

EFFECT OF POWDERED

GARDENIA (Gardenia latifolia) BUD

AND OF ACTELLIC 50 EC ON

Sitophilus zeamais (MOTSCHULSKY)

BY

## SEENITHAMBY ARUMAINATHAN

A RESEARCH REPORT

SUBMITTED IN THE PARTIAL FULFILMENT OF THE REQUIRMENTS OF THE ADVANCED COURSE IN

AGRICULTURAL BIOLOGY

FOR
THE DEGREE OF BACHELOR OF SCIENCE IN
AGRICULTURE
FACULTY OF AGRICULTURE
EASTERN UNIVERSITY
SRI LANKA



1996

\* APPROVED BY \*\*\*

SUPERVISOR
DR.S. RAVEENDRANATH
SENIOR LECTURER
FACALTY OF AGRICULTURE
EASTERN UNIVERSITY
VANDARUMOOLAI
SRI LANKA.

DATE: 31 19 86

HMahendronz

HEAD/AGRONOMY
DR.(MRS),T. MAHENDRAN
FACULTY OF AGRICULTURE
EASTERN UNIVERSITY
VANDARUMOOLAI
SRI LANKA.

DATE: 01/11/96

4 4366

## CONTENTS

1.2. Collection of the day	page No
ABSTRACT	i - ii
ACKNOWLEDGEMENT	iii-iv
LIST OF FIGURES-	v
LIST OF PLATES-	vi
LIST OF TABLES-	vii
1.INTRODUCTION-	01-7
2.REVIEW OF LITERATURE-	8 -16
2.1.Classification-	8
2.2.Origin and Distribution	8
23. Morphology	9-10
2.4.Life history	10-13
2.5. Host range of S. zeamais	13-16
2.6.Damage	17-18
2.7.Control-	19-26
2.7.1.Chemical	19-22
2.7.2. Non Chemical-	22-26
. MATERIALS AND METHODS	27-34
3.1. Collection of materials	27
3.1.1. Insect	27
3.1.2.Disinfection of maize seeds	27-28
3.1.3.Mass culture of S.zeamais-	28

3.1.4.Gardenia bud (Gardenia latifolia )	28-30
3.2.Collection of one day old	
weevil	30
3 .3. Physical environment of the laboratory	30
3.4. Effectiveness of Gardenia bud powder	
and Actellic	31
3 . 4 .1.Experiment -1	. 31
3 . 4 . 1 . 1 . Measurement	32
3 . 4 . 2 .Experiment -2	32
3 . 4 . 2 . 1 .Measurement	33
3 . 4 . 3 .Experiment-3	33
3 . 4 . 3 .1 . Measurement	33-34
3.5. Analysis of data	34
4. Results and Discussion	35-53
4. 1. Experiment -1	36-40
4.2. Experiment 2	40-44
4 . 3 . Experiment -3	44-48
5. CONCLUSION.	49-50
BIBLIOGRAPHY	51-64
APPENDIX	.65-66

## ABSTRACT

This study was conducted at Eastern University during the period of April 1996 to July 1996 to evaluate the effect of powdered Gardenia bud and of Actellic on Sitophilus zeamais(Motschulsky).

All the treatments of Gardenia bud controled Sitephilus zeamais ( Motsch ) effetively.

However, the degree of Control varied significantly (P<0.01) within the six(06) treatments.

Moreover, the Actellic treatment was more effective than the Gardenia bud treatment. Among the Gardenia bud treatment 1.6gms Gardenia bud powder/100gms of maize seeds and 1.2gms Gardenia bud powder/100gms of maize seeds was more effective than control.

Gardenia bud powder was effective throughout the experimental period of 03 months.

The Emergence rate of the **Sitophilus zeamais** (Motsch) treated with Gardenia bud powder was not significantly(P<0.05) affected.

As the finding from this experiment indicated that 1.2gms Gardenia bud power/100gms of maize seeds effectively controlled the attack of maize weevil on storage, this dosage may be recommended to prevent **S.zeamais** in storage.

Although, Actellic was found to be very effective, the insects may develop resistance to this insecticide and therefore, LAKKADA is considered as an alternative to Actellic.