

INFLUENCE OF MAGMEAL SUPPLEMENTATION ON THYROID PROFILE OF JAPANESE QUAILS

¹Smruti Smita Mohapatra, ²G. Suganya and ³V. Leela

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

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

Abstract—A study was conducted on 240 Japanese quail birds (*Coturnix coturnix japonica*) from day old to six weeks of age to evaluate the effect of magmeal supplementation on thyroid hormones. 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 thyroid hormones revealed that there was a significantly high increase ($P < 0.01$) in triiodothyronine concentration as the levels of inclusion of magmeal in the diet increased when compared to the control group. The highest triiodothyronine concentration was noticed in group G_4 . The triiodothyronine concentration was significantly lower ($P < 0.01$) in all the groups at six weeks of age when compared to birds at three weeks of age. There was a high significant increase in thyroxine concentration as the levels of inclusion of magmeal in the diet increased when compared to the control group and the highest value was recorded in the group G_4 at three weeks of age. The significantly high increase in T_3 hormone at both three and six weeks and T_4 at three weeks due to the inclusion of magmeal improved the growth indices and metabolism with age in the Japanese quails by improving the body weight gain and feed consumption. This may be attributed to the fact that neutral odour and nutty flavour of magmeal contributed to the improving palatability thereby augmenting the nutritional impact for the quails.