STUDIES ON SOME ACCLIMATIZATION METHODS OF *IN-VITRO* PROPAGATED PLANTLETS OF TWO DRY DATE PALM SAKKUTY AND BARTAMODDA CVS

By

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B.Sc. Agric.Cooperative Sc., Higher Institute for Agricultural Cooperation , 1995

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Approval Sheet

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دراسات على بعض طرق أقلمة نبيتات صنفى نخيل البلح الجاف السكوتى والبرتمودا المكثرة معملياً

رسالة مقدمة من

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ABSTRACT

Mervat Hassan Mohamed Malhat: Studies on some Acclimatization Methods of *in-vitro* propagated plantlets of two dry Date Palm Sakkuty and Bartamodda cvs. Unpublished M.Sc. Thesis, Department of Horticulture, Faculty of Agriculture, Ain Shams University, 2012.

This study was achieved at the Central Laboratory of Date Palm Researches and Development, Giza, Egypt, during the period from 2007 to 20١١ to investigate the *in- vitro* rooting and to increase survival percentage during *ex-vitro* acclimatization of date palm cvs. Bartamodda and Sakkuty plantlets which produced through tissue culture technique. The effect of gelling agent (Agar-Gelrite), sucrose ,activated charcoal, polyethylene glycol (PEG), and light intensity were studied .Also *in-vivo* acclimatization in the free living conditions was investigated as well as the effect of Antitranspiration agent in green house and planting medium. Results indicated that, maximum rooting was achieved by 0.5 MS+1mg/l NAA+1gm/l activate charcoal+170mg/lNaH2Po4+2mg/l glycin+40g/ Sucrose. At the two subculture for the studied date palm cvs.

Regarding the"Sakkuty"cv., maximum values of rooting percentage were recorded on Gelrite at 2g/l and agar10g/l.Results also revealed that, Gelrite at 4and 3g/l showed the highest average number of roots/shoot. The highest survival percentage was found by treatments of Agar at 6g/l or gelrite at 3g/l with Sakkuty. Concerning rooting, the highest rooting percentage were obtained at 45g/l sucrose with or without 1 g/l activated charcoal. Also the highest average number of root/shoot was found by treatment.45g/l with sakkouty with or without activated charcoal Meanwhile, the highest average root length with or without activated charcoal was recorded with Bartamodda.

The greatest of plantlet length (cm) during *in-vitro* rooting stage was found by treatments of PEG at 0.0 g/l and 5g/l with Sakkouty . Results also revealed that, PEG at 0.0 g/l showed the highest number of roots / shoot . On the

other hand, the highest survival percentages were recorded with treatments of PEG at 15 g/l with both cvs. than that of the control .The greatest plant length (cm) during acclimatization stage was found by treatment of PEG at 0.0 g/l with Sakkouty . Also the highest number of leaves/plant was found by PEG at 5.0g/l with Sakkuty than 20g/l with Bartamodda. Meanwhile, the highest average of root length (cm) was recorded with light intensity 3000 lux with Bartamodda . Plantlets length and number of root / shoot showed the highest values with 3000 lux with Bartamodda than that of 9000 lux with Sakkuty . Results indicated that spraying date palm plantlets during acclimatization with 0.5ml/l antitranspiration agent (Stress relief 35) significantly increased plantlets length and leaf number but did not affect survival percentage. Most suitable planting medium for Sakkuty cv. consisted of (Vermiculite + Perlite + Peat moss (1:2:1 v/v) and the highest values of plant length were obtained with medium consisted of (Vermiculite + Perlite +Peat moss (1:1:1 v/v) with Sakkuty

Key words: Date Palm , Sakkuty , Bartamodda , Rooting, Acclimatization Gelling agent, Activated charcoal, Poly ethylene glycol, Antitranspiration agent , ,Murashige and Skoog . Naphthalene Acetic Acid.

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LIST OF ABBREVIATION

AC	Activated Charcoal
PEG	Poly Ethylene Glycol
NAA	Naphthalene Acetic Acid
MS	Murashige and Skoog
SAKK	Sakkuty
BART	Bartamodda