ACKNOWLEDGEMENTS

It is my proud privilege to express my indebtedness and heartfelt gratitude to my esteemed learned teacher and supervisor Dr. Amar P. Garg, Professor and Head, Department of Microbiology, Ch. Charan Singh University, Meerut, who gave me an opportunity to work as a research scholar under his benevolent and sagacious guidance to him, for his vast experience in the field of Microbiology, innovative ideas, invaluable guidance, critical appreciation and technical acumen throughout the course of this investigation. Their everlasting inspiration, moral support, kind encouragement, compassionate behavior and ceaseless help have been cardinal in accomplishing this assignment.

I wish to express my deep sense of gratitude to Dr. P.D. Sharma, Visiting Professor, Department of Microbiology, Ch. Charan Singh University, Meerut, for providing constant inspiration, persistent encouragement, invaluable guidance and constructive criticism during the period of this investigation.

I feel much indebted to Dr. Sudha Garg, Lecturer, Government Degree College, Meerut, for constant encouragement, moral support and cooperation during the period of this study.

I am highly grateful to Mr. Rajeev Gautam and Mrs. Mukta Sharma faculty members, Department of Microbiology, Ch. Charan Singh University, Meerut, for their constant encouragement and cooperation during the entire course of this study.

I would like to give special thanks to Dr. Sunil Bhat, Scientist, Indian Institute of Indian Institute of Science, Bangalore, whose keen interest in my work, useful suggestion, cooperation, support and kind help was the giving force for the completion of my work.

I am happy to acknowledge the company I enjoyed by working along with my colleagues and friends Swati, Charu, Shalini, Yojna, Mohan, Neeraj,
Umeshwer, Abdullah, Umesh and Shyambeer. I am also expressing my heartiest thanks to all of them.

I am extremely thankful to Mr. Anil kumar and Mr. Arvind Arya, Ph.D. scholars, INMAS, Delhi and Mr. Manoj Kumar, Ph.D. scholar, National Dairy Research Institute Karnal, for giving me sagacious guidance, technical tips and encouragement shown throughout the pursuit of this study.

Words are not adequate to express my thanks for Mr. Ashok Bhardwaj, Faridabad, Haryana and Mr. Pradeep Bhardwaj and his family, Uchani, Karnal, Haryana for his love, affection, help and encouragement rendered throughout this study.

I shall be failing in my duty without mentioning the stocky support and motivation provided by Dr. Kausar Makeen, Scientist, A.A.I.D.U. Allahabad.

No words can explain the sacrifice, support, care, love affection and encouragement of my respected father Mr. Narayan Singh Gautam, Mother Mrs. Ram Rati Devi, sisters Babita and Sarika and brothers Tajendra and Yogendra. A special mention is required to thanks them for their inspiration and moral support, which enabled me to attain this stage of academic achievement in my life.

All those persons who co-operative with me and helped me directly or indirectly during my research work and completion of my thesis. I acknowledge all of them from the bottom of my heart and I beg pardon for those names could not be mentioned separately here.

Above all, I would like to bow in front of Almighty for giving shape to my thoughts and efforts and without whose blessings this project would not have seen the light of the day.

(Archana Kumari)