Acknowledgements

I wish to express my deep sense of gratitude to my research guide Dr. K. V. Krishnamurthy for his guidance, encouragement and fruitful discussions which helped me in the successful culmination of the present endeavour.

I am thankful to Mr. M. M. Jana for his kind help in providing facilities for multiplication of seed material and maintenance of plants in the greenhouse. Thanks are also due to Dr. R. B. Deshmukh of MPKV and Dr. R. P. S. Pundir of ICRISAT for the supply of seeds. I also thank Dr. S. R. Sainkar for rendering help in obtaining the SEM photographs. The help rendered by Mr. Parag Akkadkar in photography and Mr. G. T. Mane for the preparation of photographic plates in the thesis is also acknowledged.

I thank Abhay, who as a senior colleague, set a path and direction to my research, when I freshly joined N.C.L. I have not only benefited with his experience, skills and enormous knowledge but have also been morally boosted by him in trying times.

It was pleasure working in the environment constituting of senior scientists like, Mr. D. A. Godbole, Mr. D. D. Kulkarni and Mr. R. B. Naidu and colleagues Swati, Mohan and Anjali Kulkarni. Thanks to them for maintaining a cheerful atmosphere in the lab. My sincere thanks are due to Anjali Parasnis who helped me during the course of my research work. Further the help rendered by other members of the Plant Tissue Culture Division - mostly in the form of fruitful discussions which helped me during the course of my work is also acknowledged.

The joyful company of Tripura, Devadas and Sivadi, members of New Hostel Mess and Research students is worth being cherished and remembered for words would not substitute of what has been accomplished.

I greatly acknowledge the opportunity of being able to work in the Laboratory of Dr. S. Bhaskaran and Dr. Navin Sharma, Hindustan Lever Research Centre, Bombay for a year as a pre-doctoral student, which has immensely added to my knowledge, expertise and self confidence. Their unstinted support and constant encouragement has helped me in accomplishing this task.

Last, but not the least, it is difficult to word my gratitude towards my parents, brother and Krishna, for their love, support, patience and motivation.

Finally, I am grateful to the Council of Scientific and Industrial Research for the award of the Junior and Senior Research fellowship and Dr. Paul Ratnasamy, Director, National Chemical Laboratory for permission to submit this work in the form of a thesis.

Kanagala Suhasini