Ph.D. has been an experience of a voyage through varied terrain that has often been disheartening, agonizing and mundane though there have been times of delight and satisfaction as well. All in all it has been a unique learning curve where many people have influenced and inspired me in various ways. Now the time has arrived to express my deep sense of gratitude to all those people who have supported me in my endeavour. The person, who influenced me the most, is Dr. Brijesh Kumar Bhadoria, Principal scientist (organic chemistry) PAR division, IGFRI, Jhansi and I offer my sincere gratitude to him, as my mentor for his indispensable guidance, invaluable support, cordial behavior and parental affection during the course of my work. Apart from being an excellent supervisor, he is a simple person and a man of few words. I am touched by his calm behaviour, patience and sympathetic nature and consider myself fortunate enough to have worked under his supervision.

I am extremely grateful to Prof. Daneel Ferreira (Principal Scientist), Department of Pharmacognosy, University of Mississippi, USA, for giving valuable advice in elucidation of structures of proanthocyanidin and also carrying out experiment of CD and HPLC.

My sincere thanks are also due to all scientists of the Plant Animal Relationship Division and other divisions who have helped many times. Particular thanks are due to Dr. S.K. Nag and Dr. Sultan Singh for their cooperation and for allowing me to carry out certain work in their laboratory.

It is with a deep sense of gratitude that I express my cordial thanks to Dr. K.A. Singh, Director IGFRI and Dr. N. Das, Head, PAR division, for providing all sorts of needed facilities, as well as their suggestions and encouragement from time to time. I shall continue to cherish the graciousness of Dr. P.S. Pathak, the then Director IGFRI for granting permission and providing the necessary help and guidance.

I will remain indebted and very thankful to Dr. M.M. Roy, Present Chairman higher education committee of IGFRI, Jhansi for his inspiration from time to time.
I also acknowledge the help and support provided by Mrs. Sandhya Bhargava (Tech officer), Mr. D.K. Niranjan, Mr. V.K. Tambay (T.O.), Mr. Ram Singh, Mr. Raghuraj Singh Yadav and Mr. Rajkumar throughout my research work.

I express my thanks to Dr. P.C. Singh and to Mrs. Surabhi Yadav, Reader, Chemistry Department Bipin Bihari Degree College, Jhansi, for constant encouragement and moral support.

I would like to thank my seniors, Dr. Nidhi Gupta, Dr. Ambika Gupta, Dr. Neetu Yadav, Dr. Arti Gupta and Dr. Mukesh K. Raikwar for their cooperation, sincere suggestions and companionship as seniors. I thank my laboratory mates Arpana, Shikha and Prem Lata for their kind cooperation, encouragement and help during the entire period. I also acknowledge my school days friends Anamika, Preeti, Garima and Nahid for their constant encouragement unshaken support all the time.

My sincere thanks are due to Mrs. Seema and other staff of the Central Library of the IGFRI who have extended their full co-operation and help in locating reference materials. My sincere thanks are due to the RSIC, Central Drug Research Institute, Lucknow for spectral analysis and Library consultation. I am also thankful to all my colleagues and friends for their kind help and moral support from time to time. At last, I express my thanks and warmest appreciation to the entire academic circle of the IGFRI for conducting time-to-time scientific discussions and suggestion for further improvement.

Lastly, this acknowledgement would be incomplete without expressing my indebtedness to my family members who have been a constant source of inspiration and support all through my life. I am at a loss for words towards my loving parents, Mr. B.L. Verma and Mrs. R.D. Verma, whose unconditional love and support always inspired me to touch new heights. I further express my deep sense of respect towards my elder brother, Mr. Mahesh Verma, and sister-in-law, Mrs. Malti Verma, and elder sister, Mrs. Pram Lata, and brother-in-law, Mr. C.P. Singh, who always remains a source of inspiration and motivation for me. I express my sincere gratitude and love to my younger brother, Umesh, for his infinite affection and bondless love, and affectionate
nephews Masters Chinu, Shanu and Rishi who happily endured my lack of attention towards them due to much involvement in the research work.

I would not like to miss this chance to express my special thanks to Mr. Robert Clarke (Pastor) and Mrs. Rosalind Clarke who have assisted me morally and making me feel that they were always there for me.

I acknowledge all my friends and well wishers who may not have been mentioned here but who have been always helpful at the appropriate time.

A special words of thanks to M/S Krian printers who incorporated his help in the last stage of my work.

Indian Council of Agricultural Research is greatly acknowledged for providing financial assistance as JRF/SRF throughout the tenure of work, in an adhoc cess scheme no. 304029032.

I am a firm believer of destiny and it is divine destiny that has made everything possible. I thank God that “one of the theses of life is over”.

Date...11\11\08  
(Suman Lata)