INTRODUCTION

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Garlic *(Allium sativum, L)* is one of the most important vegetable bulb crops grown in Egypt. Cultivated garlic, *Allium sativum,* is a member of the Alliaceae family. In 2002, the total area cultivated with garlic amounts to about 28238 feddan out of which 20622 feddan were grown as a single crop and 7616 as intercropping, with total productivity of 187779 ton with an average yield of 9.106 and 7.698 ton per feddan to garlic grown alone and as intercropping respectively, according to **Central Administration for Agricultural Economics and Statistics, Ministry of Agriculture, Egypt 2003.**

Garlic plants require abundant of macronutrients but such abundance may participate increasing amounts of nitrate in plant parts specially, when the used fertilizers are in a mineral form. In the same time, plants need micronutrients during its growing season. Micronutrients are elements, which are essential for plant growth, but are required in much smaller amounts than those of the primary nutrients i.e. nitrogen, phosphorus and potassium. Method of supplying micronutrient fertilizers is different according to kind of soil. Deficiencies of micronutrients have been increased in some crops. That is due to higher crop yields, which increase plant nutrient demands, use of high analyses NPK fertilizers containing lower quantities of micronutrient

contaminants, and the decrement of using farmyard manure in many agricultural soils.

In Egypt, chemical fertilizers i.e. nitrogen, phosphorus and potassium are used heavily to maintain the soil fertility and to ensure crop production. Moreover, ***Badiane et al. (1994)*** reported that in Egypt the consumption of fertilizers is more than 10 times as much as the average dose for the whole world. The excess of mineral fertilizers led to accumulation of nitrate and some other compounds of harmful effect in economic edible parts. On the other hand, there is an increasing interest in the use of organic N-sources as fertilizers for the production of vegetables and in particular for the production of organic growth vegetables.

Therefore, this trail was conducted to study the effect of NPK fertilizers level and different organic manures as well as some micronutrients application on growth, yield, chemical composition and storageability of garlic plants.