

**PENGARUH TEMPERATUR AIR MINUM TERHADAP KINERJA
PERTUMBUHAN, HISTOMORFOLOGI USUS HALUS DAN
TINGKAT STRES AYAM BROILER**

INTISARI

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Penelitian ini bertujuan untuk mengetahui pengaruh temperatur air minum terhadap kinerja pertumbuhan, histomorfologi usus halus dan tingkat stres ayam broiler. Penelitian ini menggunakan Rancangan Acak Lengkap (RAL) pola searah dengan menggunakan 120 ekor ayam broiler umur satu hari (doc sexing) yang dibagi secara acak kedalam 4 perlakuan temperatur air minum dengan 3 ulangan setiap perlakuan dan menggunakan 10 ekor ayam disetiap ulangan. Ayam dipelihara selama 35 hari. Perlakuan yang dicobakan adalah memberi minum ayam dengan temperatur 24, 28, 32 dan 36°C. Parameter yang diukur selama percobaan ini adalah konsumsi air minum (ml/ekor), konsumsi pakan (g/ekor), rasio konsumsi air minum/pakan (ml/g/ekor), bobot badan (g/ekor), konversi pakan, mortalitas (ekor), panjang dan berat usus halus relatif (%), histomorfologi usus halus (tinggi vili, lebar vili, kedalaman kript) (μm) dan tingkat stress (rasio heterofil/limfosit). Hasil penelitian menunjukkan bahwa konsumsi air minum, konsumsi pakan, rasio konsumsi air minum/pakan, bobot badan, konversi pakan, mortalitas, panjang dan berat usus halus relatif, Histomorfologi usus halus (tinggi vili, lebar vili, kedalaman kript) dan tingkat stress (rasio heterofil/limfosit), menunjukkan bahwa berbeda tidak nyata. Dari penelitian ini dapat disimpulkan bahwa pemberian air minum pada pemeliharaan ayam broiler di lingkungan thermoneutral (24,96°C) dengan temperatur air minum antara 24-36°C menghasilkan penampilan (konsumsi pakan, konsumsi minum, rasio konsumsi air minum/pakan, bobot badan, konversi pakan dan mortalitas) yang sama. Temperatur air minum juga tidak merangsang pertumbuhan maupun histomorfologi usus halus dan tidak menunjukkan tingkat stres yang berlebih pada ayam broiler.

Kata kunci: Temperatur air minum, pertumbuhan dan histomorfologi usus halus, tingkat stres, ayam broiler

**EFFECT OF DRINKING WATER TEMPERATURE ON GROWTH
PERFORMANCE, SMALL INTESTINAL HISTOMORFOLOGY
AND STRESS LEVELS IN BROILER CHICKEN**

ABSTRACT

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This study aims to know the effect of drinking water temperature on growth performance, small intestinal histomorfology and stress levels in broiler chicken. This study used a Complete Randomized Design (CRD) pattern in the direction of using 120 broiler one-day broiler chickens (doc sexing) which were randomly divided into 4 drinking water temperature treatments with 3 replays every treatment and used 10 chickens in each replay. Chickens are kept for 35 days. The treatment is chicken drinks water temperatures of 24, 28, 32, and 36°C. Parameters measured during this experiment were drinking water consumption (ml/bird), feed consumption (g/bird), drinking/feed water consumption ratio (ml/g/bird), body weight (g/bird), feed conversion, mortality (bird), relative length and weight of the small intestinal (%), small intestinal histomorfology (villi height, villi width, crypt depth)(μm) and stress levels (heterophile/lymphocyte ratio). Results showed the drinking water consumption, feed consumption, drinking water/feed consumption ratio, body weight, feed conversion, mortality, length and weight relative of the small intestine, small intestnel histomorfology (villi height, villi width, crypt depth) and stress levels (heterophile/lymphocyte ratio), showed did not different significantly. From this study it can be concluded the administration of drinking water of broiler chicken in thermoneutral environment (24.96°C) with drinking water temperature between 24-36°C produces the same appearance (feed consumption, drinking consumption, drinking water consumption/feed ratio, body weight, feed conversion and mortality). Drinking water temperature does not stimulate growth or small intestine histomorfology and does not indicated excessive stress levels in broiler chickens.

Keywords: Drinking water temperature, growth and small intestine histomorfology, stress levels, broiler chicken