ACKNOWLEDGEMENT

In the name of Allah, the most gracious, the most merciful

I am short of words to express my gratitude for my revered and esteemed supervisor Prof. M. Z. Jafidin, Head, Centre for Transgenic Plant Development who gave me the freedom to plan and execute my experiments and instilled in me the confidence to be independent. He helped to widen the horizon of my knowledge and inculcated the spirit of patience and dedication to the purpose. In the course of time, I realized that a proper blend of his apparent toughness and firmness with soft and compassionate attitude has been instrumental in transforming me into a better human being. Thank you very much for being so stirring and supportive.

I emphatically owe my sincere thanks to Prof. P.S. Srivastava, Professor and Head, Department of Biotechnology for his considerate encouragement and blessings.

I am gratified in paying my earnest thanks to Prof. S.K. Jain, Dean, Faculty of Science, Jamia Hamdard for being so considerate and supportive during the course of my research.

I am highly grateful and thankful to Dr. Farhat Afrin and Dr. Sandeep Das, Department of Biotechnology for providing continuous support in this study.

I am highly indebted to express my genuine thanks to Dr. Irfan, Dr. Abdulill Halal, Dr. Arshad Jamal, Dr. Safi, Dr. Samina, Dr. Rajeev, Dr. Rashmi, Dr. Anjum, Dr. Naheed, Dr. Farah for understanding me and helping me to craft myself better. Thank you very much for your rousing attitude.

I am obliged to Dr. Sayeed Ahmad, lecturer in Faculty of Pharmacy, for his encouragement and support during this study.

Special thanks are due to my colleagues of Centre for Transgenic Plant Development, Mr. Akmal, Mr. Tanweer, Mr. Anis, Mr. Mathar, Mr. Tajiji, Mrs. Taizyen, Mrs. Usha, Mr. Prabhakar, Mr. Parvej, Mr. Mubeen, Mrs. Seema, Dr. Taiyab, Ms Khanda and Mrs. Parul for their perceptive co-operation.

I pay my deep gratitude to Mr. Ikram Sattar Khan, faculty of Allied Health Science, for his indulgent attitude throughout the course of study. I am pleased to credit Dr. Mohd. Arif, Dr. Puneet, Mr. Kaship and Mr. Ashok for his kind assistance during this research programme.

Finally, a word of special appreciation also goes to Mr. Abid, Mr. Fayyaz, and Mr. Imtiyaz (Lab attendants) for being a constant helping hand.

Much is owed to my parents, brothers and sister. I feel short of vocabulary to express my heartfelt gratitude to them. It is their true love, noble guidance and sincere efforts that shaped my life. I owe them everything than the mere words of "thanky". A special thanks from the core of my heart to my beloved wife Firdosh for being a constant source of inspiration.
The financial assistance from CSIR (EMRSEM) and CCRUM in the form of JRF and SRF is gratefully acknowledged. In the end, I would like to thank each and everyone who have rallied around in making this thesis a successful and an enjoyable experience for me.

Place: New Delhi
Date: 07-06-08

(Salim Khan)