

## PENGARUH PENAMBAHAN TEPUNG KAYU MANIS (*Cinnamomum burmannii*) DAN LAMA PENYIMPANAN TERHADAP KUALITAS FISIK DAN ANGKA LEMPENG TOTAL BAKSO AYAM JOPER

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### INTISARI

Bakso ayam Joper merupakan produk olahan daging yang mudah mengalami penurunan mutu akibat oksidasi lemak dan pertumbuhan mikroorganisme selama masa penyimpanan. Penelitian ini bertujuan untuk mengetahui pengaruh penambahan tepung kayu manis (0%, 1%, dan 2%) dan lama penyimpanan (0, 1, dan 2 minggu) terhadap kualitas fisik serta angka lempeng total (ALT) bakso ayam Joper pada penyimpanan suhu *refrigerator* ( $4\pm 1^{\circ}\text{C}$ ). Parameter yang diuji meliputi pH, daya ikat air (DIA), warna ( $L^*$ ,  $a^*$ ,  $b^*$ ), tekstur (*hardness*, *cohesiveness*, *springiness*, *gumminess*, *chewiness*) dan ALT. Pengujian menggunakan Rancangan Acak Lengkap (RAL) pola faktorial 3 (level penambahan tepung kayu manis) x 3 (lama penyimpanan) dengan tiga kali pengulangan. Data dianalisis secara statistik menggunakan *Two-Way ANOVA* ( $\alpha=0,05$ ) dilanjutkan uji *Duncan's Multiple Range Test* (DMRT). Penambahan tepung kayu manis secara nyata ( $P<0,05$ ) menurunkan nilai pH dan DIA, *lightness* ( $L^*$ ), *yellowness* ( $b^*$ ), *cohesiveness*, *springiness*, dan ALT, tetapi meningkatkan nilai *redness* ( $a^*$ ), *hardness*, *gumminess*, dan *chewiness*. Penambahan 2% tepung kayu manis dapat menurunkan nilai pH hingga  $6,42\pm 0,02$  dan ALT hingga  $4,20\pm 0,25$  log CFU/g. Lama penyimpanan berpengaruh nyata ( $P<0,05$ ) pada nilai pH, DIA,  $L^*$ ,  $a^*$ ,  $b^*$ , *hardness*, *gumminess*, dan *chewiness*, tetapi tidak berpengaruh terhadap *cohesiveness*, *springiness*, dan ALT. Interaksi level penambahan tepung kayu manis dan lama penyimpanan signifikan ( $P<0,05$ ) untuk pH,  $L^*$ ,  $a^*$ , dan  $b^*$ , tetapi tidak signifikan untuk parameter tekstur dan ALT. Kesimpulannya, penambahan 2% tepung kayu manis dan lama penyimpanan 2 minggu memiliki hasil terbaik dengan nilai pH  $6,42\pm 0,02$ , DIA  $58,19\pm 2,56$ , dan ALT  $4,20\pm 0,25$  log CFU/g.

Kata kunci: Bakso ayam Joper, Tepung kayu manis, Lama penyimpanan, Kualitas fisik, Angka lempeng total

## THE EFFECT OF CINNAMON FLOUR (*Cinnamomum burmannii*) ADDITION AND STORAGE DURATION ON THE PHYSICAL QUALITY AND TOTAL PLATE COUNT OF JOPER CHICKEN MEATBALLS

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### ABSTRACT

Joper chicken meatballs are susceptible to quality deterioration due to lipid oxidation and microbial growth during storage. This study aimed to evaluate the effects of cinnamon flour addition (0%, 1%, and 2%) and storage duration (0, 1, and 2 weeks at  $4\pm 1^{\circ}\text{C}$ ) on the physical quality and total plate count (TPC) of Joper chicken meatballs. Measured parameters included pH, water-holding capacity (WHC), color ( $L^*$ ,  $a^*$ ,  $b^*$ ), texture (hardness, cohesiveness, springiness, gumminess, chewiness), and TPC. A completely randomized design (CRD) with 3 different levels of cinnamon flour and 3 different storage times factorial design and three replications was used. The data were statistically analyzed using Two-Way ANOVA ( $\alpha=0,05$ ), followed by Duncan's Multiple Range Test (DMRT). The addition of cinnamon flour significantly ( $P<0,05$ ) decreased pH, WHC, lightness ( $L^*$ ), yellowness ( $b^*$ ), cohesiveness, springiness, and TPC values, while it increased redness ( $a^*$ ), hardness, gumminess, and chewiness values. The addition of 2% cinnamon flour was able to reduce the pH value to  $6,42\pm 0,02$  and TPC to  $4,20\pm 0,25$  log CFU/g. Storage duration significantly affected ( $P<0,05$ ) pH, WHC,  $L^*$ ,  $a^*$ ,  $b^*$ , hardness, gumminess, and chewiness values, but did not affect cohesiveness, springiness, and TPC. The interaction between cinnamon flour levels and storage duration was significant ( $P<0,05$ ) for pH,  $L^*$ ,  $a^*$ , and  $b^*$ , but not significant for texture parameters and TPC. In conclusion, Joper chicken meatballs with 2% cinnamon flour and stored for 2 weeks showed the best results with pH value of  $6,42\pm 0,02$ , WHC of  $58,19\pm 0,02$  mm, and TPC of  $4,20\pm 0,25$  log CFU/g.

Keywords: Joper chicken meatballs, Cinnamon flour, Storage duration, Physical quality, Total plate count