ACKNOWLEDGEMENTS

I feel immense pleasure to express my deepest sense of gratitudes and reverence to Dr. K.M. Vyas, Professor and head Department of Botany, Dr. Hari Singh Gour Vishwavidyalaya, Sagar (M.P.) and Dr. R.S. Sharma, Associate Professor Department of Agronomy, Jawaharlal Nehru Krishi Vishwa Vidyalaya, College of Agriculture, Jabalpur (M.P.) for their able guidance constructive supervisions, fruitful suggestions, constant inspiration and unfailing encouragement for initiating the present research problems, conducting the research works and preparation of manuscript.

I also express my sincere thanks to Dr. S.K. Shrivastava, The Hon'ble Vice Chancellor, Dr. Hari Singh Gour Vishwa Vidyalaya Sagar for according the registration and Director of Agriculture, Govt. of M.P. Bhopal for providing the permission of present endeavor.

My words fail to express my gratitude to Dr. K.C. Tiwari, Professor and Head, Department of Agronomy, J.N.K.V.V. Jabalpur for providing necessary facilities during the period of investigation.

I am most thankful to teaching staff, Department of Botany, Dr. Hari Singh Gour V.V. Sagar for their valuable suggestion.
Dr. Ajay Kaushal and Dr. H.C. Sharma, J.N.K.V.V. Jabalpur for help in chemical and statistical analysis work respectively and Shri. Surveshwar Dubey for valuable support and suggestions in completion of the present investigation.

I am very grateful to all of my colleagues and staff member's for giving moral and encourages support.

My words are unable to express the heartfelt gratitude for my beloved father, mother, sisters, brother in-law and Smiti for their love and overflowing blessing which proved a boon for me in all my endeavors. It is an unforgettable piece of time for me when my father in-law, mother in-law, sister in-law, wife Shruti and even children Anshita and Anuj, who helped in real sense and constantly inspired me during this period of investigation.

Cast but not least to extend my thanks to Shri Bobby Sharma, and Kapil Patel (Bright Computers, Adhartal, JBP.) for typing of manuscript.

Place: Jabalpur

Date: 27.3.98

(AWADH-KUMAR KAUSHAL)