

Effect of energy to protein ratio in starter diet with dehydrated food waste, superworms and unfertilized eggs on growth performance of village chickens

ABSTRACT

A study was conducted using 144 day-old chicks of Arabian strain village chicken to determine the effect of dietary protein and energy ratios in starter diets with dehydrated food waste, superworms and unfertilized eggs on growth performance in closed confinement system. Dehydrated food waste was the main energy source, superworms and unfertilized eggs were the main protein sources. Six experimental diets were formulated to have 3 energy to protein ratios (134, 150 and 164) with 150 energy to protein ratio as the control.. Every ratio had two different protein sources with the same inclusion level. Each treatment had 2 replicates with 12 birds each in a complete randomized design. Feed and water were provided ad libitum from 0 -42 d. Proximate analysis of the main ingredients in the diet showed dehydrated food waste had 4,500.54 kcal/kg of gross energy and 25.18% of crude protein while superworms and unfertilized eggs had crude protein of 46.54 and 46.33%, respectively. The study showed that a single diet of energy: protein ratio of 134 kcal ME/kg protein supported optimum growth rate of Arabian strain village chicken from 1 to 42 d of rearing. Feed conversion ratio improved with increasing dietary energy level. These findings have implications on ration formulation for village chickens in Malaysia.

Keyword: Energy to protein ratio; Village chicken; Dehydrated food waste; Superworm; Unfertilized egg; Starter diets