ACKNOWLEDGEMENTS

I express my feelings of respect and gratitude to my advisor, Dr. Jagdeep Verma, Head, Department of Botany, Shoolini Institute of Life Sciences and Business Management, Solan. It is not a mere sense of obedience but a real appreciation and indebtedness for his valuable guidance, keen interest, constant encouragement and motivation which enabled me to execute the present work successfully.

I am highly grateful to Prof. Sunil Puri, Dean, Basic Sciences, Shoolini University of Biotechnology and Management Sciences, Solan and Dr. (Mrs.) Geeta Puri, Director, Shoolini Institute of Life Sciences and Business Management, Solan for providing me the requisite laboratory facilities.

My sincere thanks are due to Prof. P. K. Khosla, Vice Chancellor, Shoolini University of Biotechnology and Management Sciences, Solan and Mrs. Saroj Khosla, President, Foundation for Life sciences and Business Management, Solan for their unvarying encouragements during the whole course of my study.

It is my great pleasure to thank Dr. Shilpa Goel and Dr. Mamta Pathania, Department of Botany, Shoolini Institute of Life Sciences and Business Management, Solan, for their valuable suggestions whenever sought for.

I thank my supportive friends and colleagues, Dr. Abha Chohan, Ms. Arohana Verma, Ms. Kranti Thakur, Ms. Mamta and Ms. Sujata and Ms. Sayeeda for their kind help in various ways and for making my tenure at Solan a cherished one. I owe my sincere thanks to Mr. Rakesh and Mr. Rajender for their help in laboratory and in field collections.

I am thankful to Dr. Jaspreet K. Sembi (SUS College of Engineering & Technology, Tangori) for kindly helping me in statistical analysis of my results.
I owe immensely to my parents for their unstinting affection and blessings which spurred me into action to achieve my goal. I sincerely thank my loving sisters, Ms. Poonam and Ms. Neelam for their treasured inspiration.

My heartiest thank is due to my admiring husband, Mr. Subhash Sharma for his co-operation, honorable sustain and loving care.

Support in Scanning Electron Microscopy from Central Instrumentation Laboratory, Panjab University, Chandigarh, and in soil testing from Department of Soil Science and Water Management, Dr. Y. S. Parmar University of Horticulture and Forestry, Solan is thankfully acknowledged.

Above all, I thank God for blessing me with all of the above!

Place: Solan

Date: (Kusum)