633,3 B29 1992

# FFECT OF DIFFERENT INSECT REPELLANT ON THE STORABILITY AND GERMINABILITY OF SELECTED LEGUMINOUS SEEDS

RESEARCH STUDY
Agri - Science Curriculum

CHERRY SUSAN T. BASILIO

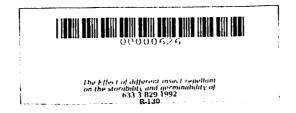
BOR SEVERITE AGRECION PORAL CORNEGE BRANCH CONTRO

MANCHIER

# THE EFFECT OF DIFFERENT INSECT REPELLANT ON THE STORABILITY AND GERMINABILITY OF SELECTED LEGUMINOUS SEEDS

A Research Paper Submitted to the Faculty of
Agricultural Science Department of the
Don Severino Agricultural College
Indang, Cavite

In Partial Fulfillment of the Requirements
in Applied Research IV



CHERRY SUSAN TURADO BASILIO March, 1992

#### ABSTRACT

BASILIO, CHERRY SUSAN T., Agricultural Science.

Department, Don Severino Agricultural College, Indang,

Cavite, March 1992 "The Effect of Different Insect Repellant on the Storability and Germinability of Selected Leguminous Seeds."

Adviser: Professor Josefine A. Viado

The study was conducted to determine the effect of different insect repellant on the storability and germinability of selected leguminous seeds. It further aimed to identify which insect repellant (napthalene ball, hot pepper, and tobacco midrib) is best suited on the longevity or storability of selected leguminous seeds.

A Total of 900 leguminous seeds (string beans, pigeon pea and winged bean) were used in a Split Plot Design with insect repellant as the main-plot factor and leguminous seeds as the subplots. They were replicated three times.

The study revealed that the different insect repellant used has not greatly affected the storability and germinability of seeds. However, the leguminous seeds used showed great effect on it. Treatments with napthalene ball as the insect repellant attained the highest percentage of germination and the lowest percentage of seed attacked. It was found to be the best for storing seeds. The Control treatment attained the longest number of days from sowing to germination both in

field and laboratory germinated seeds.

# LIST OF TABLES

Table		Page
1	Percentage Germination	15
2	Percentage of Seeds Attacked by Insects Five Months After Storage	19
3	Number of Days from Sowing to Field Germination	24
4	Number of Days from Sowing to Laboratory Germination	29

# LIST OF APPENDICES

Appendix	Table	Page
1	Analysis of Variance on the Percentage of Seed Germination	39
la	Comparison Among Means of the Different Insect Repellant on the Percentage of Seed Germination	40
lb	Comparison Among Means of the Different Leguminous Seeds on the Percentage of Seed Germination	40
2	Analysis of Variance on the Percentage of Seeds Attacked by Insects Five Months After Storage	41
2 <b>a</b>	Comparison Among Means of the Different Insect Repellant on the Percentage of Seeds Attacked by Insects	42
2b	Comparison Among Means of the Different Leguminous Seeds on the Percentage of Seeds Attacked by Insects	42
3	Analysis of Variance on the Number of Days from Sowing to Field Germination	43
3a	Comparison Among Means of the Different Insect Repellant on the Number of Days from Sowing to Field Germination	44
3b	Comparison Among Means of the Different Leguminous Seeds on the Number of Days from Sowing to Field Germination	44
4	Analysis of Variance on the Number of Day from Sowing to Laboratory Germination	45
4a	Comparison Among Means of the Different Insect Repellant on the Number of Days from Sowing to Laboratory Germination	46
4b	Comparison Among Means of the Different Leguminous Seeds on the Number of Days from Sowing to Laboratory Germination	46

# LIST OF FIGURES

Figure		Page
1	Moisture Content of the Seeds	13
2	Graph Showing the Percentage Germination of the Seeds	18
3	Graph Showing the Percentage of Seed Attacked Five Months After Storage	23
4	Graph Showing the Number of Days from Sowing to Field Germination	28
5	Graph Showing the Number of Days from Sowing to Laboratory Germination	33
6	Experimental Field Lay-out	51

# LIST OF PLATES

Plates		Page
1	General View of the Experimental Study	47
2	Treatments from Replication I	48
3	Treatment from Replication II	, 49
4	Treatments from Replication III	, 50

# TABLE OF CONTENTS

	Page
BIOGRAPHICAL DATA	iii
ACKNOWLEDGMENT	iv
ABSTRACT	vi
LIST OF TABLES	viii
LIST OF APPENDICES	ix
LIST OF FIGURES	x
LIST OF PLATES	хi
INTRODUCTION	1
Importance of the Study	1
Statement of the Problem	2
Objective of the Study	3
Time and Place of the Study	3
REVIEW OF RELATED LITERATURE	4
MATERIALS AND METHODS	8
MATERIALS	8
METHODOLOGY	9
Procurement of Seeds	9
Procurement of Insect Repellant	9
Seed Storage	9
Field Germination of the Seeds	9
Laboratory Germination of the Seeds	9
Watering	9
Weeding	9

	Page
Moisture Testing	9
Experimental Lay-out	10
Gathering of Data	10
GENERAL OBSERVATIONS	12
DISCUSSION OF RESULTS	14
Percentage Germination	14
Percentage of Seeds Attacked by Insects	18
Number of Days from Sowing to Field	
Germination	24
Number of Days from Sowing to	
Laboratory Germination	29
SUMMARY, CONCLUSION AND RECOMMENDATION	34
SUMMARY	34
CONCLUSION	35
RECOMMENDATION	36
BIBLIOGRAPHY	37
APPENDICES	39
FIGURES	13
PLATES	47

THE EFFECT OF DIFFERENT INSECT REPELLANT
ON THE STORABILITY AND GERMINABILITY
OF SELECTED LEGUMINOUS SEEDS

by

#### Cherry Susan Turado Basilio

1/ A Pesearch Study submitted to the faculty of the Agricultural Science Department, Don Severino Agricultural College, Indang, Cavite in partial fulfillment of the requirements in Applied Research IV. Prepared under the supervision of Prof. Josefino A. Viado.

#### INTRODUCTION

#### IMPORTANCE OF THE STUDY:

Legumes are very important crops in the Philippines. They are principally grown for human consumption. They can serve as meat substitute because of their high protein content. Rapid expansion of animal enterprises and food manufacturing creates a great demand for these crops.

Legumes are propagated by seeds. By using high quality seeds, you are sure of obtaining high profit. Seed quality largely determine the yielding capacity of a crop species. Keeping seeds in store for the next cropping season is an important and critical undertaking which necessitate due attention among farmers. Methods of storage may vary depending upon the length of time the seeds are to