

THE EFFECT OF BAKING INCORPORATION ON  
THE CHARACTERISTICS OF DOUGHNUT

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**THE EFFECTS OF PUMPKIN INCORPORATION ON THE  
CHARACTERISTICS OF DOUGHNUT**

**By**

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## DECLARATION

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



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**SITI NUZULIAH MOHD SALLEH**

**Date:** 21 JUNE 2007

**Approved by**

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**(ASSOC. PROF. DR. AMIZA MAT AMIN)**

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## **THE EFFECT OF PUMPKIN INCORPORATION ON THE CHARACTERISTICS OF DOUGHNUT**

### **ABSTRACT**

The objective of this study was to determine the effects of pumpkin incorporation on the characteristic of doughnut. Eleven doughnuts formulations were developed which were control doughnuts (0% pumpkin), doughnuts prepared using 10% - 50% of pumpkin puree without rind (W) and doughnuts prepared using 10% - 50% of pumpkin puree with rind (S). Physicochemical analysis was subjected to all doughnut samples to determine the firmness and springiness, colour, linear expansion, shelf life, moisture, oil uptake, and the crude protein and carbohydrate contents. Sensory evaluation was employed evaluate the acceptability on pumpkin doughnut. It was found that firmness and springiness of doughnut samples increased with storage period. For lightness ('L' values) and moisture content, there was a significant difference between control doughnut and doughnut incorporated with 50% of pumpkin puree. The shelf life and linear expansion of doughnuts increased with increase in pumpkin puree incorporation. There was no significant difference between control doughnut and doughnut incorporated with 50% pumpkin puree for crude protein and oil uptakes. However, control doughnut shows higher value of carbohydrate content compared to doughnut incorporated with 50% pumpkin puree. It was found doughnut incorporated with 50% pumpkin puree the most preferable. This study shows that incorporation of pumpkin in doughnut formulation had improved the acceptance of doughnut as well as increased the linear expansion of doughnut.

## KESAN PENAMBAHAN LABU KE ATAS CIRI – CIRI DONAT

### ABSTRAK

Objektif kajian ini adalah untuk mengkaji kesan penambahan labu terhadap ciri – ciri donat. Sebelas formulasi iaitu donat kawalan (0% labu), lima formulasi (10%, 20%, 30%, 40% dan 50%) labu tidak berkulit (W) dan 5 formulasi (10%, 20%, 30%, 40% dan 50%) labu berkulit (S) telah dihasilkan. Analisis fizikokimia telah dijalankan pada semua sampel donat mencakupi penilaian tekstur, warna, kadar pengembangan, jangka hayat, kandungan kelembapan, penyerapan minyak, penentuan protein kasar dan penentuan karbohidrat kasar. Penilaian deria turut dijalankan untuk mengetahui tahap penerimaan panelis ke atas donat labu. Keputusan menunjukkan selepas 1 hari, berlaku peningkatan dalam peneguhan dan kekenyalan tekstur donat. Kecerahan (nilai 'L') dan kandungan kelembapan donat menunjukkan terdapat perbezaan yang bererti di antara donat kawalan dengan penambahan 50% puri labu. Jangka hayat donat dan kadar pengembangan donat meningkat dengan penambahan puri labu. Keputusan menunjukkan tiada perbezaan yang bererti di antara donat kawalan dengan donat yang ditambah 50% puri labu bagi penentuan protein kasar dan penyerapan minyak. Walaubagaimanapun, donat kawalan menunjukkan kandungan karbohidrat yang lebih tinggi berbanding donat yang ditambah 50% puri labu. Walaubagaimanapun, penilaian deria menunjukkan donat dengan penambahan 50% puri labu paling diterima oleh panelis. Penyelidikan ini menunjukkan peningkatan penambahan puri labu meningkat tahap penerimaan sepertimana peningkatan pengembangan donat.