

Effect of vitamin C, E and probiotic additions under heat stress on productive performance, meat quality and immune responses of broiler chicks

By

Yasser M. A . Rehab

B. Sc. Poultry Production (2003),

Faculty of Agriculture Menofya University

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SUMMARY

This work was carried out at Faculty of Agriculture (El-Bostan Farm), Damanshour University during the period from April to June, 2008. The work aims to investigate the effect of supplementation of Vit E, C and both vitamins and probiotic with or without both vitamins on performance of broiler chickens exposed to heat stress as means of improving performance and economic efficiency of broilers under heat stress condition

A total of 294, 1-day old unsexed Cobb-500 broiler chicks were wing banded and randomly distributed keeping equal initial body weight in straight run experimental design among 7 treatment groups of seven replicates each of 6 chicks each. Each replicate was kept in battery brooders

One treatment group was kept under thermo neutral condition in semi-opened house with an average temperature of $25 \pm 3^{\circ}\text{C}$ and 55% RH during 25-42 d of age (positive control). While, the other six groups were kept for three successive days weekly under $34-38^{\circ}\text{C}$ and 75-85% RH for 7 h per day from 10.00 to 17.00 pm in which one group was kept as a negative control, and in the other five groups were fed diets supplemented with 100 mg of Vit E, 200 mg of ascorbic acid (a heat stabilized product produced by Hoffmann-La Roche)/kg diet, Vit E (100mg/kg diet), both vitamins Vit E (100mg/kg diet) with Vit C (200 mg/kg diet) and probiotic 2 g/kg with (or without Vit E (100mg/kg diet) and Vit C (200 mg/kg diet

During the pre-experimental period day 1-24 birds were kept under similar managerial, hygienic and nutritional conditions. Chickens were fed corn-soybean meal diets during days 1-14 and 15-30 and 31-42 of age as shown in Table (1). Feed and water were provided ad libitum

Chicks were vaccinated against New Castle disease virus using water soluble vaccine Hitchner (B1) at 7th day-old and with Lasota at 20 and 30 days of age chicks and were also vaccinated against Avian influenza (H5 N2) at 9 days of age and Gumboro disease at the 14th day and 24th day of age. After heat episode of each day, birds were maintained at thermoneutral conditions $25 \pm 3^{\circ}\text{C}$. The results could be summarized as following

