

SUPLEMETASI TEPUNG KEPALA IKAN LELE DUMBO (*Clarias gariepinus*) DALAM *BROWNIES* TINGGI KALSIMUM UNTUK REMAJA USIA 13-15 TAHUN

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Abstrak

Pada masa remaja terjadi puncak pertumbuhan massa tulang (*peak bone mass*) yang sangat ditentukan oleh asupan kalsium terutama pada masa remaja. Prevalensi kejadian kurang asupan kalsium pada remaja masih cukup tinggi dengan rata-rata diatas $\geq 80\%$. Bahan pangan yang memiliki kadar kalsium tinggi adalah kepala ikan lele dumbo. Tujuan penelitian ini untuk mengetahui pengaruh substitusi tepung kepala ikan lele dumbo terhadap analisis uji proksimat, kadar kalsium, dan sifat organoleptik *brownies*. Penelitian ini menggunakan metode eksperimental dengan desain penelitian Rancangan Acak Lengkap (RAL). Formula dibedakan menjadi 4 dengan masing-masing tingkat presentase substitusi tepung kepala ikan lele dumbo sebesar F0 (0%), F1 (30%), F2 (35%), dan F3 (40%). Analisis uji organoleptik menggunakan uji *Kruskall Wallis* dan dilanjutkan dengan uji *Mann Whitney*. Analisis uji proksimat dan kadar kalsium menggunakan ANOVA dan dilanjutkan dengan uji Duncan. Hasil analisis berdasarkan uji organoleptik tingkat substitusi tepung kepala ikan lele dumbo berpengaruh nyata ($p < 0,05$) terhadap tingkat kesukaan panelis pada atribut tekstur dan berdasarkan uji proksimat dan kalsium, substitusi berpengaruh nyata ($p < 0,05$) terhadap kadar abu dan kadar kalsium *brownies*. Formula terpilih adalah *brownies* F3 memiliki kadar air sebesar (18,52%), kadar abu (4,43%), kadar protein (8,90%), kadar lemak (29,82%), kadar karbohidrat (38,33%), dan kadar kalsium (978,06 mg).

Kata Kunci: *Brownies*, Kalsium, Kepala Ikan Lele Dumbo, Remaja

SUPPLEMENTATION OF DUMBO CATFISH HEAD FLOUR (*Clarias gariepinus*) IN HIGH CALCIUM BROWNIES FOR ADOLESCENTS AGED 13-15 YEARS OLD.

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Abstract

Humans' bone mass growth peak occurs on adolescence, and it's largely determined by calcium intake. The prevalence of calcium intake deficiency in adolescents are still quite high with an average of $\geq 80\%$. Dumbo catfish head is an example of food that contains high amounts of calcium. The purpose of this study is to determine the effect of dumbo catfish head flour substitution on proximate test results, calcium levels, and organoleptic properties of brownies. This study uses an experimental method with a completely randomized design (CRD). Formulas are divided into 4 with each percentage level of dumbo catfish head flour substitution by F0 (0%), F1 (30%), F2 (35%), and F3 (40%). Organoleptic test analysis performed using the *Kruskall Wallis* test and continued with the *Mann Whitney* test. Proximate test results and calcium levels are analyzed with ANOVA, continued with the Duncan test. The results of the analysis based on organoleptic test of dumbo catfish head flour substitution level had a significant effect ($p < 0.05$) on panelists' preference for texture attributes and based on proximate and calcium tests, substitution had a significant effect ($p < 0.05$) on ash content and levels calcium brownies. The selected formula is F3 brownies having water content of (18.52%), ash content (4.43%), protein content (8.90%), fat content (29.82%), carbohydrate content (38.33%), and calcium levels (978.06 mg).

Keywords: Brownies, Calcium, Dumbo Catfish Head, Adolescents