

PENGARUH PENAMBAHAN NANOPARTIKEL ZINK (ZnNPs-Fitobiotik) BERBASIS EKSTRAK DAUN MIMBA (*Azadirachta indica* A. juss) PADA AIR MINUM TERHADAP PRODUKSI KARKAS DAN ORGAN DALAM AYAM BROILER

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INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh penambahan nanopartikel zink (ZnNPs-Fitobiotik) berbasis ekstrak daun mimba (*Azadirachta indica* A. juss) dalam air minum terhadap produksi karkas dan organ dalam ayam broiler. Penelitian ini dilakukan di Kandang *Closed House*, Fakultas Peternakan, Universitas Gadjah Mada, Yogyakarta. Penelitian menggunakan 160 ekor ayam broiler strain Cobb 500 yang dibagi ke dalam lima perlakuan dengan empat ulangan dan dipotong pada usia 28 hari. Perlakuan air minum terdiri dari lima macam, yakni P0: Air minum tanpa penambahan (kontrol negatif), P1: Air minum + *tetracycline* 45 ppm (kontrol positif), P2: Air minum + ZnNPs-fitobiotik 75 ppm, P3: Air minum + ZnNPs-fitobiotik 150 ppm, P4: Air minum + ZnNPs-fitobiotik 225 ppm. Variabel yang diamati meliputi bobot potong, bobot karkas, persentase karkas, bobot *gizzard*, persentase *gizzard*, bobot hati, dan persentase hati. Data penelitian dianalisis statistik dengan *Analysis of Variance* (ANOVA) berdasarkan Rancangan Acak Lengkap Pola Searah dan dilanjutkan dengan uji *Least Significant Difference* (LSD). Hasil penelitian menunjukkan bahwa penambahan ZnNPs-fitobiotik dengan level pemberian yang berbeda berpengaruh nyata terhadap bobot potong dan bobot karkas ayam broiler namun tidak berpengaruh terhadap persentase karkas serta bobot dan persentase *gizzard* dan hati. Perlakuan ZnNPs-fitobiotik level 75 ppm menghasilkan bobot potong dan bobot karkas yang sama dengan penambahan antibiotik *tetracycline*.

Kata kunci: ayam broiler, *Azadirachta indica*, karkas, organ dalam, ZnNPs-fitobiotik

THE EFFECT OF ADDING ZINC NANOPARTICLES (ZnNPs-Phytobiotic) BASED ON NEEM LEAF EXTRACT (*Azadirachta indica* A. juss) TO DRINKING WATER ON CARCASS AND INTERNAL ORGAN PRODUCTION OF BROILER CHICKENS

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ABSTRACT

This study evaluated the effect of adding zinc nanoparticles (ZnNPs-Phytobiotic) based on neem leaf extract (*Azadirachta indica* A. juss) to drinking water on carcass and internal organ production of broiler chickens. The study was conducted in a Closed House Poultry House, Faculty of Animal Science, Gadjah Mada University, Yogyakarta. The study used 160 Cobb 500 broiler chickens were used and allocated into five treatments with four replications, and the chickens were slaughtered at 28 days of age. The drinking water treatments consisted of five groups: P0: drinking water without additives (negative control), P1: drinking water + 45 ppm *tetracycline* (positive control), P2: drinking water + 75 ppm ZnNPs-phytobiotic, P3: drinking water + 150 ppm ZnNPs-phytobiotic, P4: drinking water + 225 ppm ZnNPs-phytobiotic. The observed variables included slaughter weight, carcass weight, carcass percentage, *gizzard* weight, *gizzard* percentage, liver weight, and liver percentage. The data were statistically analyzed using Analysis of Variance (ANOVA) based on a one-way Completely Randomized Design, followed by the Least Significant Difference (LSD) test. The results showed that supplementation of ZnNPs-phytobiotic at different levels significantly affected slaughter weight and carcass weight of broiler chickens but did not affect carcass percentage or *gizzard* and liver weight and percentage. Supplementation of ZnNPs-phytobiotic at a level of 75 ppm resulted in slaughter weight and carcass weight comparable to those obtained with *tetracycline* supplementation.

Keywords: *Azadirachta indica*, broiler, carcass, internal organs, ZnNPs-Phytobiotics,