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Effect of Inclusion of Moringa oleifera Leaf on Physiological Responses of Broiler Chickens at Finisher Phase during Hot-Dry Season

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Abstract : An experiment was conducted to determine the effect of different dietary inclusion levels of Moringa oleifera leaf powder (MOLP) on growth and physiological responses of broiler chickens during hot-dry season in Nigeria. Two hundred and forty (240) day-old commercial broiler chicks were randomly allotted to four dietary treatments having four replicates each. Each replicate had 15 birds. The levels of inclusion were 0g (Control group), 4g, 8g and 12g/Kg feed. The experiment lasted for eight weeks. The results of the study revealed that the initial body weight was significantly ($P < 0.05$) higher in birds fed 12g/kg diet than those fed 0, 4, and 8g MOLP. The birds fed 0, 4 and 8g/kg diet however had similar weights. The final body weight was significantly ($P < 0.05$) higher in the birds fed 12g MOLP than those fed 0, 4 and 8g MOLP. The final weights were similar in the birds fed 4 and 8g/kg diet but higher ($P < 0.05$) than those of the birds in the control group. The body weight gain was similar in birds fed 0 and 4g MOLP but significantly higher ($P < 0.05$) than those of the birds in 12g/kg diet. There were no significant differences ($P > 0.05$) in the feed intake. The serum albumin of the birds fed 12g MOLP/Kg diet (48.85g/L) was significantly ($P < 0.05$) higher than the mean value of those fed the control diet 0 and 8g MOLP/Kg diets having 36.05 and 37.10g/L respectively. Birds fed 12g MOLP/Kg feed recorded the lowest level of triglyceride (122.75g/L) which was significantly ($P < 0.05$) lower than those of the birds fed 0 and 4g/kg diet MOLP. The serum corticosterone decreased with increase in MOLP inclusion levels. The birds fed 12g MOLP had the least value. This study has shown that MOLP may contain potent antioxidants capable of ameliorating the effects of heat stress in broiler chickens with 12g MOLP inclusion.

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