

## **PENGARUH EKSTRAK BROKOLI (*Brassica oleracea*) TERHADAP KUALITAS FISIK, SENSORIS, DAN MIKROSTRUKTUR SOSIS AYAM**

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### **INTISARI**

Sosis ayam merupakan makanan yang mengandung asam lemak tidak jenuh. Brokoli mengandung senyawa fitokimia seperti glukosinolat, senyawa fenolik, serat dan senyawa antioksidan seperti vitamin C dan E, serta mineral (Ca, Mg, Se, dan K). Penelitian ini bertujuan untuk mengetahui pengaruh ekstrak brokoli terhadap kualitas fisik, sensoris, dan mikrostruktur sosis ayam. Model rancangan percobaan yang digunakan dalam pengujian kualitas sosis adalah Rancangan Acak Lengkap (RAL) dengan satu faktor, terdiri dari 5 level ekstrak brokoli (0%, 0,5%, 1%, 1,5%, dan 2% v/b) serta diulang sebanyak 5 kali. Data yang diambil berupa kualitas fisik (pH, daya ikat air, dan keempukan), kualitas sensoris (warna, rasa, kekenyalan, *juiceness*, dan tekstur), dan mikrostruktur sosis ayam. Kualitas fisik dianalisis menggunakan analisis variansi pola searah, kualitas sensoris dianalisis menggunakan analisis Kruskal-Wallis, dan mikrostruktur dianalisis secara deskriptif kualitatif. Apabila diperoleh hasil yang berbeda nyata, maka akan dilanjutkan analisis dengan uji Duncan's Multiple Range Test (DMRT). Hasil penelitian menunjukkan bahwa semakin tinggi level ekstrak brokoli akan meningkatkan nilai pH, keempukan, dan daya ikat air ( $P < 0,01$ ). Nilai pH dan daya ikat air sosis ayam tertinggi pada level ekstrak brokoli 1,5%, sedangkan nilai keempukan sosis ayam tertinggi pada level 2%. Pengujian sensoris menunjukkan bahwa ekstrak brokoli tidak mempengaruhi warna, rasa, tekstur, *juiceness*, dan kekenyalan sosis ayam. Hasil analisis deskriptif menunjukkan bahwa kualitas mikrostruktur paling baik pada level 1,5%. Berdasarkan penelitian dapat disimpulkan bahwa ekstrak brokoli pada level 2% dapat meningkatkan kualitas fisik (pH, keempukan, daya ikat air) dan menurunkan kualitas mikrostruktur tanpa mempengaruhi kualitas sensoris pada sosis ayam.

Kata kunci: Ekstrak brokoli, Kualitas fisik, Kualitas mikrostruktur, Kualitas sensoris, Sosis ayam

## **THE EFFECT OF BROCCOLI EXTRACT (*Brassica oleracea*) ON THE PHYSICAL, SENSORY, AND MICROSTRUCTURE QUALITY OF CHICKEN SAUSAGES**

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### **ABSTRACT**

Sausage are food that contain unsaturated fatty acid. Broccoli contains phytochemical compounds such as glucosinolate, phenolic compounds, fiber, and antioxidant compounds such as vitamin C and E, and also minerals (Ca, Mg, Se, and K). This research aim to find out the effect level of broccoli extract on the physical, sensory, and microstructure of chicken sausages. Sausage quality in this research analyzed with Completely Randomized Design (CRD) with one factor, consists of 5 levels of broccoli extract addition (0%, 0,5%, 1%, 1,5%, and 2%) and repeated 5 times. The data collected in the form of physical quality (pH, water holding capacity, and the tenderness), sensory quality (color, taste, elasticity, juiciness, and texture), and the microstructure of the chicken sausages. Quality physic was analysed using One Way ANOVA, sensory quality was analysed using Kruskal-Wallis, and the microstructure by using descriptive qualitative analyzed. If the result is significant, will be analyzed by Duncan's Multiple Range Test (DMRT). The result of the research showed that the higher the level of broccoli extract would increase the pH value, the tenderness, and water holding capacity. The highest pH value and water holding capacity of the chicken sausage were at the 1,5% level of broccoli extract addition, while for the highest value for chicken sausage's tenderness at the level of 2% ( $P < 0,01$ ). Sensory testing indicated that broccoli extract did not affect the color, taste, texture, juiciness, and elasticity of chicken sausages. According to the research, it can be concluded that 2% broccoli extract can improve physical quality (pH, tenderness, water holding capacity) and the microstructure without does not affect the sensory quality of the chicken sausage.

**Keywords:** Broccoli extract, Chicken sausage, Microstructure quality, Physical quality, Sensory quality