INTRODUTION

I- INTRODUCTION

The genus Citrus belongs to family Rutaccae, sub-family Aurantiodeae, subtribe *Citrinae*. The "true" citrus groub includes six genera: *Eremocitrus, Poncirus, Clymenia* (all with one specie), *Flortunella* (4 spp.), *Microcitrus* (6 spp.) and *Citrus*.

In Egypt, citrus orchards occupy 451547 Feddans according to the Ministry of Agriculture and Reclamation land statistics in (2009) year. Citrus is the most important fruit crops in Egypt as for as acreage, production and exportation potentialities are concerned.

Citrus fruits have higher nutritional value since they contain higher amounts of sugars, vitamins, minerals, organic acids, plant pigments, essential amino acids and pectins as for as using in different industrial purposes to curing people from different diseases (**Hulme, 1971**).

In Egypt, light crop density in parthenocarpic cultivars of citrus (especially Washington Navel orange) trees is commonly evident. This unfavourable characteristic returns either to the obvious and high percentage of flower dropping setting or directly after their set.

Many trails have been carried out for increasing fruit set, minimizing June drop and preharvest drop by the use of different factors including plant growth regulators (**Embleton *et al.*, 1973; Coggins and Henning 1985 and Kouka *et al.*, 1994**).

The application of either gibberellins or cytokinins at/or shortly after flower opening early fruitlet growth (**Monselise,**

1979, Wilson 1983 and Guardiola *et al.*, 1993). But evidence of an effect of synthesized plant growth regulators or their naturally sources as the frozen extract of the active Yeast (*Saccharomyces cervisia*) is still rarely or even lacking.

Moreover, **Wallace *et al.*, (1976)** mentioned that, some visual symptoms of micro-nutrient deficiency were observed in some orchrads grown in Egypt, so citrus orchrad trees as many as other become suffering from micro-nutrient deficiency especially Fe, Zn and Mn.

Accordingly, it seems that trees are not only in need to macro-elements application but also require the application of some micro-elements. In other words, the programme of fertilization under such conditions should be included the application of Fe, Zn and Mn. The application of these micro-elements had been proved to be economic through foliar sprays. Moreover, urea spray was reported to be abeneficial effect for better absorption of Zn and Mn as reported by **Beutal (1962)**.

Therefore, the present study investigation was planned and carried out on Washington Navel orange and Valencia orange trees grown in Qulaybia Governorate to study the effect of GA_3, yeast extract, best flower, amino power and their combinations on vegetative growth, nutritional status, fruit set, remainning fruits after June drop (%) and yield. Also, fruit physical and chemical properties were investigated.