

## **DIETARY SUPPLEMENTATION OF SECONDARY PLANT COMPOUNDS AND ZINC BACITRACIN ON GROWTH PERFORMANCE AND LIPID PROFILE OF BROILERS**

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Broiler industry is currently looking for alternatives to increase the efficiency of feed consumption while eliminating the use of antibiotic growth promoters (AGP). This study was conducted to investigate the effect of supplementing broiler chicken diets with secondary plant compounds (SPC) and zinc bacitracin on growth performance and serum lipid profile. Three hundred, eight day-old Cobb500 broiler chicks were randomly allocated to five experimental diets with six replicates each in a completely randomized design. The supplements were mixed in the commercial diet at two different levels (SPC; 10% and 20% Activo<sup>®</sup> and AGP; 20% and 40% Zinc bacitracin (ZB)). Broilers fed on the commercial broiler diets without supplements were considered as the control. Body weights and feed consumption were recorded at weekly intervals and body weight gain and feed conversion ratio (FCR) were calculated. On 42<sup>nd</sup> day, birds were slaughtered and dressed weight, internal organs weight, and serum lipid profile were measured. Data were analyzed using one way Analysis of Variance in SAS. Dietary intake of 20% Activo<sup>®</sup> resulted significant increase ( $p < 0.05$ ) in body weight gain ( $2296 \pm 51$  g) and decrease in FCR ( $1.55 \pm 0.03$ ) compared to the control group ( $2152 \pm 51$  g and  $1.68 \pm 0.03$ , respectively). However, weight gains and FCR were similar in ( $p > 0.05$ ) birds fed with different percentages of ZB and Activo<sup>®</sup>. Carcass and internal organ weights were not significantly different ( $p > 0.05$ ) among the treatments. Inclusion of supplements significantly reduced ( $p < 0.05$ ) the serum total cholesterol ( $160 \pm 25$  mgdL<sup>-1</sup>) and low density lipoprotein ( $72 \pm 26$  mgdL<sup>-1</sup>) compared to the control. Therefore, secondary plant compounds used in the study can be utilized at a level of 20% as an alternative to antibiotic growth promoters to improve broiler performance to reduce the serum cholesterol.

**Keywords:** Antibiotic growth promoter, Broilers, Growth performance, Secondary plant compound, Serum lipid profile