

ACKNOWLEDGEMENTS

It is an immense pleasure to finally acknowledge the support received from many people in different ways in completing this work. Without them this work would have not been possible.

First and foremost, I offer my sincerest gratitude to my supervisor, Dr. Prem Lal Uniyal for suggesting this research topic and his keen interest, constant encouragement and involvement throughout the course of presentation of the present work. The discussions we had and his thoughtful insights and suggestions have made this work take the shape that it is today. I attribute the level of my Ph. D. degree to his effort and without him, this thesis, too, would not have been completed or written. One simply could not wish for a better or friendlier supervisor.

I am also thankful to Professor S. C. Bhatla, Head of the Department, for providing me necessary facilities to carry out my research and for his kind support. The Department of Botany has provided all necessary support and equipment that I needed to produce and complete this thesis.

I also thank the non-teaching staff of the Department of Botany, for their timely help and cooperation.

I extend my deep appreciation to my advisory committee members, Professor A. K. Pandey and Dr. Rajesh Tandon for their scientific guidance and suggestions at different stages to carry out my work. I thank you for your time, effort, insights and suggestions in shaping this work.

A good support system is important and needed and I found that in my friendly and cheerful group of fellow lab mates, always full of enthusiasm and optimism and who were always ready to help me and encouraged me throughout the tenure of this study. I express my deep sense of gratitude to Dr. Prabha Sharma, Dr. H. Govindapuri, Dr. Ruchi Srivastav, Dr. Pragya Saurab, Dr. Shantanu Suman, Dr. Sanwar, Mrs. Anjana, Pratibha, Mrs. Divya, Jimni, Akshay, Julie, Neha, Nutan, Mrs. Priya and Nitish. I would like to express my deep sorrow to the untimely demise of our lab

attendant (L) Vijay Kumar who helped me in every possible way during my research work.

I would also like to thank my friends Priyanka, Yash, Vineet, Divya, Chandan, Anjali, Mrs. Roshni, Mrs. Shweta Sekhar, Shweta S., Vibha, Vinay Shankar and all my other colleagues that have helped me throughout my work.

Finally, I would like to present my gratitude to my parents and parents-in-law who always support me and encourage me, my brothers, my sister-in-law, my husband and my son, Praleen, who is my source of joy and inspiration. A special thanks to my Aunty, Mrs. Taba, who took care of my son during my work. Thank you for the support that you all gave me and for believing in me.

Above all I bow my head before the Almighty God for giving me the strength to complete this work.

M. Leleeka Devi