ACKNOWLEDGEMENTS

A journey turns way easier when you travel together. This thesis has been kept on track and been seen through to completion with the support and encouragement of numerous people including my well wishers, my friends, colleagues and various institutions. At the end of my thesis, I would like to thank all those who contributed in many ways and made this thesis possible and an unforgettable experience for me. First and foremost, I would like to thank God for his manifold blessings that he had bestowed upon me. This thesis is the result of the endeavours encompassing the support and encouragement of many people. I shall ever, remain thankfully indebted to all those known and unknown learned souls, who directly or indirectly motivated me to achieve my goal and enlightened me with the touch of their knowledge and constant encouragement.

At the outset, it gives me an immense pleasure to express my sincere and profound gratitude to my Major Advisor Dr. F.S. Kavani, Former Professor & Head, Department of Animal Reproduction, Gynaecology and Obstetrics, College of Veterinary Science and Animal Husbandry, AAU, Anand, for his continuous guidance, caring nature, patience, encouragement and providing me with a comfortable atmosphere throughout the course of my study and research.

I express my heart-felt gratitude to my Minor Advisor Dr. P.H. Tank, Principal & Dean, College of Veterinary Science and Animal Husbandry, Junagadh Agricultural University, Junagadh for providing me spirited guidance and critical counsel as and when required.

I am equally grateful to the members of my Advisory Committee, Dr. A.R. Ahlawat, Associate Professor and Head, Dept. of Animal Genetics and Breeding; Dr. A.B. Odedara, Assistant Professor, Dept. of Veterinary Physiology and Biochemistry, College of Veterinary Science and Animal Husbandry, JAU, Junagadh, and Dr. H.P. Vijyeta, Assistant Research Scientist, Cattle Breeding Farm, Junagadh Agricultural University, Junagadh for their constant guidance, wise suggestions and cooperation during the course of my study and this research.

I am grateful the Hon’ble Vice Chancellor and other authorities of Junagadh Agricultural University, Junagadh for granting me permission to undergo in-service higher studies leading to PhD degree from this prestigious institute.
I am also thankful to Dr. A.J. Dhami, Professor and Head, Dept. of Gynaecology and Obstetrics, College of Veterinary Science and Animal Husbandry, AAU, Anand for his constant guidance, wise suggestions and cooperation during the course of my research and thesis writing as well as for generous funding under his project “AICRP on Nutritional and Physiological Interventions for Enhancing Reproductive Performance of Dairy Animals” for this research work.

Words being insufficient, I extend my deepest gratitude to Dr. P.U. Gajbhiye and Dr. K.S. Murthy Research Scientist and Head and Dr. S.S. Parikh, Assistant Research Scientist, Cattle Breeding Farm (CBF), JAU, Junagadh, for providing me the necessary infrastructure to conduct my research work at CBF.

I sincerely thank Dr. R.J. Raval, Assistant Professor, Dept. of Gynecology and Obstetrics, Dr. K.H. Parmar, Assistant Professor, Dept. of TVCC, College of Veterinary Science and Animal Husbandry, Junagadh Agricultural University, Junagadh for their due help and tireless efforts rendered during the course of my study. I extend my thanks to my dear friends Dr. G.B. Solanki, Dr. Borakhatariya, Dr. Jignesh Chaudhary, Dr. Fefar and Dr. Sanjay Parmar for helping me in every sense.

I wish to place on record the help rendered by Dr. (Mrs.) A. Kiledar (Ex. Res. Sci. & Head) and Dr. N.P. Sarvaiya, Research Scientist & Head, Reproductive Biology Research Unit, Veterinary College, AAU, Anand for generous help in estimation of estrogen, progesterone and cortisol at their RIA laboratory.

I am greatly indebted to Dr. (Mrs.) Sandhya Chaudhary, Professor and Head, and Dr. S.B. Patel, Assistant Professor, Department of Physiology and Biochemistry, Dr. V.N. Patel, Assistant Professor, Department of Animal Nutrition, Veterinary College, NAU, Navsari for providing the facility of biochemical analysis, and for their kind support and help in operating the Auto-analyzer for the said purpose.

I also thank Dr. A. Roy, Ex. Professor and Head, Dr. B.B. Bhandari and Dr. R.A. Mathakiya, Assistant Professor(s), Department of Veterinary Microbiology, Veterinary College, AAU, Anand for allowing the analysis of BHBA, NEFA and PGFM by EIA plate reader.

I am also indebted to the kindness of Dr H.H. Savsani, Associate Professor (PGTC Chairman), Department of Animal Nutrition Veterinary College, JAU, Junagadh for providing the necessary guidance and help for completion of research.
I am also greatly obliged to Dr. V.P. Ramani, Assoc. Res. Scientist & Head and Dr. G.J. Mistry, Assoc. Res. Sci., Micronutrients Research Project (ICAR), B.A. College of Agriculture, AAU, Anand for extending timely help in estimation of micro-nutrients status of blood plasma samples on ICP Machine.

The direct and indirect help and cooperation extended by all the teaching staff of College of Veterinary Science and Animal Husbandry, JAU, Junagadh, for their timely help and moral support, suggestions and keen interest in the course of study is thankfully acknowledged.

I am highly thankful to the supporting staff of Dept. of ARGO, Mr. F.S. Sodha, Mr. Mahesh Parmar and Vinubhai, for their co-operation and help extended throughout the course of my study and research.

I am highly thankful to Dr. Jayesh Patel, Dr. M.D. Odedara, Dr. Shivaji, Dr. Tapash, Dr. Ankita, Dr. Vadaliya, Dr. Dodiya, Dr. Parmar, Dr. Padaliya and P.G. Student Dr. Chikhaliya for their co-operation and help extended throughout the course of my research.

I can barely find words to express all the love and support given to me by my nearers and dearers. For that I am grateful to my Parents and my Family for their unconditional love, fidelity, endurance and encouragement who have always remembered me in their prayers. They have been selfless in giving me the best of everything and I express my deep gratitude for their love. I take this moment to express my never ending respect towards them for their blessings.

Junagadh

Dated: / 03 / 2018

(KARSAN B. VALA)