OPTIMISATION OF HISTAMINE REDUCTION IN KAWAKAWA (*EUTHYNNUS AFFINIS*) BY RED GRAPE JUICE USING RESPONSE SURFACE METHODOLOGY (RSM)

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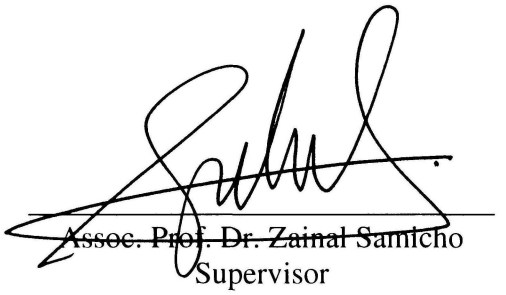
Final Year Project Report Submitted in
Partial Fulfilment of the Requirements for the
Degree of Bachelor of Science (Hons.) Applied Science
in the Faculty of Applied Sciences
Universiti Teknologi MARA

NOVEMBER 2008

This Final Year Project Report entitled **"Optimisation of Histamine reduction in Kawakawa (*Euthynnus affinis*) by Red Grape Juice using Response Surface Methodology (RSM)"** was submitted by Ruhaizan binti Wook, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Applied Chemistry, in the Faculty of Applied Sciences, and was approved by



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ACKNOWLEDGEMENTS

In the name of Allah, the Most Merciful, The Most Beneficent. Firstly, gratefully thanks to God, Allah for giving me the strength to overcome the entire problem that encountered during the preparation of this project. Secondly, I would like to express my gratitude and appreciation to my supervisor Assoc. Prof. Dr Zainal Samicho for his guidance, assistance, encouragement, ideas and helpful criticism throughout this subject. Special thank to Dr. Yusairie bin Mohd as my head of program, Cik Sabrina binti M Yahaya as project coordinator and also to Applied Chemistry lecturers who had given me many useful suggestions to complete my task. Not forgetting, also thanks to laboratory staff that had been helpful in sharing their knowledge, experience and cooperation. Lastly, very special thank go to my loving parents for their moral support throughout my studies and not forgotten a special appreciation to my friends for helping me to complete my project.

Ruhaizan binti Wook

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ABSTRACT

OPTIMISATION OF HISTAMINE REDUCTION IN KAWAKAWA (*EUTHYNNUS AFFINIS*) BY RED GRAPE JUICE USING RESPONS SURFACE METHODOLOGY (RSM)

The purpose of this study was to optimise the histamine reduction in kawakawa by red grape juice using Response Surface Methodology (RSM) of MINITAB Software (Version 14). Experimental design was created by RSM whereby test variables; concentration of red grape juice (%), temperature of storage (^{0}C) and time of storage (hrs). One side part flesh of kawakawa were blended, mixed thoroughly in different concentrations of red grape juice and treated differently in terms of temperature and time as suggested by the experimental design of RSM. Histamine analysis was carried out according to AOAC Official Method (1990) and measured using Flouresence Spectrometry. Histamine content in kawakawa was reduced by 78.44% at the optimum condition; 26.4% of concentration red grape juice, storage temperature of -0.2°C and storage time of 56.1 hours. In addition, the significant regression equations or models at the 5% level of confidence was also established for the estimation of the percentage reduction of histamine in kawakawa treated by red grape juice. This indicates that red grape juice is a potential source to be employed to reduce histamine in kawakawa.