

INFLUENCE OF SODIUM BICARBONATE AND SODIUM SULPHATE ON ELECTROLYTE BALANCE AND PRODUCTIVITY IN BROILER CHICKENS

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Summary. This investigation compared the influence of diets supplemented with sodium bicarbonate (NaHCO₃) or sodium sulphate (Na₂SO₄) on electrolyte balance and productivity in broiler chickens. Four hundred 1-day-old chickens were randomly divided into two equal groups and for 35 days fed *ad libitum* basal diet supplemented with sodium bicarbonate (Group 1) or sodium sulphate (Group 2) at an identical dietary electrolyte balance (DEB) 230 mEq/kg. Chickens on diet with sodium sulphate (Group 2) had statistically significantly higher concentration of Ca and Na in blood sera compared to chickens on diet with sodium bicarbonate (Group 1). There were no significant differences between the level of P, Mg, Cl and pH in blood sera. The concentration of P was on 0.75% higher in *Tibia* of broiler chickens in Group 2 compared to controls in Group 1. However, the difference between groups were not significant (P>0.05). Feed intake and weight gain in both groups was comparable. In conclusion, this experiment demonstrated that diets formulated with sodium bicarbonate or sodium sulphate can effectively balance demand of sodium thus maintain the optimal dietary electrolyte balance in growing broiler diets.

Key words: sodium bicarbonate, sodium sulphate, electrolyte balance, broiler chickens.