ACKNOWLEDGEMENTS

First of all, I would like to express my deep sense of gratitude to my guide Dr. Manamohan M, Principal Scientist, Division of Biotechnology, Indian Institute of Horticulture Research, Bengaluru, for recruiting me as Research Associate under the NAIP-RNAi project and having provided me an opportunity to do Ph.D. Under his supervision throughout the years, I have learned many scientific lessons, both in the experimental realm as well as the real world. Once again, I sincerely thank him for his gracious guidance and valuable suggestions and critical evaluations in the completion of this project.

I am extremely grateful to Dr. Krishna V, Professor and Chairman, Department of Post Graduate Studies and Research in Biotechnology and Bioinformatics, Kuvempu University, Jnanasahyadri, Shankaraghatta–577451 for his co-guidance, suggestions and help throughout the investigation, Further, I owe my heartfelt thanks and gratitude to him.

I would like to thank Dr. Asokan, Principal Scientist, Division of Biotechnology, Indian Institute of Horticulture Research, Bengaluru for his constant input and valuable advice he has provided me over the years. I am also grateful to the PG in charge Dr. Varghese, Principal scientist, IIHR for his effort in providing MOU to IIHR from Kuvempu University and I also thank the Director, IIHR, Bengaluru and Kuvempu University for allowing me to register for Ph.D. programme. I thank NAIP, the funding agency of my fellowship during the study.

A special thanks to Prasad Babu K, Bhimangouda M, Kumbar, Deepa, Ateeq and Sweetha for all their support and help throughout my years in the division. I would also like to thank my co-workers Sharath Chandra, Ellango, Rebijith, Chaitanya, Bhopal, Sasirekha, Sunisha and Dr. Nagesh for helping me in the lab. I thank, Dr. Kavitha, Mrs. Shoba Esther and Dr. Mahadeva Swamy H. M, for doing a great help on my thesis corrections.
The help and co-operation extended by all the members of the Department of Biotechnology, IIHR, Hesaraghatta, especially Dr. Sukhada Mohandas, Dr. Aswath, Dr. Leela Sahijram, Dr. Akella Vani, Dr. Mythili, J. B. Dr. Vageeshbabu, H. S, Dr. Ravishankar, K. V, Dr. Pious Thomus, Dr. Usharani, Dr. Laxshman and Dr. Nandeesha and technical staff Mrs. Latha, Paramashivaiah, Venkateshiah, Giri, Sridhar and Vasanthamma,.... for helping me in numerous ways during this course of investigation.

My heart owes a lot to my parents, Smt. Kasturibai and Mr. Maruthi Rao without their blessings and affection, this study could never have been seen the light of the day. I wish to thank my wife Sowmya and daughter Vaishnavi, father in law and mother in law for their support, brothers Mahesh, Prashanth, Praveen, Pradeep Umesh, Suhas and Naveen and all other family members who gave constant support and encouragement throughout my studies.

I also express my sincere thanks to my lab personnel Mohankumar, Vijayakumar, Raju, Basavaraj, Anand... who provided me the necessary materials to carry out my experiments.

I am immensely thankful to those who have directly or indirectly helped me in my work.

Place: Bengaluru

(Prakash M. Navale)