

ANALISIS ZAT GIZI MAKRO, AKTIVITAS ANTIOKSIDAN, DAN ORGANOLEPTIK KUKIS TEPUNG UMBI SUWEG DAN TEPUNG BIJI LABU KUNING UNTUK PENDERITA DIABETES MELITUS TIPE 2

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Abstrak

Diabetes melitus tipe 2 (DMT2) adalah penyakit metabolik yang disertai peningkatan nafsu makan. Serat pangan dan antioksidan mendukung perbaikan kontrol glikemik dan penurunan stres oksidatif pada DMT2. Penelitian ini bertujuan untuk menganalisis zat gizi makro, aktivitas antioksidan, dan organoleptik kukis tepung umbi suweg dan tepung biji labu kuning untuk penderita DMT2. Metode penelitian berupa Rancangan Acak Lengkap (RAL) dengan 3 perlakuan proporsi tepung umbi suweg dan tepung biji labu kuning, yaitu F1 (75%:25%), F2 (50%:50%), dan F3 (25%:75%) dengan 2 pengulangan. Analisis serat menggunakan enzimatis gravimetri, protein menggunakan metode Kjeldahl, lemak menggunakan metode Soxhlet, karbohidrat menggunakan metode *by difference*, kadar air dan abu menggunakan gravimetri, dan aktivitas antioksidan menggunakan uji DPPH. Uji organoleptik menggunakan kuesioner hedonik dan mutu hedonik. Analisis data kimia menggunakan ANOVA dan analisis data organoleptik menggunakan uji Kruskal-Wallis. Hasil penelitian menunjukkan terdapat pengaruh signifikan terhadap kadar serat pangan, protein, lemak, karbohidrat, abu, aktivitas antioksidan, hedonik dan mutu hedonik tekstur, dan hedonik rasa ($p < 0,05$). F2 menjadi formula terpilih yang mengandung energi 529,3 kkal, 12,1 g serat pangan, 15,3 g protein, 36,9 g lemak, 34,0 g karbohidrat, dan aktivitas antioksidan 8603,60 ppm serta dapat diklaim sebagai pangan tinggi serat.

Kata Kunci: Aktivitas Antioksidan, Kukis, Serat Pangan, Tepung Biji Labu Kuning, Tepung Umbi Suweg

**ANALYSIS OF MACRONUTRIENTS, ANTIOXIDANT
ACTIVITY, AND ORGANOLEPTIC OF SUWEG TUBER FLOUR
AND YELLOW PUMPKIN SEED FLOUR COOKIES
FOR PATIENTS WITH TYPE 2 DIABETES MELLITUS**

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Abstract

Type 2 diabetes mellitus (T2DM) is a metabolic disorder accompanied by increased appetite. Dietary fiber and antioxidants support improved glycemic control and reduced oxidative stress in T2DM. This study aimed to analyze the macronutrients, antioxidant activity, and organoleptic properties of suweg tuber flour and yellow pumpkin seed flour cookies for people with T2DM. A completely randomized design (CRD) was employed with three treatments consisting of proportions of suweg tuber flour and yellow pumpkin seed flour, namely F1 (75%:25%), F2 (50%:50%), and F3 (25%:75%), with two replications. Fiber was analyzed using enzymatic gravimetry, protein using the Kjeldahl method, fat using the Soxhlet method, carbohydrates using the by difference method, moisture and ash content using gravimetry, and antioxidant activity using the DPPH method. Organoleptic test using hedonic and hedonic quality questionnaires. Chemical data were analyzed using ANOVA and organoleptic data were analyzed using the Kruskal-Wallis test. The results showed significant effects on dietary fiber, protein, fat, carbohydrate, ash, antioxidant activity, hedonic and hedonic quality texture, and hedonic taste ($p < 0.05$). F2 was selected as the optimal formulation, containing 529.3 kcal of energy, 12.1 g of dietary fiber, 15.3 g of protein, 36.9 g of fat, 34.0 g of carbohydrates, and an antioxidant activity IC₅₀ value of 8603.60 ppm and it can be claimed as a high-fiber food.

Keywords: *Antioxidant Activity, Cookies, Dietary Fiber, Suweg Tuber Flour, Yellow Pumpkin Seed Flour*