THE STUDY OF ANTIBACTERIAL ACTIVITY OF WATER EXTRACT OF BUTTERFLY PEA (*Clitorea ternatea*) SEEDS

By

Maria Grace Jessica Kesumah

A Thesis submitted to the Faculty of

LIFE SCIENCES

Department of

FOOD TECHNOLOGY

In Partial Fulfillment of the Requirements for

BACHELOR'S DEGREE

IN FOOD TECHNOLOGY

SWISS GERMAN UNIVERSITY
EduTown BSDCity,
Tangerang 15339
INDONESIA

www.sgu.ac.id

Revised after thesis defense
05 August 2011

STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

Maria Grace Jessica Kesumah Date

Approved by:

Nani Pasaribu, S.Si., M.Si., Advisor Date

Ir. Abdullah Muzi Marpaung, co-Advisor Date

Chairman of the Examination Steering Committee Date

ABSTRACT

THE STUDY OF ANTIBACTERIAL ACTIVITY OF WATER EXTRACT OF BUTTERFLY PEA (*Clitorea ternatea*) SEEDS

By

Maria Grace Jessica Kesumah

SWISS GERMAN UNIVERISTY
Bumi Serpong Damai

Nani Pasaribu S.Si.,M.Si., Major Advisor
Ir. Abdullah Muzi Marpaung, co-Advisor

Food-Borne diseases are still a major problem to the world, even in developed country, for example according to WHO, Salmonellosis which caused by *Salmonella* is one of the most common food-borne disease that made millions of cases every year worldwide (WHO, 2005). The purpose of this research was to determine the antibacterial activity of water extract of the Butterfly Pea (Clitorea ternatea) seeds against *Staphylococcus aureus, Listeria monocytogenes,* and *Salmonella typhimurium*. The methodology used to determine the antibacterial activity on tested bacteria was disk-diffusion by measuring the diameter of zone of inhibition. The result of this research was the positive antibacterial activity from mature seed extract as growth inhibitor on *Salmonella typhimurium* with diameter of inhibition zone as big as 3.331 mm ± 1.942.

Keywords: butterfly pea, antibacterial activity, Salmonella typhimurium

DEDICATION

I dedicate this thesis to my family and friends. Without their loves and supports, this thesis cannot be finished.

ACKNOWLEDGMENTS

The author wishes to thank Jesus Christ for His guidance and bless in every single time, everything that happened is all because of Him.

Thesis is one of obligation for all eight semester students of Swiss German University (SGU) as partial fulfillment of the requirements for the Bachelor Degree.

Author realized that in finishing this thesis, a lot of guidance and help were needed. In this opportunity, please let Author to say her gratitude to:

1. Nani Pasaribu, S.Si., M.Si., and Ir. Abdullah Muzi Marpaung, as Thesis Advisor and co-Advisor
2. Tabligh Permana S.Si, as Coordinator of Life Sciences Education & Research Laboratory, Swiss German University (SGU), Tangerang, Indonesia
3. Irvan Kartawiria, S.T., M.Sc., as dean of Life Sciences
4. Dr.rer.nat Maruli Pandjaitan for his help and explanation
5. Beloved parents who had given the biggest support, both material and non-material. Dear friends, I love you guys.

Author realized that this thesis was still far from perfect. Therefore, any comments or critics would be really appreciated.

Finally, to all readers, Author hoped that this thesis could give positive contributions for academic purpose also general society.

Jakarta, July 2011

Maria Grace Jessica Kesumah

TABLE OF CONTENTS