1- INTRODUCTION

Tomato *(Lycopersicon esculentum* Mill) is one of the major and most important vegetable crops grown in Egypt, not only for local consumption but also for the processing and exportation purposes. Tomato is one of the highly important foods in human nutrition for its highly nutritive value. It is rich in vitamins A and C, in addition to its value to human healthy, contributed to tomato acidity (**Steward, 1963**).

The increase in tomato production could be achieved either by the vertical expansion, i.e., the increase in total yield per feddan or through the increase in cultivated area. The total area devoted for production in Egypt was 465157 fed. which produced 6785637 tons that averaged 14.587 ton/fed. in year 2000.

Many factors affecting on vegetative growth, flowering and consequently total yield of tomato plants. In this respect, irrigation, fertilizing and plant pruning are considered the most effective agricultural practices especially under sandy soil conditions. In addition, the intensive cropping of vegetables three times yearly removes more quantities of macro and micronutrients from the soil. There fore, it is quite possible to increase both quantity and quality of vegetable crops thought fertilizing plants with macro elements (especially NPK).

Hence, this investigation was carried out to investigate the effect of NPK fertilizer application as compound commercial fertilizers on vegetative growth, chemical composition,

flowering, fruit yield and quality of tomato in the newly reclaimed sandy soil.

Water shortage in the Middle East is expecting to be the limiting factor for agriculture in the near future. In Egypt, irrigation water sources are limiting, which are not going to be enough for irrigation of crops, especially with the continuous increase in cultivated newly reclaimed sandy soil, which need more water to irrigation. Drip irrigation is important system for saving water and supplying the plant with an adequate amount of water to produce high yield. In addition, plant pruning is an important agricultural practices required for producing high and early yield with best quality for export purposes and local markets.

Therefore, the first experiment of this research aimed to study the effect of some drip irrigation regimes and the second experiment aimed to study the effect of different levels of NPK fertilizer applied as compound commercial fertilizer and some methods of plant pruning on tomato growth and productivity under newly reclaimed sandy soil conditions.