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Effect of pre and post vaccination administration of multivitamin and vitamin C on performance and immunological profile of broiler chickens

*Mijindadi, H.M; Usman, A; Adama, J.Y.

Department Of Animal Production, School Of Agriculture And Agricultural Technology, Federal University Of Technology, Minna, Niger State

*Corresponding Author: Email: huleratmijindadi@yahoo.com

ABSTRACT

A study was conducted to determine immunological response of 220 unsexed Hubbard broiler chickens to Vitamin C and multivitamins administered orally pre and post vaccination during an eight week period in a complete randomized design. The chickens were allotted into 5 treatments with 4 replicates per treatment. Each replicate contained 11 broiler chickens and were fed standard commercial mash diet *ad libitum*. Broiler chickens in treatment 1 were administered multivitamin daily for 5 days prior to vaccination; broiler chickens in treatment 2 were administered multivitamin daily for 5 days after vaccination; broiler chickens in treatment 3 were administered Vitamin C daily for 5 days prior to vaccination; broiler chickens in treatment 4 were administered Vitamin C daily for 5 days after vaccination while broiler chickens in treatment 5 (control) were neither administered multivitamin nor Vitamin C. feed intake and weight gain were measured weekly. Blood samples were collected (using standard procedure) weekly from the jugular vein for hematology and serum analysis. Immunoglobulin were determined using ELISA. Data collected were subjected to Analysis of variance and differences in mean were separated using Duncan multiple range test. The result showed no significant difference ($P>0.05$) in feed intake, weight gain, and hematological parameters across the treatments. The result also show that globulin, IgG and IgE were significantly ($P<0.05$) lower in broiler chickens administered multivitamin or Vitamin C pre or post vaccination than those in the control treatment. It was concluded that pre or post vaccination administration of multivitamin or Vitamin C could enhance the immunity of the broiler chickens.

Key words: vitamin c, multivitamin, broiler chickens, vaccination, immunological