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Efficacy of antibiotic, probiotic, prebiotic and synbiotic on growth performance, organ weights and immune response in broiler chickens

Golnaz Sharafi¹, Hasan Ghahri², Tohid Toloei¹ and Behzad Soleimani²

¹University of Tehran, Iran

²Azad University, Iran

Aim: A feeding trial was conducted to investigate the effects of dietary supplementations of antibiotic, probiotic, prebiotic and synbiotic on broiler performance, histomorphologic measurements of small intestine and immune response.

Material & Method: A total number of 432, day-old broiler chicks (Ross 308) were obtained and randomly assigned to 1 of 9 dietary treatments for 6 weeks. The dietary treatments were: 1; basal diet; 2, 3; basal diet plus 400, 600 g of phosphomycin product/ton of starter and grower feeds, respectively, 4, 5; basal diet plus (150,200) g of probiotic product/ton of the starter feed and 100,150 g/ton of the grower feed, respectively, 6, 7; basal diet plus 500, 1000 g of a prebiotic product/ton of starter and grower feeds, respectively, 8 and 9; basal diet plus 1000,1250 g of synbiotic product/ton of the starter feed and 500,750 g/ton of the grower feed, respectively.

Results: Birds supplemented with the synbiotic had a greater ($P<0.01$) feed intake and body weight gain compared with those of others treatments. Feed conversion rate was lower in birds supplemented with all additives than in control birds ($P<0.01$). The carcass weight was significantly increased in feed additives compared with that of control treatment group ($P<0.05$). The villus height was significantly increased in feed additives compared with that of control group ($P<0.01$). Synbiotic treated animals showed increase ($p<0.05$) in antibody titers against NDV compared to those of the control groups at 28, 35 and 42 days of age.

Conclusion: The result of the present study revealed that these products had promising effects as alternatives for antibiotics in parallel to demand for elimination of growth-promoting antibiotics.

Biography

Golnaz Sharafi has completed her DVM with excellent grade from Veterinary School in Tehran University. She is currently a R&D and Lab Officer in Viromed Laboratory. She has published more than 5 papers in reputed journals and also attended several international conferences.

golnazsharafi@gmail.com

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