor, for being ready to help me when needed.

ABSTRACT

Sewi date palm cv and Smooth cayenne of pineapple cv were micropropagated by using different explants. Murashige & Skooge, modified Murashige & Skooge and Murashige and Tucker media were tested with different additives and strengths. Also, cold temperature (5°C for 10 days) was pretreated for date palm explants. Also, 6-benzylaminopurine (BAP) and naphthalene acetic acid (NAA) with different concentrations were considered during establishment stage of both date palm and pineapple explants. However, proliferation, rooting and acclimatization experiments were carried out on pineapple only. These include different cytokinin types at 2mg/L and different concentrations of BAP in proliferation stage. However, different medium strengths and concentrations of GA₃ for shoot elongation. Meanwhile, different medium states, auxin types with different concentrations were studied during root formation. Moreover, different agricultural media were evaluated for acclimatization of pineapple.

The obtained results showed that cold temperature pretreatment for date palm explant succeeded in enhancing explant development. Also, culturing of pretreated shoot tip on solidified modified full strength Murashige and Skoog medium supplemented with 2-3 mg/L BAP and 0.5 mg/L NAA as well as glutamin and asparagin additives were the most suitable balanced medium for direct regeneration of date palm and pineapple. The supplementation of the culture medium with 2.0 mg/L BAP enhanced proliferation. Meanwhile, using one-half medium with 3.00 mg/L GA₃ enhanced shoot elongation. In addition, using liquid medium supplemented with 3.00 mg/L NAA were the most suitable for rooting. Moreover, the treatment of agricultural combination media consisted of 3 peat moss + 1 sand was excellent for maximizing acclimatization of pineapple.

Key words: Date palm, Pineapple, Tissue culture, Direct regeneration.

