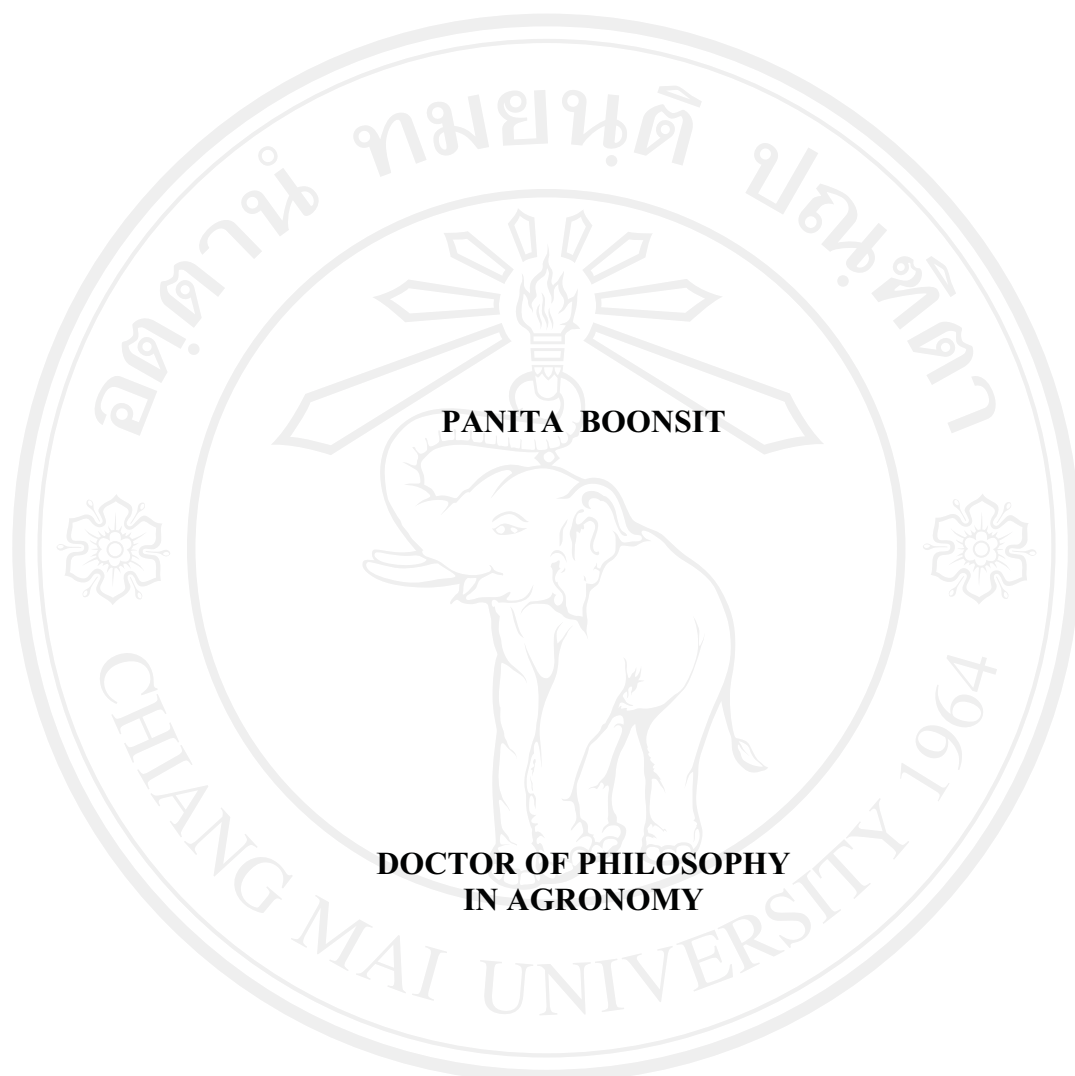


**GENOTYPIC VARIATION AND HERITABILITY OF GAMMA ORYZANOL
IN LOCAL PURPLE GLUTINOUS RICE GENOTYPES**



PANITA BOONSIT

**DOCTOR OF PHILOSOPHY
IN AGRONOMY**

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

Copyright© by Chiang Mai University

All rights reserved

**THE GRADUATE SCHOOL
CHIANG MAI UNIVERSITY
NOVEMBER 2009**

**GENOTYPIC VARIATION AND HERITABILITY OF GAMMA ORYZANOL
IN LOCAL PURPLE GLUTINOUS RICE GENOTYPES**

PANITA BOONSIT

**A THESIS SUBMITTED TO THE GRADUATE SCHOOL IN
PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY
IN AGRONOMY**

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

Copyright© by Chiang Mai University

All rights reserved
THE GRADUATE SCHOOL
CHIANG MAI UNIVERSITY
NOVEMBER 2009

**GENOTYPIC VARIATION AND HERITABILITY OF GAMMA ORYZANOL
IN LOCAL PURPLE GLUTINOUS RICE GENOTYPES**

PANITA BOONSIT

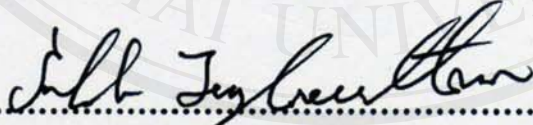
**THIS THESIS HAS BEEN APPROVED
TO BE A PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY
IN AGRONOMY**


EXAMINING COMMITTEE


.....CHAIRPERSON
Assoc. Prof. Dr. Dumnern Karladee


.....MEMBER
Assoc. Prof. Puntipa Pongpiachan


.....MEMBER
Assoc. Prof. Suthat Julsrigival


.....MEMBER
Assoc. Prof. Dr. Sakda Jongkawewattana


.....MEMBER
Dr. Mitch Crook

10 November 2009

© Copyright by Chiang Mai University

ACKNOWLEDGEMENT

I would like to thank Department of Agronomy, Faculty of Agriculture, Chiang Mai University and the Ministry of University Affairs for awarding me with the Ph.D study. Deeply gratefully extended to my thesis advisors committee; Associate Professor Dr. Dumnern Karladee for scholarship, Associate Professor Puntipa Pongpiachan and Associate Professor Suthat Julsrigival in providing a continuous suggestion during the processes of researches. Special thank to Dr. Mitch Crook for kindly help when attended a special training at the Harper Adams University, UK, and comments the accuracy of English writing.

Researchers in Central Laboratory and Agronomy staffs are also deeply grateful for thesis assist in HPLC analysis and fieldworks.

Many thank to my husband (Narupon), daughter (Pichayanan) and son (Plus) for their love and encouragement at all time was invaluable.

Finally, I would like to thank my mother, father, grandfather and brother for their understanding and encouragement during many years of this success. Deeply love and thank to my grandmother who has passed away in October 2008.