I.

CONTENTS

DECLARATION

ACKNOWLEDGEMENT

GENERAL INTRODUCTION ...

PART I.

General Considerations.

SECTION A. - Descriptive

Chapter I. Review of Literature ...

Chapter II. The Host ...

Chapter III. The disease and the pathogen

SECTION B. - Experimental Pathogenicity and Effect of environment.

Chapter IV. Introduction ...

Chapter V. Material and methods ...

Chapter VI. Results
- Incidence of Disease ...
- Pathogenicity test ...
- Effect of temperature on the growth of pathogen ...
- Effect of R. H. on disease development ...
- Effect of Temperature on disease development ...
- Inoculation Experiments ...

1

6

10

12

15

18

25

25

28

29

30

31
II.

Chapter VII. Discussion and Conclusions ... 33

PART II.

Pathogenesis

Introduction ... 39

SECTION A. - Experimental

Sub-Section 1 - Pectic & Cellulolytic enzymes.

Chapter VIII. Introduction
- Pectic Enzymes ... 56
- Cellulolytic Enzymes ... 58

Chapter IX. Material and methods ... 60

Chapter X. Results
1 - Pectic Enzymes ... 71
- Pectic enzymes of healthy host ... 71
- Pectic enzymes of \textit{C. capsici} produced in vitro under variable cultural conditions (PHE&PG) ... 72
- Pectic enzymes of \textit{C. capsici} produced in vitro on media with pectic substances as partial or sole carbon sources. (PME, PG, PMG, PGTE, PMTE) 79
- Pectic enzymes of \textit{C. capsici} produced in vitro on Host Extract medium. (PME, PG, PMG, PGTE, PMTE) ... 88
- Pectic enzymes associated with diseased chili fruits infected by \textit{C. capsici} (PME, PG, PMG, PGTE, PMTE) ... 91
- Effect of pH of the reaction mixture on pectic enzymes ... 99
III.

2 - Cellulolytic enzymes... 101
   - Cellulolytic enzymes of healthy host... 101
   - Cellulolytic enzymes of C. capsici produced in vitro under variable cultural conditions... 101
   - Cellulolytic enzymes of C. capsici produced in vitro on media containing soluble or insoluble cellulosic substances as partial or sole source of carbon... 103
   - Cellulolytic enzymes of C. capsici produced in vitro on host extract medium... 109
   - Cellulolytic enzymes associated with diseased chilli fruits infected by C. capsici... 111

Chapter XI. Discussion and conclusions
   - Pectic enzymes... 112
   - Cellulolytic enzymes... 133

Sub-Section 2 - Tissue maceration

Chapter XII. Introduction... 138
Chapter XIII. Material and methods... 141
Chapter XIV. Results... 144
Chapter XV. Discussion and Conclusions... 147

SECTION B.

General Conclusions... 150

PART III.

Studies on metabolites

Chapter XVI. Introduction & Review of Literature... 153
IV.

Chapter XVII. Material and methods ... 159
Chapter XVIII. Results ... 168
Chapter XIX. Discussion & Conclusions ... 171

PART IV.

Control measures

Chapter XX. Introduction ... 173
Chapter XXI. Material and methods ... 177
Chapter XXII. Results ... 179
Chapter XXIII. Discussion & Conclusions ... 186

PART IV.

Miscellaneous

General Summary and Conclusions ... 189
Bibliography ... 193
Photographs

...