ANTIBACTERIAL ACTIVITY OF INDONESIAN SPICES IN KANG-KATI (THAI RED CURRY) MODEL

AKTIVITAS ANTIBAKTERI REMPAH-REMPAH INDONESIA PADA “KANG-KATI” (KARI MERAH THAILAND)

BACHELOR THESIS

Submitted to the Faculty of Agricultural Technology in partial fulfillment of the requirements for obtaining Bachelor Degree

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SEMARANG

2014
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STATEMENT OF THESIS AUTHENTICITY

With this I state that Thesis with title “ANTIBACTERIAL ACTIVITY OF INDONESIAN SPICES IN KANG-KATI (THAI RED CURRY) MODEL” there is no work that has been proposed to get academic title on University, and as long as I know there is none work or opinion that had been wrote or published by another people, except that has been writing is referred in this manuscript and mentioned in references.

If someday part or whole of this Thesis is proved and founded as plagiarism, then I deserved to be canceled with any risk of its punishment as the regulation that applicable in Soegijapranata Catholic University and/or the applicable of legislation.

Semarang, February 12th, 2014

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PREFACE

First of all, the author would like to give my greatest gratefulness to Jesus Christ, who has blessed me and gave His grace, wisdom and guidance to finish this research and thesis. After a period of doing the research and writing this thesis, author had been searching and obtaining multiple kind of knowledge, information and views that were very useful to accomplish this thesis, which this process was very valuable and memorable experience for the author’s life.

This thesis can be done by the prayer, supports, advice and help from several individuals that the author very honored and grateful for. The author know that without any supports from these people, the author cannot doing this research. That’s why in this section, the author would like to thank you to those amazing persons:

1. Dr. Victoria Kristina, ST., MSc. as the Dean of Faculty of Agricultural Technology Soegijapranata Catholic University Semarang who give her best in guiding and inspiring author from the start until the end.

2. Dr. Ir. Lindayani, MP, and Dra Laksmi Hartayanie, MP, as the supervisor who are always give their time to help author with their great advice and motivation, who has influenced author during the learning process in the Food Technology Department. It was a really memorable experience working with them.

3. Dr. Patchanee Yasurin, the great lecturer at Assumption University Thailand, who is inspire me a lot to doing this thesis.

4. All of FTP for being a great family and team to pass on the knowledge, experience and education.
5. The laboratory assistants for all the help and support throughout the laboratory life in Food Technology Department: Mbak Endah, Mas Soleh, Mas Supriyana, and Mas Lilik.

6. The administration staff and employees for providing great service during the study: Pak Agus, Pak Joko, Pak Lilik, Mbak Susi, and Mbak Rose.

7. Dearest father and mother and also my beloved brother who are always support, love, motivate, and pray for author throughout the times. Author’s really thankful and grateful for having this wonderful family.

8. All of the friends in Food Technology who always cheer and support author throughout the process of this thesis: Ivan, Jessica, Tejo, Kartika, Nanda, Fiera, Shandy, Edo, Yaya, Lusi, Debby, Silvi, Sisca, Aili, Surya, Johan, Stefanie, Koh Aw, Koh Yudi, etc.

9. All other parties who have donated their efforts and attentions that I cannot possibly mention one by one, I really appreciate your thoughtfulness.

The author realized that this report is still far from perfect and there are still many shortcomings due to the limitations of the author. However, the author hoped that this report can still be an inspiration and provide useful information for all the reader.

Semarang, January 2014
Author,

Alvin Arienata Hartanto
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SUMMARY

In the modern era where food safety has begun to get more attention, a food that free from human pathogenic microorganism become the first criteria to choose food. One of the methods that can be used to obtain a food that free from human pathogenic microorganism is using antibacterial agent. There are a lot of substances in the foodstuff which can be used as antibacterial agent. Thus, many food ingredients already have their own protection against microorganism such as spices. Curry paste is a main condiment to making a kang-kati (Thai red curry) which was had an antibacterial activity because of its ingredients. The ingredients to make curry paste are consist of Capsium annuum, Cymbopogon citrates, Alpinia galangal, Allium ascalonicum L, Allium sativum, Citrus hystrix, and Cuminum cyminum, which these ingredients are produced in Indonesia in large scale. This research aimed to examine the potential of Indonesian spices acting as natural antibacterial agent against Listeria monocytogenes (Gram positive) and Salmonella enterica Typhimurium (Gram negative). The curry was prepared using Thai red curry model and was inoculated with 1% culture of L. monocytogenes and S. enterica Typhimurium. Indonesian spices in curry paste antibacterial activity was investigated in-vitro by cell count serial dilution method on Nutrient Agar (NA) for L. monocytogenes and on Salmonella-Sighella Agar (SSA) for S. enterica Typhimurium every hour for 6 hours at room temperature. These spices showed that the inhibitory effect to both cultures, even there were significant different with the control. The antibacterial effect comparison between Gram positive and Gram negative bacteria showed that these spices had the same effect to prevent and inhibit the growth of Gram positive bacteria and the Gram negative bacteria. This research indicated that the Indonesian spices at kang-kati model showed promising combination antibacterial activity against food-borne pathogenic bacteria e.g. L. monocytogenes and S. enterica Typhimurium.
RINGKASAN