

GROWTH PERFORMANCE AND MEAT QUALITY PARAMETERS OF CROSSBRED NAKED NECK MALE CHICKENS FED WITH BLACK SOLDIER FLY LARVAE-ENRICHED DIETS

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Insects and their larvae are traditional feed sources for scavenging poultry and wild birds, and their potential inclusion in commercial poultry diets has attracted worldwide interest. This study investigated the Black Soldier Fly (*Hermetia illucens*) Larvae (BSFL) as a partial replacement for commercial feed in crossbred Naked neck male chicken diets, assessing its impact on growth performance, meat quality, and economic profitability. A total of 160 one-month-old crossbred Naked neck male chicks were obtained from a commercial farm brooder and acclimated for one week. After acclimation, the chicks were randomly assigned to 16 equally sized wooden cages (2 m²), with 10 birds per cage. The birds were then allocated to dietary treatments, with 40 birds per treatment, for 10 weeks. Live BSFL was incorporated into the diets at the rate of 0%, 10%, 20%, and 30% to create the Control (C), T1, T2, and T3 diets, respectively. Each treatment included two feeding phases: a starter diet phase from week 4 to week 6, and a grower diet phase from week 6 to week 14. The inclusion of 20% BSFL (T2) had a significantly higher ($p < 0.05$) final body weight (1199.52±3.19 g) and body weight gain (1015.18±3.77 g), while significantly lower feed conversion ratio (2.19±0.01). Further, the performance efficiency factor (783.05±4.89 g) was highest in T2, showing the best overall performance. However, meat quality parameters such as meat color, pH, and water holding capacity were not significantly affected ($p > 0.05$) by the different treatments. According to the cost-benefit analysis, T2 treatment had a significantly higher cost-benefit ratio (1.617±0.0043) and a better return on investment (0.617±0.0043). In conclusion, BSFL at the rate of 20% can be used as a partial replacement for more expensive commercial feed in Naked neck crossbred chicken diets, improving performance without negatively affecting the carcass characteristics.

Keywords: Chicken diets, Carcass characteristics, Meat quality, Village Chicken