Acknowledgement

I feel immense pleasure to express deep sense of gratitude to my respected supervisor, Dr. Supriyo Chakraborty, for his sincere guidance, constant inspiration and encouragement, constructive criticism and the most valuable advice throughout the period of investigation. It’s a great fortune for me that Dr. Chakraborty has given kind consent to work on bold grained rice genotypes prevalent in the Barak valley zone of Assam and his constant supervision and invaluable help throughout my research tenure.

I express my deep sense of gratitude to my respected co-supervisor Dr. Satya Bhusan Paul who guided me in carrying out different biochemical works all through my research tenure. His valuable advice and suggestion helped me to a great extent in carrying out my research work.

I extend my gratefulness to my respected co-supervisor Prof. Biman K. Dutta who inspired me and extended all help during my research work.

I am grateful to Dr. Nalini K. Sarma (former Chief Scientist), Regional Agricultural Research Station (RARS), Akbarpur, Karimganj for his great help and for providing me the scope to carry out the field experiment in RARS experimental field.

I am thankful to all the staff members of the Department of Biotechnology, Assam University for their active help and support during my experimental works.

I am grateful to all faculty members and technical staff of the Biotechnology Department, Assam Agricultural University, Jorhat for
their help and support for carrying out different laboratory works. I am pleased to extend my heartiest thank to Dr. M.K. Modi, Associate Professor and other teachers, Department of Biotechnology, Assam Agricultural University for their kind help in doing my laboratory experiments.

I also convey my heartiest thanks to all my family members for their benevolent inspiration and encouragement during the course of study.

Rahul chakraborty