



شبكة المعلومات الجامعية

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ
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شبكة المعلومات الجامعية



شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم



شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون أية تغيرات



يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %



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بعض الوثائق الأصلية تالفة



شبكة المعلومات الجامعية



بالرسالة صفحات

لم ترد بالأصل

**STUDIES ON THE PROPAGATION OF SOME
ORNAMENTAL PLANTS BY
TISSUE CULTURE**

BY

FAISAL MOHAMED ABDEL ALEAM SAADAWY
B. Sc. Agric. Sci. (Horticulture), Ain Shams Univ., 1965
M. Sc. Agric. Sci. (Floriculture), Al-Azhar Univ., 1975

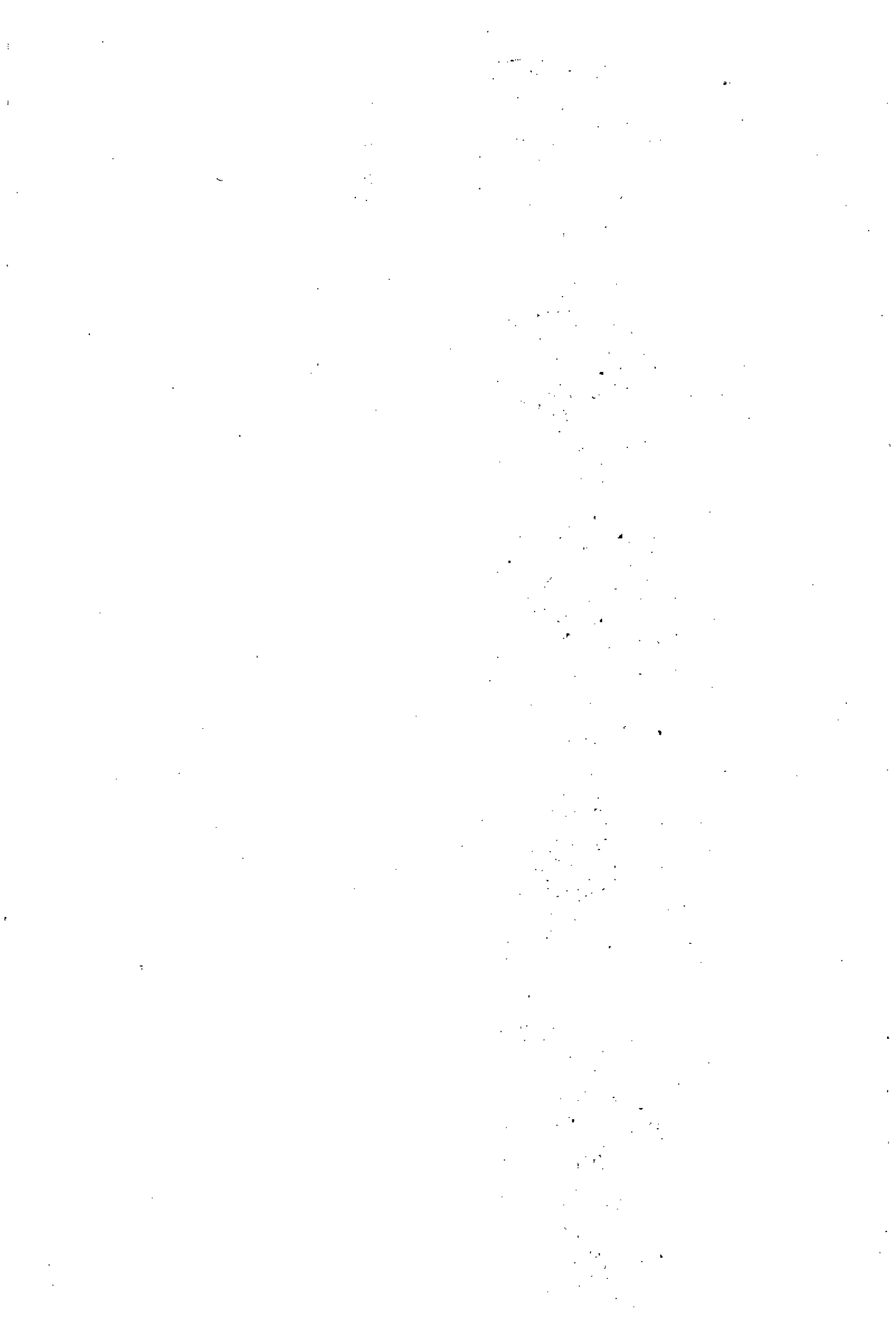
**A thesis submitted in partial fulfillment
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**Department of Horticulture
Faculty of Agriculture
Ain Shams University**

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APPROVAL SHEET

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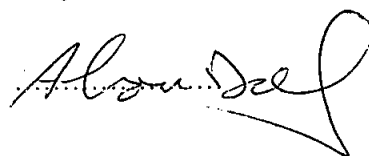
M. Sc. Agric. Sci. (Floriculture), Al-Azhar Univ., 1975

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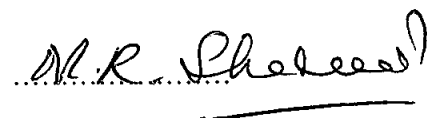
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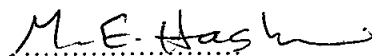
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Date of examination

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Abstract

Faisal Mohamed Abdel Aleam Saadawy, Studies on the Propagation of Some Ornamental Plants by Tissue culture.

Unpublished Doctor of Philosophy Dissertation, Horticulture Dept., Fac. of Agric., Ain Shams Univ., 2000

Orchid flowers are the most fascinating and beautiful of all flowers. They are of highest value as cut-flowers and can be grown in garden beds, pots, hanging baskets, and indoor containers. Cultivation of orchid plants, both for plant sale as well as cut-flower production, has become a very profitable occupation. In spite of their commercial value, orchids have not yet gained the attention and popularity they deserve in Egypt.

Two orchid species, *Laelia anceps* and *Cymbidium devonianum* were used in this study. Results of this study could be abstracted in the following :

- 1 - For the multiplication of *Laelia anceps* and *Cymbidium devonianum* orchids by tissue culture technique it is better to use MS medium supplemented with 6-benzyl adenine (BA) at 1 ppm in order to encourage explant multiplication to get a lot of shoots.
- 2 - Rooting of the induced shoots could be achieved by growing these shoots on MS medium supplemented with naphthalene acetic acid (NAA) at 10 ppm.
- 3 - In order to reduce the high expenses of the tissue culture technique for economic purposes, MS Medium could be substituted by some natural, cheap and easily available products such as broad bean, wheat corn or rice flour. Chemical and hormonal analyses of these substances unveiled their richness of almost all elements represented in the standard MS medium, in addition to their content of a

naturally balanced phytohormones. Corn starch could be the source of sugars needed for the explants to grow, and it can be used to some extent instead of the expensive agar.

- 4 - To avoid great losses caused by contamination. 8-hydroxyquinoline sulphate (8-HQS) at 150 ppm could be used incorporated in MS medium. This procedure eliminate contamination and abolish the need to autoclave media. Besides its effectiveness in controlling contamination, it proved to have some beneficial effects on the multiplication and rooting of the plant material. The biochemical fingerprint showed that the dissimilarity coefficient between the 8-HQS-treated plantlets and the control was very small, indicating that this substances did not induce somaclonal variations.
- 5 - A lot of differences were found between the two orchids used, *Laelia anceps* and *Cymbidium devonianum*. The former was more responsive and easily to propagate than the later.

Key words: Orchids, *Laelia*, *Cymbidium*, BA, kinetin, IBA, NAA, media, natural complexes, 8-HQS, Physan 20. vilamen, cortex, stele, pith.

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I feel very obliged to the staff of the Tissue Culture Laboratory for Improvement of Strawberry and Unconventional Crops for their kind help and guidance throughout the course of this study.

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