ACKNOWLEDGEMENT

I avail this opportunity to express my deepest sense of gratitude and indebtedness to Prof. Dr. S.R. Sree Rangasamy, M.Sc. (Ag), Ph.D, FNAASc, FIGS, formerly Professor and Head, Centre for Plant Molecular Biology, Tamil Nadu Agricultural University and presently General Manager, R&D, Agric Hitech Division, Manju Shree Plantations Ltd., Hosur, for his benevolent guidance, constant encouragement, creative suggestions and for the timely completion of the investigation.

I express my sincere thanks to Dr. K. Mohan Naidu, former Director, Sugarcane Breeding Institute, Coimbatore, for giving an opportunity to work under Prof. Sree Rangasamy and for sanctioning study leave for pursuing this investigation.

My whole hearted thanks are due to Prof. Dr. S. Sadasivam, Director, CPMB and Prof. Dr. N. M. Ramasamy, Dean, PG Studies for their kind support and encouragement.

I place on record my gratitude and thanks to Prof. Dr. M. Jayapragasam, Dr. (Mrs.) R. Balasaraswathy, and Dr. Kapil Deo Singh for imparting theoretical knowledge and for their help and encouragement throughout the course of this investigation. I also thank Prof. Dr. C. Padmanabhan for his encouragement. I am particularly thankful to Dr. (Mrs.) K. Renganayaki for timely help and support.
Thanks are due to Dr. T. V. Sreenivasan, Head, Division of Crop Improvement, Sugarcane Breeding Institute for kindly making arrangements to provide the materials used for the study. Gratititious appreciation is accorded to Dr. T. C. Ramana Rao, Head, Section of Breeding, Sugarcane Breeding Institute, for critically going through a few chapters of the thesis and to Dr. N. Subramoniam, Senior Scientist for his creative suggestions.

I express my sincere thanks to Mr. P. Balasubramani, Mrs. J. Amudha, Miss. K. Bhagyalakshmi and all others who made my period of study at CPMB a fruitful and memorable one.

I express my profound thanks to my family members for their loving help and co-operation and my colleagues at Sugarcane Breeding Institute for their encouragement.

My thanks are also due to Mr. S. C. Krishnamoorthy of Kovai Computers for the neat execution of computer typing work and Sri. Dakshinamoorthy for the photographic work.