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EFFECT OF PRODUCTION SYSTEM (ORGANIC VS. CONVENTIONAL) AND ROUGHAGE SUPPLEMENTATION IN DIET ON PERFORMANCE OF GROWING-FINISHING KRŠKOPOLJE PIGS

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Abstract: Performance of Krškopolje pigs in conventional and organic production system was investigated in project TREASURE. Pigs (36 castrates) were assigned within litter to three treatment groups (TG): organic (ECO) with lucerne hay supplementation, conventional (CON) and conventional with pelleted lucerne supplementation (CON+L). Pigs in CON and CON+L were housed indoors (2 pens per pen; 6 pigs per pen) with partially slatted floors (7.5 m²), whereas ECO were housed in pen (15 m²) with free access to outdoor area. Prior to experiment (starting at the average age of 155 days and body weight BW 69.4±11.8 kg, 72.3±12.5 kg, 66.4±8.9 kg in CON, CON+L, ECO, respectively), pigs were fed commercial diets for organic or conventional production adapted to the stage of growth, whereas for the experimental two barley based diets were composed; ECO (n=12) received organic feed mixture (12.4 MJ ME, 12.9% CP, 0.7% Lys), while CON (n=12) and CON+L (n=12) were fed a conventional diet (13.2 MJ ME, 13.6% CP, 1.2% Lys). Feeding was planned to allow pigs to fully exhibit their growth potential, but to limit excessive fat deposition in the last phase of fattening. Thus, all pigs were initially (before experiment) fed ad libitum basis while during experiment daily feed distribution for ECO and CON was limited to 3.5 kg (~45 MJ ME per pig). Additional 10% restriction was applied to CON+L. The achieved daily feed distribution in the experiment for CON, CON+L and ECO was in average 3.43, 3.06 and 3.37 kg/day, respectively. ECO and CON+L pigs were supplemented with lucerne hay (ECO) or pellets (CON+L) on ad libitum basis. BW after 73 days was statistically not different between TG (120.4±15.8 kg vs. 117.8±14.8 kg vs. 124.3±12.2 kg in CON, CON+L, ECO, respectively). Feed restriction in CON+L resulted in 11% lower average daily gain compared with CON (523 vs. 700 g/day, P=0.148), denoting that CON+L pigs did not compensate restricted feed allowance by consuming lucerne pellets. In contrast, ECO pigs had 13% higher daily gain than CON (752 vs. 700 g/day, P=0.097), and a rough estimation (based on growth data) is that ECO pigs retained additional 6.0 MJ ME daily either with lucerne hay (6.9 MJ ME/kg, 1.2% Lys) and/or due to a lesser feed dissipation in ECO group (observation). Backfat thickness gain measured with ultrasound at the level of the last rib was 0.28 vs. 0.32 and 0.36 mm/day for CON+L, CON and ECO, respectively (P=0.036). Feed conversion ratio was comparable in CON and CON+L (4.90 vs. 4.91 kg feed/kg gain).

Keywords: Krškopolje pigs, growth rate, feed intake, backfat

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