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Área do trabalho: Nutrição e produção de não-ruminantes

Effect of digestible lysine levels on the performance of castrated Duroc males in growth phase II

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The increase in productivity in the pork chain in recent years has made production units increasingly efficient and demanding with regard to the quality of the end product, in order to meet the requirements of the consumer market. One of the strategies for producers is to use an appropriate nutritional plan, through the use of protein and amino acids in the pigs at the different stages of rearing, with the intention of optimizing the animals' performance. When this nutritional strategy is applied in a can provide greater daily weight gain, protein deposition and muscle development. The experiment was carried out with the aim of evaluating protein and amino acid levels and maintaining the ratio between amino acids for pig carcass characteristics using the real-time ultrasound technique. Fifty castrated males in growth stage II (initial weight 50.38 ± 1.76 kg) were used, distributed in a completely randomized experimental design, with five treatments and five repetitions, with two animals per plot. The treatments consisted of levels of crude protein and lysine, maintaining the ratio with the other digestible amino acids: 14.72%PB + 0.73Lys; 15.77%PB + 0.83%Lys; 16.70%PB+ 0.93%Lys; 17.35%PB + 1.03%Lys and 17.0%PB + 1.13%Lys in the diet. In vivo ultrasound measurements of loin eye area (LHE), fat thickness (TE) and muscle depth (MP) were taken at the beginning and end of the experiment, after the animals had been weighed, using the Pie Medical Aquila® ultrasound machine, according to the methodology described by Dutra Jr. et al. (2001). The data was submitted to analysis of variance and regression as a function of the levels of lysine in the feed, using the 5% probability level, with the aid of the PROC GLM and PROC REG statistical packages from SAS®. The values for loin eye area were as follows: 0.62%Lis 30.12cm²; 0.72%Lis 28.08cm²; 0.82%Lis 29.22cm²; 0.92%Lis 28.74cm²; 1.02%Los 29.00cm², ($P > 0.7693$). Fat thickness showed the following values: 0.62%Lis 8.63cm²; 0.72%Lis 8.07cm²; 0.82%Lis 7.81cm²; 0.92%Lis 7.77cm²; 1.02%Lis 7.75cm², ($P < 0.0295$) showing a decreasing linear effect as a function of the inclusion of lysine levels in the diet ($Y = 9.6951 - 2.0573X$; $R^2 = 0.77$). The values obtained for muscle depth were: 0.62%Lys 3.74cm²; 0.72%Lys 3.59cm²; 0.82%Lys 3.47cm²; 0.92%Lys 3.46cm²; 1.02%Lys 3.44cm² ($P < 0.0298$), showing a decreasing linear effect as a function of the inclusion of lysine levels in the diet ($Y = 4.1350 - 0.741X$; $R^2 = 0.83$). In conclusion, the levels of digestible lysine for pigs in growth phase II showed decreasing effects on bacon thickness and loin depth, although the values for loin eye area did not differ statistically from the results found in this study.

Palavras-chave: Aminoácido; Rendimento de carcaça; Requerimento nutricional

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