Effect of Probiotics, Yeast, Vitamin E and Vitamin C Supplements on Performance and Immune Response of Laying Hen During High Environmental Temperature

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Abstract:

In order to evaluate the effects of dietary probiotics, yeast, vitamin E and vitamin C supplementation on performance, serum and yolk cholesterol and immune response of heat stressed laying hens, a trial was conducted with sixty white layer hens of Hy-Line variety. Experiment was conducted by using completely randomized design with 5 treatments, 3 replicates and 4 hens in each replicate. The treatments involved: control, basal diet plus 50 mg multi strains probiotic, basal diet plus 1 g yeast of Saccharomyces cerevisiae, basal diet plus 200 mg vitamin C and basal diet plus 200 mg vitamin E per Kg of diet. Results indicated no significant difference in hen performance, egg quality (shell thickness, shell resistance, shell percent and haugh unit) and serum and yolk cholesterol concentrations. Yolk percent was increased significantly and the highest yolk percent was observed in vitamin E treatment. Immune response of laying hens with multi strains probiotic and yeast supplementation was greater than others. However, dietary vitamin E and C supplementation increased immune response, but differences were not significant compare with other groups.

Keywords:
Vitamin E, vitamin C, probiotics, yeast, laying hen, high environmental temperature