

## PENGARUH PENAMBAHAN TEPUNG WORTEL (*Daucus carota* L.) TERHADAP KADAR $\beta$ -KAROTEN, KUALITAS FISIK DAN SENSORIS SOSIS ITIK AFKIR

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### INTISARI

Pemanfaatan daging sebagai pangan siap saji terus berkembang, salah satunya produk sosis. Inovasi dilakukan dengan menggunakan daging itik afkir dengan penambahan tepung wortel level 1, 2 dan 3% dari berat daging. Penelitian ini bertujuan untuk mengetahui pengaruh penambahan tepung wortel (*Daucus carota* L.) terhadap  $\beta$ -karoten, kualitas fisik (warna, pH, daya ikat air dan tekstur) dan sensoris (warna, rasa, aroma, tekstur dan daya terima) sosis itik afkir. Kadar  $\beta$ -karoten diuji dengan metode *Spectrofotometry*. Data kualitas  $\beta$ -karoten dan fisik dianalisis variansi pola searah (ANOVA) dan perbedaan yang signifikan diantara rerata dilanjutkan dengan uji *Duncan's Multiple Range Test* (DMRT). Data kualitas sensoris dianalisis secara statistik menggunakan analisis non-parametrik yaitu uji *Hedonik Kruskal-Wallis*. Penambahan tepung wortel berpengaruh nyata ( $P < 0,05$ ) terhadap kualitas fisik warna, pH, daya ikat air dan tekstur. Nilai rerata penambahan tepung wortel level 1, 2 dan 3% berturut-turut untuk warna *lightness* ( $L^*$ ) yaitu 58,93, 59,94 dan 60,22, *redness* ( $a^*$ ) yaitu 8,53, 9,69 dan 10,28, *yellowness* ( $b^*$ ) yaitu 29,47, 30,21 dan 31,61, pH yaitu 6,81, 6,75 dan 6,75, daya ikat air yaitu 56,19, 56,23 dan 56,49% dan tekstur *hardness* yaitu 3,38, 3,36 dan 3,44 kg.m.s<sup>-2</sup>, *springiness* yaitu 80,23, 81,57 dan 81,84%, *gumminess* yaitu 4,81, 5,04 dan 5,06 N, *chewiness* yaitu 1,66, 1,99 dan 2,09 N. Penambahan tepung wortel berpengaruh nyata ( $P < 0,05$ ) terhadap sensoris warna dan tekstur, tetapi tidak berpengaruh nyata ( $P > 0,05$ ) terhadap sensoris rasa, aroma dan daya terima. Hasil penambahan tepung wortel dengan level tertinggi 3% sebesar 618,44  $\mu\text{g}/100\text{g}$  dapat meningkatkan kadar  $\beta$ -karoten sosis itik afkir. Penambahan tepung wortel pada level 3% mempengaruhi kualitas fisik, sensoris dan dapat menurunkan pH serta sensoris yaitu tekstur. Maka, dapat disarankan untuk melakukan penelitian lebih lanjut yang berhubungan dengan efektivitas antioksidan dalam menentukan masa simpan sosis itik afkir.

Kata kunci: Sosis Daging Itik Afkir, Tepung Wortel, Kualitas Fisik, Sensoris,  $\beta$ -karoten

## THE EFFECT OF CARROT FLOUR (*Daucus carota* L.) ADDITION ON LEVEL $\beta$ -CAROTENE, PHYSICAL QUALITY, AND SENSORY PROPERTIES OF SPENT DUCK SAUSAGES

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### ABSTRACT

The utilization of meat as ready to eat food has continued to develop, including sausage products. This study aimed to determine the effect of adding carrot flour (*Daucus carota* L.) at levels of 1, 2, and 3% of the meat weight on  $\beta$ -carotene content, physical quality (color, pH, water holding capacity, and texture), and sensory properties (color, taste, aroma, texture, and acceptability) of spent duck sausages. The  $\beta$ -carotene content was measured using the spectrophotometry method. Data on  $\beta$ -carotene content and physical quality were analyzed using one way ANOVA, and significant differences among the means were further tested with Duncan's Multiple Range Test (DMRT). Sensory quality data were statistically analyzed using the Hedonic Kruskal Wallis test. The results showed that the addition of carrot flour had a significant effect ( $P < 0.05$ ) on physical qualities such as color, pH, water-holding capacity, and texture. The average value of carrot flour addition level 1, 2 and 3% respectively for lightness ( $L^*$ ) color was 58.93, 59.94 and 60.22, redness ( $a^*$ ) was 8.53, 9.69 and 10.28, yellowness ( $b^*$ ) was 29.47, 30.21 and 31.61, pH was 6.81, 6.75 and 6.75, water binding capacity was 56.19, 56.23 and 56.49% and hardness texture was 3.38, 3.36 and 3.44 kg.m.s<sup>-2</sup>, springiness was 80.23, 81.57 and 81.84%, gumminess was 4.81, 5.04 and 5.06 N, chewyness was 1.66, 1.99 and 2.09 N. It also significantly affected ( $P < 0.05$ ) sensory properties, particularly color and texture, but did not significantly affect ( $P > 0.05$ ) sensory attributes such as taste, aroma, and acceptability. The highest level of carrot flour addition 3% resulted in a  $\beta$ -carotene content of 618.44  $\mu\text{g}/100\text{g}$ , increasing the  $\beta$ -carotene levels in spent duck sausages. The addition of 3% carrot flour affected the physical and sensory qualities, and it decreased the pH as well as the sensory aspect of texture. Therefore, further research is recommended to evaluate the effectiveness of antioxidants in determining the shelf life of spent duck sausages.

Keywords: Spent Duck Meat Sausage, Carrot Flour, Physical Quality, Sensory Properties,  $\beta$ -carotene