

DETERMINATION OF CHANGING TITERS OF BACTERIAL FLAKES

MURIL ASHWIN ET OSMA

FACULTY OF AGRICULTURE AND FOOD SCIENCE

UNIVERSITY OF CALIFORNIA, RIVERSIDE

RESEARCH REPORT

2007

1100090051



LP 56 FASM 3 2007



1100090051

Determination of glycemic index of pumpkin flakes / Nurul
Asyikin Osman.

PUSAT PEMBELAJARAN DIGITAL SULTANAH NUR ZAHIRAH
UNIVERSITI MALAYSIA TERENGGANU (UMT)
21030 KUALA TERENGGANU

1100090051		

Lihat Sebelah

HAK MILIK
PUSAT PEMBELAJARAN DIGITAL SULTANAH NUR ZAHIRAH

Determination of Glycemic Index of Pumpkin Flakes

Nurul Asyikin bt Osman

RESEARCH PROJECT submitted in partial fulfillment of the requirement
for the degree of Bachelor Food Science (Food Service and Nutrition)

Faculty Of Agrotechnology And Food Science
Universiti Malaysia Terengganu
2007

This project report should be cited as:

Osman., N.A. 2007. Determination of glycemic index of pumpkin flakes. Undergraduate thesis, Bachelor of Food Science (Food Service and Nutrition), Faculty of Agrotechnology and Food Science, Universiti Malaysia Terengganu, 96p.

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 (s) of the project.

LP
55
21/11/11
3
2011

DECLARATION

I hereby declare that this research project is based on my original work except for the quotation and summaries which have been duly acknowledge.

10th June 2007



NURUL ASYIKIN BT OSMAN

UK10175

Approved by,

10th June 2007

PROF. MADYA DR. AMIZA MAT AMIN
(Supervisor)

ACKNOWLEDGEMENT

First I would like to express my deepest appreciation and gratitude to my supervisor, Dr Amiza Bt. Mat Amin and also to Pn. Khairil Syazmin Bt Kamaruddin for their guidance, encourage, criticism, kindness, suggestion and time they spent in order for me to finished my study.

I am also grateful to the En Mohammad Khairi Bin Zainol, Pn Zamzahaila, all the lectures and the staff of Food Science Department especially Food Science laboratory and kitchen staff for their kindness and co-operation throughout this study. Thank you so much also to all of my respondents especially Aznoor, Ady, Fadilah and Sena, for their support and co-operation to succeed my project.

For my family, and all my beloved friends, thank you for their support, love and concern and thanks always be my side when I need them. Finally, my appreciation goes to those who have involved to this project.

Thank you.

ABSTRACT

This randomized cross-over study was carried out to determine the glycemic index value of pumpkin flakes with skin (PFWS) and pumpkin flakes with flesh pumpkin (PFFP) among healthy young adult aged 22 to 24 years old. The assessment of the glycemic index (GI) seems to be an important parameter to take into account in order to better understand the physiologic effects of foods with high carbohydrate levels. This study also was carried out to observe the blood glucose response onto the subjects after consuming both of the flakes. Simple randomized sampling has been done among students from Universiti Malaysia Terengganu (UMT). After 10 to 12 hours fasting, subjects were asked to eat each test meal and reference carbohydrate (glucose), at different time within 15 minutes. Finger-prick capillary blood samples were taken at 0, 15, 30, 45, 90 and 120 minutes after eating the meals. Mean age and BMI of subjects are 22.3 ± 0.67 years and 22.33 ± 3.64 kg/m², respectively. From this study, there was show that the glycemic index of pumpkin flake with skin (PFWS) was 74 ± 65.4 while 77 ± 51.3 for pumpkin flake with flesh pumpkin (PFFP). Both of pumpkin flakes were classified in high GI value (70 and above). However, GI value for both of pumpkin flakes were show lower than all of corn flakes bran which are 80 and above. This research also shows the peak value of blood glucose response for both of pumpkin flakes and reference glucose was at 30 minutes. PFWS has lower blood glucose response as compared to PFFP and reference glucose in this study. It also shows the strong correlation between IAUC under curve and GI value of pumpkin flakes ($r= 0.795$, $p= 0.000$). In conclusion, the results of this study shows the pumpkin flakes as healthy food that suitable for communities by balance with others food that have high and moderate GI value.

PENENTUAN GLYCEMIC INDEX DALAM EMPING LABU

ABSTRAK

Kajian rawak secara bersilang ini dijalankan untuk menentukan nilai glyceemic index bagi emping labu berkulit (PFWS) dan juga emping labu tanpa kulit (PFFP) di kalangan 10 orang dewasa muda yang sihat berumur 22 hingga 24 tahun. Kajian ini juga dilakukan bagi melihat perubahan paras glukosa darah ke atas subjek selepas mengambil kedua-dua emping tersebut. Persampelan rawak mudah ini dilakukan ke atas para pelajar Universiti Malaysia Terengganu (UMT). Selepas berpuasa selama 10 hingga 12 jam, subjek diminta memakan setiap jenis emping dan makanan rujukan (glukosa) secara berasingan dalam masa 15 minit. Sample darah kapilari daripada cucukan jari diambil pada masa 0, 15, 30, 45, 90, dan 120 minit selepas subjek menghabiskan emping tersebut. Didapati min bagi umur dan IJT subjek masing-masing adalah 22.3 ± 0.67 tahun dan IJT 22.33 ± 3.64 kg/m². Daripada kajian ini, didapati glyceemic index (GI) bagi emping labu berkulit (PFWS) ialah 74 ± 65.4 manakala emping labu tanpa kulit ialah 77 ± 51.3 . Kedua-dua GI bagi emping ini dikategorikan dalam kelas tinggi nilai GI (70 ke atas). Namun begitu, nilai GI bagi kedua-dua emping ini didapati lebih rendah berbanding semua jenis emping jagung komersial iaitu 80 dan ke atas. Kajian ini juga mendapati bahawa kedua-dua jenis emping dan karbohidrat rujukan mencapai respons puncak pada minit ke-30. Hasil kajian ini juga mendapati PFWS mempunyai respons glukosa yang lebih rendah berbanding dengan PFFP dan makanan rujukan. Keputusan juga menunjukkan terdapat korelasi yang kuat di antara IAUC bawah graf dan nilai GI emping labu ($r= 0.795$, $p= 0.000$). Sebagai kesimpulan, hasil kajian ini dapat mencadangkan emping labu sebagai salah satu makanan sihat kepada semua peringkat masyarakat dengan menyeimbangkan pengambilannya bersama makanan yang mengandungi kandungan glyceemic index rendah dan sederhana yang lain.