



Ain Shams University  
Faculty of Science  
Entomology Department

# **RECYCLE WASTE OF PLANT ORIGIN TO INSECTICIDES FOR CONTROLLING FIELD CROP PESTS IN NEW VALLEY GOVERNORATE**

**A Thesis submitted in partial fulfillment for requirements of the Master  
of Science degree  
(Entomology)**

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## **DEDICATION**

*My respected father Prof. Dr. Taha Abdel Khalek the vice Dean of Faculty of Religion's, Al-Azhar University, thank you for your support, effort, your containment and for being my father. My kind mother thank you for concern, continuous care and your kind heart. My younger brother Ibrahim thank you for your time, help and support. sorry for my little attention to you all during the study.*





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## LIST OF ABBREVIATIONS

<b>ACP</b>	Acid phosphatase
<b>AF</b>	Acetone fraction
<b>ALP</b>	Alkaline phosphatase
<b>ALT</b>	Alanine amino transferase
<b>Am</b>	Amount
<b>AP</b>	Acetone pure
<b>APS</b>	Ammonium per-sulphate
<b>AST</b>	Aspartate amino transferase
<b>CBB</b>	Coomassie brilliant blue
<b>Conc</b>	Concentration
<b>dL</b>	Deciliter
<b>EDTA</b>	Ethylene diamine tetra acetic acid
<b>Est</b>	Esterase
<b>EtF</b>	Ethanol fraction
<b>EtP</b>	Ethanol pure
<b>GOT</b>	glutamic-oxaloacetic transaminase
<b>GPT</b>	glutamic-pyruvic transaminase
<b>h</b>	Hour (s)
<b>Hb</b>	Hemoglobin
<b>IGR<sub>s</sub></b>	Insect growth regulators
<b>IU</b>	International unit
<b>KCl</b>	Potassium chloride
<b>L</b>	Liter
<b>LC</b>	Lethal concentration

<b>M</b>	Molar
<b>mA</b>	Milliampere
<b>µg</b>	Microgram
<b>mg</b>	Milligram
<b>MgCl<sub>2</sub></b>	Magnesium chloride
<b>min</b>	Minute(s)
<b>mM</b>	Millimolar
<b>MnCl<sub>2</sub></b>	Manganese chloride
<b>PAGE</b>	Poly acrylamide gel electrophoresis
<b>ppm</b>	Part per million
<b>Pt.Et.</b>	Petroleum ether
<b>PTU</b>	Phenylthiourea
<b>PVP</b>	Polyvinylpyrrolidone
<b>RBCs</b>	Red blood cells
<b>R<sub>f</sub></b>	Relative fragmentation
<b>R.H.</b>	Relative humidity
<b>rpm</b>	Revolution per minute
<b>SAS</b>	Statistical analysis system
<b>SE</b>	Standard error
<b>TEMED</b>	N,N,N,N, tetramethylendiamine
<b>V</b>	Volume
<b>WBCs</b>	White blood cells
<b>WHO</b>	World health organization

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