



5th Fatty Pig International conference

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Book of Abstract

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Effects of physical activity on blood, growth and carcass parameters of the Alentejano pig

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The Alentejano (AL) pig, as the Iberian pig, derives from the primitive *Sus scrofa mediterraneus*. This fatty pig from the south of Portugal, traditionally reared outdoors, is increasingly reared in confined areas. Yet, no data is available about the effect of outdoor physical activity on their metabolism and growth. This study evaluated the effect of physical activity on blood, growth, and carcass parameters of finishing AL pigs. Reared in individual pens (3 m²) (NA treatment, n=9) or outdoors (WA treatment, n=9) and fed at 85% ad libitum with commercial diets [105-140 g/kg protein, 43-49 g/kg fat, and 13,5 MJ/kg DE], pigs were raised from ~87 until 160 kg. WA pigs were in a park (~300 m²) with a feeding area separated by a corridor from the area with an automatic waterer, forcing pigs to walk at least 800 m daily. Pigs were slaughtered at ~160 kg, blood samples were obtained, and the left side of the carcass was submitted to commercial cuts. Statistical analyses were performed by ANOVA (SPSS 24.0, IBM Corp.). Final weight and average daily gain were higher ($P<0.05$ and $P<0.01$, respectively), and feed conversion ratio (FCR) lower ($P<0.01$) in WA than in NA pigs. Plasma lipids and total cholesterol to HDL-cholesterol ratio were lower ($P<0.05$) in WA than in NA pigs. Hot carcass weight was higher ($P<0.05$) in WA than in NA pigs. Carcass yield and loin weight and thickness were not different, but DSF thickness was higher ($P=0.08$) in WA than in NA pigs. Our data show that WA pigs had higher growth rate and final weight and lower FCR than NA pigs. A beneficial effect on plasma lipids was observed, namely on total cholesterol and LDL-cholesterol, lower in WA pigs. Probably due to their faster weight gain and higher LW at slaughter, WA presented a higher DSF thickness than NA pigs. These data show that the absence of physical activity affects metabolism and growth of AL pigs, which will be present in a productive system intensification, reducing the living space of each animal.