**EVALUATION OF *LACTOBACILLUS* AND *SACCHAROMYCES* SPECIES ON IMMUNE RESPONSES, GROWTH PERFORMANCE AND ANTI-*EIMERIASIS* ACTIVITIES IN BROILERS**

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**Abstract**

Eimeriasis is an important protozoal infection in broilers and is associated with heavy economic losses in terms of reduced weight gains, high mortality and poor feed conversion ratios (FCRs) in affected flocks. This study was conducted to evaluate *Lactobacillus* and *Saccharomyces* based probiotics for their effects on growth performance, immune responses and subsequent anti-eimeriasis activities in broilers. Day old broiler chicks (n=280) were reared under standard management conditions and after 5 days of acclimatization were divided into seven equal groups A1-A3 (administered with *Lactobacillus* based probiotics in graded doses), B1-B3 (administered with *Saccharomyces* based probiotics in graded doses) and C (control group). The immune responses were enumerated in terms of lymphoproliferative response to phytohaemagglutinin-P and antibody titres to sheep erythrocytes. Anti-eimeriasis activities were assessed in terms of oocysts counts (OPG), daily weight gains, percent mortality and lesion scores. Results showed statistically higher (P<0.05) lymphoproliferative responses in groups administered either with *Lactobacillus* or *Saccahraomyces* based probiotics, as compared to control. Further antibody titres were also higher in chickens of probiotics administered group. The FCRs were significantly improved (P<0.05) in probiotics administered groups as compared to control. In challenge experiment, probiotics administered groups showed significantly lower (P<0.05) OPG and lesion scores as compared to control group. On the other hand, daily weight gains and protection rates were significantly higher (P<0.05) in probiotics administered groups as compared to control. In conclusion, supplementation of probiotics proved very useful to enhance the immunological and performance potentials of broilers which subsequently provided protection against *Eimeria* infection.

**Keywords:** Immunity, Growth performance, Eimeriasis, Broilers