1-INTRODUCTION

The date palm (***Phoenix dactylifera***, L.) is one of the oldest cultivated fruits in the world. Dates are one of the richest sources of nutrients mainly sugars, vitamins, proteins, sodium, iron, magnesium and other minerals. Now, date palm is an important fruit and considered as one of the leading fruit crops in Egypt. According to Agricultural census of 1997, the total number of female palms is about 7509185 with total production of 738147 tons of fruits (**Shawky *et al.*, 1999**).

Propagation of most species of the date palm is dependent on seed propagation (conventional method). Seed propagated palms do not bear true to type fruit due to heterozygosity. On the other side, vegetative propagation took place by off-shoots which grow from lateral meristemic tissues. It reproduces true to type offspring looks like the parent. Unfortunately, relatively few offshoots are produced during a date palm's lifetime and most of these occur during the Juvenile stage (**Barrett, 1979**). The main problem is making balance between supply of date palm offshoots and the high number needed.

On the other hand, Pineapple (***Ananas comosus*** L. Merr.) is a tropical fruit crop which originated in South America, then was transferred to many countries. The total world production of this crop was about 8.864 million metric tons, and mainly produced in Thailand, Philippine, Brazil, India, Mexico, Indonesia and United States of America (**FAO, 1982**). The greatest part of pineapple products is used as canned fruits and Juice. Also, fruits are considered as a source of

vitamins A and B. Fruits dry weight contains 75-83% sugars, 7-9% citric acid, bromelin and some proteolytic enzymes (**FAO, 1982**).

Furthermore, In Egypt, pineapple is a promising new crop to be grown in plastic green house, particularly, in the newly reclaimed land. Pineapple can not be propagated by seeds because most varieties show strong self-incompatibility while the others is complete parthenocarpy. Also, buds (which are produced limited number per plant) may be used in propagation (**Wakasa, 1989**).

Tissue culture micropropagation has been employed to aid in the clonal propagation of numerous plant species. The inherent advantage of tissue culture over field propagation is in the greater numbers of plant production potential from a single plant.

Tissue culture techniques may offer a possible method to produce large numbers of genetically uniform palms. Several reports dealing with tissue culture in palms have appeared in the literature in the 1970's. Production of sexual embryos and their subsequent development into free-living plants in oil palms was the first published report in the literature. (**Tisserat, 1983**) has obtained free-living plants from clonal date palm explant tissues derived from shoot tip, lateral buds, of the floreseence.

Thus, the ultimate goal of this investigation is to find out the most suitable medium type, state and strength as well as the additives and BAP and NAA concentrations for the establishment stage of date palm and pineapple. Besides, proliferation and enhancing the processes of rooting and acclimatization stages of pineapple plantlets were studied.