

ABSTRACT

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UTILIZATION OF LOTUS ROOT FLOUR AND COCONUT SUGAR AS SUBSTITUTION OF WHEAT FLOUR AND GRANULATED SUGAR IN FLAKES

Thesis, Faculty of Science and Technology (2018).

(xvii + 97 pages, 8 tables, 22 figures, 22 appendices)

Flakes is cereal products made from rice, wheat, corn, and tubers with a calorie content of 387 kcal / 100 g. Wheat flour is imported and low in iron, zinc, and vitamins so lotus root flour is used wheat flour substitution added with coconut sugar as substitution of granulated sugar. The aim of this research was to determine the physical and chemical characteristics of lotus root flour prepared with pre-cooked method and lotus root flakes with formulation of lotus root flour and wheat flour 0:100, 20:80, 40:60, and 60:40 with combination of coconut sugar and granulated sugar. The results showed that the yield of root flour was 10,45% with contains 9,84% water content, starch content 77,73%, amylose content 8,33%, amylopectin content 68,98%, protein content 8,09%, resistant starch 4,70%, reddish yellow color, and water absorption 424,53%. The best flakes formulation was flakes with 40:60 flour ratio with combination of coconut sugar. The best flakes have physical characteristics of reddish yellow color, lightness 52,88, and hardness 622,05 g. The best flakes have moisture content 7,16%, ash content 0,64%, protein content 7,13%, fat content 3,32%, carbohydrate content 81,54%, total sugar content 21,15%, resistant starch content 1,22%, and total calories 385,39 kcal.

Keyword: coconut sugar, flakes, lotus root, resistant starch, total calories, wheat flour

Reference: 60 (1989-2017)

ABSTRAK

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PEMANFAATAN TEPUNG AKAR TERATAI DAN GULA KELAPA SEBAGAI SUBSTITUSI TEPUNG TERIGU DAN GULA PASIR DALAM PEMBUATAN *FLAKES*

Tugas Akhir, Fakultas Sains dan Teknologi (2018).

(xvii + 97 halaman, 8 tabel, 22 gambar, 22 lampiran)

Flakes adalah produk sereal yang terbuat dari beras, gandum, jagung, dan umbi dengan kandungan kalori 387 kkal/100 g. Tepung terigu merupakan produk impor dan rendah akan kandungan zat besi, seng, dan vitamin sehingga tepung akar teratai digunakan untuk substitusi tepung terigu yang ditambah dengan gula kelapa sebagai pengganti gula pasir. Tujuan dari penelitian ini adalah untuk menentukan karakteristik fisik dan kimia tepung akar teratai yang dibuat dengan metode pramasak dan *flakes* dengan formulasi perbandingan tepung terigu dan tepung akar teratai sebesar 0:100, 20:80, 40:60, dan 60:40 yang dikombinasikan dengan gula pasir dan gula kelapa. Hasil penelitian menunjukkan rendemen tepung akar teratai sebesar 10,45% dengan kadar air 9,84%, kadar pati 77,73%, kandungan amilosa 8,33%, kandungan amilopektin 68,98%, kadar protein 8,09%, kadar pati resisten 4,70%, warna kuning kemerahan, dan daya serap air 424,53%. Formulasi *flakes* terbaik adalah *flakes* dengan rasio tepung 40:60 dari gula kelapa. *Flakes* terbaik memiliki karakteristik fisik warna kuning kemerahan, *lightness* 52,88, dan nilai *hardness* 622,05 g. *Flakes* terbaik memiliki kadar air 7,16%, kadar abu 0,64%, kadar protein 7,13%, kadar lemak 3,32%, kadar karbohidrat 81,54%, kadar total gula 21,15%, kadar pati resisten 1,22%, dan kadar total kalori 385,39 kkal.

Kata kunci: akar teratai, *flakes*, gula kelapa, pati resisten, tepung terigu, total kalori

Referensi: 60 (1989-2017)