

# Contents

	Page
<b>INTRODUCTION</b>	<b>1</b>
<b>REVIEW OF LITERATURE</b>	<b>4</b>
<b>MATERIALS &amp; METHODS</b>	<b>48</b>
<b>RESULTS and DISCUSSION</b>	<b>59</b>
<b>I- Laboratory Experiments.</b>	<b>59</b>
1- Efficacy of volatile oils "Apilife VAR" for controlling wax moths larvae <i>Achoria grisella</i> .	<b>59</b>
1.1- Effect of feeding on diets treated with mixture of volatile oils "Apilife VAR" on larval mortality of the lesser wax moths <i>Achoria grisella</i> .	<b>59</b>
1.2- Effect of feeding on diets treated with volatile oils "Apilife VAR" on the life cycle duration of the lesser wax moths <i>Achoria grisella</i> .	<b>62</b>
2- Efficacy of Datura stramonium and Melia azaderachta-powder for controlling wax moths larvae.	<b>66</b>
2.1- Effect of plant powder on the mortality of wax moths larvae <i>Achoria grisella</i> .	<b>66</b>
2.2- Effect of plant powder on the life cycle duration of the lesser wax moths <i>Achoria grisella</i> .	<b>70</b>
2.3- Effect of different concentrations of some plant extracts on mortality of the wax moths larvae ( <i>Galleria mellonella</i> ).	<b>73</b>
3-Effect of carbon dioxide and phosphine on controlling of wax-moths larvae.	<b>77</b>
3.1- Efficacy of different concentrations of carbon dioxide in controlling the larvae of wax-moths	<b>77</b>
3.2- Efficacy of applying phosphine alone or mixed with different concentrations of carbon dioxide for controlling the wax-moths larvae	<b>81</b>
<b>II) Applied Experiments</b>	<b>85</b>
1-Effect of treating healthy wax-combs in stored hive boxes with different plant powders on controlling the wax-moths larvae	<b>85</b>

2-Effect of applying Formic acid, Methyl salicylate and Acetic acid with two different methods in controlling wax-moths larvae in stored combs	88
3- Effect of spraying bees wax combs with mixture of volatile oils (Apilife VAR) on controlling wax moths larvae during storage.	92
3.1- Effect of spraying healthy combs only	92
3.2- Effect of spraying both healthy and infested combs	95
<b>ENGLISH SUMMARY</b>	
<b>REFERENCES</b>	98
<b>ARABIC SUMMARY</b>	105