PROPAGATION AND SEEDLING PRODUCTION OF SOME EGYPTIAN FLORA

By

AHMED HOSNY ABD EL HAI ABD ALLAH NEGM
B.Sc. Agric. Cooperation Sc., High Institute for Agricultural Cooperation, 2003

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ABSTRACT

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The four experiments were carried out during the period from 2017 till 2019 in the ornamental farm, Department of Horticulture**,** Faculty of Agriculture, Ain Shams University located at Shoubra –El-kheima , kaliobia governorate, Egypt. The first experiment was performed for seed germination of Doum palm (*Hyphaene thebaica* Mart*)* plants for two seasons, the second was for cutting germination of the (*Salvadora persica* L). plants for two seasons, the third was conducted to study the effect of nitrogen fertilizer sources, known as Toothbrush shrub Or Araak, siwak, miswak on the (*Salvadora persica* L). plants, the fourth was carried out to study the effect of N:P:K combined fertilizer with a different levels of nitrogen fertilizer. First Experiment seeds of doum palm (*Hyphaene thebaica* Mart *)* plants were collected from el obour Market as a source of plant material during two seasons. using 1:1 sand: peat moss (v/v). seeds of doum Palm were treated with different presoaking treatments as follows: control treatment without soaking (direct plantation); soaking in tap water for 48 hours; soaking gibberellic acid solution (GA_3) at 200 ppm for 48 hours; Soaking potassium nitrate solution (KNO_3) 3% for 48 hours; soaking sulfuric acid (H_2SO_4) 28-31% for 15 minutes; soaking in hot water (60°C ± 5) for 3 hours then left till gradually cooling and freezing storage in deep freezer at -18°C for 12 hours then soaked in hot water at 60°C for 1 hour. Second Experiment: Dipping in IBA at different levels, 0.0; 2000; 4000 and 6000 ppm for 30 sec. The superior treatment was the highest IBA application at 4000 and 6000 ppm. Third experiment: In case of nitrogen fertilizers treatments were used for 12 weeks as follows: Control treatment (without fertilizers); 2 units of

nitrogen from urea per seedling used for 12 weeks; 4 units of nitrogen from Urea per seedling used for 12 weeks ; 6 units of nitrogen from urea per seedling used for 12 weeks; 2 units of nitrogen from ammonium sulfate per seedling used for 12 weeks; 4 units of nitrogen from ammonium sulfate per seedling used for 12 weeks and 6 units of nitrogen from ammonium sulfate per seedling used for 12 weeks. The superior treatment was the higher values from the application of urea at 6 units urea per of nitrogen. Following 4 units of nitrogen from ammonium sulfate per seedling used for 12 weeks. Fourth experiment: experiment the treatments were as follows: Control (without fertilization); 2 units of N: P: K 2:1:1(0.49 g/L) plus ammonium sulfate at 0.4 g/L water for each seedling ; 4 units of N: P: K 4:2:2 (0.89 g/L) plus ammonium sulfate at 0.8 g/L water for each seedling and 6 units of N: P: K 6:3:3(1.29 g/L) plus ammonium sulfate at 1.2 g/l water for each seedling. The superior treatment was the higher values from the application the highest was obtained from NPK at 6:3:3(1.29 g/L) Following 4:2:2 (0.89 g/L) plus ammonium sulfate the aim of this study was to produce high quality strong seedlings during a relatively short period from doum palm (*Hyphaene thebaica)* plants and (*Salvadora persica* L). capable to tolerate harsh and damaging conditions after planting in the permanent locations, especially when it is used for sand dune fixation.

Key words: *Hyphaene thebaica* - *Salvadora persica* L. – seed germination - freezing – tap water soaking- gibberellic acid (GA_3) – sulfuric acid (H_2SO_4)- potassium nitrate (KNO_3)- hot water- cuttings– seedlings.

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