

**PENGARUH DOSIS IRADIASI GAMMA, PENAMBAHAN LADA HITAM, DAN  
LAMA PENYIMPANAN TERHADAP KUALITAS FISIK, KIMIA, DAN  
TOTAL MIKROBA DAGING AYAM JOPER**

**INTISARI**

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Ayam Joper (Jowo Super) merupakan hasil persilangan antara ayam Bangkok jantan dan ayam petelur betina yang memiliki keunggulan dibandingkan ayam kampung biasa. Pemanfaatan teknologi iradiasi gamma dan penambahan lada hitam berpotensi untuk mempertahankan kualitas dan memperpanjang umur simpan daging ayam Joper. Penelitian ini bertujuan untuk mengetahui pengaruh dosis iradiasi gamma, penambahan lada hitam, dan lama penyimpanan yang berbeda terhadap kualitas fisik, kimia, dan total mikroba daging ayam Joper. Dosis iradiasi gamma yang digunakan yaitu 0, 1, dan 2 kGy. Persentase penambahan lada hitam yang dilakukan yaitu 0 dan 3% dari berat potongan sampel. Lama penyimpanan yang digunakan yaitu 0, 1, dan 2 minggu. Variabel yang diamati meliputi kualitas fisik (pH, warna, dan tekstur), kimia (kadar air, protein, lemak, dan abu), dan total mikroba. Analisis data menggunakan analisis variansi pola faktorial 2 (penambahan lada hitam) x 3 (dosis iradiasi gamma) x 3 (lama penyimpanan). Apabila terdapat perbedaan yang signifikan dilanjutkan dengan uji *Duncan's New Multiple Ranges Test* (DMRT). Kombinasi dosis iradiasi gamma dan penambahan lada hitam tidak berpengaruh signifikan terhadap kualitas fisik dan kimia daging ayam Joper, dosis iradiasi 2 kGy efektif untuk mempertahankan kualitas daging ayam Joper hingga masa simpan dua minggu, serta tidak ditemukan interaksi antara dosis iradiasi, penambahan lada hitam, dan lama penyimpanan terhadap kualitas daging ayam Joper.

Kata kunci: Daging ayam Joper, Iradiasi gamma, Kualitas fisik, Kualitas kimia, Lada hitam, Lama penyimpanan, Total mikroba

## **EFFECT OF GAMMA IRRADIATION DOSE, BLACK PEPPER ADDITION, AND STORAGE TIME ON THE PHYSICAL AND CHEMICAL QUALITY AND TOTAL MICROBIAL COUNT OF JOPER CHICKEN MEAT**

### **ABSTRACT**

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Joper chicken (Jowo Super) was a crossbreed between a male Bangkok chicken and a female laying hen, offering advantages over native chickens. The use of gamma irradiation technology and the addition of black pepper had the potential to maintain quality and extend the shelf life of Joper chicken meat. This study aimed to determine the effects of gamma irradiation dose, black pepper addition, and different storage periods on the physical, chemical, and microbial quality of Joper chicken meat. The gamma irradiation doses used were 0, 1, and 2 kGy. The percentage of black pepper added was 0% and 3% of the sample's weight. The storage periods examined were 0, 1, and 2 weeks. The observed variables included physical quality (pH, color, and texture), chemical quality (moisture, protein, fat, and ash content), and total microbial count. Data analysis was performed using a factorial variance analysis with a 2 (black pepper addition)  $\times$  3 (gamma irradiation dose)  $\times$  3 (storage durations) design. If significant differences were found, Duncan's New Multiple Range Test (DMRT) was applied for further analysis. The combination of gamma irradiation and black pepper addition did not significantly affect the physical and chemical quality of Joper chicken meat, irradiation dose of 2 kGy was effective in maintaining meat quality for up to two weeks, and no significant interaction was found between irradiation dose, black pepper addition, and storage time in affecting the quality of Joper chicken meat.

**Keywords:** Black pepper, Chemical quality, Gamma irradiation, Joper chicken meat, Physical quality, Storage time, Total microbes