

I. INTRODUCTION

Tomato (Lycopersicon esculentum Mill) is considered as the most important vegetable crop grown in A.R.E., not only for local consumption but also for the achievement of processing and exportation purposes. As mentioned by Department of Agricultural Economic and Statistics, Ministry of Agriculture, A.R.E., the cultivated area reached 331720 and 321748 feddans with total production of 2467793 and 2657045 tons of tomato fruits for 1981 and 1982 respectively.

Tomato is one of the most highly praised of human foods for its higher nutritive value. It is also naturally rich in vitamin C which, in addition to its value to human health, contributes to tomato acidity (Steward, 1963).

Many factors affect tomato growth, flowering, fruit setting and consequently fruit yield mainly the environmental factors of weather and soil conditions beside to those factors related with the plant itself.

The supply of micronutrients including Fe, Zn, Mn, Cu and B to vegetable crops became recently of special importance after the construction of the High Dam which decreased the content of such elements in the river Nile water (Nabhan, 1966 and Sabry, 1974). Furthermore, the great progress in manufacturing of chemical fertilizers

with less impurities, the limited supply of manure used in vegetable growing nowadays and the intensive cropping of vegetables three times yearly, which removes more quantities of macro and micro nutrients from the soil, are some of the main factors of decreasing the available micronutrients in the soil.

It is well established that several micronutrients are essential for higher plants. They participate in many biochemical processes occurring in cells, mainly through increasing the activity of many enzymes, Vitamins and hormones (Steward, 1963 and Epstein, 1972). Moreover, it is quite possible to increase both quantity and quality of vegetable crops through trace elements application (Ashour, 1973; Abd El-Maksoud et al., 1974; Lukovnikova et al., 1975; Jarmillo et al., 1978; Mallick and Muthukrishana, 1980; Amer, 1981 and Shafshak, 1983).

Therefore, the study herein aimed to investigate the effect of foliar application of commercial folifertilizers. Bayfolan, Irral or Fetrilon-combi and micronutrients; Fe, Zn, Mn, Cu or B within different levels on the growth, chemical composition, flowering, yield and fruit quality of tomato cv. strain B. This study is an attempt to increase the fruit yield by means of correct addition of micronutrients.

In Egypt, tomato yield of the early summer plantation always gets the advantage of the early market prices. However, several problems arose in producing seedlings for the early summer plantation due to the cold and frosty weather, prevailing the nursery period from seed sowing in December till seedlings reach the suitable size for transplanting in February. Protection against cold reduces frost injury and can be obtained by using different methods, among which wind brakes, polyethylene covers or tunnels, hot beds, and glass houses. An attempt to produce seedlings with a good growth and quality, for early summer plantation, through using the most suitable methods of seed sowing and seedlings protection, was another aim of this work.