

EFFECT OF SOIL MEDIA, IRRIGATION INTERVALS AND NPK FERTILIZATION ON VEGETATIVE GROWTH OF CONOCARPUS TRANSPLANTS

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ABSTRACT

This study aimed to investigate the effect of three soil media, three irrigation intervals, three NPK fertilization rates and their interactions on the growth and development of *Conocarpus erectus* tree as a new plant to the Egyptian environment. This research was carried out during the two successive seasons of 2004 – 2005 and 2005 – 2006.

The obtained results showed significant differences in some investigated characteristics. Clayey soil significantly gave the greatest value of plant height, number of branches per plant but had non significant effect on chlorophyll pigments content. Use of 10 or 15 days irrigation intervals significantly had an effect on plant height, number of branches per plant and chlorophyll pigments content. The addition of NPK at a rate of 5 or 10 gm/plant resulted in significant increase of plant height and number of branches per plant while had non significant effects on chlorophyll pigments content. The interaction treatments showed that generally, clayey medium, 10 or 15 days irrigation intervals and 5 or 10 gm NPK/plant significantly increased the values of plant height while, the mixture medium and 10 or 15 days intervals and mostly 5 gm NPK/ plant significantly affected the value of number of branches/ plant. Results of interaction showed also that clayey medium with 5 days irrigation intervals and 10 gm NPK/ plant significantly increased the chlorophyll pigments content. Clayey soil irrigated every 15 days and fertilized with 5 gm NPK/plant significantly increased the stem diameter when compared with other treatments. On the other hand, dry matter percentage was significantly increased by the use of mixture medium (clay + sand), 5 days irrigation interval and 10 gm NPK/plant.

INTRODUCTION

Conocarpus erectus, L. (Button wood) belongs to the family Combretaceae native to Bermuda, both coasts of Southern Florida, the Bahamas, the West Indies, both coasts of Mexico, Central America and South America. It is also native to coastal areas of tropical West Africa (Little and Wadsworth 1964 and Howard 1989). This tree is highly tolerant to full sun, sandy soils, salty conditions, compacted soils, air pollution, poor drainage, and drought. It has a medium growth rate and may live for several decades (Gilman and Watson 1993). Button wood has several ecological benefits and industrial uses that the wood was formerly used as fire wood, cabinets; it is difficult to work but takes a smooth finish. It is also reported to be good for smoking meat and fish as it burns very hot and slowly; it also makes high quality charcoal (Gilman and Watson 1993).

Extracts of the bark are used to treat bleeding gums, vaginal bleeding, colic, and skin ulcers (Liogier, 1990). Buttonwood is used also as ornamental tree or shrub and in bonsai. Buttonwood trees are tough and long-lasting in the landscape. It is used for seaside plantings, as a hedge; shade tree, residential street tree, buffer strips around parking lots, specimen,