

Propagation of *Dracaena fragrans* plants by tissue culture technique

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ABSTRACT

*This study had been carried out at the Department of Ornamental Horticulture, Faculty of Agric., Cairo University. The experiments had been done during the period from 1999 to 2004 at the Central Laboratory for Development of Date Palm Research, Giza, Egypt and Laboratory of Tissue Culture, Zohria Botanical Garden, Horticulture Services Unit, Agricultural Research Center (A.R.C.), aiming to study the micropropagation of *Dracaena fragrans* cv. *Massangeana* to solve some of the propagation problems in this plant. The results showed that the highest mean value of healthy free of contamination explants was recorded by using 15% (v/v) clorox and from using Mercuric chloride 0.3 g/l. Using ascorbic acid (100 mg/l) inhibited markedly the browning of explants and increased plant length and number of leaves. The strength of MS medium affected on the browning of explants; the lowest browning was observed when using ½ strength MS. Plant length and number of leaves increased by using half-strength MS media. The interaction between MS at half strength and the use of ascorbic acid gave the highest free of browning explants and the highest number of leaves and plant length. However salt concentration of MS medium had no evidential effect on the formation of adventitious shoots. The highest shoot length, number of leaves and shoots were recorded after the third subculture. The longest shoots and the greatest number of leaves were obtained by addition of 1.0 mg/l IAA + 1.0 mg/l Kin, while the highest number of shoots was recorded by using 0.5 mg/l IAA + 5.0 mg/l Kin. Using MS at half strength increased shoot length and number of leaves, while the number of shoots had not been affected by MS-strength. The highest shoot length and number of leaves were obtained from addition of 1.0 mg/l IAA + 1.0 mg/l Kin to half strength MS medium, while the highest number of shoots was recorded from using 5.0 mg/l IAA + 0.5 mg/l Kin to MS medium at half MS salt strength. The highest number and length of roots were obtained from addition of 5.0 mg/l IBA and using MS medium free of NAA (control).*

Key words: *Dracaena*, in vitro propagation, sterilization, and growth regulators.