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STUDIES ON THE IN VITRO CULTURE OF TISSUES FROM DIFFERENT ORGANS OF STRAWBERRY PLANT (*Fragaria X ananassa* Duch)

By

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B. Sc. Agric. (Horticulture), Ain Shams Univ., 1987

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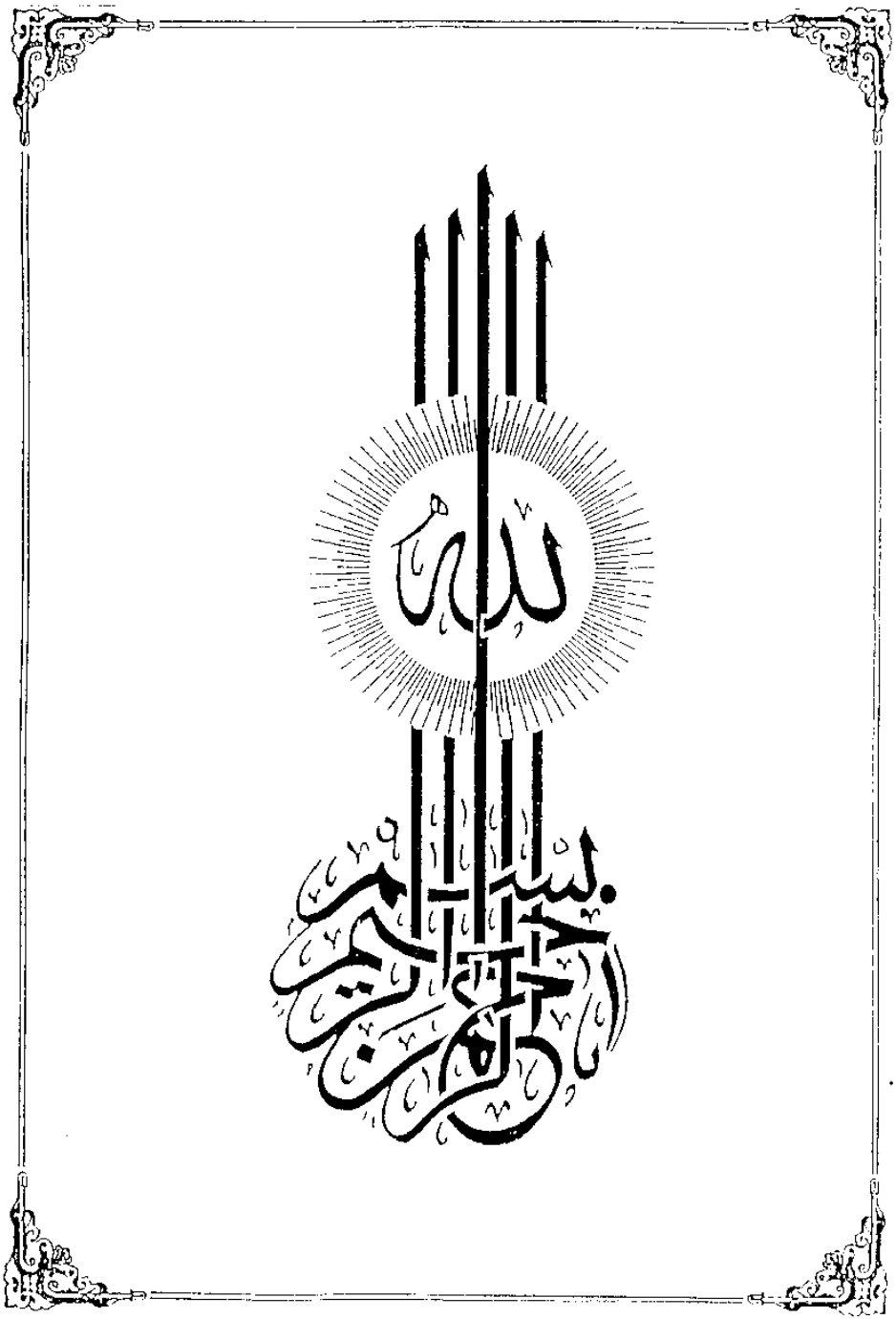

APPROVAL SHEET

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ABSTRACT

Awatif Fouad Mekail. Studies on the in vitro culture of tissues from different organs of strawberry plant (*Fragaria x ananassa* Duch). Unpublished Master of Science, University of Ain Shams, Faculty of Agriculture, Department of Horticulture, 1996.

This study was carried out during the period from 1992 to 1995 at the Strawberry and Non Traditional Crops Center, Faculty of Agriculture, Ain Shams University.

The object of this study was to evaluate the different in vitro propagation methods of strawberry plant, i.e. runner tip, immature fruit and leaf tissues in the subsequent micropropagation stages.

Results indicate that using runner tip of 1, 2 and 3 mm length gave 85, 90 and 100 in vitro survival percentage, respectively. Shoots produced from the smallest runner tip (1 mm) showed the lowest values of root length and number compared with the other two lengths. The best cullus formation was attained when leaf, fruit and runner tip explants were cultured on MS-medium containing 0.2 mg/l BA+0.5 mg/l 2, 4-D followed by 0.2 mg/l BA+1 mg/l 2, 4-D and 0.5 mg/ l BA+1.0 mg/ l 2, 4-D.

The growth dynamics of calli derived from the three types of explants, cultured individually on the three chosed culture media mentioned above were determined. Among the three culture media, it was observed that supplementation of MS-medium by 0.2 mg/l BA + 0.5 mg/l 2, 4-D gave the best growth of leaf derived callus. The increment rate in both fresh and dry weight as well as the growth rate of fruit callus were increased by increasing the time of culture on the three tested media. However, the highest values of growth parameters was obtained using medium contained 0.5 mg/l BA + 1.0 mg/l 2, 4-D.

The study concluded that sixty four clones were obtained from

immature fruit callus while seventeen clones were obtained from runner tip callus. On the other hand, leaf callus failed to produce any shoots on the different differentiation media.

Key words: Strawberry, Tissue culture, Callus induction, Clone.

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