

## KUALITAS FISIKOKIMIA, KADAR KOLESTEROL DAN MIKROSTRUKTUR DAGING AYAM KUB, PAKHOI, DAN PAMA DENGAN JENIS KELAMIN BERBEDA

### INTISARI

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Penelitian ini bertujuan untuk mengetahui pengaruh jenis ayam dan jenis kelamin terhadap kualitas fisikokimia, kadar kolesterol, dan mikrostruktur daging ayam. Penelitian ini menggunakan 30 ekor ayam jantan dan betina dari masing jenis ayam dengan umur 10 minggu. Parameter yang diamati meliputi pH, daya ikat air, susut masak, warna ( $L^*$ ,  $a^*$ ,  $b^*$ ), tekstur (*hardness*, *springiness*, *gumminess*, *chewiness*), kualitas kimia (kadar air, kadar protein, kadar lemak, kadar kolagen), kadar kolesterol, serta mikrostruktur. Pengamatan mikrostruktur daging ayam dilakukan dengan membuat preparat histologi dari daging bagian dada kemudian dilakukan pengamatan dengan irisan melintang dan membujur serta pengukuran diameter serabut otot. Data uji dianalisis menggunakan rancangan acak lengkap pola faktorial  $3 \times 2$ , dengan faktor jenis ayam dan jenis kelamin dan diolah menggunakan *software Statistical Package for Social Science (SPSS)* versi 22. Hasil analisis statistik menunjukkan bahwa jenis ayam berpengaruh nyata ( $P < 0,05$ ) terhadap daya ikat air, susut masak, kecerahan ( $L^*$ ), *springiness*, kadar kolesterol, dan diameter mikrostruktur. Jenis kelamin berpengaruh nyata ( $P < 0,05$ ) terhadap diameter mikrostruktur dan terjadi interaksi antara jenis ayam dan jenis kelamin terhadap kemerahan ( $a^*$ ) & diameter mikrostruktur. Hasil penelitian yang didapatkan adalah daya ikat air ayam KUB  $57,20 \pm 4,02$  lebih tinggi dari ayam Pama  $51,50 \pm 5,24$ , susut masak ayam KUB  $31,17 \pm 2,91$  lebih tinggi dari ayam Pakhoi  $28,70 \pm 1,88$ , nilai kecerahan ( $L^*$ ) ayam Pama  $62,59 \pm 3,42$  lebih tinggi dari ayam KUB  $59,21 \pm 2,61$ , nilai *springiness* ayam KUB  $91,84 \pm 3,02$  lebih tinggi dari ayam Pakhoi  $86,23 \pm ,50$ , kadar kolestetol ayam KUB  $92,08 \pm 4,58$  lebih tinggi dari ayam Pama  $77,88 \pm 3,33$  dan diameter struktur daging ayam Pakhoi  $73,21 \pm 13,13$  lebih tinggi dai ayam KUB  $48,12 \pm 22,37$ . Rerata diameter struktur daging ayam jantan lebih tinggi  $77,72 \pm 11,29$  dari ayam betina  $49,59 \pm 16,73$ . Nilai kemerahan ( $a^*$ ) tertinggi terdapat pada ayam KUB jantan  $3,17 \pm 0,80$  dan terendah pada ayam Pama betina  $1,65 \pm 1,25$ . Diameter serabut otot terbesar ditemukan pada ayam Pakhoi jantan  $84,09 \pm 5,24 \mu\text{m}$ , sedangkan yang terkecil pada ayam KUB betina  $28,75 \pm 3,55 \mu\text{m}$ .

Kata kunci: Jenis Ayam, Jenis Kelamin, Kualitas Fisikokimia, Kolesterol, Mikrostruktur

## PHYSICAL-CHEMICAL QUALITY, CHOLESTEROL LEVELS, AND MICROSTRUCTURE OF KUB, PAKHOI, AND PAMA CHICKEN MEAT WITH DIFFERENT GENDERS

### ABSTRACT

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This research was aimed to determine the effect of chicken breed and sex on the physicochemical quality, cholesterol content, and microstructure of chicken meat. The material used was 30 male and female chickens of each breed at 10 weeks of age. The parameters observed included pH, water-holding capacity, cooking loss, color ( $L^*$ ,  $a^*$ ,  $b^*$ ), texture (hardness, springiness, gumminess, chewiness), chemical quality (moisture content, protein content, fat content, collagen content), cholesterol levels, and microstructure. Microstructure observations of chicken meat were conducted by preparing histological sections from the breast meat, followed by cross-sectional and longitudinal observations and measurements of muscle fiber diameter. The test data were analyzed using a completely randomized factorial design ( $3 \times 2$ ), with factors for chicken breed and sex, and processed using the Statistical Package for Social Sciences (SPSS) version 22. Statistical analysis results showed that chicken type significantly affected ( $P < 0.05$ ) water holding capacity, cooking loss, lightness ( $L^*$ ), springiness, cholesterol content, and microstructure diameter. Sex significantly affected ( $P < 0.05$ ) microstructure diameter, and there was an interaction between chicken type and sex on redness ( $a^*$ ) and microstructure diameter. The research results obtained were that the water holding capacity of KUB chickens  $57.20 \pm 4.02$  was higher than that of Pama chickens  $51.50 \pm 5.24$ , the cooking loss of KUB chickens  $31.17 \pm 2.91$  was higher than that of Pakhoi chickens  $28.70 \pm 1.88$ , and the lightness value ( $L^*$ ) of Pama chickens  $62.59 \pm 3.42$  was higher than that of KUB chickens  $59.21 \pm 2.61$ , the springiness value of KUB chickens  $91.84 \pm 3.02$  was higher than that of Pakhoi chickens  $86.23 \pm 0.50$ , the cholesterol content of KUB chickens  $92.08 \pm 4.58$  was higher than that of Pama chickens  $77.88 \pm 3.33$ , and the diameter of the Pakhoi chicken meat structure was  $73.21 \pm 13.13$ , higher than that of the KUB chicken at  $48.12 \pm 22.37$ . The average diameter of the meat structure of male chickens was higher at  $77.72 \pm 11.29$  than that of female chickens at  $49.59 \pm 16.73$ . The highest redness value ( $a^*$ ) was found in male KUB chickens  $3.17 \pm 0.80$ , while the lowest was in female Pama chickens  $1.65 \pm 1.25$ . The largest muscle fiber diameter was observed in male Pakhoi chickens  $84.09 \pm 5.24 \mu\text{m}$ , whereas the smallest was in female KUB chickens  $28.75 \pm 3.55 \mu\text{m}$ .

Key words: Chicken Type, Sex, Physicochemical Quality, Cholesterol, Microstructur