

THE EFFECT OF THE RATIO BETWEEN METABOLIZABLE ENERGY OF A DIET AND DIGESTIBLE LYSINE ON PIG SUCCULENCE

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Summary. Since May 2002, the rules of payment for pigs according to new appraisal tariffs for specialized establishments have been introduced in Lithuania (approved by No. 464, 28.12.2001.). The main criteria for carcasses evaluation according to these rules are the weight of a carcass, muscularity (the amount of red meat) and the thickness of fat.

On the basis of the data the experiment of pigs fattening was carried out on a farm of A.Rutkauskas in Taurage region during the period from Nov. 16, 2001 to Feb. 15, 2002, which was aimed to determine the effect of metabolizable energy (ME) level in ration and changes of its ratio with crude protein and assimilated amino acids on the muscularity of the carcasses. For the purpose of the experiment two analogous groups of Lithuanian White and Pietrains crossbreds from one nest (n=5, average weight - 14.5 kg) were formed. The pigs of the control group were fed concentrates produced on the farm (barley, wheat-rye, BVMM), one kg of which contained 13 MJ ME and 18.5% of XP. The ratio of standardized digestible lysine (ileal) - SdL(i) and ME was constant - 0.78 g/MJ. The pigs of the experimental group were fed the forage prepared on the farm; the amount of crude protein and digestible amino acids and their ratio with ME were being changed during the experiment. The time of fattening for this group of pigs was divided into three periods: I p. - 14 to 34 kg, II p. - 34 to 58 kg and III p. - 58 to 100 kg. During each period pigs were fed concentrates with different nutritional value: I p. - 1 kg forage contained 13 MJ ME and 18.5 % XP, and the ratio of SdL(i) was 0.75g : 1 MJ ME; II p. - respectively, 13 MJ ME and 18.3 % XP, the ratio of SdL(i) was - 0.63 g : 1 MJ ME; III p. - 13 MJ ME and 16 % XP with the ratio of SdL(i) - 0.54 g : 1 MJ ME.

The forage expenditure in both groups of pigs per 1 kg of weight gain was similar and corresponded to the level of EU countries. The average forage expenditure per 1 kg of weight gain made 2.49 ± 0.09 kg in the control group, in the experimental - 2.43 ± 0.12 kg (in the EU countries in 2000- 2.62 kg). Besides, the cost of forage per 1 kg of weight gain in the experimental group was in LTL 0.21 or 13 % lower than in the control one. The pigs of the experimental group demonstrated better muscularity than that of the control group and corresponded to the E class, as the control group - U class (according to the SEUROPE classification). The cost of the carcasses in the experimental group calculating according to the new appraisal tariff was in LTL 0.16 higher than in the control analogues. It is quite evident that the realization of the pigs with the same weight would bring the profit in LTL 68.0 higher for experimental pigs than for the pigs of the control group.

Keywords: metabolizable energy, crude protein, standardized digestible (ileal) lysine, amino acids.