

Analisis Daya Cerna Pati dan Karakteristik Fisik Roti Biji Chia dengan Substitusi Tepung Ubi Jalar Ungu

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ABSTRAK

Latar belakang: Sarapan seringkali diabaikan karena keterbatasan waktu sehingga diperlukan alternatif sarapan yang praktis seperti roti biji chia. Substitusi tepung ubi jalar ungu pada roti dilakukan untuk menurunkan angka impor gandum serta meningkatkan kandungan serat yang berpotensi menurunkan daya cerna pati.

Tujuan: Menganalisis pengaruh substitusi tepung ubi jalar ungu terhadap daya cerna pati dan karakteristik fisik (volume spesifik dan tekstur) roti biji chia.

Metode: Penelitian Rancangan Acak Lengkap satu faktor yaitu substitusi tepung ubi jalar ungu terhadap tepung terigu dengan empat variasi: F0 (substitusi 0%), F1 (substitusi 10%), F2 (substitusi 20%), dan F3 (substitusi 30%). Analisis sampel terdiri dari daya cerna, volume spesifik, dan tekstur (*hardness*, *cohesiveness*, *springiness*, dan *chewiness*). Data dianalisis dengan uji ANOVA serta uji lanjut *Tukey* dan *Duncan*.

Hasil: Peningkatan substitusi menghasilkan peningkatan nilai daya cerna pati, *hardness*, *cohesiveness*, dan *chewiness* serta penurunan volume spesifik yang signifikan. Formulasi F1 memiliki daya cerna pati (45,75%), *hardness* (159,72 gf), *cohesiveness* (0,021), *springiness* (2,73 mm), *chewiness* (0,27 Nmm) terendah dengan volume spesifik (2,83 ml/g) tertinggi.

Simpulan: Substitusi tepung ubi jalar ungu meningkatkan daya cerna pati dan memperbaiki karakteristik fisik dari segi *cohesiveness* dan *springiness* roti biji chia.

Kata kunci: roti, biji chia, tepung ubi jalar ungu, daya cerna pati, karakteristik fisik

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Analysis of Starch Digestibility and Physical Characteristics of Chia Seed Bread with Purple Sweet Potato Flour

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ABSTRACT

Background: Breakfast is often ignored due to lack of time, so practical breakfast alternative such as chia seed bread is needed. Purple sweet potato flour substitution in bread used to reduce wheat imports and increase fiber content to reduce starch digestibility.

Objective: Analyzing effect of purple sweet potato flour substitution on starch digestibility and physical characteristics (specific volume and texture) of chia seed bread.

Method: The research used completely randomized design with one factor of purple sweet potato flour substitution for wheat flour in four variations: F0 (0% substitution), F1 (10% substitution), F2 (20% substitution), and F3 (30% substitution). Samples were analyzed for starch digestibility, volume, and texture (hardness, cohesiveness, springiness, and chewiness). Data were analyzed using ANOVA, Tukey and Duncan's post-hoc test.

Result: Increasing substitution resulted in significant increase of starch digestibility, hardness, cohesiveness, and chewiness also significant decrease in specific volume. F1 formulation has the lowest starch digestibility (45.75%), hardness (159.72 gf), cohesiveness (0.021), springiness (2.73 mm), chewiness (0.27 Nmm) with highest specific volume (2.83 ml /g).

Conclusion: Substitution of purple sweet potato flour increased of starch digestibility and improved physical characteristics in terms of cohesiveness and springiness of chia seed bread.

Keywords: bread, chia seed, purple sweet potato flour, starch digestibility, physical characteristics

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