KANDUNGAN PROBIOTIK, AKTIVITAS ANTIOKSIDAN, DAN KADAR LEMAK *PATTY* VEGETARIAN BERBASIS MANDAI DAN KACANG MERAH SEBAGAI ALTERNATIF PANGAN RENDAH LEMAK

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Abstrak

Obesitas berkaitan dengan konsumsi pangan tinggi lemak. *Patty* vegetarian berbasis mandai dan kacang merah berpotensi menjadi alternatif pangan rendah lemak. Penelitian ini bertujuan menganalisis kandungan probiotik dan kadar lemak lima formula *patty* vegetarian mandai-kacang merah, menentukan formula terpilih, serta menganalisis aktivitas antioksidannya. Penelitian eksperimental ini menggunakan Rancangan Acak Lengkap (RAL) dengan lima perlakuan dan dua ulangan. Parameter probiotik diuji dengan enumerasi Bakteri Asam Laktat (BAL), kadar lemak dengan metode Weibull, dan aktivitas antioksidan dengan metode DPPH. Hasil penelitian menunjukkan seluruh formula memiliki kandungan BAL <10 CFU/g sehingga belum memenuhi kriteria pangan probiotik akibat paparan suhu tinggi proses pemasakan. Kadar lemak produk berkisar antara 0,67–2,49% dan dipengaruhi secara signifikan oleh proporsi bahan ($p<0,001$). Berdasarkan kesetaraan uji lanjut statistik kadar lemak ($p=0,064$), formula MK3 ditetapkan sebagai perlakuan terpilih. Formula terpilih MK3 memiliki kadar lemak sebesar 1,87% dan nilai IC_{50} aktivitas antioksidan sebesar 51.802,90 ± 9.220,43 ppm, yang dikategorikan tidak aktif akibat degradasi termal selama pengolahan. Secara deskriptif, produk ini memiliki keunggulan kadar lemak yang jauh lebih rendah daripada *patty* hewani komersial. *Patty* vegetarian ini berpotensi menjadi alternatif pangan nabati rendah lemak.

Kata kunci: aktivitas antioksidan, kadar lemak, probiotik, kacang merah, mandai, *patty* vegetarian

PROBIOTIC CONTENT, ANTIOXIDANT ACTIVITY, AND FAT CONTENT OF MANDAI AND RED BEAN BASED VEGETARIAN PATTY AS LOW-FAT FOOD ALTERNATIVE

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Abstract

Obesity is closely linked to the consumption of high-fat foods. Vegetarian patties made from mandai and red kidney beans offer a potential low-fat alternative. This study aimed to analyze the probiotic and fat content of five vegetarian patty formulations, determine the selected formulation, and evaluate its antioxidant activity. The study used a Completely Randomized Design (CRD) with five treatments and two replications. Probiotic content was analyzed using Lactic Acid Bacteria (LAB) enumeration, fat content via the Weibull method, and antioxidant activity by the DPPH method. Results showed that all formulations had LAB counts <10 CFU/g, failing to meet probiotic food criteria due to high-temperature processing. Fat content ranged from 0.67% to 2.49%, significantly influenced by formulation proportions ($p<0,001$). Based on statistical post-hoc similarity in fat content ($p=0,064$), formulation MK3 was chosen as the selected product. MK3 contained 1.87% fat and exhibited an IC_{50} value of 51,802.90 ± 9,220.43 ppm, which is classified as inactive as an antioxidant due to thermal degradation during cooking. Descriptively, this product possesses a much lower fat content than commercial beef patties, showing potential as a low-fat plant-based alternative.

Keywords: antioxidant activity, fat content, probiotic, red kidney bean, *mandai*, vegetarian patty