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Performance, Yolk and Serum Cholesterol of Shaver-Brown Layers Fed Moringa Leaf Meal and Sun Dried Garlic Powder

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Abstract : One hundred and ninety two Shaver-Brown layers aged 40 weeks were used in a 10 weeks feeding trial to investigate the effect of supplementary moringa leaf meal and sun-dried garlic powder (MOGA) on the performance, egg yolk and serum cholesterol profiles of the birds. The birds were randomly assigned to four treatments in a 2 x 2 factorial in a Completely Randomized Design with 48 birds per treatment. Each treatment had 24 replicates with 2 birds, each separately housed in a cell in a battery cage. Birds on treatment 1 received a standard layers mash (16.5% CP and 3000 kcalME/kg) without any MOGA. Treatment 2 birds received the control diet with 5 g moringa leaf meal/kg of feed, treatment 3 received the control diet with 5 g sun-dried garlic powder/kg of feed, treatment 4 had a combination of 5 g each of moringa leaf meal and sun dried garlic powder/kg of feed. Data were kept on daily egg production, egg weight and feed intake. 10 eggs were collected per treatment at the end of the study for yolk cholesterol determination. Blood samples from four birds per treatment were collected and used for the serum cholesterol and triglycerides determination. Results showed that bird on treatment 3 (5% moringa leaf meal/kg of feed) had significantly higher ($P < 0.05$) Hen Day Egg Production record of 83.3% as against 78.75%, 65.05% and 66.67% recorded for the control, T2 and T4 birds, respectively. Egg weight of 56.39 g recorded for the same birds on treatment 3 was significantly ($P< 0.05$) lower than the values of 62.61 g, 60.99 g and 59.33 g recorded for birds on T4, T1 and T2, respectively. Yolk and serum cholesterol profiles of the moringa leaf meal fed birds were significantly ($P<0.05$) lowered when compared to those of the other treatments. Comparatively, the birds on the MOGA diets had significantly reduced yolk and serum cholesterol than the control. It is concluded that supplementation of moringa leaf meal and sun dried garlic powder at the levels used in this study will result in the production of nutritionally healthier eggs with less yolk and serum cholesterol.

Keywords : performance, cholesterol, moringa, garlic
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