

## **Effects of Vitamin C and Spondias mombin Supplementation on Hematology, Growth, Egg Production Traits, and Eggshell Quality in Japanese Quails (*Coturnix coturnix japonica*) in a Hot-Humid Tropics**

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**Abstract :** A 56 day study was conducted to evaluate the effect of dietary inclusion of *Spondias mombin* on hematological, growth, egg parameters and egg shell quality of Japanese quails, *Coturnix coturnix japonica*. One hundred birds were used for this study, and they were allocated randomly into 5 groups and replicated twice. Group 1 animals served as control without inclusion of extract, groups 2, 3, and 4 had 200 mg/kg, 400 mg/kg and 800 mg/kg inclusion of SM, group 5 had 600 mg/kg of vitamin C respectively. The birds were weighed weekly to determine weight change, the blood parameters analyzed at the completion of the experiment were PCV, Hb, RBC WBC, differential WBC count, MCH, MCH, and MCV were afterwards calculated from these parameters. 5 eggs were collected from each group and egg weight, eggshell weight, eggshell diameter, yolk weight, albumen weight, yolk diameter, yolk height, albumen percentage, yolk percentage and shell percentage were determined. There was no significant difference among the group for the hematological parameters measured and calculated. The egg weight and albumen weight of quails on 800 mg/kg was highest of all the groups, all other egg parameters measured showed no significant difference. The birds supplemented with Vitamin C had the highest weight gain ( $40.8 \pm 2.5$  g) and the lowest feed conversion ratio (2.25). There was no mortality recorded in all the groups except in the SM800 group with 10% mortality. It can be concluded from this experiment that Vitamin C supplementation has positive effect on quail production in humid tropics and the inclusion of *Spondias mombin* leaf extract has a dose-dependent toxicity in quails.

**Keywords :** hematology, quails, *Spondias mombin*, vitamin C

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