STUDIES ON THE VEGETATIVE PROPAGATION OF SOME CITRUS SPECIES

By

ENAS ALI MOHAMED

B.Sc. Agric., Horticulture, Ain Shams Univ. 1992

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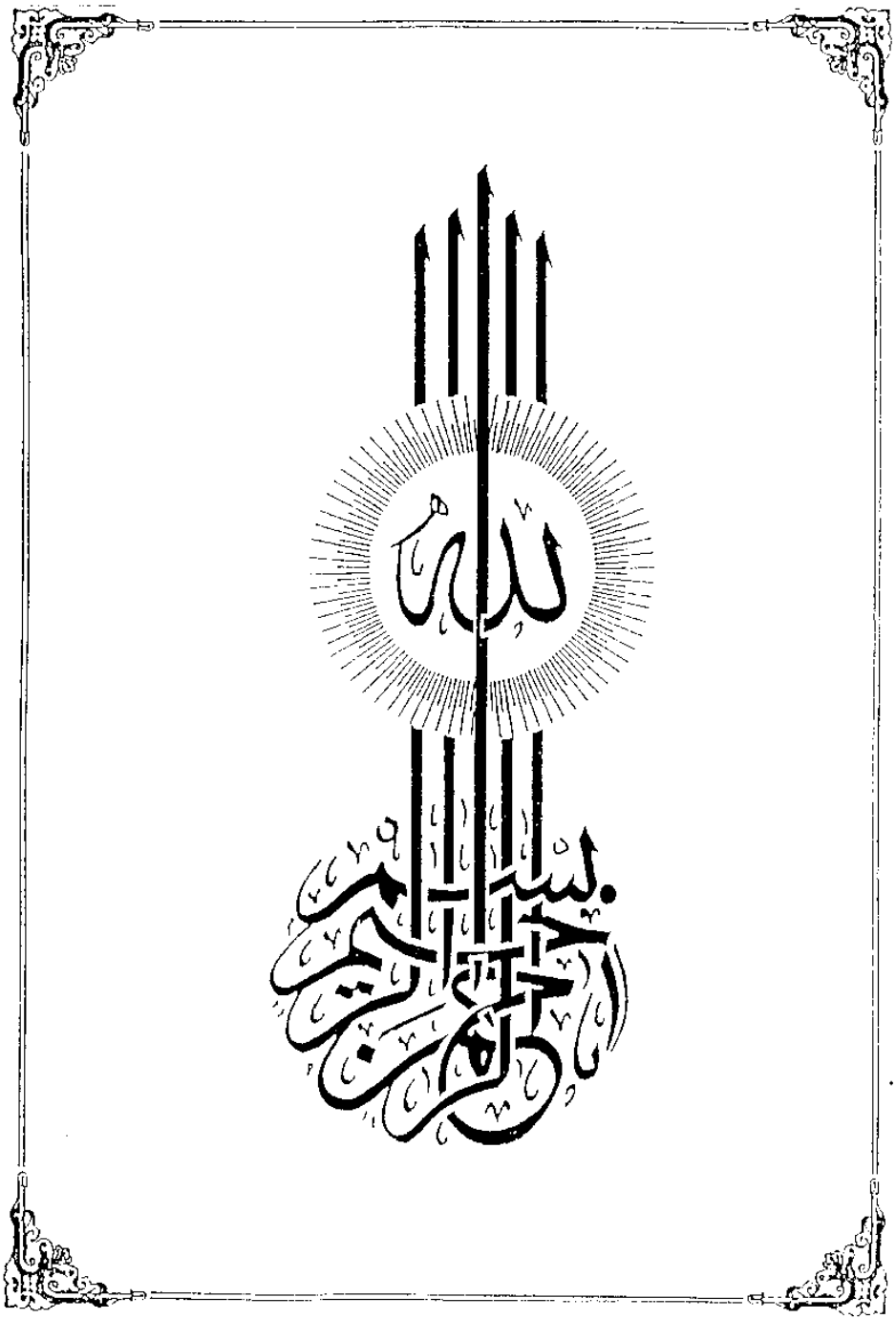

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Under the Supervision of :

Prof. Dr. M. Abou Rawash Ali Badr
Prof of Pomology, Dept. of Hort., Fac. of Agric.,
Ain Shams Univ.

Dr. Hassan Mohamed Fadel El-Wakeel
Lecturer of Pomology, Dept. of Hort., Fac. of Agric.,
Ain Shams Univ.

Prof. Dr. Nabila El-Badawy Kaseem
Research Prof. of Pomology, National Research Center,
Dokki, Giza, Egypt.

ABSTRACT

Enas Ali Mohamed, Studies on the Vegetative Propagation of Some Citrus Species. Unpublished Master of Science Thesis, Ain Shams University, Faculty of Agriculture, Horticulture Department 1997.

A study was carried out during two successive seasons 1994 and 1995 to propagate some citrus rootstocks (Sour Orange, Cleopatra Mandarin and Rangpur Lime) and cultivars (Valancia Orange, Balady Mandarin and Balady Lime) by using terminal leafy stem cuttings. Leafy cuttings were prepared at monthly intervals from May 15th to Oct. 15th in the first season (1994) and from April 15th till Oct.th in the second one (1995). Then cuttings were treated with 0, 1000, 2000 and 4000 ppm IBA by using dipping method (5 seconds) and inserted in wooden frames (120 in length x 120 in width and 20 cm in depth) and covered with polyethylene sheet and kept under greenhouse condition. After 45 days of cuttings insertion rooting ability was studied. Two months after transplanting the rooted cuttings survival percentage and subsequent growth were recorded. The obtained results could be summarized as follows.

Sour Orange rootstock: The highest rooting percentage was obtained when cuttings were prepared in May 1994 and treated with 2000 ppm IBA. Cuttings collected in June 1994 and treated with 4000 ppm IBA gave the highest survival percentage.

Cleopatra mandarin rootstock: the highest rooting percentage was achieved when cuttings were prepared in May 1994 and treated with 1000 ppm IBA. Cutting collected in May 1994 and treated with 1000 ppm IBA gave highest survival percentage.

Rangpur lime rootstock: The highest rooting percentage was obtained when cuttings were prepared in April 1995 and treated with 1000 ppm IBA. cuttings collected in June 1994 and treated with 1000 ppm IBA gave highest survival percentage.

Valancia orange cultivar: The highest rooting percentage was recorded when cuttings were prepared in May 1994 and treated with

1000 ppm IBA. Cuttings collected in May 1994 and treated with 2000 ppm IBA gave the highest survival percentage.

Balady mandarin cultivar: The highest rooting percentage was achieved when cuttings were prepared in May 1994 and treated with 4000 ppm IBA. Cuttings gathered in May 1994 and treated with 4000 ppm IBA gave the highest survival percentage.

Balady lime cultivar: The highest rooting percentage was obtained when cuttings were prepared in May or Aug. 1994 and treated with 4000 ppm IBA. Cuttings collected in Sept. 1994 and treated with 4000 ppm IBA gave the highest survival percentage.

In addition, another experiment was carried out to compare the rooting ability of the three studied rootstocks and selecting the proper rooting medium for each where terminal leafy cuttings from such rootstocks were collected in May 1996 and treated with 1000 ppm IBA (5 seconds) and planted in six different rooting media then planted in wooden frames (as mentioned before). Rooting ability, survival % and transplants growth were studied as mentioned before. Results indicated that rooting medium consists of sand : verm. (1:1 v/v) was the suitable one for increasing the rooting percentage of different rootstocks cuttings.

The highest survival percentage was obtained by using rooting media comprised of sand : peat. (3:1 v/v), sand : verm. (2:! v/v) and sand : verm. (1:3 v/v) for Sour Orange, Cleopatra Mandarin and Rangpur Lime cuttings, respectively.

In all instances, Rangpur lime terminal leafy cuttings were the superior ones in rootability either for rooting % or number of roots/cutting, followed in a decreasing order by Sour Orange and Cleopatra Mandarin cuttings.

key words: Sour Orange - Cleopatra Mandarin - Rangpur lime valancia Orange - Balady Mandarin - Balady Lime - leafy cuttings IBA treatments - collection date - Rooting media - Rooting ability Survival percent - transplant growth.

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LIST OF TABLES