

PENGARUH SUBSTITUSI DAGING AYAM DENGAN TEMPE KEDELAIR TERHADAP KARAKTERISTIK KIMIA, FISIK DAN MIKROSTRUKTUR SOSIS DAGING AYAM *BROILER*

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INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh substitusi daging ayam dengan tempe kedelai dengan perlakuan yang berbeda terhadap kualitas kimia, fisik, dan mikrostruktur sosis daging ayam. Penelitian menggunakan empat perlakuan substitusi dengan perbandingan antara daging ayam *broiler* dengan tempe kedelai yaitu P0 (100:0), P1 (90:10), P2 (80:20), dan P3 (70:30). Data yang diamati dalam penelitian adalah karakteristik kimia (kadar air, kadar protein, dan kadar lemak), karakteristik fisik (pH dan keempukan), dan mikrostruktur sosis. Hasil uji karakteristik kimia dan fisik dianalisis dengan analisis variansi Rancangan Acak Lengkap (RAL) pola searah (*One Way Anova*) dan perbedaan signifikan diantara rerata dilanjutkan dengan uji *Duncan's New Multiple Range Test* (DMRT). Karakteristik mikrostruktur sosis daging ayam *broiler* dilihat dengan menggunakan mikroskop kemudian dianalisis secara deskriptif. Hasil uji kualitas kimia menunjukkan bahwa substitusi daging ayam dengan tempe kedelai dengan perlakuan substitusi P0, P1, P2, dan P3 tidak berpengaruh nyata ($P > 0,05$) terhadap kualitas kimia yaitu kadar air, kadar protein, dan kadar lemak yang dihasilkan, dengan rerata kadar air secara berurutan yang diperoleh yaitu 70,95; 70,27; 69,43; dan 69,67%, rerata kadar protein secara berurutan yang diperoleh yaitu 21,31; 20,94; 20,53; dan 21,50%, dan rerata kadar lemak secara berurutan yang diperoleh yaitu 3,21; 3,72; 3,72; dan 4,22%. Hasil uji karakteristik fisik sosis dengan substitusi daging ayam menggunakan tempe dengan perlakuan substitusi P0, P1, P2, dan P3 berpengaruh nyata ($P < 0,05$) terhadap nilai pH dan keempukan sosis, dengan rerata nilai pH secara berurutan yaitu 6,58; 6,48; 6,40; dan 6,34, serta keempukan sosis secara berurutan yaitu 4,61; 5,38; 5,71; dan 6,34 mm/10g. Berdasarkan hasil pengamatan mikrostruktur sosis diperoleh hasil bahwa kualitas mikrostruktur sosis mengalami penurunan seiring dengan peningkatan level substitusi daging ayam dengan tempe kedelai. Kesimpulan yang didapat adalah substitusi daging ayam dengan tempe kedelai dalam pembuatan sosis daging ayam meningkatkan keempukan, tetapi menurunkan nilai pH dan menurunkan kualitas mikrostruktur seiring dengan peningkatan level substitusi daging ayam dengan tempe kedelai tanpa mempengaruhi kadar air, protein, dan lemak serta perlakuan substitusi terbaik adalah P1(90:10).

Kata kunci: Sosis daging ayam, Daging ayam, Kualitas kimia, Kualitas fisik, Mikrostruktur

THE EFFECT OF CHICKEN MEAT SUBSTITUTION WITH SOYBEAN TEMPEH ON CHEMICAL, PHYSICAL AND MICROSTRUCTURAL CHARACTERISTIC OF CHICKEN *BROILER* SAUSAGES

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ABSTRACT

This research aims to determine the effect of substituting chicken meat with tempeh at different levels on the chemical, physical, and microstructural quality of chicken sausages. The research uses four substitution treatments with the ratio between broiler chicken meat and soybean tempeh P0 (100:0), P1 (90:10), P2 (80:20), and P3 (70:30). The observed data in the research were chemical characteristics (moisture content, protein content, and fat content), physical characteristics (pH and tenderness), and sausage microstructure. The results of the chemical and physical characteristic tests were analyzed using a *One-Way Analysis of Variance* (ANOVA) and significant differences among the means were further analyzed using *Duncan's New Multiple Range Test* (DMRT). The microstructure of *broiler* chicken sausages was observed using a microscope and analyzed descriptively. The results of the chemical quality test showed that the substitution of chicken meat with soybean tempeh using substitution treatments P0, P1, P2, and P3 did not have a significant effect ($P > 0,05$) on the chemical quality, including moisture content, protein content, and fat content. The mean moisture content obtained sequentially was 70,95%, 70,27%, 69,43%, and 69,67%. The mean protein content obtained sequentially was 21,31%, 20,94%, 20,53%, and 21,50%. The mean fat content obtained sequentially was 3,21%, 3,72%, 3,72%, and 4,22%. The results of the physical characteristics test of sausages with the substitution of chicken meat using tempeh with substitution treatments P0, P1, P2, and P3 had a significant effect ($P < 0.05$) on the pH value and tenderness of the sausages. The mean pH values obtained sequentially were 6,58; 6,48; 6,40; and 6,34 while the mean tenderness values obtained sequentially were 4,61; 5,38; 5,71 and 6,34 mm/10g. Based on the observations of the microstructure of sausages, it was found that the microstructural quality of sausages decreased with the increasing level of substitution of chicken meat with soybean tempeh. The conclusion is that substituting chicken meat with soy tempeh in the production of chicken sausages increases tenderness, but decreases the pH value and reduces the microstructural quality with the increasing level of substitution without affecting the water, protein, and fat content. The best substitution treatment is P1 (90:10).

Key words: Chicken sausages, Chicken meat, Chemical quality, Physical quality, Microstructure