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The effect of bacterial enzyme-based feed additives on the productivity, digestibility and assimilation of nutrients in young laying hens

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Abstract

© 2020 Smolentsev Sergei Yur'evich, Rudakova Natalia Leonidovna, Koryagina Anastasia Olegovna, Bulmakova Daria Sergeevna, Suleymanova Aliya Damirovna, Mardanova Ayslu Mirkasimovna and Sharipova Margarita Rashidovna. The work aimed to study the effect of feed additives based on proteinase and phytase on the productivity, digestibility of nutrients and the development of laying hens up to 18 weeks of age. A total of 360 1-day-old Hisex Brown chickens were assigned to a completely randomized design composed of 3 diets with 4 replicates of 30 birds each. Dietary treatments were: (1) Control group: Basic diet with nutritional parameters consistent with recommended feeding standards, without enzymes additives, (2) experimental group A: Basic diet with the addition of proteinase at a concentration of 10 U/kg, (3) experimental group B: Basic diet with the addition of phytase at a concentration of 1000 FTU/kg. It has been shown that by adding microbial enzyme is increased digestibility of organic matter of diet of laying hens ($p<0.05$): The use of proteinases and phytase had a favourable influence on the absorption of calcium, phosphorus and nitrogen. The addition of enzymes in the feed resulted in an increased in body weight and weight gain in absolute hens with a decrease in the total amount of feed consumed by birds ($p<0.05$). The inclusion of proteinase and phytase in the diet of laying hens increases the digestibility of nitrogen, phosphorus and calcium, leads to a decrease in the amount of feed consumed and also does not adversely affect histomorphological and biochemical blood parameters.

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Keywords

Balance Experience, Digestibility, Feed Additives, Hisex Brown Laying Hens, Phytase, Proteinase

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