

# Effect of Supplemental Electrolytes and Ascorbic Acid on the Performance and Carcass Characteristics of Broiler Raised During High Temperature Period in Nigeria

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### **Abstract :**

The effect of supplementing drinking water with sodium chloride, sodium bicarbonate, calcium chloride and ascorbic acid on feed intake, weight gain, Feed Conversion Ratio (FCR), visceral and immunological organs of broilers reared under natural heat stress was undertaken. A total of 200 day-1 Arbor acre strain chickens were randomly divided into five treatments. Each treatment was in quadruplicate of ten chickens each. Treatment 1 (T1) was the control with water without any supplement while treatments T2, T3, T4 and T5 had their water supplemented with 0.5% ammonium chloride, sodium bicarbonate, calcium chloride and 300ppm ascorbic acid respectively. The design of the experiment was a completely randomized design. Birds given salts (T2, T3 and T4) had lower feed intake (721.5 g, 732.6 g and 730.30 g respectively) compared with their counterparts on Treatments 1 and 5 (735.30 g and 733.10 g respectively) Birds on T3 had significantly improved ( $p < 0.05$ ) weight gain (331.56 g) and lower FCR (2.22). The FCR generally decreased in birds given salts. The visceral and immunological organs were not significantly affected ( $p > 0.05$ ) by the treatment except birds on T4 which recorded significantly lower ( $p < 0.05$ ) relative weight of intestine (2.93%), higher weight of bursa of fabricus (0.19%). Conclusively, (0.5%) salts supplementation in water had positive effect on the performance of heat stressed broiler in this experiment.

### **Key Word :**

Heat stress, supplemental salts, broiler performance, feed conversion ratio, immunological organs, ascorbic acids, visceral organs