

INTRODUCTION

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Apricot can be considered as one of the major and the most important popular and favourite deciduous fruits in Egypt, since it has an excellent flavour, nice taste and high nutritional value. In addition to that, apricot is consumed either as fresh ripe fruits or after industrial processes. Apricot is botanically belonging to the order Rosales (Roses) and family Rosaceae which includes 20 to 25 species and one thousand of varieties but only few are of commercial importance.

It is well known that, through the last two decades, apricot gives the highest economic revenue per feddan comparing with other deciduous fruit species, for that the areas cultivated with apricot was enormously increased. It occupied about (18559) feddans with a total area including (15278) feddans as a fruitful area with a total production about (101139) tons in 2007*. The intensive increase in apricot production in recent years is mainly due to its expansion in the newly reclaimed areas especially in desert regions.

Undoubtedly, there are many problems facing fruit trees growers which affect the productivity and fruit quality of apricot trees. High costs of mineral fertilizers needed to fruit trees is one of these problems. Additionally, the use of mineral fertilizers have an increased role in the health problems of mankind. However, they are considered as air, soil and water polluting agent results from leached chemical fertilization into the soil led to disturbance in the natural biological balance in the soil and accumulate in feed chain causing hazardous effects for human health.

*Horticultural Situation and outlook, A.E.C.A. Ministry of Agriculture, June, 2007.

Therefore, the investigators resorted to new attitude by using biofertilizers instead of chemical fertilizers making good use of its advantages.

Furthermore, biofertilizers are biological compounds containing primarily potent strains of micro-organisms in sufficient numbers. These micro-organisms have definite beneficial roles in the fertility of soil and plant growth. Also, biofertilizers were very safe for human, animal and environment and using them lower the great pollution occurred in our environment. Out of them, Nitrobein, Phosphorene and active dry yeast are considered the promising biofertilizers. Nitrobein has greater amount of symbiotic and no symbiotic bacteria responsible for fixation of nitrogen by atmosphere and application of it achieved the following merits: (1) Decreasing the amount of mineral nitrogen by 25 % **Abd El-Fattah (1998)** and save half the normal field rate of inorganic nitrogen fertilizer. (2) Increasing both the availability of various nutrients by plants and resistance of plants to root diseases (**Ahmed et al., 1997-b**). (3) Reducing salinity problems and the environment pollution produced by the application of chemical fertilizers. In addition, phosphorene is a biofertilizer product containing active micro-organisms hydrolysing the insoluble phosphate into soluble one under high soil pH and greater percentage of calcium carbonate, consequently partially overcome the phosphate fixation. However, the various positive effects of using active dry yeast was due to its own from different nutrients, large amounts of vitamin B, greater release of CO₂ and higher amount of natural hormone mainly cytokinins.

Thus, a great attention is focused on biofertilizer through several studies and many attempts in order to replace partially of N, P and K mineral fertilizers, **Ahmed et al., (1997-a)** and **Akl**

et al., (1997) on grapevines; Mansour (1998), Mahmoud and Mahmoud (1999), Fathi *et al.*, (2002) and Kabeel *et al.*, (2007) on peach and apple trees; Wahba (2007) on persimmon trees; Eissa-Fawzia (2003), Shddad *et al.*, (2005) and Kabeel *et al.*, (2005) on "Canino" apricot trees.

Therefore, the present investigation was planned and carried out on "Canino" cv. of apricot trees grown at El-Kanater Horticultural Research Station to study the most effective fertilization treatments of different rates of (NK) soil application combined with some biofertilizers compounds (Nitrobein, Phosphorene and Active dry yeast) through studying their effect on vegetative growth measurements, nutritional status (leaf mineral composition), fruit set, tree fruit productivity and fruit characteristics of "Canino" apricot trees.