Effect of genotype and feed allowance on behavior, performance and meat quality of free-range pigs

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Use of traditional breeds and free-range systems based on natural foraging may be one way to improve the quality of organic pork in a broad sense and thereby justify the larger price. The effect of genotype on pig behaviour, performance and meat quality was investigated in 48 growing pigs fed either restrictedly (RES) or according to recommendations (NORM). Genotypes were a modern crossbreed of Duroc, Yorkshire and Landrace (DYL) and a traditional crossbreed of Tamworth, Yorkshire and Landrace (TYL). Each pig had access to 406 m^2 of grass-clover and root chicory. The average daily consumption of feed was 2.7 and 1.8 kg for NORM and RES, respectively. There were no significant interactions between genotype and feed allowance on behavior or performance. Compared to the NORM pigs, the RES pigs spent significant more time foraging, had significant lower daily weight gain (666 vs 863 g) and used significant less feed per kg live weight gain (2.8 vs 3.3 kg). There were no significant differences between genotypes in foraging behavior but TYL pigs had significant lower daily weight gain (645 vs 801 g), poorer feed conversion ratios (3.3 vs 2.7 kg) and lower meat percentage (54.5 vs 63.6) compared to the DYL pigs. The loin (LD) and a ham muscle (BF) were used for sensory evaluation of the pork following 4 days of ageing. The loin from DYL had more intense acidic and metal taste, and less sweet taste than the loin from TYL pigs. RES feeding reduced the tenderness in the loin significantly. DYL ham was significant more tender than TYL ham. In conclusion, restricted feeding encouraged the pigs to forage in the range area and this improved feed efficiency substantially but the texture of the meat need to be improved e.g. through post mortem handling. It is questionable whether the observed differences in eating quality between genotypes are large enough to justify a premium market price that could counterbalance the lower performance of the traditional crossbreed used in this study.