Ain Shams University
Faculty of science
Entomology Department

Effect of Some Natural Products on The Cowpea Seed Beetle, *Callosobruchus maculatus* (F.) (Coleoptera : Bruchidae)

THESIS

Presented to the Faculty of Science – Ain Shams University

In Partial Fulfillment for the award of the M.Sc. Degree (Entomology)

By

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APPROVAL SHEET

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ABSTRACT

The present work was carried out to evaluate the toxicity of katel-sous dust, clove, cinnamon and dill seed powders and the combinations of the three powders with katel-sous dust. Evaluation has been conducted on *Callosobruchus maculatus* adults to determine the toxicological effect, residual effect of these products on the cowpea seeds, the changes in insect biology caused by these products, some biochemical studies and seed viability after treatment with the tested products. The results referred to the availability to use these products to control cowpea seed beetle without affect the seeds viability and consider clove powder as spiracle-blocking insecticides. The tested products and its combinations made a sharp reduction in the number of eggs laid and the number of adults emerged. Mixing clove powder with katel-sous dust was helping in using katel-sous dust in pest management without any problems such as the large amount of material (high concentration) needed to obtain commercial kill of insect pest which make us suffered from the expensive costs and hardly remove the dust.

Key words: Katel-sous dust, Clove powder, Cinnamon powder, Dill seed powder, Control, Bruchids, Coleoptera, *Callosobruchus maculatus*, Cowpea seeds beetle, Biology and Scanning.

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