

**ISOLATION, IDENTIFICATION AND CONTROL OF
STEM-END ROT OF SOURSOP (*Annona muricata* L.)**

**Undergraduate Thesis
Submitted to the Faculty of the
Cavite State University
Indang, Cavite**

**In Partial Fulfillment of
the Requirements for the Degree of
Bachelor of Science in Agriculture
(Major in Crop Protection)**



00002659

Isolation, identification and control of
stem-end rot of soursop
634.41 C33 2000
T-2033

**ALDRIN HERNANDEZ CENIZAL
March 2000**

ABSTRACT

CENIZAL, ALDRIN HERNANDEZ. Cavite State University, Indang, Cavite. March 2000. "Isolation, Identification and Control of Stem-end Rot of Soursop". Adviser: Dr. Adelaida E. Sangalang.

This study was conducted to isolate, identify, and control the causal organism of stem-end rot of soursop. The pathogen was isolated from infected fruits and stems. The isolated organism was inoculated to healthy soursop fruits to determine its pathogenicity. Reisolation was done after the disease symptom appeared.

The causal organism of stem-end rot of soursop was identified as fungus *Botryodiplodia theobromae* Pap. The disease may attack at any development stage of the fruit. Rotting begins at the stem-end and soon spreads to the whole fruit causing complete discoloration.

Six potential antagonists namely: *Trichoderma* sp.1, *Trichoderma* sp.2, *Acrasis* sp.1, *Acrasis* sp.2, *Bacillus cereus* and *B. megaterium* were screened. Among the six screened biological control agents, only *Trichoderma* sp.2 isolated from healthy soursop fruit inhibited the normal growth and development of the pathogen.

In-vitro and *in-vivo* tests for antagonism of *Trichoderma* sp.2 was conducted. The antagonist destroyed the established colony of the pathogen in both experiments.

TABLE OF CONTENTS

	Page
BIOGRAPHICAL SKETCH	iii
ACKNOWLEDGMENT	iv
ABSTRACT	vii
LIST OF TABLES	x
LIST OF APPENDIX TABLES	xi
LIST OF APPENDIX FIGURES	xii
INTRODUCTION	1
Importance of the Study	2
Objectives of the Study	3
Time and Place of the Study	3
REVIEW OF RELATED LITERATURE	4
The Fruit	4
Biological Control	4
MATERIALS AND METHODS	8
Media Preparation	8
Potato dextrose agar	8
The Pathogen	8
Isolation	8
Pathogenicity test	9

Screening for Biological Control Agents	9
Isolation and identification	9
<i>In-vitro</i> evaluation of antagonists	10
<i>In-vitro</i> Test of Antagonism	10
<i>In-vivo</i> Test of Antagonism	11
RESULTS AND DISCUSSION	13
Isolation and Identification of Pathogen	13
Pathogenicity Test	14
Screening and Identification of Biological Control Agents	15
<i>In-vitro</i> Test of Antagonism	20
<i>In-vivo</i> Test of Antagonism	22
SUMMARY, CONCLUSION AND RECOMMENDATIONS	27
Summary	27
Conclusion	28
Recommendations	28
LITERATURE CITED	29
APPENDICES	31
APPENDIX TABLES	32
APPENDIX FIGURES	37