

Nutritional value of Black soldier fly (*Hermetia ilucens*) larvae reared on vegetable waste and its effect on growth performance of village chicken

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Abstract

A nutritive evaluation of black soldier fly, *Hermetia ilucens* larvae and the effects of feeding formulations containing the black soldier fly larvae on growth performance of village chickens were performed. Black soldier fly larvae were subjected to proximate analysis before a total of 300, day-old village chicks were randomly divided into four groups. The control group was fed 0% black soldier fly larvae, T1 was fed 5% black soldier fly larvae, T2 with 10% black soldier fly larvae, and T3 with 15% black soldier fly larvae. Each group consisted of five replicates with 10 birds per replicate. All birds were fed ad libitum with the respective formulation, which lasted for 70 days. The black soldier fly larvae contained 34.6% dry matter, 10.1% ash, 33.3% crude protein, 28.3% ether extract, 11.3% crude fiber, 3.7% moisture and 2041 kJ energy. The larvae also contained 20361.5 mg of calcium and adequate levels of vitamins. The body weight gain and feed conversion ratio were significantly ($p < 0.05$) improved following treatments with 15% of black soldier fly larvae and were not significant ($p > 0.05$) among the other treatment groups. Furthermore, the T3 chickens showed significantly ($p < 0.05$) higher meat and carcass yields. It can be concluded that inclusion of up to 15% of black soldier fly larvae in feed ration can enhance the growth performance of village chickens without adverse effect.

Keywords: *Black soldier fly larvae, village chickens, growth performance, nutritional composition*