

EFFECT OF DIETARY SUPPLEMENTATION OF PENERGETIC-T ON GROWTH, EGG QUALITY AND BLOOD SERUM LIPID PROFILE IN LAYERS

M.N.R. Amaranayaka¹, I.D. Perera² and A.M.J.B. Adikari¹

¹Department of Animal and Food Sciences, Faculty of Agriculture, Rajarata University of Sri Lanka, Anuradhapura, Sri Lanka.

²Dimo Diesel and Motor Engineering PLC, Colombo 14, Sri Lanka.

The present study was carried out to determine the effect of dietary supplementation of penergetic-t on growth performance, egg quality and blood serum parameters in laying hens. Eighteen weeks old 1000 hy-line white hens were randomly selected and distributed to four dietary treatment groups each having five replicates. Each treatment had 250 hens in total. The hens were fed with a commercial layer ration supplemented with penergetic-t; T₁ (140 gt⁻¹), T₂ (120 gt⁻¹), T₃ (100 gt⁻¹) and T₄ (0 gt⁻¹ - control). Growth performances (feed intake and body weight) and egg quality (egg weight, egg shape index, egg shell thickness and haugh unit) parameters were recorded on weekly basis and serum lipid profile was measured at the end of the experiment at 32 weeks. The highest final body weights were observed in T₁ (1.93 ± 0.0134 kg hen⁻¹) while the lowest was observed in T₄ (1.82 ± 0.0134 kg hen⁻¹). The highest feed intake was observed in T₁ (115 ± 0.62 g day⁻¹) and T₄ (104 ± 0.62 g day⁻¹) had the lowest feed intake. The cumulative values of egg weights (g) ranged from (51.31 ± 0.63 g) (T₄) to (54.55 ± 0.7 g) (T₁) and shell thickness (mm) was significantly improved by supplementation of penergetic-t. The egg length, egg width and shape index were not significantly affected by treatments. Haugh unit ranged between 78.30 ± 0.39 (T₄) to 79.16 ± 0.35 (T₁) and was significantly improved by supplementing the basal diet with penergetic-t. Total cholesterol, triglyceride, high density lipo-protein and low density lipo-protein levels in serum were not significantly different among the treatments. According to the cost-benefit analysis, profit earned from T₁ (172.12 LKR per bird) was higher compared to the control (139.32 LKR per bird). Hence, it can be concluded that layer ration supplemented with penergetic-t as 140 gt⁻¹ is a better level for layer feed rations used in Sri Lanka.

Keywords: Dietary treatment, Egg quality, Laying hens, Profit