

ABSTRACT

THE EFFECT OF THE RATIO OF PURPLE SWEET POTATO (*Ipomoea batatas L.*) FLOUR AND WHEAT FLOUR ON THE PHYSICAL, CHEMICAL, AND SENSORY PROPERTIES OF BAKED DONUTS

By

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Purple sweet potato (*Ipomoea batatas L.*) is a local food ingredient that is rich in anthocyanins and has the potential to be used as a substitute for wheat flour in functional food products. This study aims to determine the effect of the ratio of purple sweet potato flour and wheat flour on the physical, chemical, and sensory properties of baked donuts and to determine the best ratio produced. The study used a Completely Randomized Block Design (RAKL) with six treatments of purple sweet potato flour and wheat flour ratios, namely P1 (0:100), P2 (10:90), P3 (20:80), P4 (30:70), P5 (40:60), and P6 (50:50), which were repeated four times. The parameters observed included water content, ash content, swelling power, and sensory tests (color, aroma, taste, and overall acceptance). Determination of the best treatment was carried out using the De Garmo method, then the fat content and antioxidant activity were analyzed. The results of the study showed that the ratio of purple sweet potato flour and wheat flour had a significant effect on water content, rise power, color, aroma, taste, and overall acceptance of baked donuts, but had no significant effect on ash content. Increasing the proportion of purple sweet potato flour tends to reduce water content and swelling power and affects the sensory characteristics of the product. The best treatment was obtained in P3 (20% purple sweet potato flour: 80% wheat flour) with a color score of 4.50; aroma 4.43; taste 4.48; and overall acceptance 4.44 (liked). The best treatment donuts had a water content of 23.91%, ash content of 1.00%, fat content of 7.35%, and antioxidant activity of 32.78%.

Keywords : purple sweet potato flour, baked donuts, antioxidants

ABSTRAK

PENGARUH PERBANDINGAN TEPUNG UBI JALAR UNGU (*Ipomoea batatas L.*) DAN TEPUNG TERIGU TERHADAP SIFAT FISIK, KIMIA, DAN SENSORI DONAT PANGGANG

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Ubi jalar ungu (*Ipomoea batatas L.*) merupakan bahan pangan lokal yang kaya akan antosianin dan berpotensi digunakan sebagai bahan substitusi tepung terigu pada produk pangan fungsional. Penelitian ini bertujuan untuk mengetahui pengaruh perbandingan tepung ubi jalar ungu dan tepung terigu terhadap sifat fisik, kimia, dan sensori donat panggang serta menentukan perbandingan terbaik yang dihasilkan. Penelitian menggunakan Rancangan Acak Kelompok Lengkap (RAKL) dengan enam perlakuan perbandingan tepung ubi jalar ungu dan tepung terigu, yaitu P1 (0:100), P2 (10:90), P3 (20:80), P4 (30:70), P5 (40:60), dan P6 (50:50), yang diulang sebanyak empat kali. Parameter yang diamati meliputi kadar air, kadar abu, daya kembang, serta uji sensori (warna, aroma, rasa, dan penerimaan keseluruhan). Penentuan perlakuan terbaik dilakukan menggunakan metode De Garmo, kemudian dianalisis kadar lemak dan aktivitas antioksidannya. Hasil penelitian menunjukkan bahwa perbandingan tepung ubi jalar ungu dan tepung terigu berpengaruh nyata terhadap kadar air, daya kembang, warna, aroma, rasa, dan penerimaan keseluruhan donat panggang, tetapi tidak berpengaruh nyata terhadap kadar abu. Peningkatan proporsi tepung ubi jalar ungu cenderung menurunkan kadar air dan daya kembang serta memengaruhi karakteristik sensori produk. Perlakuan terbaik diperoleh pada P3 (20% tepung ubi jalar ungu : 80% tepung terigu) dengan skor warna 4,50; aroma 4,43; rasa 4,48; dan penerimaan keseluruhan 4,44 (suka). Donat perlakuan terbaik memiliki kadar air 23,91%, kadar abu 1,00%, kadar lemak 7,35%, dan aktivitas antioksidan 32,78%.

Kata kunci : tepung ubi jalar ungu, donat panggang, antioksidan