

**PENGARUH PENAMBAHAN TEPUNG DAUN KATUK (*Sauropus androgynus* (L.) Merr.) DAN LAMA PENYIMPANAN PADA SUHU REFRIGERATOR TERHADAP AKTIVITAS ANTIOKSIDAN, KUALITAS KIMIA DAN SENSORIS BAKSO AYAM BROILER**

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**INTISARI**

Penelitian ini bertujuan untuk mengetahui pengaruh penambahan tepung daun katuk (*Sauropus androgynus* (L.) Merr.) dan lama penyimpanan pada suhu *refrigerator* terhadap aktivitas antioksidan, kualitas kimia dan sensoris bakso ayam broiler. Penelitian ini menggunakan Rancangan Acak Lengkap pola faktorial 3x4 dengan 2 faktor perlakuan dan 4 kali ulangan. Faktor pertama yaitu level penambahan tepung daun katuk (0, 1, dan 2%) dari total adonan bakso dan faktor kedua yaitu perlakuan lama penyimpanan dalam *refrigerator* suhu 4°C yang berbeda (0, 2, 4, dan 6 hari). Parameter yang diuji meliputi aktivitas antioksidan, kualitas kimia (air, protein, lemak) dan sensoris (warna, aroma, kekenyalan, rasa, daya terima) bakso. Data aktivitas antioksidan dan kualitas kimia dianalisis variansi pola faktorial dan apabila terdapat perbedaan nyata dilanjutkan uji *Duncan's New Multiple Range Test*. Data kualitas sensoris dianalisis secara statistik dengan metode non-parametrik *Kruskal-Wallis Test* dan apabila terdapat perbedaan nyata dilanjutkan uji *Mann-Whitney*. Hasil penelitian menunjukkan bahwa penambahan tepung daun katuk pada konsentrasi 0, 1 dan 2% berpengaruh nyata ( $P < 0,05$ ) terhadap peningkatan persentase aktivitas antioksidan ( $18,10 \pm 0,51$ ;  $20,28 \pm 0,72$ ; dan  $20,54 \pm 0,61\%$ ) dan kadar protein ( $12,12 \pm 0,23$ ;  $12,52 \pm 0,26$ ; dan  $13,28 \pm 0,58\%$ ), serta penurunan kadar air bakso ( $66,40 \pm 0,52\%$ ;  $65,51 \pm 0,25$ ; dan  $65,11 \pm 0,26$ ). Lama penyimpanan pada suhu *refrigerator* hari ke 0, 2, 4, dan 6 memberikan pengaruh nyata ( $P < 0,05$ ) terhadap persentase aktivitas antioksidan ( $21,58 \pm 0,49$ ;  $21,09 \pm 0,67$ ;  $18,73 \pm 0,55$ ; dan  $17,15 \pm 0,75\%$ ), kadar air ( $68,30 \pm 0,52$ ;  $66,99 \pm 0,31$ ;  $64,49 \pm 0,37$ ; dan  $62,92 \pm 0,18\%$ ), kadar protein ( $15,23 \pm 0,56$ ;  $13,91 \pm 0,35$ ;  $11,48 \pm 0,35$ ; dan  $9,95 \pm 0,16\%$ ), dan kadar lemak ( $3,13 \pm 0,61$ ;  $3,00 \pm 0,51$ ;  $2,27 \pm 0,61$ ; dan  $1,73 \pm 0,60\%$ ). Kesimpulan dari penelitian ini adalah penambahan tepung daun katuk sebanyak 2% pada bakso ayam broiler menghasilkan kualitas kimia dan antioksidan yang terbaik tanpa mempengaruhi kualitas sensoris. Penyimpanan bakso dengan penambahan tepung daun katuk pada suhu *refrigerator* 4°C dapat mempertahankan kualitas kimia dan aktivitas antioksidan selama 4 hari.

**Kata kunci:** Bakso ayam broiler, Tepung daun katuk, Lama penyimpanan, Aktivitas antioksidan, Kualitas kimia, Kualitas sensoris.

## THE EFFECT OF KATUK LEAF FLOUR (*Sauropus androgynus* (L.) Merr.) ADDITION AND STORAGE TIME AT THE REFRIGERATOR TEMPERATURE ON ANTIOXIDANT ACTIVITY, CHEMICAL AND SENSORY QUALITIES OF BROILER CHICKEN MEATBALLS

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### ABSTRACT

The aim of this study was to identify the effect of katuk leaves flour (*Sauropus androgynus* (L.) Merr) addition and storage time at the refrigerator temperatures on antioxidant activity, chemical quality and sensory of broiler chicken meatballs. A completely randomized design with 3x4 factorial, 2 treatment factor and 4 replications was applied in this research. The first factor was the levels of addition of katuk leaf flour (0, 1, and 2%) of the total meatball dough and the second factor was the different storage time in the refrigerator at 4°C (0, 2, 4, and 6 days). The observed parameters were antioxidant activity, chemical quality (water, protein, fat) and sensory (the color, odor, elasticity, taste, overall palatability) of the meatballs. The data of antioxidant activity and chemical quality were analysed by factorial design analysis of variance, and if there were significant differences, it continued with Duncan's New Multiple Range Test. The data of sensory quality used Kruskal-Wallis Test, and if there were significant differences, it continued with Mann-Whitney. The result showed that the addition of katuk leaves flour at the concentration of 0, 1 and 2% has an apparent effect ( $P < 0,05$ ) to increase percentage of antioxidant activity ( $18,10 \pm 0,51$ ;  $20,28 \pm 0,72$ ; and  $20,54 \pm 0,61\%$ ) and protein content ( $12,12 \pm 0,23$ ;  $12,52 \pm 0,26$ ; and  $13,28 \pm 0,58\%$ ), and decreasing the water content of the meatballs ( $66,40 \pm 0,52\%$ ;  $65,51 \pm 0,25$ ; and  $65,11 \pm 0,26$ ). The storage time at the refrigerator temperatures on the days 0, 2, 4, and 6 showed the significant different ( $P < 0,05$ ) on the percentage of antioxidant activity ( $21,58 \pm 0,49$ ;  $21,09 \pm 0,67$ ;  $18,73 \pm 0,55$ ; and  $17,15 \pm 0,75\%$ ), water content ( $68,30 \pm 0,52$ ;  $66,99 \pm 0,31$ ;  $64,49 \pm 0,37$ ; and  $62,92 \pm 0,18\%$ ), protein content ( $15,23 \pm 0,56$ ;  $13,91 \pm 0,35$ ;  $11,48 \pm 0,35$ ; and  $9,95 \pm 0,16\%$ ), and fat content ( $3,13 \pm 0,61$ ;  $3,00 \pm 0,51$ ;  $2,27 \pm 0,61$ ; and  $1,73 \pm 0,60\%$ ). This study concludes that the addition of 2% katuk leaf flour to broiler meatballs produces the best chemical quality and antioxidant activity without even affect the sensory quality. Storage of meatballs with the addition of katuk leaf flour at refrigerator temperature at 4°C can maintain the chemical quality and antioxidant activity qualities of meatballs for 4 days.

**Keywords:** Broiler chicken meatballs, Katuk leaves flour, Storage time, Antioxidant activity, Chemical quality, and Sensory quality.