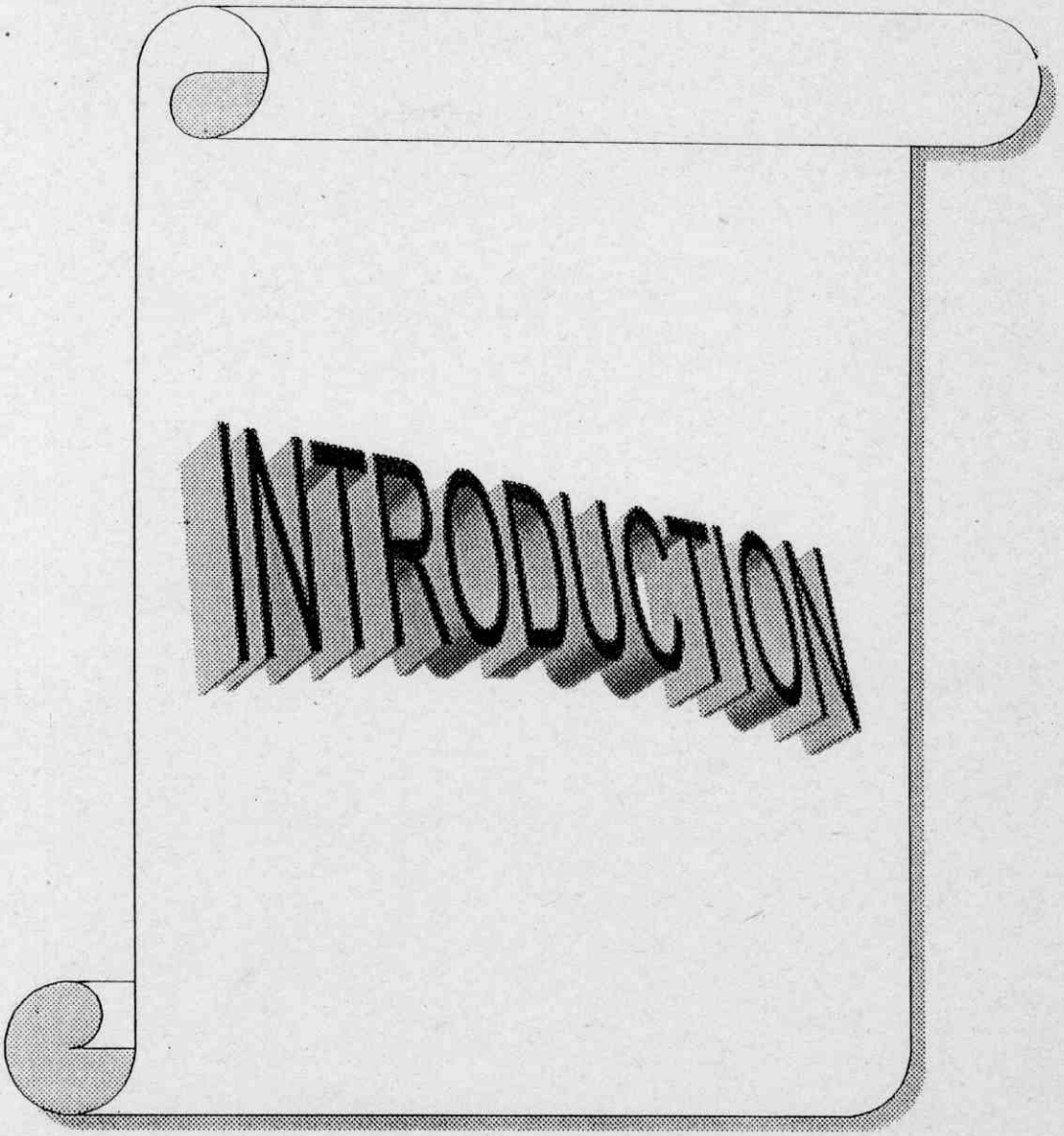
INTRODUCTION

Introduction

It is known that the greater (*Galleria mellonella* L.) and lesser (*Achroia grisella* Fabricius) wax moths, could attak the honeybee products such as honey, pollen and wax (**Morse, 1975**).

In 1976 the greater wax moth, *Galleria mellonella*, caused an estimated 4.000.000 million $ loss in the U.S.A beekeeping industry. Undoubtedly some of the damage attributed to the greater wax moth (*Galleria mellonella* L.) was actually the work of the lesser wax moth, (*Achroia grisella* Fabricius). The larvae of both species burrow through the combs, leaving a trail of debris and silken webbed tunnels. Entire supers of comb may be reduced merely to wood and wire in a relatively short time (**Tremblay, 1978**).

The larvae but not the winged adults of the wax moths are the main destructive stage. Larvae live for 1 to 5 months, depending on the temperature and food supply (temperatures most suitable for growth are between 85 °F and 95 °F (29 ° and 35 °C), while no activity is noted below 45 °F (7 °C). Larvae derive most of their nourishment from impurities such as pollen, cocoons, and honey incorporated in the comb rather than from the beeswax itself (**Tremblay, 1978**). Accordingly the larvae prefer attacking older, darker brood comb rather than newly drawn comb or foundation. Accumulated capping and scraping also may be attacked if not rendered into pure wax (**Tremblay, 1978**). Even combs containing honey may be infested as they given favorable conditions for larvae growth.

Most of the damage occurs while combs are in storage, but infestations can develop in weak bee hives (under stress from starvation, extended queenlessness, disease, or pesticide kill). Wax moths do not destroy healthy colonies in the field, but if colonies are weak, wax moth infestations will hasten their demise (**Tremblay, 1978**).

To protect stored combs from wax moths attack, it is necessary to destroy existing stages of the moth and prevent reinfestation. The methods most often used for this purpose include both chemical and nonchemical control (**Tremblay, 1978**).

On the other hand, the plant kingdom is a rich source for pest management agents that might prove useful in this respect. The ones to search for those are being active against specific target organisms, biodegradable to nontoxic products and suitable for use in integrated pest management programs. It has been demonstrated in recent years that extracts of various plants possess distinct toxicity (**EL-Nomrossy, 1981; Farag, 1984; Ahmed, 1985** and **Saleh *et al.*, 1986a**). Also, lead to antifeeding activity and inhibition of growth and fecundity.

The aim of the present work is to investigate the potentialities of some plant extracts, powders and volatile oils for their contents of materials with adverse effects on the wax moths (*Galleria mellonella* L. and *Achroia grisella* Fabricius). With this out-look; the feeding deterrence effect, poisoning effects and biological effects have to study. Also, the effect of some fumigant materials, organic compounds and the join effect of

some fumigant mixtures on the mortality of aforesaid insects were investigated.