

## **AKTIVITAS ANTIOKSIDAN (ANGKA DPPH) DAN KUALITAS KIMIA SOSIS AYAM BROILER YANG DISUPLEMENTASI EKSTRAK BROKOLI**

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### **INTISARI**

Penelitian ini bertujuan untuk mengetahui pengaruh suplementasi ekstrak brokoli terhadap aktivitas antioksidan (angka DPPH) dan kualitas kimia sosis ayam broiler. Brokoli (*Brassica oleracea* var.italica) merupakan salah satu famili dari *Brassicaceae* yang mengandung fitokimia yang baik seperti glukosinolat, senyawa fenolik, serat dan senyawa antioksidan seperti vitamin C dan E serta mineral (Ca, Mg, Se,dan K). Brokoli dapat digunakan sebagai suplemen yang sering ditambahkan pada bahan makanan. Perlakuan pada penelitian ini yaitu menambahkan ekstrak brokoli dengan konsentrasi 0, 0,5, 1,0, 1,5, dan 2,0% (Y/w) dari total adonan sosis. Bahan utama pembuatan sosis dalam penelitian ini adalah daging ayam broiler, tepung tapioka, susu skim, bumbu-bumbu dan ekstrak brokoli. Variabel yang diamati adalah aktivitas antioksidan (angka DPPH) dan kualitas kimia sosis yang meliputi kadar air, kadar protein, dan kadar lemak. Data aktivitas antioksidan (angka DPPH) dan kualitas kimia dianalisis dengan analisis variansi Rancangan Acak Lengkap (RAL) pola searah dengan pengulangan sebanyak lima kali, apabila hasilnya berbeda nyata maka dilanjutkan dengan uji *Duncan's New Multiple Ranges Test* (DMRT). Hasil analisis statistik pada sosis ayam broiler yang disuplementasi ekstrak brokoli menunjukkan perbedaan yang nyata ( $P<0,01$ ) aktivitas antioksidan (angka DPPH) meningkat seiring dengan peningkatan level ekstrak brokoli. Penambahan ekstrak brokoli menunjukkan perbedaan yang nyata ( $P<0,01$ ) terhadap kualitas kimia sosis ayam boiler, yaitu meningkatnya level ekstrak brokoli akan menurunkan kadar air dan meningkatkan kadar protein tetapi tidak berbeda nyata terhadap kadar lemak. Kesimpulan dari penelitian ini adalah sosis ayam boiler yang disuplementasikan ekstrak brokoli dengan level 2% menghasilkan aktivitas antioksidan (angka DPPH) dan kualitas kimia terbaik.

**Kata kunci:** Sosis daging ayam, Brokoli, Antioksidan, Angka DPPH, dan Kualitas Kimia.

## **ANTIOXIDANT ACTIVITY (DPPH FIGURE) AND CHEMICAL QUALITY CHICKEN BROILER SAUSAGE ADDED SUPPLEMENTATION OF BROCCOLI POWDER EXTRACT**

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### **ABSTRACT**

This study aims to determine the effect of broccoli extract supplementation on Antioxidant activity (DPPH figure) and chemical quality of broiler chicken sausages. Broccoli (*Brassica oleracea* var.italica) is one of the member of Brassicaceae which contains good phytochemicals such as glucosinolate, phenolic compounds, fiber and antioxidant compounds such vitamins C and E also minerals (Ca, Mg, Se, and K). Broccoli can be used as supplement which often added into food ingredients. The treatment in this study was adding broccoli extract with levels of 0, 0,5, 1,0, 1,5, and 2,0% ( $\%w/w$ ) of the total sausage mixture. The main ingredients for making sausages in this study were broiler chicken, tapioca flour, skim milk, spices and supplementation of broccoli extract. The variables observed included Antioxidant activity (DPPH figure) and the chemical quality of sausages which included water content, protein content, and fat content. Antioxidant activity (DPPH figure) and chemical quality data were analyzed by variance analysis of unidirectional Completely Randomized Design (CRD) with five time repetitions, if the results were significantly different then continued with Duncan's New Multiple Ranges Test (DMRT) test. The results of statistical analysis on broiler sausages supplemented with broccoli extract showed significant differences ( $P < 0,01$ ) of DPPH figure, Antioxidant activity (DPPH figure) increased with increasing levels of broccoli extract. The chemical quality of boiler chicken sausage showed a significant difference ( $P < 0,01$ ) with addition of broccoli extract, the increasing levels of broccoli extract reduced water content and increased protein levels but for fat content was not significantly different. The conclusion of this study is chicken broiler sausage supplemented with broccoli extract at level of 2% showing best chemical quality and antioxidant result reflected by the DPPH figure.

Keywords: Chicken Sausage, Broccoli, Antioxidants, DPPH Figure, and Chemical Quality.