

PHYSICAL PROPERTIES OF WHOLE
GRAIN WHEAT FLOUR

WHEAT FLOUR

WHEAT FLOUR

WHEAT FLOUR

**PHYSICOCHEMICAL PROPERTIES OF WHOLE
PUMPKIN (*Cucurbita maxima*) FLOUR**

by:

NOORNAZIHAH BINTI ABDUL AZIZ

**RESEARCH PROJECT submitted in partial
fulfillment of the requirements for the Degree of
Bachelor of Food Science
(Food Service and Nutrition)**

**UNIVERSITI MALAYSIA TERENGGANU
MENGABANG TELIPOT
2007**

AZIZ, N. 2007. Physicochemical properties of whole pumpkin (*cucurbita maxima*) flour. Undergraduate thesis, Bachelor of Food Science (Food Service and Nutrition). Faculty of Agrotechnology and Food Science, Universiti Malaysia Terengganu. Mengabang Telipot, Terengganu. 79p.

No part of this report may be reproduced by any mechanical, photographic or electronic process or in the form of photographic recording, nor may it be stored in a retrieval system, transmitted, or otherwise copied for public or private use, without written permission from the author and the supervisor of the project.

DECLARATION

I hereby declare that the thesis is based on my original work except for quotations and citations which has been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any degree at UMT or other institutions.

DATE:

NOORNAZIHAH BINTI ABDUL AZIZ**UK 10149****APPROVED BY,****DATE:**

**PROF. MADYA DR. AMIZA MAT AMIN
(SUPERVISOR)**

ACKNOWLEDGEMENTS

Syukur alhamdulillah to the Almighty Allah S.W.T. for giving me strength, patience and capability to complete this project and thesis write up.

I would like to express my deepest thanks and appreciation to my supervisor, Prof. Madya Dr. Amiza Mat Amin, Head of Food Science Department for her guidance, patience and advice in help me to complete my project and thesis write up. Even though she busy with their work, she always ready to spend her time for me to listen and guide me to gain success in finish this project. Her continuous commitment towards the success of my study will always be remembered.

Furthermore, I would like to thanks to all the lecturers and staff in Food Science Department, especially to Cik Nasrenim Suhaimin, Pn. Aniza Deraman, Pn. Suzana Mat Saad, Chandrasena, Cik Ros and En. Roslan that help me and guide me during do it this project.

Sincere gratitude is also dedicated to all my family and friends that given me support and encouragement. Finally, once again I would like to say thank you to anyone that help me intentionally or unintentionally.

PHYSICOCHEMICAL PROPERTIES OF WHOLE PUMPKIN FLOUR

ABSTRACT

This study reported on the physicochemical properties of whole (innards, seeds and rinds) pumpkin flours in terms of the effect of particle size on water absorption capacity, oil absorption capacity, emulsion capacity, emulsion stability, paste density and paste viscosity of pumpkin flour. Two types of whole pumpkin flour were studied i.e. boiled pumpkin flour (BPF) and raw pumpkin flour (RWPF). Both types of flour were prepared in four different particle size i.e. 63 μm , 125 μm , 250 μm and 500 μm . Proximate analysis was also carried out on BPF with the particle size of 250 μm . Proximate analysis showed that BPF was high in carbohydrate and crude fiber content but low in crude protein and crude fat. This study found that particle size and the type of flour affected the physicochemical properties and pasting properties of whole pumpkin flour but not in emulsifying properties. It was found that both water absorption capacity and oil absorption capacity of BPF were higher than that of RWPF. For the emulsion activity and stability, BPF and RWPF were not influenced by particle size of flour. The paste density of BPF increased with an increase in flour particle size and an increase in paste concentration. The viscosity of cold paste, hot paste and hot paste after 30 minutes holding at 95°C for both BPF and RWPF increased as the particle size and the paste concentration increased. The viscosity of RWPF paste was higher than BPF paste. This study showed that whole pumpkin flour was suitable to be used as thickening agent as well as dough ingredients.