A comparison of the crossbred progeny of Large White and Pietrain boars : Influence of slaughter weight

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Interactions between breeding group, sex and nutritional status in growing pigs

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Fattening and carcass traits of 115 pigs sired by boars from two different breeds were recorded, in relation to nutritional variations, according to a factorial design 2^4: two breeding groups (*French Landrace* or *Pietrain* boars mated to *French Landrace* or *Large White* dams), two sexes (females and castrates), two levels of dietary digestible energy (3,0 and 3.3 Mcal respectively of DE /kg), two crude protein to digestible energy ratios in the finishing period (47 and 55 g crude protein respectively per Mcal DE), the latter level being applied to all pigs between 30 and 60 kg). Diets were offered *ad libitum* and pigs were slaughtered at the mean live weight of 97.3 kg. The nutritional variations generally gave similar responses in both breeding groups which did not differ to a significant extent in food efficiency as well as in body composition; nevertheless in *Pietrain* crosses, between 30 and 60 kg, energy consumption and growth rate were lower with the diet containing 3.0 Mcal DE /kg. Some interactions between sex and diet were observed: the increase in the dietary energy content resulted in better results in females than in castrates; also maintaining the level of 55 g crude protein per Mcal DE during the finishing period was associated with a decreased energy consumption and consequently a reduced carcass fatness in castrates, but not in females.

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Large White boars from two different populations were compared to Pietrain boars in terms of combining with French Landrace × Large White females. Pigs (females and castrated) were fed *ad libitum* (test starting at 30 kg) and slaughtered half at 90, half at 110 kg live weight. Complete data were recorded on 288 pigs. Average daily gain and daily feed consumption were significantly lower in Pietrain crosses (XPP) than in Large White crosses (XLW). No significant difference between breeding groups was found in feed efficiency between 30 and 90 kg and between 30 and 110 kg. With respect to body composition, XPP pigs presented a definite advantage which was somewhat higher when pigs were slaughtered at 110 kg. A superiority of XLW pigs was evidenced for most of the criteria of meat quality, assessed 24 hours *post mortem*, the differences between breeding groups being generally smaller at 110 kg. In overall economic merit taken as the benefit per pig, XPP pigs were better than both types of XLW pigs. When the criterion of overall merit is the benefit per pen and per year, the advantage of XPP still exists, except on pigs sired by boars from one of the Large White populations at the slaughter weight of 110 kg.