

อภินันท์นาการ

113329045



FEASIBILITY STUDY OF MUSHROOM SUBSTRATE WASTE FOR GASIFICATION

สำนักหอสมุด

SUWAN SURIYAPO

สำนักหอสมุด มหาวิทยาลัยนเรศวร

วันลงทะเบียน 24 มิ.ย. 2549

เลขทะเบียน 4840048

เลขเรียกหนังสือ T TP

260

5967

2004

C12

A Thesis Submitted to the Graduate School of Naresuan University

In Partial Fulfillment of the Requirements for the

Master of Science Degree in Renewable Energy

December 2004

Copyright 2004 by Naresuan University

This thesis entitled "Feasibility Study of Mushroom Substrate Waste for Gasification" submitted by Suwan Suriyapo in partial fulfillment of the requirements for the Master of Science Degree in Renewable Energy is hereby approved.

*R. Pairintra*

(Assist. Prof. Rattanachai Pairintra, D.Agr.)

Major Adviser

*S. Chindaraksa*

(Sirinuch Chindaraksa, D.Sc.)

Adviser

*M. Sanguanserm*

(Assist. Prof. Mathanee Sanguanserm, D.Agr.)

Internal Examiner

*Sirichai Thepa*

(Assist. Prof. Sirichai Thepa, D.Sc.)

External Examiner

*K. Papatwibul*

(Assist. Prof. Kanungnit Papatwibul, Ph.D.)

Dean of the Graduate School

30 December 2004

## ACKNOWLEDGMENTS

The author wishes to express his sincere gratitude to his supervisors, Assist. Prof. Dr. Rattanachai Pairintra and Dr. Sirinuch Chindaraksa, for their valuable advice, guidance, encouragement and recommendations throughout the duration of this thesis.

Sincere thanks to Assist. Prof. Dr. Sirichai Thepa, Assist. Prof. Dr. Mathanee Sanguansermisri for their suggestions, criticism generous help and useful comments to this thesis.

Gratefulness is also to Assoc. Prof. Dr. Wattanapong Rakwichain, Dr. Jomphob Wawsak whose intelligent comments often help to open new perspective which otherwise would not has been considered.

Official thanks to Phusang Wittayakom school to agreement to carry out master degree study and his indebted to EGATT Mae Moh Lampang for the information service and many thanks to Mr. Uchat Witchuworachart for helping and recommendations the mathematics simulation gasifier program for this thesis. Also, thanks to Mr. Soontorn Kamsook for the mushroom information service and to all of his friends who have help him either directly or indirectly.

Special thanks to The National Energy Policy Office (NEPO) for the scholarship study and thesis financial supports, without their immense supports this thesis may not has materials at all.

Last but not the least, the author wishes to extend gratefulness and deepest gratitude to his family members, father, mother, brothers, sisters and especially Mrs. Pimprapa Suriyapo and sons for their love.

Suwan Suriyapo