

INFLUENCE OF MAGMEAL SUPPLEMENTATION ON BIOCHEMICAL PARAMETERS OF JAPANESE QUAILS

Smruti Smita Mohapatra¹, G. Suganya²,
V. Leela³ and Bhaskaran Ravi Latha⁴

¹Ph.D. Scholar, Dept. of Veterinary Physiology, WBUAFS, Kolkata

²Assistant Professor, Dept. of Veterinary Physiology, Madras Veterinary College, TANUVAS, Chennai

³Professor and Head, Dept. of Veterinary Physiology, Madras Veterinary College, TANUVAS, Chennai

⁴Professor and Head, Dept. of Veterinary Parasitology, Madras Veterinary College, TANUVAS, Chennai

E-mail: ¹simplysmruti@gmail.com, ²drsuganya_vet@rediffmail.com, ³leela@tanuvas.org.in, ⁴latha@tanuvas.org.in

Abstract—A study was conducted on 240 Japanese quail birds (*Coturnix coturnix japonica*) from day old to six week of age at Poultry Research Station, Madhavaram Milk Colony, Chennai – 600 051 to evaluate the effect of magmeal supplementation on hematological parameters. Maggot meal, popularly magmeal is a core product consisting of dried defatted larvae that is ground into a high protein larvae meal. The birds were divided into four groups with 20 birds each in each group in three replicates where group 1 (Control group) was fed with Japanese quail basal diet (with 7 per cent fish meal), group 2 was fed with Japanese quail basal diet replacing 50 per cent fish meal with magmeal, group 3 was fed with Japanese quail basal diet replacing 75 per cent fish meal with magmeal and group 4 was fed with Japanese quail basal diet replacing 100 per cent fish meal with magmeal. The effect of magmeal inclusion on biochemical parameters suggested that there was no significant difference in total protein concentration between the groups and between the three weeks and six weeks of age in control and experimental groups of birds. There was a significant increase ($P < 0.05$) in albumin concentration at the six weeks than the three weeks of age in control and experimental groups of birds. The globulin concentration was found to be significantly increased ($P < 0.05$) in groups 2 and 4 and decreased in group 3 when compared to the control group of quails at six weeks. There was a significant increase in globulin concentration at six weeks than at three week of age in control and experimental groups of birds. The total cholesterol concentration observed was significantly increased ($P < 0.05$) in groups 2 and 4 and decreased in group 3 when compared to the control group of birds at six weeks of age. There was no significant difference in the total cholesterol concentration between the birds of age three and six weeks in control and experimental groups of birds. There was no significant difference in the serum aspartate aminotransferase and serum alanine aminotransferase concentration between the groups and between the three and six weeks in control and experimental groups of Japanese quails. Thus magmeal improved the serum albumin and globulin in the quails influencing the total cholesterol concentration. Magmeal evolves a potential animal protein source for replacement of fish meal to quail ration.