Pengaruh Konsentrasi Substitusi Tepung Belalang Kayu (*Valanga nigricornis*) Terhadap Kandungan Gizi, Karakteristik Sensoris, Daya Cerna Protein, dan Profil Asam Amino *Snack Bar* Sebagai Makanan Selingan Balita (24-59 Bulan)

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ABSTRAK

Latar Belakang: Kekurangan Energi Protein (KEP) merupakan kondisi kurang gizi yang disebabkan oleh jumlah asupan energi dan protein kurang dari kebutuhan. Tepung belalang kayu mengandung protein tinggi, sehingga berpotensi digunakan sebagai bahan pembuatan *snack bar* sebagai makanan selingan untuk mencegah KEP pada balita.

Tujuan: Menganalisis pengaruh konsentrasi substitusi tepung belalang kayu (*Valanga nigricornis*) terhadap kandungan gizi, karakteristik sensoris, daya cerna protein, dan profil asam amino *snack bar*.

Metode: Penelitian ini menggunakan rancangan acak lengkap (RAL) dengan lima perlakuan konsentrasi tepung belalang kayu (F0=0; F1=10; F2=12,5; F3=15; F4=17,5%) dan tiga kali ulangan, 15 unit percobaan. Analisis kandungan gizi, daya cerna protein, dan profil asam amino dilakukan untuk melihat pengaruh susbtitusi tepung belalang kayu terhadap *snack bar*. Karakteristik sensoris diukur dengan menggunakan metode kesukaan (*hedonic test*).

Hasil: Konsentrasi substitusi tepung belalang kayu berpengaruh signifikan terhadap kandungan gizi, daya cerna protein, dan karakteristik sensoris warna, rasa, *aftertaste* dan keseluruhan (p<0,05), namun tidak berpengaruh signifikan terhadap tekstur dan aroma (p>0,05). Penambahan tepung belalang kayu meningkatkan kandungan asam amino *snack bar.* Formulasi terbaik merupakan *snack bar* dengan perlakuan substitusi tepung belalang kayu sebesar 12,5% (F2).

Simpulan: *Snack bar* dengan substitusi tepung belalang kayu dapat dijadikan makanan selingan untuk memenuhi kebutuhan gizi balita (24-59 bulan).

Kata kunci: balita, kandungan gizi, KEP, *snack bar*, tepung belalang

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The Effect of Concentration of Wood Grasshopper (Valanga nigricornis) Flour Substitution on Nutritional Content, Sensory Characteristics, Protein Digestibility, and Amino Acid Profile of Snack Bar as Snack for Toddlers (24-59 Months)

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ABSTRACT

Background: *Protein Energy Malnutrition (PEM) is a condition of malnutrition caused by less intake of energy and protein than requirement. Wood grasshopper flour contains high protein, so it can be potential to be used as an ingredient for making snack bar as a snack to prevent PEM in toddlers.*

Objective: *To analyze the effect of wood grasshopper (Valanga nigricornis) flour substitution concentration on nutritional content, sensory characteristics, protein digestibility, and amino acid profile of snack bar.*

Methods: *This study used a completely randomized study design with five wood grasshopper flour concentration treatments (F0=0; F1=10; F2=12.5; F3=15; F4=17.5%), three repetitions analysis, 15 experimental units. Analysis of nutritional content, protein digestibility, and amino acid profile was carried out to see the effect of wood grasshopper flour substitution on snack bar. Sensory characteristics were measured using the hedonic test.*

Results: *Concentration of wood grasshopper flour substitution had a significant effect on nutritional content, protein digestibility, and sensory characteristics for color, taste, aftertaste and overall parameters ($p<0.05$), but had no significant effect on texture and aroma ($p>0.05$). The addition of wood grasshopper flour increased the amino acid content of the snack bar. The best formulation is snack bar with wood grasshopper flour substitution treatment of 12.5% (F2).*

Conclusion: *Snack bar with wood grasshopper flour substitution can be used as a snack to meet the nutritional needs of toddlers (24-59 months).*

Keywords: *grasshopper flour, nutrient content, PEM, snack bar, toddlers*

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