ACKNOWLEDGEMENT

The author gratefully avail this unique opportunity to express profound sense of gratitude to her Guide Dr P.J.Handique, Professor and Head, Department of Biotechnology, Gauhati University, Guwahati, Assam and Dr H.Rahman, Director, HA-farmpost, HEBBAL Bangalore, Karnataka showing keen interest, enlightened guidance, constructive counsel, valuable suggestions, meticulous supervision and constant encouragement during the entire period of this investigation.

The author expresses her sincere thanks and esteemed gratitude to Dr Anubrata Das, Director, National Research Centre on Pig, ICAR, Rani, Guwahati, Assam for his kind cooperation, constant inspiration and providing infrastructure facilities for successful completion of this research work.

The author expresses deepest gratitude and appreciation to Dr S. Naskar, Scientist, NRC on Pig, ICAR, Rani, Guwahati, Assam for his invaluable, judicious, constantly inspiring guidance, persistent encouragement, active persuasion, painstaking efforts and caring attitude through out her laboratory works in bringing this work to fruition.

The author is highly indebted to Dr S Banik, Senior Scientist, NRC on Pig, ICAR, Rani, Guwahati for his kind counsel and statistical analysis of my productive and reproductive parts of her thesis.

The author expresses her gratefulness to Dr G.U.Zaman, Professor, Department of Animal Genetics & Breeding, College of Veterinary Science,
Khanapara for kind cooperation in isolation of DNA in the laboratory of Animal Genetics and Breeding.

The author highly obliged and grateful to her teacher Dr M.K.Tamuli, Principal Scientist, Dr A.Aziz, Professor, Dr B.Das, Professor, Dr A.Das, Associate Professor, Dr D.Kalita, Scientist In Charge, AICRP on Pig, Khanapara, Dr R.K.Mahapatra, Senior Scientist, Dr B.C.Das, Senior Scientist, Dr N.R.Sahoo, Scientist, Dr S. Rajkhowa, Senior Scientist, Dr K.Barman, Senior Scientist, Mr B.P.dey, AAO, Mr P.K.Nayak, AF & AO, Dr H.Sarma and other faculty members of NRC on Pig, ICAR, Rani for their help during my entire course and research work.

The author conveys her thankfulness to all the Faculty and staff members of Department of Biotechnology, Gauhati University for their thoughtful suggestions and help.

The author is highly pleased in expressing her sincere thanks and gratefulness to all the Scientific, technical and supporting staff of National Research Centre on Pig, ICAR, Rani, Guwahati for their constant support and help in carrying out this study.

The author bears her sincere and profound gratitude to Dr Anil Das, Farm Assistant, Mr Kailash Choudhury, T-1, Dr Arun Chetri, Dr Gagan Bhuyan, Dr Pahary Kowar, Nashi, Jonali, Amal and Diganta for their kind support during the present study.

Finally, the author owes a special gratitude to her beloved Husband Mr Dharmendra Kaushik and Son Piyush, parents Shri Saytendra Bora and Smt.
Bhabani Bora, in laws, Shri Ramakanta Borthakur and Smt. Amola Borthakur, Brother in law Dr Mathurendra Borthakur and Sister in law Ms Manjurima Borthakur, Brother Mr Pankaj Bora and Sister in law Ms Anita Bora and Sister Leena Kumari Bora and Brother in Law Mr Rabin Kalita, cousins Panchi, Simi, Sunny and nephew Sunu and Kalpita for their blessings, inspiration and understandings through out the difficult periods, that led to accomplishment of this study.

Dated : Guwahati

The

[Signature]

Purabi Kaushik