The Effects of Comparison of Herbal Extracts, Antibiotic, Probiotic and Organic Acid on Serum Lipids, Immune Response, GIT Microbial Population, Intestinal Morphology and Performance of Broilers

Yakhkeshi S (M.Sc.)[1], Rahimi S (Ph.D.)[1]*, Gharib Naseri K (M.Sc.)[1]

1- Department of Poultry Science, Faculty of Agriculture, Tarbiat Modares University, Tehran, Iran
*Corresponding author: Department of Poultry Science, Faculty of Agriculture, Tarbiat Modares University, Tehran, Iran
Tel: +98 - 21- 48292004, Fax: +98 - 21- 48292200
E-mail: rahimi_s@modares.ac.ir

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Abstract

Background: With the removal of antibiotic as growth promoters from poultry diets, it is of interest to investigate potential alternatives to maintain good growth performance and good intestinal microbial populations in these birds. Numerous additives such as Probiotics, prebiotics, organic acids, enzymes and herbal extracts used extensively in poultry feed.

Objective: The study was conducted to investigate the effects of herbal extracts, probiotic, organic acid and antibiotic on serum lipids, immune response, intestinal morphology, microbial population and performance of broilers.

Method: A total of 300 day - old male broilers (Cobb 500) were randomly divided into four treatments, five replicates with 15 birds in each. Treatments included: control, herbal extracts (Sangrovit®), probiotic (Primalac®), organic acid (Termin-8®) and antibiotic (Virginiamycin).

Results: The highest weight gain (WG) were achieved by virginiamycin ($p<0.05$). Moreover, highest and lowest antibody titers against SRBC were observed in Primalac® and virginiamycin treatments, respectively ($p<0.05$). Lowest serum cholesterol and triglyceride were obtained by Primalac® and Sangrovit® ($p<0.05$). The lowest and highest coliform bacteria counts in ileum were seen in virginiamycin and control groups, respectively ($p<0.05$).

Conclusion: It has been concluded that Sangrovit®, Primalac® and Termin-8® reduced pathogenic bacteria in digestive tract of broilers, which can help to improve intestinal health of these animals. Thus, these can be used as antibiotic alternatives in broilers feed.

Keywords: Virginiamycin, Primalac®, Termin - 8®, Sangrovit®, Broiler performance