

Effect of using nanoliposomes of vitamin D3 in diet on performance and egg quality of laying hens

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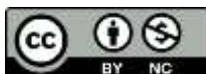
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Abstract

The present study was carried out to investigate the effect of using nanoliposomes vitamin D3 (NVitD) in diet on performance and egg quality of laying hens. One hundred and twenty Leghorn laying hens (Hy-line W-80 Commercial strain) were used in a completely randomized design with four treatments, five replicates and six hens per replicate for six weeks. The treatments consisted of: 1- control with 3300 IU VitD/kg of diet, 2- 4950 IU VitD/kg of diet 3- 3300 IU NVitD/kg of diet and 4- 4950 IU NVitD/kg of diet. In the second three weeks of the experiment, the hens that received 4950 IU VitD/kg in their diet had the most feed intake in comparison with others. The egg yolk VitD content was increased significantly with increasing VitD concentration in hens diet. In equal amounts of diet VitD, application of nanoliposomes reduced the VitD content of egg yolk. Egg yolk cholesterol concentrations increased when using NVitD. The results of the present experiment showed that the use of NVitD did not have a significant effect on the production performance and egg quality traits of laying hens.

Key words: Egg, Laying hens, Performance, Nanoliposomes, Vitamin D3

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