

## **I. INTRODUCTION**

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The olive tree, (*Olea europea* L.), family *Oleaceae*, relatively resists drought and salinity conditions to a great extent. Thus, it is a widely distributed tree grown in many areas of the world. It can be considered the best candidate as a tree for planting in new reclaimed lands such as Sinai, North Western Coast, Eastern and Western deserts and Oases.

Olive production plays an important role in the economy of many countries such as, Spain, Italy, Greece, Turkey and Tunisia.

In Egypt, the total area of olive reached about 22788 feddans according to the latest statistics of the Ministry of Agriculture 1989. But according the Hort. Res. Inst. primary statistics the total area is more than 40000 feddans.

The olive tree yields two main products: oil and table olives.

In Egypt, several efforts had been devoted to improve olive production. As a matter of fact, olive fruits and/or olive oil production are still far below the market demands. Moreover, the local varieties Viz. Shemlali, Wetaken, Toffahi and Hamadi are relatively less productive as compared with the high productive varieties such as Frantoio, Coratino,

Negral Picual... etc. Thus, the using of such olive varieties and the improvement of their growth and the nutritional status is still the target of several workers which will be reflected directly on olive production in A.R.E.

Few informations have been mentioned in the literature about the nutrition of the young olive plants, especially those reproduced vegetatively. It is well known that the important role of minerals in growth, flowering and fruiting of plants is one of the noteworthy achievements of science. Scientists in the field of mineral nutrition of plants have always been faced with particular difficulties either with plants or even as a soil and climatic problems. Nitrogen being one of the most important nutrient elements plays a dominant role in plant nutrition. Consequently, the importance of nitrogen in the structure and metabolism of the plant lead to the necessity of having enough supply of N to the plant especially during the early stages of plant growth. Moreover, nitrogen is not the only nutrient element needed, but others are also required in this respect to be balanced, especially through the early stages of growth and plant development, whereas a good supply of other nutrients can be provided.

Plant growth regulators are compounds, which act as chemical and physiological reactions ( Coggins and Hield , 1968). Gibberellins (GA) at the rate of 250 or 500 ppm promotes shoot growth via increasing internode length when

spraying Oscalano olive trees (Badr et al., 1970).

The main purpose of this work aimed to investigate the effect of some nutritional treatments on growth and mineral status of Picual and Manzanillo olive cvs., as the method of application, source and doses of the nutrient elements used i.e. (N,P,K,Zn) were concerned. Moreover, foliar sprays with gibberellin either solely or in combinations with some of these nutrient elements (N,Zn) were also involved, to enhance growth of such olive plants (rooted cuttings and shorten the period required for producing standard nursery olive plants.

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