Preliminary Investigation on The Efficacy of Ushar Plant Leaves Calotropis procera Ait AgainstThe African Bollworm Helicoverpa armigera (Hub.) (Lepidoptera: Noctuidae)

By

Lamia Ahmed Zarog Mohamed Ali B.Sc. honours plant protection University of Gezira (1999)

A thesis presented in partial fulfillment of the requirements for the Degree of M.Sc. Agric. Sudan University of Science and Technology

Supervisor:

Dr. Saif Eldin Mohamed Kheir
Department of plant protection
Faculty Agricultural Studies
Novmber. 2004

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude and thanks to my supervisor Dr Saf Eldain Mohammed Kheir for his guidance, patience, keen interest and continuous participation throughout this study.

Grateful thanks are due to professor Elamin Mohammed Elamin Department of crops protection Agricultural Research Center Wad median for his guidance and help.

Also thanks are due to the staff of plant protection faculty of Agriculture, Sudan University of Science and Technology specially Dr Awad Khlafalla. Also grateful thanks are due to staff of laboratory insectry in Gezira Agricultural station, wad median specially Miss Sara Ali. Also thanks are due to staff of National Research center specially Dr Osman Hagnssor. Also thanks are due to staff of laboratory at Industrial Research and consultancy center. More thanks to my Brother Almkashfi and friends for their supports and encouragement. Finally Thanks to every one who contributed in the preparation of this thesis specially to Miss Hanan Abd Elrahman for typing this work.

Dedication

To Soul of father

To my: dear mother, grandmother,

aunts, brothers, sisters.

With sincere love