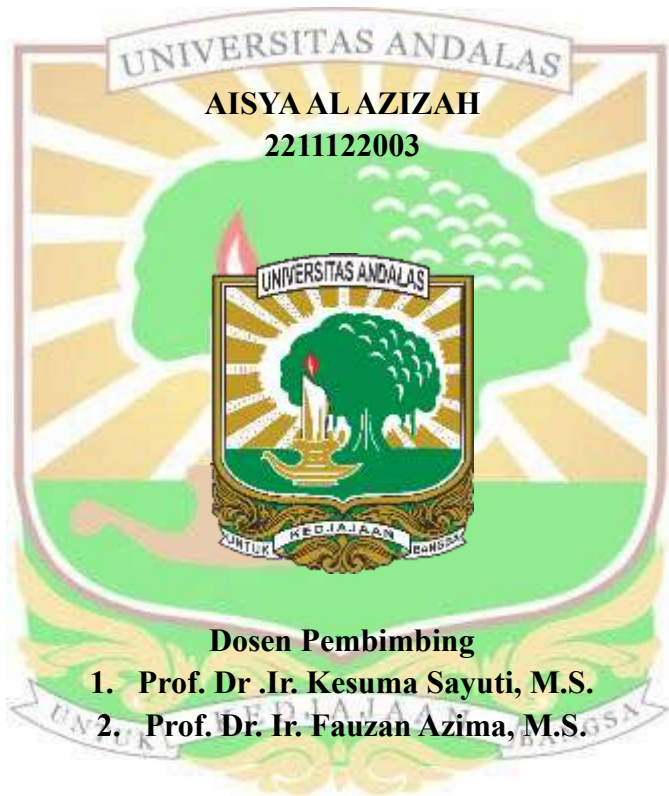


**PENGARUH PENAMBAHAN BUBUK DAUN
KELOR (*Moringa oleifera*) TERHADAP
KARAKTERISTIK *BROWNIES CRISPY*
BERBASIS TEPUNG PISANG KEPOK DAN
TEPUNG KACANG HIJAU**



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Pengaruh Penambahan Bubuk Daun Kelor (*Moringa oleifera*) Terhadap Karakteristik *Brownies Crispy* Berbasis Tepung Pisang Kepok dan Tepung Kacang Hijau

Aisya Al Azizah, Kesuma Sayuti, Fauzan Azima

ABSTRAK

Penelitian ini bertujuan untuk mengetahui pengaruh penambahan Bubuk daun Kelor terhadap karakteristik *brownies crispy* berbahan dasar tepung pisang kepok dan tepung kacang hijau, serta menentukan formulasi terbaik. Digunakan Rancangan Acak Lengkap (RAL) dengan lima tingkat penambahan bubuk daun kelor (0%, 4%, 8%, 12%, dan 16%) serta tiga kali ulangan. Karakteristik fisikokimia dan sensori *brownies crispy* dievaluasi. Data dianalisis menggunakan Analisis Varian (ANOVA) yang dilanjutkan dengan Uji Duncan's New Multiple Range Test (DNMRT) pada tingkat signifikan 5%. Hasil menunjukkan bahwa penambahan bubuk daun kelor berpengaruh nyata terhadap kekerasan, kadar air, kadar lemak, kadar karbohidrat, kadar serat kasar, dan kadar zat besi. Sebaliknya berpengaruh tidak nyata terhadap kadar abu, kadar protein, total energi, dan organoleptik warna, rasa, aroma, serta tekstur. Perlakuan terbaik berdasarkan evaluasi fisikokimia dan sensori adalah penambahan bubuk daun kelor 8%, yang menghasilkan *brownies crispy* dengan kadar air 2,84%, kadar abu 3,41%, kadar protein 8,70%, kadar lemak 15,18%, kadar karbohidrat 69,86%, kadar serat kasar 2,04%, total energi 442,74 kkal, zat besi 8,50 mg/100 g, kekerasan 774,67 gf. Tingkat kesukaan warna (4,04), rasa (4,04), aroma (3,88), dan tekstur (4,32).

Kata Kunci : *Brownies crispy*; Bubuk daun kelor; Tepung Kacang Hijau; Tepung Pisang Kepok

The Effect of Adding Moringa Leaf Powder (*Moringa oleifera*) on The Characteristics of *Brownies Crispy* Made From Kepok Banana Flour and Mung Bean Flour

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ABSTRACT

This study aimed to determine the effect of adding moringa leaf powder on the characteristics of crispy brownies made from kepok banana flour and mung bean flour, as well as to determine the optimal formulation. A completely randomized design (CRD) was used with five levels of moringa leaf powder addition (0%, 4%, 8%, 12%, and 16%) and three replicates. The physicochemical and sensory characteristics of the crispy brownies were evaluated. The data were analyzed using Analysis of Variance (ANOVA), followed by Duncan's New Multiple Range Test (DNMRT) at a 5% significance level. The results showed that the addition of moringa leaf powder had a significant effect on hardness, moisture content, fat content, carbohydrate content, crude fiber content, and iron content. Conversely, it had no significant effect on ash content, protein content, total energy, and the organoleptic attributes of color, taste, aroma, and texture. The best treatment, based on physicochemical and sensory evaluations, was the addition of 8% moringa leaf powder, which produced crispy brownies with moisture content of 2.84%, ash content of 3.41%, protein content of 8.70%, fat content of 15.18%, carbohydrate content of 69.86%, crude fiber of 2.04%, total energy of 442.74 kcal, iron content of 8.50 mg/100 g, and hardness of 774.67 gf. The acceptability ratings were as follows: color (4.04), taste (4.04), aroma (3.88), and texture (4.32).

Keywords: *crispy brownies; kepok banana flour; moringa leaf powder; mung bean flour*