

I -- INTRODUCTION

In Arab Republic of Egypt, the grapes is considered to be second fruit crop after citrus. According to the latest statistic of Ministry of Agriculture in (1990), the total area planted with grapes was 150625 Feddans.

Several attempts were done on the application of micro nutrients spray in order to correct nutritional status, enhancing vegetative growth, increasing yield and improving fruit quality in grapes ((Smith et al., 1964), Sarosi (1969), Christensen et al (1978), Yamadagni et al ., (1980, a), Donna (1986), and Dabas (1987)).

Foliar fertilization has recently attracted grape grower attention. The advantages of foliar application over that of soil application are the low cost and the quick absorption of fertilizers by the leaves, beside that the leaching or fixation of some elements in the soil under different soil conditions (Scheer and Juergenson, 1986).

Micro-nutrients are perform essential function in vital processes. A lack of micro- nutrient is responsible for some plant diseases and often causes crops to perish Application of appropriate micro-nutrients not only prevents these diseases, but also ensures higher yields of better quality crops. Micro-nutrients increase chlorophyll content in leaves, improve photosynthesis and intensify the assimilating activity of the whole plant. Many micro-nutrients are constituents

parts of active centres of enzymes and vitamins(Yagodine, 1984).

Therefore, the present study was carried out to evaluate the response of Thompson seedless "Banaty" and Romi Red grape vines. (*Vitis vinifera* L.) to foliar application with the chelated compounds of zinc, iron and manganese as well as boric acid.