

## Abstrak

### **PENGEMBANGAN *FLAKES* MOCAF : BERAS MERAH DAN TEPUNG KACANG MERAH SEBAGAI ALTERNATIF SARAPAN TINGGI PROTEIN DAN SERAT PANGAN UNTUK PENDERITA SINDROMA METABOLIK**

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**Latar Belakang :** Penelitian ini bertujuan untuk mengembangkan produk makanan dalam bentuk *flakes* mocaf-beras merah dan tepung kacang merah tinggi protein dan serat pangan serta memiliki karakteristik sensori yang disukai untuk penderita sindroma metabolik.

**Metodologi:** Penelitian eksperimental ini menggunakan Rancangan Acak Kelompok (RAK). Faktor yang dicoba terdiri 2 faktor yaitu : proporsi tepung komposit mocaf :beras merah : tapioka (B), 85:10:5 (B1), 75:20:5 (B2), 65:30:5 (B3) dan perbandingan penambahan tepung kacang merah (M) sebanyak 10% (M1), 20% (M2), 30% (M3). Terdapat 9 kombinasi perlakuan yang diulang 2 kali sehingga diperoleh 18 sampel percobaan. Analisis variabel kimia menggunakan uji F 95% dengan uji lanjut DMRT 5%, variabel sensori menggunakan uji *Friedman* dan dilanjutkan uji banding ganda 5%. Kombinasi perlakuan terbaik menggunakan Uji Indeks Efektivitas.

**Hasil Penelitian:** Hasil penelitian yang diperoleh yaitu perlakuan proporsi tepung komposit mocaf : beras merah : tapioka (B) tidak berpengaruh nyata terhadap semua variabel kimia, perlakuan penambahan tepung kacang merah (M) berpengaruh nyata terhadap kadar lemak dan karbohidrat *by difference*, interaksi keduanya (BxM) berpengaruh nyata terhadap kadar serat pangan, kombinasi perlakuan tepung komposit mocaf :beras merah : tapioka dengan penambahan tepung kacang merah (BM) berpengaruh nyata dan sangat nyata pada warna, tekstur, aroma, dan flavor.

**Kesimpulan:** Kombinasi perlakuan terbaik adalah B1M2, dengan nilai kadar air 8,86%bb; kadar abu 1,97%bk; kadar protein 7,24%bk; kadar lemak 4,99%bk; kadar serat pangan total 20,17%bk; dan karbohidrat *by difference* 76,96%bk. 90 gram *flakes* tanpa susu memenuhi kebutuhan protein dan serat pangan 15% dan 70%; 60 gram *flakes* dengan tambahan susu memenuhi kebutuhan protein dan serat pangan 16% dan 43%.

**Kata Kunci:** *Flakes*, Mocaf, Beras Merah, Kacang Merah, Serat Pangan

## Abstract

### **MOCAF FLAKES DEVELOPMENT: BROWN RICE AND KIDNEY BEAN FLOUR AS AN ALTERNATIVE OF BREAKFAST HIGH PROTEIN AND DIETARY FIBER FOR PATIENTS OF METABOLIC SYNDROME**

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**Background:** This study aims to develop food products in the form of mocaf-rice flakes and high-protein kidney bean flour and dietary fiber and have sensory characteristics that are preferred for people with metabolic syndrome.

**Methodology:** This experimental study uses a randomized block design (RBD). The factors that were tried consisted of two factors, namely: the proportion of composite mocaf flour: brown rice: tapioca (B), 85: 10: 5 (B1), 75: 20: 5 (B2), 65: 30: 5 (B3) and the comparison of additions kidney bean flour (M) as much as 10% (M1), 20% (M2), 30% (M3). There were 9 treatment combinations that repeated 2 times to obtain 18 experimental samples. Chemical variable analysis using 95% F test and continued with 5% DMRT, sensory variable using Friedman test and continued 5% double comparison test. The best treatment combination uses the Effectiveness Index Test.

**Results:** The results obtained were the treatment of the proportion of composite mocaf flour: brown rice: tapioca (B) had no significant effect on all chemical variables, the addition of kidney bean flour (B) had a significant effect on fat and carbohydrate content by difference, the interaction of both (BxM) has a significant effect on food fiber content, the combination of flour mocaf flour treatment: brown rice: tapioca with the addition of kidney bean flour (BM) has a significant and very significant effect on colour, texture, aroma, and flavor.

**Conclusion:** The best combination is B1M2, with a water content of 8.86% bb; 1.97% ash content bk; protein levels 7.24% bk; 4.99% fat content; total dietary fiber content 20.17%bk; and carbohydrates by difference 76.96%bk. 90 grams of milkless flakes meet the needs of protein and dietary fiber by 15% and 70%; 60 grams of flakes with additional milk to meet the needs of protein and dietary fiber by 16% and 43%.

**Keywords:** Flakes, Mocaf, Brown Rice, Kidney Beans, Dietary Fiber