

## **Effect of dietary supplementation level of carbimazole on physiological responses of male Bovans chicks during Summer conditions**

**By**

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### **Summary**

This study was performed to validate the use of the antithyroid drug carbimazole in the control of thyroid function in chicks and to establish the dose (0.03, 0.057, 0.08, 0.081 and 0.1 g/bird/day) response relationship in male Bovans chicks for 21 days. The rectal temperature ( $T_r$ ) decreased ( $P<0.05$ ) with the increase in carbimazole dose. The mean food intake did not maintain a consistent pattern and the mean body weight (B.W) was not affected significantly by the increase in carbimazole dose. The total leukocyte count (TLC) decreased ( $P<0.05$ ) with the increase in carbimazole dose. The ratio of lymphocytes decreased ( $P<0.05$ ) while the ratio of heterophils increased ( $P<0.05$ ) on days 14 and 21 following supplementation of carbimazole. The serum cholesterol concentration increased ( $P<0.05$ ) with the increase in carbimazole dose. The absolute weights of the thyroid glands, the thymus and the spleen showed a biphasic pattern of response to the level of carbimazole. The absolute weight of the bursa of Fabricius decreased ( $P<0.05$ ).

### **Introduction**

Thyroid hormones are known to be potent mediators of many aspects of avian physiology, particularly growth and oxidative metabolism (Wentworth and Ringer, 1986). Various studies have indicated that thyroid hormones maintain important effects on thermoregulation in birds by modulating metabolic heat production (Freeman, 1971; Klandrof *et al.*, 1981; Hwang *et al.*, 1990). Evidence of a direct relationship between thyroid function and heat



























