I wish to acknowledge with a deep sense of gratitude and pleasure:

Dr. S. Sadasivam, Director, Centre for Plant Molecular Biology and my guide for his able guidance, creative suggestions and constructive criticisms offered during this investigation and in the preparation of the thesis.

Dr. S. Sankaran, Vice-Chancellor, Tamil Nadu Agricultural University for his keen interest and kind help in carrying out this study at TNAU.

Dr. S. R. Sree Rangasamy, Professor and Head, Department of Plant Molecular Biology and Biotechnology for his constant and continued encouragement during the course of this study.

Dr. Sabitha Doraisamy, Professor, Department of plant pathology, TNAU for her valuable suggestions and encouragement during the course of this study.

Dr. Theymoli Balasubramanian and Mrs. K. Parvathy, Faculty, Dept. of Biochemistry, CPMB, TNAU for their encouragement and all the help rendered during this investigation.

Mrs. Hemaprabha, Miss. Bagyalakshmi, Mr. Mathish and Mr. Srinivasaprasad of CPMB, TNAU for the warm and willing help rendered by them.

Dr. B. Thayumanavan, Professor and Head, Department of Biochemistry for having critically gone through the manuscript.

Mr. Rajnikanth Raja, UK for his help in HPLC-analyses, Prof. J. M. Walker, University of Hertfordshire, UK for his help in protein sequence analysis and Dr. Shigeru Kuwata, Japan for the supply of Mirabilis antiviral protein.
Dr. H.S. Savithri, Mr. V. Krishnan and the Bioinformatics Centre, Indian Institute of Science for their help in analytical and database studies.

The staff of the dept of plant pathology for their kind co-operation rendered during this study.