

PENGARUH PEMBERIAN NANOMINERAL ZINK DALAM AIR MINUM TERHADAP PERTUMBUHAN AYAM BROILER

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INTISARI

Konsumsi ayam broiler di Indonesia terus mengalami peningkatan setiap tahunnya. Ayam broiler merupakan sumber protein hewani dengan laju pertumbuhan yang cepat. Penelitian ini bertujuan untuk mengetahui pengaruh pemberian nanomineral zink dalam air minum terhadap pertumbuhan ayam broiler. Penelitian ini dilaksanakan di *research farm* (*closed house* PT Ciomas Adisatwa) yang berada di Fakultas Peternakan Universitas Gadjah Mada, Kabupaten Sleman, Daerah Istimewa Yogyakarta. Sebanyak 200 ekor ayam broiler strain cobb 500 ditempatkan pada 20 kandang, masing-masing berisi 8 ekor, dengan 4 perlakuan yang berbeda dan 5 kali ulangan pada setiap perlakuan. Dilakukan 4 perlakuan berbeda pada ayam broiler yaitu, PT (air minum + tetracycline 50 ppm), P1 (air minum ditambahkan dengan 75 ppm nanomineral zink), P2 (air minum ditambahkan dengan 150 ppm nanomineral zink), dan P3 (air minum ditambahkan dengan 225 ppm nanomineral zink). Variabel yang diamati meliputi konsumsi pakan, konsumsi minum, pertambahan bobot badan, rasio konversi pakan (FCR), mortalitas, dan indeks performa (IP). Data yang diperoleh dianalisis menggunakan analisis variansi pola searah (One-Way ANOVA) dan dilanjutkan dengan uji DMRT (Duncan's Multiple Range Test). Hasil penelitian menunjukkan bahwa penambahan nanomineral zink berpengaruh tidak nyata ($P > 0,05$) pada konsumsi pakan, konsumsi minum, konversi pakan (FCR), pertambahan bobot badan dan indeks performa (IP). Tidak terjadi kematian selama masa pemeliharaan. Hasil ini menunjukkan bahwa pemberian nanomineral zink dengan dosis 150-225 ppm aman digunakan dan berpotensi sebagai alternatif pengganti *Antibiotic Growth Promotor* (AGP) untuk peningkatan performa ayam broiler.

Kata kunci: Ayam broiler, nanomineral, zink

***The Effect of Nano Zinc Mineral Supplementation in Drinking Water
on the Growth Performance of Broiler Chickens***

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ABSTRACT

This study aimed to evaluate the effect of nano zinc supplementation in drinking water on the growth performance of broiler chickens. The experiment was conducted at the research farm (closed house system of PT Ciomas Adisatwa) located at the Faculty of Animal Science, Universitas Gadjah Mada, Sleman Regency, Special Region of Yogyakarta. A total of 200 Cobb 500 broiler chickens were housed in 20 pens, each containing 8 birds, arranged in a completely randomized design with four treatment groups and five replications per treatment. The treatments were: PT (drinking water + 50 ppm tetracycline), P1 (drinking water + 75 ppm nano zinc), P2 (drinking water + 150 ppm nano zinc), and P3 (drinking water + 225 ppm nano zinc). The observed variables included feed intake, water intake, body weight gain, feed conversion ratio (FCR), mortality, and performance index (PI). Data were analyzed using one-way ANOVA followed by Duncan's Multiple Range Test (DMRT). The results showed that nano zinc supplementation had no significant effect ($P > 0.05$) on feed intake, water intake, FCR, body weight gain and PI. No mortality was recorded during the study. These findings indicate that nano zinc supplementation at 150–225 ppm is safe and has potential as an alternative to antibiotic growth promoters (AGPs) in improving broiler chicken performance.

Keywords: broiler chickens, nanomineral, zinc