PENGARUH SUBSTITUSI TEPUNG TAPIOKA DENGAN TEPUNG BENGKUANG TERHADAP *GLYCEMIC INDEX ESTIMATION,* KUALITAS KIMIA, DAN SENSORIS BAKSO AYAM PETELUR AFKIR

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INTISARI

Penelitian ini bertujuan untuk mengetahui peningkatan komposisi kimia dan kualitas sensoris bakso ayam petelur afkir dengan substitusi tepung tapioka menggunakan tepung bengkuang serta mengetahui *glycemic index estimation*. Perlakuan dalam penelitian yaitu substitusi tepung tapioka dengan tepung bengkuang dengan level 0% sebagai kontrol, 25%, 50%, 75%, dan 100% dengan ulangan sebanyak lima kali. Parameter yang diamati yaitu uji kualitas kimia meliputi kadar air, lemak, protein, abu, serat pangan, karbohidrat, dan *glycemic index estimation* serta uji kualitas sensoris bakso meliputi warna, aroma, rasa, tekstur, dan daya terima. Analisis data uji komposisi kimia menggunakan analisis variansi pola searah dilanjutkan dengan uji *Duncans New Multiple Range Test* (DMRT). Data kualitas sensoris dianalisis menggunakan *Kruskal-Wallis Test* dilanjutkan dengan uji *Mann-Whitney U*. Substitusi tepung bengkuang memberikan pengaruh yang signifikan (P<0,05) terhadap kadar air, protein, serat pangan, dan karbohidrat. Kadar air sebesar 64,16%; 64,97%; 64,15%; 63,90%; dan 64,45%, kadar protein sebesar 11,43%; 12,08%; 12,55%; 13,28%; dan 13,71%, serat pangan sebesar 5,98%; 7,53%; 8,12%; 8,70%; dan 9,29%, dan kadar karbohidrat sebesar 13,29%; 11,25%; 10,95%; 9,82%; dan 9,18%. *Glycemic index estimation* sebesar 53,13; 47,87; 41,72; 34,43; dan 25,67. Substitusi tepung bengkuang memberikan pengaruh yang signifikan (P<0,05) terhadap aroma dan tekstur. Hasil terbaik menunjukkan perlakuan 50% pada aroma sebesar 3,91 dan tekstur sebesar 3,83. Kesimpulan penelitian ini menunjukkan substitusi tepung tapioka dengan tepung bengkuang sebanyak level 100% dapat meningkatkan kadar protein, menurunkan kadar air, karbohidrat, dan *glycemic index estimation* serta dapat meningkatkan aroma dan tekstur bakso ayam petelur afkir.

Kata kunci: Bakso, Daging ayam petelur afkir, Tepung tapioka, Tepung bengkuang, Komposisi kimia, Kualitas sensoris.

THE EFFECT OF SUBSTITUTION OF TAPIOCA FLOUR WITH JICAMA FLOUR ON *GLYCEMIC INDEX ESTIMATION,* CHEMICAL, AND SENSORY QUALITY OF POST LAYER CHICKEN MEATBALLS

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ABSTRACT

This research aims to determine the increase in the chemical composition and sensory quality of meatballs from post layer chicken by substituting tapioca flour with jicama flour and to determine glycemic index estimation (GI). The treatment in this research was substitution of tapioca flour with jicama flour at level of 0% as a control, 25%, 50%, 75%, and 100% with five repetitions for each treatment. The parameters observed were chemical quality tests which included water content, fat, protein, ash, dietary fiber, carbohydrates, and glycemic index estimation as well as sensory quality tests of meatballs which included colour, aroma, taste, texture and acceptability. Analysis of chemical composition test data using unidirectional Completely Randomized Design (CRD) variance analysis then followed by the Duncans New Multiple Range Test (DMRT). Sensory quality data were analyzed using the Kruskal-Wallis Test and followed by the Mann-Whitney U test. Jicama flour substitution had a significant effect ($P<0.05$) on water, protein, dietary fiber and carbohydrate content. Water content respectively was 64.16%; 64.97%; 64.15%; 63.90%; and 64.45%, protein levels respectively was 11.43%; 12.08%; 12.55%; 13.28%; and 13.71%, dietary fiber respectively 5.98%; 7.53%; 8.12%; 8.70%; and 9.29%, and carbohydrate levels respectively was 13.29%; 11.25%; 10.95%; 9.82%; and 9.18%. Glycemic index estimation respectively was 53.13; 47.87; 41.72; 34.43; and 25.67. Substitution of jicama flour had a significant effect ($P<0.05$) on aroma and texture. The best results in the 50% treatment were 3.91 and 3.83. The conclusion of the experiment are the substitution of tapioca flour with jicama flour at a level of 100% can increase protein content, reduce water content, carbohydrates and glycemic index estimation and can improve the aroma and texture of post layer chicken meatballs.

Keywords: Meatballs, Post layer chicken meat, Tapioca flour, Jicama flour, Chemical quality, Sensoris quality.