

عنوان مقاله:

Production and Physiological Parameters of Broiler Chickens Administered Chilled Drinking Water under High Ambient Temperature During Finisher Period

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نویسندگان:

Tobechukwu Iwuji - *Federal University of Technology, Department of Animal Science and Technology, P. M. B. ۱۵۲۶, Owerri, Imo State, Nigeria*

Abraham C. Ugochukwu - *Federal University of Technology, Department of Animal Science and Technology, P. M. B. ۱۵۲۶, Owerri, Imo State, Nigeria*

Olive O. Nwaogu - *Federal University of Technology, Department of Animal Science and Technology, P. M. B. ۱۵۲۶, Owerri, Imo State, Nigeria*

Gabriella C. Iheanacho - *Federal University of Technology, Department of Animal Science and Technology, P. M. B. ۱۵۲۶, Owerri, Imo State, Nigeria*

Innocent Ejiofor - *Federal University of Technology, Department of Animal Science and Technology, P. M. B. ۱۵۲۶, Owerri, Imo State, Nigeria*

Emmanuel U. Ahiwe - *Federal University of Technology, Department of Animal Science and Technology, P. M. B. ۱۵۲۶, Owerri, Imo State, Nigeria*

خلاصه مقاله:

High environmental temperature is of great concern in production of broiler chickens in the tropics, and this experiment was conducted to evaluate the ameliorative effect of chilled drinking water on the production and physiological parameters of broiler chickens reared in the tropics. This ۵۶-day experiment contained ۳ treatments (T₀, T₁, and T₂), replicated ۳ times to contain ۱۶ birds per replicate. T₀ (control) was offered non-chilled drinking water without increasing ambient temperature; T₁ was offered non-chilled drinking water with an increased ambient temperature of ۳۰°C between ۱۱:۳۰ – ۱۵:۳۰ GMT, daily; T₂ was offered chilled drinking water (۸-۱۰ °C) with the increased ambient temperature of ۳۰°C between ۱۱:۳۰ – ۱۵:۳۰ GMT, daily. The total body weight gain of the birds was similar ($P > 0.05$) in T₀ and T₂, which were significantly ($P < 0.05$) higher than that of T₁. Feed intake was significantly ($P < 0.05$) higher in T₀ than in T₁ and T₂, which were similar ($P > 0.05$), while feed conversion ratio (FCR) was significantly ($P < 0.05$) higher in T₁ than in T₀ and T₂, which were similar ($P > 0.05$). Water intake was significantly ($P < 0.05$) higher in T₂ than in T₁, which was significantly ($P < 0.05$) higher than the water intake of T₀ chickens. Hemoglobin (Hb) concentration and red blood cell (RBC) count were similar ($P > 0.05$) between T₀ and T₂, which were significantly ($P < 0.05$) higher than values for T₁. Packed cell volume (PCV), white blood cell (WBC), lymphocyte and platelet counts, and blood coagulation time were similar ($P > 0.05$) between T₀ and T₂, which were significantly ($P < 0.05$) higher than those of T₁. The serum globulin of T₀ chickens was similar ($P > 0.05$) to that of T₂, but significantly ($P < 0.05$) higher than the serum globulin of T₁ chickens,

which was similar ($P > 0.05$) to that of T₂. Serum sodium (Na⁺) and potassium (K⁺) ions were significantly ($P < 0.05$) higher in T₀ than in T₁ and T₂, which were similar ($P > 0.05$), while serum hydrogen carbonate ion (HCO₃⁻) was significantly ($P < 0.05$) higher in T₂ than in T₁ which was similar ($P > 0.05$) to that of T₀, and that of T₀ similar to that of T₂. Respiratory rate and cloacal temperature were significantly ($P \leq 0.01$) different among the treatments (T₁ > T₂ > T₀), while body temperature was significantly ($P < 0.05$) higher in T₁ than in T₀ and T₂, which were similar ($P > 0.05$). Therefore, administering chilled drinking water (1-10 °C) to broiler chickens during periods of high ambient temperature can ameliorate heat stress through improved FCR, weight gain, stabilization of blood parameters and constituents, and ... reduction of high respirat

کلمات کلیدی:

Blood, Broiler chickens, Electrolytes, Growth Performance, Respiratory rate, Temperature

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