



بسم الله الرحمن الرحيم

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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
على هذه الأفلام قد أعدت دون أية تغييرات



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 بالأصل

**IMPROVEMENT OF THE ROOTING
CAPACITY OF CUTTINGS OF SOME
ORNAMENTAL PLANTS DIFFICULT TO
ROOT**

By

Ayman Kamal Ebrahim Mohamed

B.Sc. Agric. (Horticulture) Ain Shams Univ. 1993

A thesis submitted in partial fulfillment

of

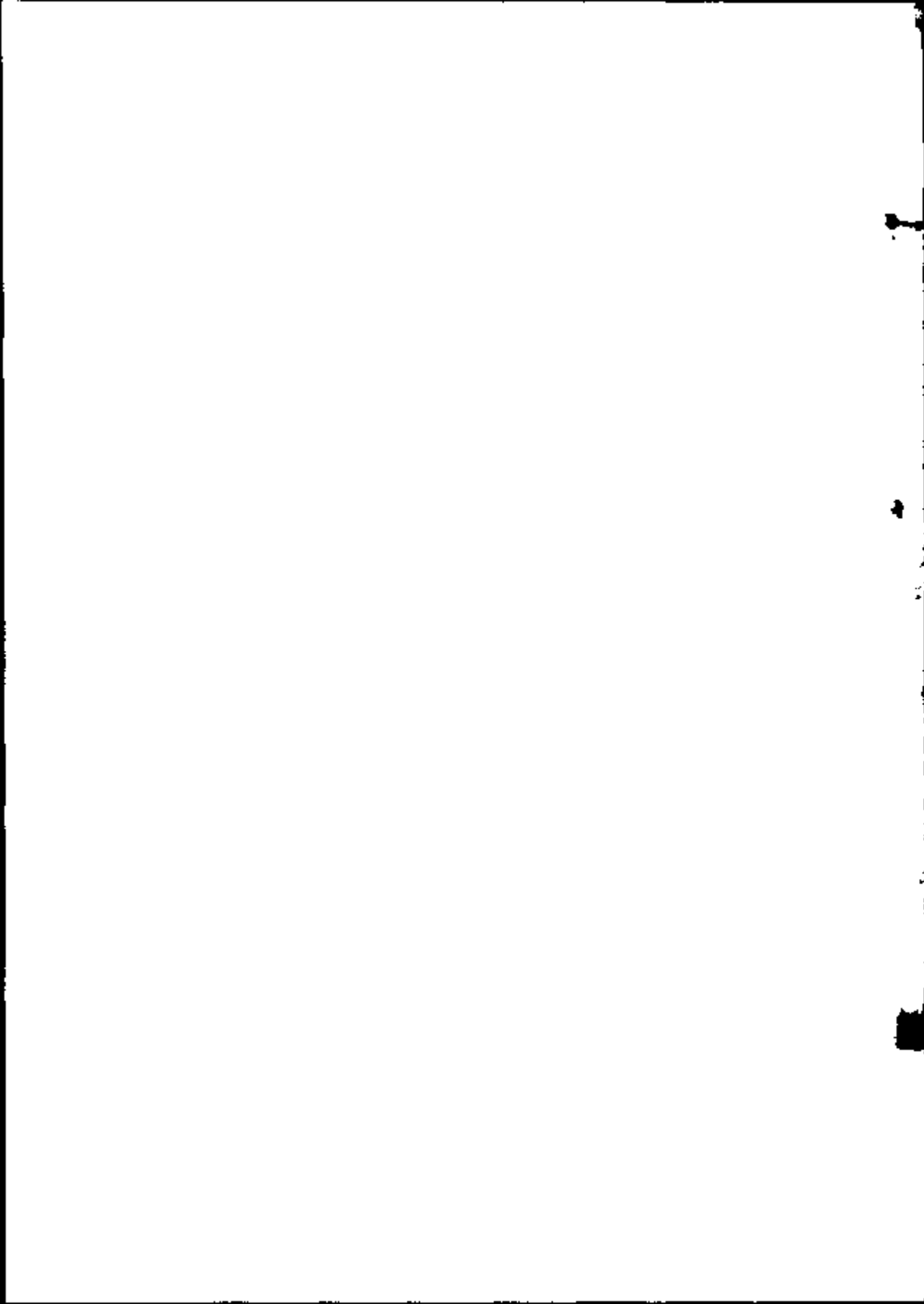
the requirement for the degree of
MASTER OF SCIENCE

In

Agriculture
(Ornamental plants)

**Department of Horticulture
Faculty of Agriculture
Ain Shams University**

1998



APPROVAL SHEET

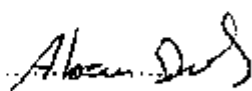
IMPROVEMENT OF THE ROOTING CAPACITY OF CUTTINGS OF SOME ORNAMENTAL PLANTS DIFFICULT TO ROOT

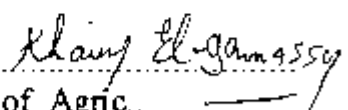
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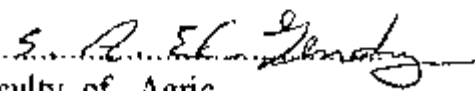
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ABSTRACT

Ayman Kamal Ebrahim Mohamed. Improvement of the rooting capacity of cuttings of some ornamental plants difficult to root. Unpublished Master of Agricultural Science Thesis, Ain Shams University, Faculty of Agriculture, Department of Horticulture, 1998.

This study was carried out during the two successive seasons of 1995 and 1996 at the Faculty of Agriculture, Ain Shams University to improve the chances of success of explant cuttings by influencing their rooting ability and/or capacity in *Cassia nodosa* L., *Bougainvillea buttiana* "Mrs. Butt", *Clerodendrum splendens* Don., *Jasminum sambac* Soland. and *Pittosporum tobira* Ait. using several practices applied to the cuttings themselves (viz. centrifugation, wounding and dipping in IBA) in addition to treatments applied to the mother plants [viz. girdling, banding and growth regulator spraying with IBA or ETH (restricted only to *Pittosporum tobira* and *Jasminum sambac*)].

Cassia nodosa cuttings failed to root. Centrifugation alone did not increase rooting except in *Bougainvillea buttiana* "Mrs. Butt" and *Jasminum sambac* where it caused increases in both PRC and NR/C in the former species and heavier FWR/C and DWR/C in the latter species. Both banding and girdling had no positive effect on rooting, whereas wounding alone led to increase PRC, NR/C, LR/C, FWR/C and DWR/C in *Clerodendrum splendens* and only NR/C in *Bougainvillea buttiana* "Mrs. Butt". When cuttings were treated with IBA plus wounding, rooting increased in most parameters in *Bougainvillea buttiana* "Mrs. Butt" and *Clerodendrum splendens*. Mother plants spraying with IBA at 250 or 500 ppm plus dipping the taken cuttings in IBA gave an increase

in FWR/C in *Jasminum sambac*. Meanwhile, when Eth was sprayed at 50 and/or 100 ppm on mother plants of the same species (*Jasminum sambac*) increments were obtained in PRC, NR/C, LR/C, FWR/C and DWR/C. As for *Pittosporum tobira*, spraying with either plant growth regulators on mother plants had no positive effect whatsoever on the rooting of its cuttings.

A high level of TP was found in the bases of cuttings in *Cassia nodosa* which might explain why they failed to root. In contrast, a high level of TI was found inside the bases of *Bougainvillea* cuttings due to dipping of cuttings in IBA which might explain the increase in NR/C and in both FWR/C and DWR/C for both 1995 and 1996 seasons. The same was found in *Clerodendrum splendens* as a result of wounding of cuttings plus dipping in IBA.

Key words: *Cassia nodosa*, *Bougainvillea buttiana* "Mrs. Butt", *Clerodendrum splendens*, *Pittosporum tobira*, *Jasminum sambac*, propagation, cutting(s), centrifugation, banding, girdling, wounding, IBA, Ethrel (ethephon).

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