

# **Effect of dietary supplementation of Spirulina platensis powder on performance, some serum biochemistry, digestive enzymes, microbial content, antioxidant parameters and immune responses of growing Japanese quail.**

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## **ABSTRACT**

This study was performed to examine the influences of Spirulina platensis powder (SPP) on growth performance, physiological status, blood biochemistry, and intestinal microbial population in quail. 240-10-days old Japanese quail chicks were distributed into five groups. Each group had four replicate pens with 12 birds each. The first group received a basal diet (control group). Groups from two to five received the basal diet with SPP at levels of 1.5, 3.0, 4.5, and 6.0% as dietary ingredients, respectively. Results clarified significantly higher live body weight and body weight gain ( $p<0.001$ ) with significant enhancements ( $p<0.001$ ) in feed conversion values for groups that received SPP levels, especially 4.5% compared with the control and other groups. Birds fed on a diet containing SPP had significantly higher amylase, trypsin and lipase levels ( $p<0.001$ ) than the control. Intestinal Lactobacillus sp. Was significantly increased, and Escherichia coli and Salamonella populations were significantly decreased by dietary SPP levels ( $p<0.001$ ). Liver function, total lipid profile, antioxidant parameters and immune response were significantly affected by SPP levels compared with the control ( $p<0.001$ ). In conclusion, the inclusion of SPP until 4.5% in quail diets could improve the growth performance, intestinal microbial population and serum biochemical constituents of growing quail.

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