

Lipogenic enzyme activities in adipose and muscular tissues of Landrace and Iberian pigs fed on different source of carbohydrates

Morales, J.; Pérez, J.F.; ⁽¹⁾Mourot, J.; Baucells M.D. and Gasa, J.

Departament de Patologia i de Producció Animals, Universitat Autònoma de Barcelona, 08193 Bellaterra, Spain

⁽¹⁾Station of Recherches Porcines, INRA, St-Gilles, France

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INTRODUCTION

Iberian is an autochthonous swine breed from Southwest Iberian Peninsula. His meat has attained a high acceptability attributed to a higher intramuscular fat. Gene and dietary effects on the lipogenic enzymes activities were evaluated

MATERIAL AND METHODS

ANIMALS

- 12 LANDRACE (Initial BW 89.8 ± 5.6 kg)
- 12 IBERIAN (Initial BW 86.9 ± 6.9 kg).

DIETS

- CORN-BASED (corn, 75.0%);
- SORGHUM-ACORN-BASED (corn, 37.2%; sorghum, 27.5%; acorn, 12.5%);
- Slaughter weight 107-108 kg BW; **Sampling:** Subcutaneous, Intermuscular and Gluteus Medium fat were immediately frozen in liquid N₂.

RESULTS

	LANDRACE		IBERIAN	
	Corn-	Sorg./Acorn	Corn-	Sorg./Acorn
Feed Intake (kg/d)	2.63	2.77	3.46	3.53
DE Intake (Mcal/d)	8.26	8.61	10.92	10.24

- Feed and Digestible energy intake were higher in Iberian than Landrace. No differences were observed between diets.
- Activities of all lipogenic enzymes were lower in muscle than subcutaneous and intermuscular fat.

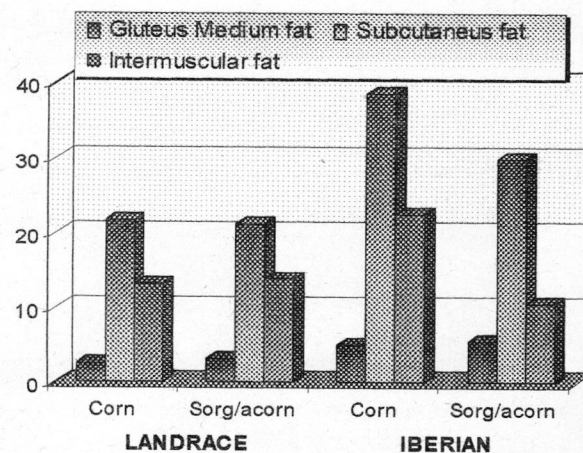


Figure 1 – Malic Enzyme activities (nM NADPH/g*min) in the intramuscular (Gluteus Medium), and subcutaneous and intermuscular fat.

- Malic enzyme and Glucose-6-phosphate dehydrogenase (G6PDH) activities were significantly higher in Iberian than Landrace pigs in subcutaneous fat and muscle.

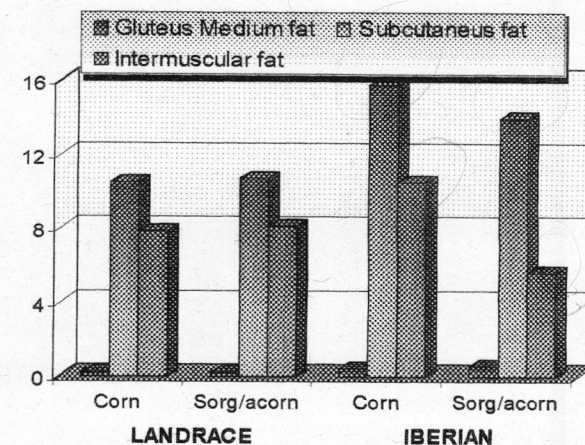


Figure 2 – Glucose-6-phosphate DH activities (nM NADPH/g*min) in the intramuscular, and subcutaneous and intermuscular fat.

- Experimental diets did not promoted significant differences in the muscular lipogenic enzymes activities, but on the fatty depots of Iberian pigs

CONCLUSION

Significant differences in the lipogenic activities between breeds can be modulated by dietary characteristics