Acknowledgments

Pursuing doctoral study is the culmination of academic education. This thesis is a milestone in my academic career and I have gained a lot by learning to persevere. Completing a Ph.D. is truly an arduous event, and I would like to express my gratitude to all who has contributed to my learning process and accomplish this work.

With due respect and esteem, I awe to Pandit Madan Mohan Malaviya ji, the founder of Banaras Hindu University and it is my privilege to be a student of this university.

I first and foremost thank my supervisor, Prof. S.B. Agrawal, for allowing me to work as Ph.D. student. I am truly thankful for his consistent and illuminating guidance, instructions and encouragement. He has guided me with his invaluable suggestions and engaging me with new ideas were key motivations throughout my Ph.D. tenure. He has always found the time to propose consistent improvements in my work. I am also thankful for providing me various lab facilities, involving high quality of work in all my endeavors and supporting me to attend various conferences. I would also like to use this opportunity to express sincere gratitude for giving me the unique opportunity to contribute as an author of the book. I am also grateful for having wonderful experiences in writing versatile articles.

I owe a debt of gratitude to Prof. Madhoolika Agrawal, Department of Botany, B.H.U., for her constructive suggestions and motivation during my research tenure. Her cooperation and support have always kept me going ahead.

The ‘Research Progress Committee’ constituted by Prof. Madhoolika Agrawal and Prof. Jitendra Pandey, Department of Botany, B.H.U., Prof. S.K. Singh, Department of Zoology, B.H.U. and Dr. R.P. Singh, I.E.S.D., B.H.U. are acknowledged for critical analyses of the research progress and suggestions to improve it.

My sincere thanks to the present Head of the Department Prof. L.C. Rai, Department of Botany, B.H.U., I also feel grateful in expressing my thanks to Prof. B.R. Chaudhary and Prof. A.K. Rai, ex-head of Department for providing me laboratory and library facilities and administrative back up during my research period.

I am also thankful to Incharge, Botanical Garden, Department of Botany, B.H.U. for providing space for conducting experiment. Members of Central Instruments Laboratory, Department of Botany, B.H.U. are to be acknowledged for providing the help to avail the necessary equipment during my research work.
I am thankful to Dr. D. R. Malaviya, Principal Scientist & Head, Seed Technology Division, Indian Grassland & Fodder Research Institute, Jhansi for providing the seeds of clover.

I record my thanks to Prof. M. N. Singh, Department of Genetics & Plant Breeding, Institute of Agricultural Sciences, B.H.U. for providing seeds of mungbean. I express my thanks to Dr. B.K. Banerji, Retd. Senior Principal Scientist & Head, Floriculture Section, C.S.I.R.-National Botanical Research Institute, Lucknow, for providing gamma irradiation facility.

Throughout this period I have received learning, guidance, suggestions and support in various forms from my seniors Dr. Richa Rai, Dr. Suruchi Singh, Dr. Abhijit Sarkar, Dr. Divya Pandey, Dr. Shalini Singh, Dr. Poonam Singh, Dr. Rima Kumari, Dr. Ruchika Tripathi, Dr. Kusum Verma and Mrs. Sumita Sharma.

I would like to express special thanks to my all lab mates, Mr. Krishna Kumar Choudhary, Mr. Bhanu Pandey, Mr. Amit Kumar Mishra, Mrs. Aradhana Singh, Ms. Swabha Takshak, Ms. Aditya Abha Singh, Ms. Meenu Gautam, Ms. Shikha Sharma, Mr. Arideep Mukherjee, Ms. Shalini Srivastava and Mr. Sumit Kumar Mishra for their continued support, intellectual contribution and offering a helping hand whenever needed. I extend my thanks to Mr. Dinesh K. Singh for his help in the laboratory.

I would also like to extend huge, warm thanks to my friends Mrs. Poonam Rai, Mrs. Gunjan Rajput, Mrs. Akshara Pande, Mrs. Koni Kumari, Ms. Deepika Srivastava, Dr. Anwar Jahan, Dr. Nisha Singh, Ms. Priyanka Kushwaha and Ms. Shweta Yadav for their valuable help, motivation and moral support.

My special regards to all my teachers at different stages of education.

Finally, my thanks would go to my beloved parents, Mrs. Suman Chaudhary and Mr. Sheo Kumar Chaudhary for their whole-hearted support and endless love. I am especially grateful to my brother Mr. Amit Kumar Chaudhary for encouraging me in all of my pursuits.

Financial assistance from University Grants Commission, New Delhi, India, in the form of junior and senior research fellowship gratefully acknowledged.

The endless thanks to almighty for all the blessings showered onto me.

(Nivedita Chaudhary)