Leaf lard and backfat thickness relation at slaughter in pure breed Iberian pigs finished at montanera

León Ramírez R.C., Rodríguez-Estévez V., Díaz Gaona C., Rodríguez Sánchez M.

in

De Pedro E.J. (ed.), Cabezas A.B. (ed.).
7th International Symposium on the Mediterranean Pig

Zaragoza : CIHEAM
Options Méditerranéennes : Série A. Séminaires Méditerranéens; n. 101

2012
pages 497-499

Leaf lard and backfat thickness relation at slaughter in pure breed Iberian pigs finished at montanera

R.C. León Ramírez*, V. Rodríguez-Estévez*, C. Díaz Gaona* and M. Rodríguez Sánchez*

Departamento de Producción Animal, Facultad de Veterinaria, Universidad de Córdoba, Campus Universitario de Rabanales, Córdoba (Spain)

Abstract. Leaf lards (fat deposit surrounding the kidneys) is the most valuated fat from Iberian pig. 120 pure breed Iberian pigs, Silvela variety, finished at *montanera* (free-range with diet based on grass and *Quercus* acorns) with mean slaughter weigh of 162.53 ± 1.71 kg have been studied to know if it possible to relate leaf lards weigh (llw = 5.15± 0.05 kg) with backfat thickness (bf), measured at two different levels: last thoratic vertebra level (bflt = 6.67± 0.06 cm) and fourth lumbar vertebra level (bf4l = 9.45±0.08). Linear regression models for each level (llw = 2.36+0.46*bflt) and (llw = 6.24+0.117*bf4l) have a low R^2 value, hence bf thickness is not related with llw, and consequently these fattening measures are not reliable to estimate leaf lards weigh.

Keywords. Iberian pig – Montanera – Back fat – Leaf lard.

Rapport entre le poids des crépines (tissu adipeux périrénal) et l'épaisseur de graisse dorsale à l'abattage chez le porc Ibérique à finition montanera

Résumé. *La graisse extraite des crépines (tissu adipeux périrénal) est la graisse la plus estimée de celles qu'on obtient du porc Ibérique. À partir de 120 porcs Ibériques de la souche Silvela à finition montanera, avec un poids moyen à l´abattage de 162,53 ± 1,71 kg, on étudie le rapport possible entre le poids des crépines (llw = 5,15± 0,05 kg) et l'épaisseur de graisse dorsale (bf) au niveau de la dernière vertèbre thoracique (bflt = 6,67± 0,06 cm) et de la quatrième vertèbre lombaire (bf4l = 9,45±0,08). Les modèles de régression obtenus pour chacun des niveaux: vertèbre thoracique (llw = 2,36+0,46*bflt) et quatrième vertèbre lombaire (llw = 6,24+0,117*Bf4l) ne sont pas utiles pour estimer d'une façon fiable llw à partir du bf, parce qu'elles présentent toutes les deux une valeur de R^2 très faible. Par conséquent, l'épaisseur de graisse dorsale comme mesure d'engraissement n'a pas de rapport avec le poids des crépines.*

Mots-clés. *Porc Ibérique – Montanera – Crépines – Graisse dorsale.*

I – Introduction

Iberian pigs fattened in *montanera* (free-range fattening phase with diet based on *Quercus* acorns and grass) produce the most recognized quality products from the *dehesa* (grasslands on cleared Mediterranean forest). Cured hams and shoulders obtained from these free-range pigs have gained widespread consumer acceptance and a high commercial value by virtue of it characteristic flavour; also, the high content in unsaturated fats of the ham has increased its appreciation as a healthy food. This rearing regime determines the fatty acid composition of pig fat in terms of four main fatty acids: oleic, linoleic, palmitic and stearic (Alonso *et al.*, 2008).

This production is geographically reduced to the South West of the Iberian Peninsula, and mast of acorns is limited to fall and winter seasons. The leaf lard from these pigs is the most estimated lard in the market (Forero Vizcaíno, 2002).

In this study it has been analyzed the relation between the back fact thickness and the weight of the leaf lards in Iberian pigs in order to know if the back fact thickness could predict the weight

of the leaf lards, as method of measuring the greasing degree of the carcasses (Edwards *et al*., 1992; Medel and Fuentetaja, 2000).

II – Materials and methods

This study was conducted at a *dehesa* of evergreen oaks (*Quercus ilex rotundifolia*) with 120 purebred Iberian fattening pigs (male and female) of the Silvela variety. Pigs were on average 111.8±0.7 kg of LW at the start of the study and 162.53 ± 1.71 kg at the end, after ≥ 2 months (69.90 ± 0.45 days). All pigs were castrated following the Spanish regulations, to work with the same kind of pigs of the traditional *montanera* system. The stocking rate (0.76 pigs/ha) was established with margins that guaranteed that the acorns would not run out before the fattening was completed (Rodríguez-Estévez *et al*., 2007, 2008). The carcasses were cut according Iberian pig traditional pork industry.

The leaf lards were weighed individually after slaughtering, and the backfat thickness was measured at two different levels: last thoratic and fourth lumbar vertebra level.

SPPS 11.5© was used for statistical analysis (mean ± standard error) and linear regression models.

III – Results and discussion

The leaf lards weighed 5.15± 0.05 kg and the back fat thicknesses were: 6.67± 0.06 cm at last thoracic vertebra level and 9.45±0.08 cm at fourth lumbar vertebra level.

Table 1 shows the linear regression models for each level; according to the low R^2 values these are not suitable for predictions. Figure 1 represents the weigh of leaf lards and the back fat thicknesses and it is possible to observe the data dispersion.

Table 1. Linear regression models for leaf lard weighs

Independent variable	Linear regression	R^2	Standar Error	Sig.
Back fat thickness at last thoracic vertebra level (bflt)	= 2.36-0.46*bflt	0.342	0.709	0.000
Back fat thickness at fourth lumbar vertebra level (bf4l)	= 6.23-0.117*bf4l	0.034	0.69878	0.013

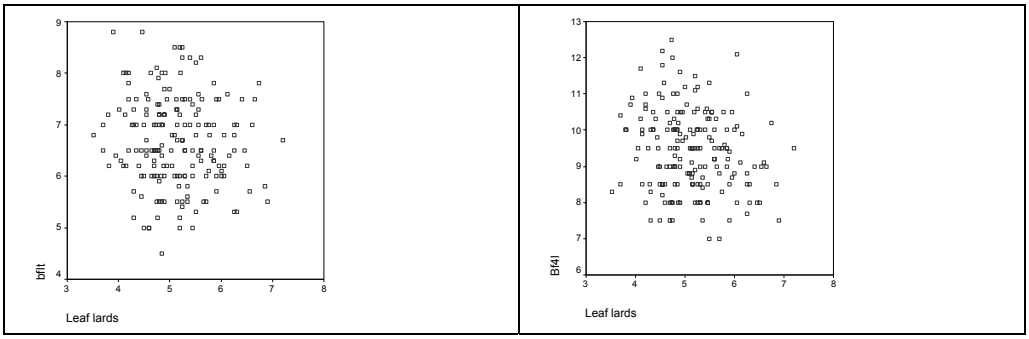

Fig. 1. Regression graphics of leaf lards weighs (kg) and back thickness (cm) at last thoracic vertebra level (bflt) and fourth lumbar vertebra level (bf4l).

IV – Conclusions

The backfact thickness measures at different levels as a fattening measure are not reliable to estimate leaf lard weighs in Iberian pig.

Acknowledgements

The authors wish to acknowledge to Turcañada S. L. and Camilo Rios S.L. their collaboration.

References

Alonso R., Rodrıguez-Estevez V., Domınguez-Vidal A., Ayora-Cañada M.J., Arce L. and Valcarcel M., 2008. Ion mobility spectrometry of volatile compounds from Iberian pig fat for fast feeding regime authentication. In *Talanta* 76: 591–596

Edwards S., Wood J., Moncrieff C. and Porter S., 1992. Comparison of the Duroc and Large White as terminal sire breeds and their effect on pigmeat quality. In *Animal Production* 54: 289-297.

Forero Vizcaíno J., 2002. *El Cerdo ibérico pieza a pieza*. Grupo de Desarrollo Rural Sierra de Aracena y Picos de Aroche, Aracena (Huelva).

Medel P. and Fuentetaja A., 2000. Efecto del perfil genético, del sexo, del peso al sacrificio y de la alimentación sobre la productividad y la calidad de la canal y de la carne de cerdos grasos. In *Avances en nutrición y alimentación animal: XVI Curso de especialización FEDNA*. pp. 113-139

Rodríguez-Estévez V., Félix E., Perea J., Gómez G., Mata C. and García A., 2007. Ganancia media diaria en montanera de cerdos ibéricos (Silvela) en función del sistema de recría. In *Arch. Zootec.* 56: 541-544.

Rodríguez-Estévez V., Martínez A., Moreno C., Muñoz J. and Castro A,. 2008. Dimensiones y características nutritivas de las bellotas de los quercus de la dehesa.In *Arch. Zootec* 57: 1-12.