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Área do trabalho: nutrição e produção de não-ruminantes

Quality of eggs from Japanese quails fed with different fiber profiles with and without stimbiotic supplementation

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The stimbiotic is composed of xylanase and fermentable xylo-oligosaccharide, considered an alternative that signals the beneficial microbiota to degrade dietary fiber or providing substrate for hydrolysis of the fiber offered in the birds' diet. The objective was to evaluate the quality of eggs from Japanese quails fed with different fiber profiles with and without stimbiotic supplementation. The experiment was conducted in the Poultry Experimental Module of the Federal University of Paraíba, Areia-PB. 576 Japanese quails, 35 weeks old, were used in 12 treatments with 6 repetitions, DIC, 5 cycles of 21 days, thus totaling 105 days of evaluation. Three diets were formulated: CON, 100L and 100H, all of them isoproteic, iso-energetic, iso-calcitic and iso-phosphoric. The CON diet was a commercial feed with 2.5% BF; 8.2% of total PNA; and 0.35% soluble Arabino + Xylan. The 100L treatment (low fiber, based on wheat grain and bran) was a diet with 2.3% BF; 9.7% of total PNA; and 0.83% soluble Arabino + Xylan. The 100H (high fiber, corn-based) treatment was a diet with 2.6% BF; 8.4% of total PNA; and 0.35% soluble Arabino+Xylan. By interpolating the 100L and 100H diets, the treatments 75L:25H (75% of 100L and 25% of 100H), 50L:50H (50% of 100L and 50% of 100H) and 25L:75H (25% of 100L) were created. and 75% of 100H), resulting in 6 fiber profiles, with and without the addition of 0.01% stimbiotic, totaling 12 treatments. The egg quality variables evaluated were: egg specific weight, shell thickness, yolk index, yolk color, specific gravity, Haugh Unit and percentages of albumen, yolk and shell. Statistical analysis was performed in a 2 x 6 factorial arrangement (without and with stimbiotic and six fiber profiles) using the Tukey test at 5% probability. Then, the proportion levels of the high fiber diet were used (0, 25, 50, 75 and 100) and regressions were carried out, with and without the use of stimbiotic. There was no interaction between fiber profiles and stimbiotic. When analyzing the isolated factors, it was observed that the stimbiotic increased egg weight, shell percentage and yolk color. According to the regressions, the models generated based on the egg weight variable (without stimbiotic: $y = 0.00003x^2 - 0.0022x + 11.849$ and with stimbiotic: $y = -0.00006x\ 2 + 0.0028x + 11.468$), it was possible to observe that without the stimbiotic the ideal ratio is 63.3L:36.7H (63.3% of the 100L diet and 36.7% of the 100H diet) and that with the addition of the stimbiotic the ideal ratio was 76.7L:23.3H (76.7% of the 100L diet and 23.3% of the 100H diet). Indicating that the use of stimbiotic is possible to include a greater quantity of the 100L diet, which is based on wheat grain and wheat bran, and consequently a more fibrous diet. It is concluded that the use of stimbiotic in the birds' diet increases egg weight, shell percentage and yolk color, in addition to allowing greater inclusion of more fibrous diets.
Palavras-chave: fibrous foods, internal and external quality of eggs, xylanase, xylo-oligosaccharide

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