

Assessment of Growth Performance, Hemato-Biochemical Parameters, Immunological and Histopathological Alterations Associated with New Bacterial Multistrain Probiotic (Gro-2-Max®) Supplementation on Broiler Chicken

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Abstract : Long time ago, attempts for enhancing the poultry health status, are concentrating on ways for modulating the indigenous intestinal flora by live microbial adjuncts, now called “probiotics”. In the present study 126, one-day old commercial broiler chicks were used to evaluate the effect of supplementation with new bacterial multistrain probiotic (Gro-2-Max®) and were equally divided into 6 groups. Group 1 (control), were fed and drank without any treatment. Supplementation in ration was done at a rate of 500 g/ton starting from 1st day till the end of experiment (42 days) in group 2, from 15th to 42nd day in group 3, and from 1st to 10th and from 30th to 42nd day in group 4. Supplementation in drinking water was carried out at a rate of 1g/liter for 24 hours starting from 1st to 5th, 16th to 20th and from 30th to 35th day in group 5, and for 3 successive days/week till 42nd day in group 6. Evaluation included monitoring chicken performance (feed intake, body weight gain, feed conversion rate, immune index and cecal bacterial enumeration), clinicopathological alterations (hemogram and serum biochemistry), immune responses (humeral and cellular), and histopathological examinations (liver, kidney, spleen, bursa of Fabricius, thymus and ileum). Results concluded to, the positive effect of Gro-2-Max® on chicken performance especially groups 2 and 6, decreasing effect on lipogram especially total cholesterol, total triglycerides and low density lipoprotein cholesterol, nonspecific humeral and cellular immune responses, and improving effect on intestinal function through increasing the height of ileal villi.

Key words: Probiotics, Chicken performance, Clinical pathology, Immunology, Histopathology.