Influence of feeding level and dietary energy content on performance and behavior of entire male pig

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Two trials were performed with 160 entire male pigs each to characterize the growth performance and boar taint risk (trials 1 and 2) and behavior (trial 2) when energy was provided *ad libitum* (A) or at a restricted level (R) using 2-phase diets either concentrated or diluted in net energy (NE, C=10.0 or D=9.4 MJ/kg, respectively). In each trial, 32 pens of five pigs each were allocated to one of the four treatments according to a factorial 2×2 design depending on the feeding level and the dietary energy content. In both trials, no regulation of spontaneous feed intake on the basis of dietary NE content was observed below 70 kg body weight. From the beginning of the fattening period onwards (20 and 28 kg body weight in trials 1 and 2, respectively), *ad libitum* fed pigs with C (called AC pigs) or D diets presented the same daily feed intake (DFI), that resulted in a higher NE intake for AC pigs compared to AD ones. Above 70 kg body weight, DFI of AC pigs was reduced and resulted in similar NE intake like AD in trial 1, but not in trial 2. At a given body weight, RC and RD pigs received the same amount of NE, that corresponded to 93% (trial 1) or 90% (trial 2) of *ad libitum* NE intake of AD pigs. Energy restriction with diet D lowered the daily body weight gain (ADG) without any effect on the feed conversion ratio (FCR) or the carcass leanness. With diet C, energy restriction was performed through a smaller feed allowance; feeding activities within the post-prandial hour were much more frequent in this treatment and may contribute to an increase in FCR observed in trail 1. Boar taint risks due to skatole or androstenone were very low in both trials that makes it difficult to draw any conclusion about the effect of the feeding strategy on this criterion. In conclusion, based on growth performance and behaviour, our results indicate that high NE diets can help to increase the NE intake of entire males with a low appetite at the beginning of the growing phase for example. They also demonstrate that feed restriction is not an interesting feeding strategy for entire male pigs, especially when a high energy diet is used. However, when feed restriction is implemented, a low NE diet must be preferred for entire male pigs.