

## **Acknowledgements**

First and foremost, I want to dedicate my deepest gratitude to my supervisor, Prof. Dr. Norzulaani Khalid for her guidance, advice and support throughout the course of this project. Without her insightful planning and innovative ideas, this project will not be successful. No words can describe my appreciation towards her for every opportunity given to me.

My heartiest gratitude to Kak Azlina and the whole member of Plant Biotechnology Incubator Unit (PBIU) for helpful assistance and support. To name a few; Wei Chee, Abang Fhaizal, Siew Hoon, Kay Sze, Kak Mas, Kak Nor, Kak Azma, Kak Anum, Ain, Wan Sin, Gen Teck, Teck Kai, Tamil, Lissa, Dee, Najmeh, Baizura, and Dr. Mozghan. Without their generous help and moral support, it is impossible for me to accomplish this project. My deep appreciations to Dr. Tan Choon Seng from MARDI, UPM and Cheah Wei from Department of Genetics, UM for their useful technical help. Not forgotten, those best friends who always stand by me.

I would like to honour my beloved parents and brothers. I am deeply grateful to them for their invaluable love and support throughout my study. Last but not least, thanks to everyone directly or indirectly involved in my project.