INTRODUCTION

Citrus is considered the most important fruits crop in Egypt. It possess several economic advantages and considered the most popular fruits in Egypt whereas its containing various nutritional compounds such as sugars, vitamins and different mineral salts. It also exists for long period in the market with cheep price. The total area of citrus is representing by 40% of the cultivated fruit area of Egypt. Citrus fruits are infested with many insect pests within citrus leaf miner. Citrus leaf miner (CLM) was first described from Calcutta, India by **Stainton (1856)**. Infestation with (CLM) was common in all citrus orchards in many countries (*i.e.* Asia, Africa, Europe and USA) and the pest population is abundant enough to inflict serious damage. The entire citrus growing area of the Mediterranean Basin was invaded by the citrus leaf miner (CLM) *Phyllocnistis citrella* (Stainton), (Gracillariidae : Lepidoptera) **(Uygun *et al.*, 1997).** During early summer of 1994, citrus trees in El-Sharkia and Ismalia Governorates were severely infested by "CLM", then it spread rapidly throughout most of the citrus growing area. The citrus leaf miner is an important pest because the larvae cause serious damage to the citrus leaves. Immediately upon hatching, CLM larvae bore through the leaf epidermis and begin ingesting cell sap by lancing leaf cells with their sharp mandibles. Larvae usually feed on the cells of lower epidermis, making serpentine mines and remain protected by the waxy cuticle of the leaf. The damaged area turns into a chlorotic patch which may become necrotic resulting leaf curling and serious injury. The pest infests also the shoots and terminal leaves of citrus trees.

The present study aims to provide sufficient informations about the possibility of setup integrated pest management program (IPM) by testing several control factors. Thus, this research was focused on studying the main following items:

1- The effect of some chemical treatments against CLM.

2- The effect of biological agents by releasing the parasitoid *Cirrospilus quadristriatus* (Eulophidae : Heymenoptera).
3- The effect of addition of different rates of two fertilizers in navel orange grove on CLM.
4- Side effect of chemical treatment on the parasitism and predation percentages to CLM.
5- Effect of some mechanical control agents in citrus grove along two years.
6- The combined effect of chemical, insecticides and release of the parasitoid (*C. quadristriatus*) for controlling CLM.