THE EFFECT OF THERMAL COOKING METHOD ON ANTIOXIDANT CONTENT IN ORANGE AND PURPLE SWEET POTATOES

NURIN IZZATY BINTI MOHD ASRI

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

JANUARY 2019

This Final Year Project Reported entitled **"The Effect of Thermal Cooking Method on Antioxidant Content in Orange and Purple Sweet Potatoes"** was submitted by Nurin Izzaty binti Mohd Asri, in partial fulfilment of the requirements for the Degree of Bachelor of Science (Hons.) Chemistry, in the Faculty of Applied Sciences, and was approved by

_____

Siti Noriah binti Mohd Shotor
Supervisor
B. Sc. (Hons.) Chemistry
Faculty of Applied Sciences
Universiti Teknologi MARA
72000 Kuala Pilah
Negeri Sembilan

_____

Nur Aisyah binti Ismail
Co Supervisor
Alliance Research and Innovation in Food
Faculty of Applied Sciences
Universiti Teknologi MARA
72000 Kuala Pilah
Negeri Sembilan

_____

Nurul Huda Abdul Halim
Project Coordinator
B. Sc. (Hons.) Chemistry
Faculty of Applied Sciences
Universiti Teknologi MARA
72000 Kuala Pilah
Negeri Sembilan

_____

Mazni Musa
Head of Programme
B. Sc. (Hons.) Chemistry
Faculty of Applied Sciences
Universiti Teknologi MARA
72000 Kuala Pilah
Negeri Sembilan

Date:_____

TABLE OF CONTENTS

ABSTRACT

THE EFFECT OF THERMAL COOKING METHOD ON ANTIOXIDANT CONTENT IN ORANGE AND PURPLE SWEET POTATOES

The study was aimed to determine the effect of thermal cooking method on antioxidant content in orange and purple sweet potatoes (β-carotene, vitamin C, antioxidant activities and total phenolic content) of orange and purple sweet potatoes. The effect of fresh sweet potato and different thermal cooking process (boiling and steaming) on antioxidant content were determined. The results of the study revealed that thermal cooking process cause significant decrease in total phenolic content, ascorbic acid, β-carotene and antioxidant activities both orange sweet potato and purple sweet potato. Result shows that purple sweet potato has higher total phenolic content and antioxidant activity compared to orange sweet potato. However, in term of vitamin C and β-carotene, orange sweet potato showed the higher value. In view of this study, it can be concluded that thermal cooking process of sweet potato decreased the antioxidant contents and the most suitable thermal cooking processes and good to preserve antioxidant determined to be steaming cooking processes. The purple sweet potato shows higher antioxidant activity compared to orange sweet potato.