



**PHYSICOCHEMICAL AND NUTRITIONAL PROPERTIES OF *NASI LEMAK***

**PREPARED WITH PUMPKIN SEED MILK**

by

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Sekian, terima kasih.

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## LIST OF ABBREVIATIONS AND SYMBOLS

| Abbreviation/Symbol            | Caption              |
|--------------------------------|----------------------|
| L*                             | Lightness            |
| a*                             | Red/green            |
| b*                             | Yellow/blue          |
| L                              | Liter                |
| ANOVA                          | Analysis of Variance |
| g                              | Gram                 |
| HCl                            | Hydrochloric acid    |
| mL                             | Milliliter           |
| NaOH                           | Sodium hydroxide     |
| H <sub>2</sub> SO <sub>4</sub> | Sulphuric acid       |
| S                              | second               |
| cm                             | Centimeter           |
| %                              | Percent              |
| α                              | alpha                |
| °C                             | Degree Celsius       |
| ±                              | Plus minus           |

# **CIRI-CIRI FIZIKOKIMIA DAN NUTRISI NASI LEMAK YANG DIBUAT DENGAN SUSU**

## **BIJI LABU**

### **ABSTRAK**

Nasi lemak adalah salah satu daripada makanan yang disukai oleh rakyat Malaysia, yang selalu dimakan sama ada ketika sarapan, makan tengah hari mahupun makan malam. Penggunaan santan yang mengandungi lemak tepu dalam kuantiti yang banyak mungkin menyebabkan masalah kesihatan dalam kalangan orang Malaysia yang selalu memakan nasi lemak. Oleh itu, alternatif bagi santan iaitu susu biji labu telah dicadangkan disebabkan oleh kelebihan nutrisi termasuk mengandungi banyak asid lemak mono tak tepu dan asid lemak poli tak tepu. Penyelidikan ini dijalankan untuk mengetahui kemungkinan untuk menggantikan santan dengan susu biji labu dalam penyediaan nasi lemak. Komposisi nutrisi dan ciri-ciri fizikal nasi lemak yang dibuat dengan santan dan nasi lemak yang dibuat dengan susu biji labu telah dikaji dalam penyelidikan ini. Sampel-sampel nasi lemak telah dimasak dengan menggantikan 225 mL air dengan santan, dan juga susu biji labu yang dimasak dengan 100 g beras. Keputusan analisis proksimat yang diperolehi menunjukkan bahawa nasi lemak yang dibuat dengan susu biji labu mengandungi kandungan lemak (16.6%) dan protein (6.4%) yang sangat berbeza ( $p < 0.05$ ) berbanding nasi lemak yang dibuat dengan santan iaitu 11.9% dan 3.1% masing-masing. Kekerasan nasi lemak yang dibuat dengan susu biji labu juga mempunyai perbezaan yang ketara berbanding nasi lemak yang dibuat dengan santan. Penyelidikan ini menunjukkan bahawa nasi lemak yang dibuat dengan susu biji labu mempunyai kelebihan dari segi komposisi nutrisi, tetapi ciri-ciri fizikalnya tidak mempunyai kelebihan berbanding nasi lemak yang dibuat dengan santan.

**PHYSICOCHEMICAL AND NUTRITIONAL PROPERTIES OF NASI LEMAK PREPARED  
WITH PUMPKIN SEED MILK**

**ABSTRACT**

*Nasi lemak* is one of Malaysians' favorite meals which is frequently eaten during breakfast, lunch and even dinner. The usage of coconut milk that contains abundance of saturated fatty acids in *nasi lemak* can cause serious health implications on Malaysians who consume *nasi lemak* daily. Pumpkin seed milk is seen to have potential as an alternative to coconut milk due to its nutritional benefits and great amount of monounsaturated and polyunsaturated fatty acids. This research was conducted to investigate the possibility of substituting coconut milk with pumpkin seed milk in *nasi lemak* preparation. The nutritional composition and physical characteristics of *nasi lemak* prepared with pumpkin seed milk and coconut milk were analyzed in this study. The *nasi lemak* samples were cooked by replacing 225 mL of water with coconut milk, and pumpkin seed milk, that was cooked with 100 g of rice. The results obtained from proximate analysis showed that *nasi lemak* prepared with pumpkin seed milk contained significantly higher ( $p < 0.05$ ) fat (16.6%) and protein (6.4%) composition as compared to the *nasi lemak* prepared with coconut milk which are 11.9% and 3.1%, respectively. The  $L^*$ ,  $a^*$ , and  $b^*$  values obtained from color analysis for *nasi lemak* prepared with pumpkin seed milk are 71.36%, -3.93%, and 16.93% respectively while for *nasi lemak* prepared with coconut milk, the values are 77.01%, 0.20%, and 11.55% respectively. The hardness of *nasi lemak* prepared with pumpkin seed milk was also significantly higher than *nasi lemak* prepared with coconut milk. This study revealed that the *nasi lemak* prepared with pumpkin seed milk has the potential to replace coconut milk in *nasi lemak* preparation.