ACKNOWLEDGEMENTS

As I look back into the days of toil and sweat leading to the completion of my thesis, I feel elated or constrained to thank the many who have extended relentless support and encouragement to me in the grand task.

I am deeply indebted to Dr. M. S. Francis, supervisor and research guide, Department of Botany, Sacred Heart College, Thevara, Kochi for his supervision of the work, sustained quality guidance, incredible patience, copious inspiring comments and constructive criticism at different phases of the study since its inception. I am deeply touched by the painstaking devotion evinced by him during the course of the investigation.

I am extremely happy to express my deep sense of gratitude to my colleague, Dr. Johny Manithottam, Asst. Director, Spices Board for introducing me to our guide.

I sincerely thank Dr. Prasanth Parikapallil, Principal for permitting to register for Ph.D. and to Dr. George Joseph, Head, Department of Botany, S. H. College, Thevara for providing facilities to undertake research. I thank the management for providing accommodation during the final stages of my thesis. I place on record my gratitude to Dr. Joy P. Joseph and Dr. Gibi Kuriakose and other staff memebers of the department of Botany especially Smt. Soumya, Ms. M. Parvathy, Smt. Reshmi and Sri. Jaikrishnan (S. K. College, Guruvayoor) for their valuable encouragement. I thank Dr. P. A. Sebastian, Rtd. Professor, Deparmtment of Zoology S. H. College, Thevara for having taken photographs of rice varieties.

I profusely thank the authorities of Mahatma Gandhi University, Kottayam under which I registered for Ph.D programme.

I take this opportunity to sincerely acknowledge the Chairman, the Secretary, the Director (Dev.) for permitting me to do Ph.D. Special thanks is due to Sri. R Chandrasekar, Director (Rtd.), Spices Board, Dr. M. Tamil Selvan, Addl. Commissnor (Hort. and Agri.), Ministry of Agriculture, Government of India, Dr. K. Kandiannan, Principal Scientist, Indian Institute of Spices Research, Kozhikode and Sri. P. Velmurugan Deputy Director (Rtd.), Spices Board for their constant motivation and encouragement.

I owe a great deal of appreciation and gratitude to Dr. K. Alagusundaram, Director and Smt. S. Sulochana, Asst. Professor, Indian Institute of Crop Processing Technology, Thanjavur, Tamil Nadu for providing facilities to undertake experiments on physical and cooking quality parameters on rice.

I express my heartfelt gratitude to Dr. V. Mohan, Plant Pathologist, IFGTB, Coimbatore, for having extended facilities for assessing the mycorrhizal in black pepper. In this context I remember our mentor late Dr. N. Natarajan, Rtd. Professor, CAS in Botany, University of Madras and who taught us mycorrhizae.

I thank Directors, Indian Cardamom Research Institute (ICRI), Myladumpara for proving facilities for anlysing the soil samples. Special thanks are due to Dr. P. Natarajan, Sri. Vadiraj, Sri. John Jo Varghese, Dr. Manoj Oommen, Smt. Sowmya and Sri. S. Venkatesh for their help in anlysing the soil samples. I am extremely thankful to Dr. S. Varadarajan, Dr. S. S. Chandrasekar and Dr. K. Dhanapal, ICRI, for their valuable comments and suggestions in shaping my thesis.
and motivating me in my endeavour. I sincerely thank Dr. N. Anil Kumar, Director, Dr. Ratheesh, Sri. G. Girijan, Sri. Danesh Kumar and Sri. P. Salim of MS Swaminathan Research Foundation, Kalpetta for their valuable contribution in the early stages of my work.

The encouragement given by Sri. R. Suresh Kumar, Asst. Director, Sri. K. Kanakadileepan Senior Field Officer, Dr. P. Perinbam, Deputy Director, Sri. B. Venkateson, Sri. M. S. Ramalingam, Sri. E. K. Jose, Sri. N. Sundaresan, Sri. P. F. Baby, Sri K.J. Varghese, Sri. K. V. Paulose of Spices Board and many others is highly appreciated. It is a pleasure to thank Sri. C. R. Thankappan, Sri. K. Balachandran and Sri. P. Vasu, Spices Board, for having helped me during field work in remote parts of Wayanad. I appreciate the help rendered by Sri. N. P. Rajith and Smt. Swapna Rajith in proof reading the script.

I warmly appreciate the work done by Mr. Shine Job and Mr. Aditya, Kochi for their neat execution of photographs and Sri. P. Chockalingam, Tamil Nadu Agriculture University, Coimbatore for statistical analysis.


I profusely thank the hamlet leaders of the Kurichiyar and Mullakuruman tharavad for permitting me to interact with them, for providing paddy samples and sharing their knowledge and experience – Kurichiyar: Palliara, Edamana, Edathana, Palott, Paramoola, Athikolly and Melachundrankode; Mullakuruman: Thakarapady, Rampalli, Alathur, Kozhiyadi, Punjavayal, Edakal, Nellarachal and Appad.

Words are not sufficient to thank my close friends Sri. N. Pramod Kadali, Sri. K. Aji Kunnel, Malika and Sri. Raveendran Ettan of Mananthavady, Wayanad for their timely help during the field visits

My soul lies with my parents (Smt. N. Saroja and Sri. R. P. Pandian, Rtd. teachers), my sister Anbarasi, my brother Pugazheanthi for their constant encouragement. I am extremely grateful to Sri. N. Vasudevan Bhava, Dr. Thanuskodi Mama and Palaniraj Mama for their unstinted support. Last but not least to my wife, Smt. Rukmani and daughter Selvi Deepa for their patience and support which made it possible to complete the thesis.

P. Ravi Kumar