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#### LIST OF ABBREVIATIONS

μl microlitre μm micrometer

AMF arbuscular mycorrhizal fungi

bp base pair cm centimeter

DGGE denaturing gradient gel electrophoresis

DNA deoxyribonucleic acid

g gram

GRSP glomalin-related soil protein

kg kilogram
h hour
ha hectare

INVAM International Culture Collection of Arbuscular and Vesicular

Arbuscular Mycorrhizal Fungi

ITS internal transcribe spacer

L litre

LSU large subunit

ml millilitre

m meter

mm millimeter

nm nanometer

min minute
M molar

mM millimolar

PCR polymerase chain reaction

ppm part per million

Ri T-DNA Ri plasmid transferred deoxyribonucleic acid

RNA ribonucleic acid

ROC root organ culture

rpm round per minute

sec second

SSU small subunit

TRFs terminal restriction fragments

T-RFLP terminal-restriction fragment length polymorphism

U unit

v/v volume by volume

w/v weight by volume



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#### LIST OF SYMBOLS

°C degree Celsius % percent





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### ข้อความแห่งการริเริ่ม

- 1. วิทยานิพนธ์นี้ได้นำเสนอการวิเคราะห์ชุมชนทางอณูชีววิทยาของเชื้อราอาร์บัสคูลาร์ไมคอร์ ไรซาซึ่งสัมพันธ์กับรากและดินรอบรากที่เก็บจากพื้นที่ปลูกไม้ยืนต้นเขตป่าร้อนชื้นคือ กฤษณาและสัก ถือเป็นส่วนหนึ่งของวัตถุประสงค์ระยะยาวในการหากลยุทธ์ที่เหมาะสมใน การปลูกเชื้อราอาร์บัสคูลาร์ไมคอร์ไรซา เพื่อส่งเสริมการเจริญในสวนป่าและการปลูกป่า ทดแทนของพืชทั้งสองชนิด
- 2. เพื่อเพิ่มจำนวนสปอร์เชื้อราอาร์บัสคูลาร์ไมคอร์ไรซาในระดับสเกลใหญ่ การเพาะเลี้ยงใน กระถางด้วยวัสดุผสมและพืชอาศัยแตกต่างกัน และการผลิตหัวเชื้อแบบฟาร์มโดยใช้ปุ๋ยเศษ ซากใบไม้เป็นส่วนผสมของวัสดุปลูก ได้ถูกนำเสนอและประยุกต์ให้เข้ากับสภาพอากาศแบบ ร้อนชื้น

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#### STATEMENT OF ORIGINALITY

- 1. This study provides the molecular community analysis of AM fungi associated with field-collected roots and rhizosphere soils of the tropical trees, *Aquilaria crassna* and *Tectona grandis* as part of a long term goal of optimizing AM fungus inoculation strategies to enhance plantation and reforestation efforts with these trees.
- 2. In order to propagate AM fungal spores for large scale production, the pot culture with different diluents and host plants, and the on-farm inoculum production using leaf litter compost as a substrate component were performed and applied for tropical climates.

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