### INFLUENCES OF HUMUS FROM LEONARDITE AND BENEFICIAL MICROORGANISMS ON CONTENTS OF VITAMIN C, ANTIOXIDANTS AND GROWTH OF CHINESE KALE

**FAPAILIN CHAIWON** 

DOCTOR OF PHILOSOPHY
IN SOIL SCIENCE AND NATURAL RESOURCES MANAGEMENT

THE GRADUATE SCHOOL
CHIANG MAI UNIVERSITY
SEPTEMBER 2012

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**FAPAILIN CHAIWON** 

A THESIS SUBMITTED TO THE GRADUATE SCHOOL IN
PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY
IN SOIL SCIENCE AND NATURAL RESOURCES MANAGEMENT

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THIS THESIS HAS BEEN APPROVED

TO BE A PARTIAL FULFILLMENT OF THE REQUIREMENTS

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