

THESIS
MODIFICATION KEPOK BANANA FLOUR SNACK BAR WITH
SUBSTITUTION OF MACKEREL FISH FLOUR AS EMERGENCY FOOD
(Analysis of Protein, Carbohydrates, Dietary Fiber, and Sensory Acceptability)



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SUBSTITUTION OF MACKEREL FISH FLOUR AS EMERGENCY FOOD
(Analysis of Protein, Carbohydrates, Dietary Fiber, and Acceptability)**

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ABSTRACT

Modification of Kepok Banana Flour *Snack Bar* with the Substitution of Mackerel Fish Flour as Emergency Food (Analysis of Protein, Carbohydrates, Dietary Fiber, and Sensory Acceptability)

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The development of *snack bars* as emergency food was driven by their ease of consumption, high energy content, bar shape, and low moisture content (dry), which made them durable during storage. This study aimed to analyze the differences in protein, carbohydrate, and fiber content in banana flour by substituting mackerel fish flour and its acceptability as emergency food. This study used a Completely Randomized Design (CRD) experiment with one control and three treatment samples, which were prepared by substituting kepok banana flour with mackerel fish flour. The protein, carbohydrate, and fiber test data were statistically analyzed using One-way ANOVA with a significance level of $p < 0.05$, and Duncan's test with $p < 0.05$ to determine differences between formula. Sensory acceptability data were statistically analyzed using the Kruskal-Wallis and Mann-Whitney tests to assess differences between formulations. The results showed significant differences ($p = 0.000$) in protein, carbohydrate, and fiber content among the *snack bar* formulations using kepok banana flour with the substitution of mackerel fish flour. No significant differences were found among formulations in terms of color ($p = 0.210$) and texture ($p = 0.937$), while significant differences were found in taste ($p = 0.003$) and aroma ($p = 0.001$). The conclusion there were differences in protein, carbohydrate, and fiber content in the formulations of snack bars using kepok banana flour with the substitution of mackerel fish flour as emergency food, and the selected formula was F2.

Keywords: emergency food, kepok banana flour, mackerel fish flour, *snack bar*

ABSTRAK
MODIFIKASI SNACK BAR TEPUNG PISANG KEPOK DENGAN
SUBSTITUSI TEPUNG IKAN KEMBUNG SEBAGAI PANGAN DARURAT
(Analisis Protein, Karbohidrat dan Serat Pangan Serta Daya Terima)

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Pengembangan *snack bar* sebagai pangan darurat dikarenakan mudah dimakan, memiliki energi yang tinggi, berbentuk batang, memiliki kadar air rendah (kering) sehingga tahan selama penyimpanan. Tujuan penelitian ini adalah untuk menganalisis perbedaan kandungan protein, karbohidrat dan serat pada tepung pisang dengan substitusi tepung ikan kembung dan daya terima sebagai pangan darurat. Penelitian ini menggunakan eksperimen Rancangan Acak Lengkap (RAL) dengan 1 sampel control dan 3 sampel perlakuan dengan substitusi tepung pisang kepok dan tepung ikan kembung. Data dari uji protein, karbohidrat, dan serat pangan di analisis statistik menggunakan metode One Way ANOVA dengan signifikasi $p < 0,05$, terdapat pengaruh dilanjutkan dengan uji Duncan dengan signifikasi $p < 0,05$ untuk mengetahui perbedaan antara perlakuan. Data daya terima dianalisis statistik menggunakan uji Kruskal-Wallis, terdapat pengaruh dilanjutkan uji Mann Whitney untuk mengetahui perbedaan antara perlakuan. Hasil statistik menunjukkan terdapat perbedaan signifikan ($p=0,000$) pada kadar protein, karbohidrat, dan serat pangan antar formulasi *snack bar* tepung pisang kepok dengan substitusi tepung ikan kembung. Selain itu, tidak terdapat perbedaan signifikan antar formulasi pada *snack bar* tepung pisang substitusi tepung ikan kembung pada aspek warna ($p= 0,210$), dan tekstur ($p= 0,937$), terdapat perbedaan yang signifikan pada aspek rasa ($p= 0,003$), dan aroma ($p= 0,001$), Kesimpulan terdapat perbedaan pada kadar protein, karbohidrat dan serat pangan pada formulasi *snack bar* tepung pisang kepok dengan substitusi tepung ikan kembung sebagai pangan darurat, dan formula terpilih adalah formula F2.

Kata Kunci: pangan darurat, tepung pisang kepok, tepung ikan kembung, *snack bar*

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Ponorogo, 23 February 2025

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I sincerely declare that the research contained in this thesis is my own work and does not belong to anyone else. This thesis has never been published before, except for some parts with original references.

If in the future it is found that work is plagiarism, I am ready to be given administrative and academic sanction.

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