

PENGARUH SUBSTITUSI *FILLER* TEPUNG TAPIOKA DENGAN TEPUNG UBI JALAR PUTIH TERHADAP KUALITAS KIMIA, FISIK, DAN SENSORIS SOSIS ITIK

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INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh substitusi *filler* dengan ubi jalar putih terhadap kualitas kimia, fisik, dan sensoris pada sosis itik. Substitusi *filler* dengan tepung ubi jalar putih menggunakan menggunakan rasio 100:0, 75:25, 50:50, 25:75, dan 100:0 (%) dengan rangkap tiga untuk setiap sampel. Bahan utama yang digunakan dalam pembuatan sosis terdiri dari daging itik, tepung tapioka, tepung ubi jalar putih, susu skim, lemak subkutan, dan bumbu-bumbu seperti garam, merica, ketumbar, STTP (*Sodium tripolyphosphate*), dan bawang putih. Proses pemasakan sosis dilakukan dengan pengovenan selama 30 menit pada suhu 60°C kemudian dilakukan proses *steaming* selama 30 menit pada suhu 90°C hingga 100°C. Parameter yang diuji pada penelitian ini antara lain kualitas kimia, fisik, dan sensoris. Uji kualitas kimia terdiri dari kadar air, protein, dan lemak. Uji kualitas kimia dilakukan dengan analisis NIRS (*Near Infrared Spectroscopy*). Uji kualitas fisik terdiri atas uji pH, daya ikat air, dan keempukan. Uji kualitas sensoris terdiri atas uji warna, tekstur, rasa, keempukan, dan daya terima. Data yang diperoleh dianalisis menggunakan Rancangan Acak Lengkap (RAL) pola searah dan apabila terdapat perbedaan rerata diuji lanjut menggunakan uji *Duncan's New Multiple Range Test* (DMRT). Kualitas sensoris dianalisis dengan analisis *non-parametrik* dengan *Kruskal and Wallis Test*. Hasil penelitian menunjukkan bahwa substitusi *filler* tepung tapioka dengan tepung ubi jalar hingga rasio 25:75 berpengaruh sangat nyata ($P < 0,01$) terhadap kadar air, protein, lemak, nilai keempukan dan daya ikat air namun tidak berpengaruh nyata ($P > 0,05$) terhadap nilai pH. Kualitas sensoris menunjukkan bahwa substitusi tepung ubi jalar putih memberikan pengaruh yang sangat nyata ($P < 0,01$) terhadap warna sosis itik hingga rasio 50:50, memberikan pengaruh yang nyata ($P < 0,05$) terhadap rasa, tekstur, dan daya terima hingga rasio 25:75 namun memberikan pengaruh yang tidak nyata ($P > 0,05$) terhadap aroma sosis. Berdasarkan hasil penelitian dapat disimpulkan bahwa kadar air menurun namun kadar protein dan lemak meningkat hingga rasio 25:75. Daya ikat air meningkat hingga rasio 0:100 namun keempukan menurun hingga rasio 75:25. Sensoris sosis itik menurun hingga rasio 50:50 pada warna, rasa, tekstur, dan daya terima.

Kata kunci: Sosis itik, Ubi jalar putih, Uji kimia, Uji fisik, Uji sensoris

EFFECT OF FILLER SUBSTITUTION OF TAPIOCA FLOUR WITH WHITE SWEET POTATO FLOUR ON CHEMICAL, PHYSICAL, AND SENSORY QUALITY OF DUCK SAUSAGE

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ABSTRACT

This study aims to determine the effect of filler substitution with white sweet potato on the chemical, physical, and sensory qualities of duck sausage. Filler substitution with white sweet potato flour used ratios of 100:0, 75:25, 50:50, 25:75, and 100:0 (%) with three replications for each sample. The main ingredients used in making sausages consist of duck meat, tapioca flour, white sweet potato flour, skim milk, subcutaneous fat, and spices such as salt, pepper, coriander, STTP (Sodium tripolyphosphate), and garlic. The sausage cooking process was carried out in an oven for 30 minutes at a temperature of 60°C and then a steaming process was carried out for 30 minutes at a temperature of 90°C to 100°C. Parameters observed in this study include chemical, physical, and sensory quality. Chemical quality test consisted of water, protein, and fat content. Chemical quality test was carried out by NIRS (Near Infrared Spectroscopy) analysis. The physical quality test consisted of pH, water holding capacity, and tenderness tests. Sensory quality test consists of color, texture, taste, tenderness, and acceptability test. The data obtained were analyzed using a completely randomized design (CRD) with a unidirectional pattern and if there was a difference in mean, it would be further tested using Duncan's New Multiple Range Test (DMRT). Sensory quality was analyzed by nonparametric analysis with Kruskal and Wallis Test. The results showed that the filler substitution of tapioca flour with sweet potato flour at a ratio of up to 25:75 had a very significant effect ($P < 0.01$) on water content, protein, fat, tenderness value and water holding capacity but had no significant effect ($P > 0.05$) to the pH value. The quality of the sensor showed that the substitution of white sweet potato flour had a very significant effect ($P < 0.01$) on the color of duck sausage to a ratio of 50:50, giving a significant effect ($P < 0.05$) on the taste, texture, and acceptability. up to a ratio of 25:75 but did not have a significant effect ($P > 0.05$) on the aroma of sausages. Based on the results of the study, it can be concluded that the water content decreased but the protein and fat content increased to a ratio of 25:75. The water holding capacity increases to a ratio of 0:100 but the tenderness decreases to a ratio of 75:25. Sensory of duck sausage decreases to a 50:50 ratio in color, taste, texture and acceptability.

Keywords: Duck sausage, White sweet potato, Chemical test, Physical test, Sensory test