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Studies on Growth of Pelón Mexicano Pigs: Effect of Rearing Conditions on Carcass Traits and Meat Quality

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Abstract: A 2×2 factorial arrangement was used for evaluating carcass traits and meat quality of 22 Yorkshire x Landrace (YL) and 13 Pelón Mexicano (PM) castrate male and female pigs 63 days old which were allotted at random during 16 weeks into 2 rearing systems consisting of total (15 and 7 pigs) or partial confinement (7 and 6 pigs). Partial confinement included rearing animals outdoors in a grass prairie (*Brachiaria brizantha*) from 9-16 h. There were no significant differences ($p<0.05$) for the interaction rearing system x genotype in any measurement conducted throughout this experiment. Highly significant ($p<0.001$) differences between genotypes was encountered for carcass yield and primary cuts adjusted to slaughter weight as covariable. However, carcass yield expressed as percentage of slaughter weight only tended ($p<0.103$) to favour YL pigs. Differences between rearing systems were less marked, with better carcass traits in either totally confined YL animals or partially confined PM pigs. The genotype effect was at least significantly ($p<0.01$) different in all measurements indicating a higher fat content in carcasses of PM pigs, when compared to YL animals. Length of some reservoir digestive organs were significantly ($p<0.001$) higher in PM than in YL pigs. There were no significant differences ($p>0.05$) in meat quality indices, including meat pH, water holding capacity, color and marbling. It is considered that a total or partial confinement, consisting on daily grazing outdoors, rearing system, has less influence on carcass traits in pigs when Pelón Mexicano and Yorkshire x Landrace pigs are compared.

Key words: Pigs, Pelón Mexicano, carcass traits, meat quality, digestive organs, rearing systems

INTRODUCTION

If compared to improved breed of animals imported during the past century to Mexico, Pelón Mexicano pigs has provided very scarce reliable information concerning carcass and meat evaluation (López *et al*., 1999; Lemus and Alonso, 2005). However, it has been claimed that meat sausage and products elaborated from meat of these animals are of better quality, appearance and taste than those from improved breeds. Furthermore, it has been argued that human consumption of this type of fatty meat does not imply any harmful consequence, since its composition in unsaturated fatty acid is high (Pérez *et al*., 1999; López *et al*., 1999).

Nevertheless, it has been said that Pelón Mexicano pigs are not good for marketing its meat as pork, since they have a market price very low, due to the fact that they show a high backfat thickness, which has to be discounted from the original price, which accounts for some 30-40% of lowering of its original monetary value (López *et al*., 1999; Lemus and Alonso, 2005; Lemus *et al*., 2003; Méndez *et al*., 2002; Becerril-Herrera *et al*., 2006).

The objective of the current investigation was to define the possible effects of the rearing regime on carcass traits and meat quality of growing Pelón Mexicano pigs, being compared to an improved pig breed.

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