EFFECT OF DIETARY SUPPLEMENTATION OF *Bacillus subtilis* (DSM5750) AND *Bacillus licheniformis* (DSM5749) ON GROWTH PERFORMANCE OF COMMERCIAL BROILERS

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ABSTRACT

The main goal of this research was to understand how the economical and biological impact of commercial broiler growth performances by feeding with the supplementation of *Bacillus subtilis* (DSM 5750) and *Bacillus licheniformis* (DSM 5749) and four key variables referring to broiler husbandry with the changes of villus height (VH) of broiler gastrointestinal tract. A total of 270-day-old Ross 308 FF broiler chicks were randomly distributed into three separate groups with 90 chicks each. Each 90 chicks were divided randomly into six replicates each with 15 chicks. All chicks were subjected to rear under deep litter based open housing system. The experiment was laid out in a control randomized design (CRD) with having the following three treatments. The control group is designated as Treatment 0 (T0) which was given only the basal diet. The Treatment – 1 (T1) is given 400g / ton and Treatment - 2 (T2) was given 500g / ton of tested probiotics added broiler diet respectively. All broiler diets in different feeding phase up to 35 days of experimental period were formulated based on Ross 308 FF Nutritional Specifications 2022. All kinds of broiler diets were free of antibiotic growth promoters (AGP) and natural growth promoters (NGP) and feed form was crumbling from day 01 to 15 days and pelleted diet since day 16 to 35 respectively. Weekly data on mortality, feed intake, body weight and feed conversion ratio (FCR) were recorded. The samples of gastrointestinal tract (Duodenum, Jejunum & Ileum) of six sacrificed broilers of each treatment at 35 days were subjected to histological studies. The results showed that inclusion of 400g/ton of tested probiotic (*Bacillus subtilis* (DSM5750) and *Bacillus licheniformis* (DSM5749)) had significant effects on broiler growth performances parameters concluding as broiler performance efficiency index (BPEI) and duodenal morphometry of commercial broilers over the basal diet used in control group. Further studies under equal field conditions should be conducted to confirm these results.

Key words: Broiler Performance Efficiency Index (BPEI); Commercial Broilers; Duodenal Morphometry; Feed Conversion Ratio (FCR); Probiotics

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