ACKNOWLEDGEMENTS

All of first, I bow before my family Lord "Shesh Nag" Ji, whose blessings encouraged me to undertake this work.

Adequate words are in want to express my overwhelming debt of gratitude to my esteemed teacher, Professor & Chairman T.N. Lakhanpal, Department of Bio-Sciences, Himachal Pradesh University, Shimla for his enduring guidance, consistent encouragement and vigilant supervision. His whole hearted cooperation throughout the course of investigation enabled me to complete this work.

I am grateful to Professor H.O. Agarwal, R.K. Malhotra, V.K. Rai, Neena Malhotra and Associate Professors Dr. S.K. Sood, S.S. Katoch, D.C. Kalia, T.C. Bhalla, Dr. M.K. Seth and all other teachers of the department for their help and encouragement from time to time.

I am indebted to Dr. Y.P. Sharma Senior scientist, Indian Agriculture Research Institute (IARI) Regional Station Amar Tara cottage, Shimla for providing me all necessary help and research facilities. His constant inspiration, constructive criticism and guidance will leave an indelible impression on my mind for ever.

I am grateful to Dr. Deep Kishore, Head, Indian Agricultural Research Institute, Regional Station, Amar Tara Cottage, Shimla for providing me all necessary help and research facilities. It is my privilege to acknowledge the facilities extended to me by Dr. K.K. Pramanik and other staff members of this station.

I gratefully acknowledge my feelings of gratitude and owe sincere thanks to my labmates, Dr. Lal Singh, Dr. Maninder Jeet Kaur, Asha (i)
Singh, Avinash, Tulsi Ram, Ravi, Ashwani and Collegues, Dr. Ram Nath, Dr. Harish, Jeeteshwar, Mona, Rama, Rekha, Pushpa, Harish, Vijay, Neelam for their help, cooperation and ever ready support in various ways through out this work.

I am also grateful to Dr. H.C. Sharma, Head Department of Social Sciences, Central Potato Research Institute, Shimla for helping me in interpreting the statistical analysis.

I take this opportunity to thank Dr. R.C. Sharma, Head Social Science, CPRI for helping in nutrient analysis. It is my privilege to acknowledge the help extended by V.D. Sharma, A.D.O. Agricultural, Directorate, Boileauganj for the analysis of samples of micronutrients. I am also grateful to Dr. D.P. Dohroo, Associate Professor, U.H.F. Nauni for extending me necessary help and research facilities.

Special mention is merited to acknowledge my gratitude to Mrs. Mridula Lakhanpal, Tarun, Tamanna, Mrs. Sushma Sharma, Nitika, Nithin and Rahul for extending their help in all possible ways especially for their affectionate behaviour.

I am thankful to Mrs. Larzoo, D.Prabha, Neera, Sumita, Saroj, Nisha, Veena and Mrs. Sood Lecturers in G.G.S.S.S. Promote, Shimla for their affectionate behaviour, cooperation and encouragement during my studies.

My heartfelt thanks are due to Mr. Sher Singh Negi, Jitender Thakur, Om Prakash Rana, Jitender Niralal, Akshat Thakur, Kuber Dutt, Shyam Singh Thakur, Bodh Raj, Yeshwant Deepak, Bhopal Tiger, Naresh Kumar, Jawahar, Karam Chand, Harish Kumar, Harish, Bhag Chand, C.R. Thakur, Uttam Mahant, Raj Kumar Dharmendar
Sharma, Charan Singh, Yashwant Harta, Promod Zinta, Pritam Singh, for their consistent encouragement and cooperation provided to me from time to time during the tenure of this investigation.

Even if I take birth infinite number of times, I shall never be able to pay the debt of my parents, brothers and sisters. It is due to their sacrifice, everlasting encouragement, overwhelming forbearance, understanding and financial help without which the present work would certainly not have been completed.

Financial assistance rendered by University grant commission as Jr. Research Fellowship is gratefully acknowledged.

I am grateful to the library staff H.P. University and staff members of Department of Bio-Sciences, H.P. University, Shimla for their kind help and cooperation during the present studies.

Heartful thanks are also due to Mr. Mathews George, Meera Graphics, Bridge Road, Sector 17-C, Chandigarh-160017 for typing and setting this THESIS in a very efficient manner.

Joginder Singh Thakur