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Carcass performance of fresh meat pieces: sirloin, "presa" and "secreto" in Iberian pig finished at montanera

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Abstract. Cured products (hams, shoulders and loins) from Iberian pig finished at montanera (free-range with diet based on grass and *Quercus* acorns) rise a high value in the market. Nevertheless other pieces are becoming very valued by consumer of fresh meat. 191 Iberian pigs (Silvela variety) with an average weigh of 163.87 ± 11.47 kg at slaughter (average carcass weigh = 133.95 ± 9.83 kg) have been studied to obtain information about three fresh meat pieces: sirloin (*m. Iliopsoas*, and *m. Psoas minor* muscles), "secreto" (*m. Latissimus dorsi* and *m. Trapezius pars cervicalis* muscles) and "presa" (*m. Serratus ventralis thoracis* and *M. Serratus ventralis cervicis* muscles). The weighs and percentage of carcass of these pieces are: sirloins (0.61 ± 0.01 kg and $0.46\% \pm 0.004$), "presa" (1.14 ± 0.01 kg and $0.85\% \pm 0.009$) and "secreto" (0.44 ± 0.01 kg and $0.33\% \pm 0.003$).

Keywords. Iberian pig – Montanera – Carcass – Sirloin – Presa – Secreto.

Rendement de pièces de haute valeur économique chez le porc Ibérique de montanera: le filet, la "presa" et le "secreto"

Résumé. En plus des pièces qu'on prépare traditionnellement par maturation (le jambon sec, l'épaule sèche et le dos sec), il y a d'autres pièces d'un intérêt spécial chez le porc Ibérique de montanera, dû au prix et au prestige qu'elles atteignent sur le marché. 191 porcs Ibériques de la souche Silvela d'un poids moyen de 163.87 ± 11.47 kg à l'abattage (poids moyen de la carcasse = 133.95 ± 9.83 kg) ont été utilisés dans ce travail, qui décrit les performances de trois de ces pièces: le filet (*m. Iliopsoas*, *m. Psoas minor*), le "secreto" (*m. Latissimus dorsi* et *m. Trapezius pars cervicalis*) et la "presa" (*m. Serratus ventralis thoracis* et *m. Serratus ventralis cervicis*). Les résultats nous indiquent que les poids et les performances de la carcasse de porc Ibérique engrangé en montanera sont les suivants: pour les filets (0.61 ± 0.01 kg et $0.46\% \pm 0.004$), pour la "presa" (1.14 ± 0.01 kg et $0.85\% \pm 0.009$) et dans le cas du "secreto" (0.44 ± 0.01 kg et $0.33\% \pm 0.003$).

Mots-clés. Porc Ibérique – Montanera – Carcasse – Filet – Presa – Secreto.

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) and these rise a high value in the market by virtue of its characteristic flavour and their high content in unsaturated fats, as a healthy food.

The most studied and known pieces are those for cured products: hams, shoulders and loins. Nevertheless other pieces are becoming very valued by consumer of fresh meat (Forero Vizcaíno, 2002; Gómez-Nieves and Robina, 2003). However, traditionally during the slaughtering only sirloins were cut to be sold as a pork piece and others were included in the

meat to make traditional Spanish spice-cured sausages, with a lower price in market. Consequently, in order to have a better known and to prevent fraud to consumer, it is important to describe these particular pieces that are being commercialized as fresh meat.

This study is about three of this fresh meat pieces: sirloin (M. *Iliopsoas*, and M. *Psoas minor* muscles), "secreto" (M. *Latissimus dorsi* and M. *Trapezius pars cervicalis* muscles) and "presa" (M. *Serratus ventralis thoracis* and M. *Serratus ventralis cervicis* muscles). These three pieces have been chosen because their increasing interest for consumers and their price in markets (around 15 €/kg). A better known of Iberian pig carcass should contribute to increase its commercial value.

II – Materials and methods

1. Animals

This study was conducted with 120 purebred Iberian pigs (males and females) of the Silvela variety fattened in a *dehesa* of evergreen oaks (*Quercus ilex rotundifolia*) and sacrificed with 163.87 ± 11.47 kg after ≥ 2 months of *montanera*. All pigs were castrated following the Spanish regulations, to work with the same kind of pigs of the traditional *montanera* system.

After slaughtering the carcasses were stored to chill them at 4°C during 2 hours to cut these later following the traditional system for Iberian pig.

2. Measures and analysis

All the pieces from the carcasses were weight in a scale with a precision of ± 5 g. The results and values in this study are averages and percentages of the addition of the two pieces of each animal.

SPPS 11.5© was used for statistical analysis (mean \pm standard error) and Pearson correlations.

III – Results and discussion

Table 1 shows the carcasses performance with an average weight of 133.95 ± 9.83 kg. The values of weigh and percentages of sirloin, "presa" and "secreto" were respectively: 0.61 ± 0.01 kg and $0.46\% \pm 0.004$, 1.14 ± 0.01 kg and $0.85\% \pm 0.009$, and 0.44 ± 0.01 kg and $0.33\% \pm 0.003$. The three pieces together represent 1.64 ± 0.012 % of the carcass weight.

Table 1. Weigh and percentages of sirloins, presas and secretos (two from every carcass)

	Carcass		Sirloins		"Presas"		"Secretos"		Sirloins, "presas" and "secretos"	
	(kg)	(%)	(kg)	(%)	(kg)	(%)	(kg)	(%)	(%)	(%)
Mean	133.95	81.53	0.61	0.46	1.14	0.85	0.44	0.33	1.64	
Standard error	0.71	0.16	0.01	0.004	0.01	0.009	0.01	0.003	0.012	
Minimum value	111.80	76.99	0.40	0.28	0.87	0.66	0.23	0.19	1.24	
Maximum value	197.00	89.62	0.89	0.65	2.13	1.67	0.70	0.50	2.45	
Percentiles	25	127.30	80.4238	0.56	1.05	0.79	0.40	0.30	1.55	
	50	133.70	81.2607	0.60	1.13	0.84	0.45	0.33	1.63	
	75	139.30	82.4608	0.65	1.20	0.90	0.50	0.36	1.73	

Table 2 shows the Pearson correlations. The weights of the three pieces are inversely correlated ($P < 0.01$). However, although these three pieces weights are positively correlated with carcass weight, the correlation between the carcass percentage of these pieces and the carcass weight is negative.

Table 2. Pearson correlation for carcass weight and performance and different pieces

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Carcass percentage	0.06							
(2) Sirloins (kg)	0.32 **	0.16						
(3) "Presas" (kg)	0.21 **	0.13	0.24 **					
(4) "Secretos" (kg)	0.41 **	-0.21 *	0.27 **	0.12				
(5) Sirloins (%)	-0.19 **	0.15	0.86 **	0.13	0.06			
(6) "Presas" (%)	-0.28 **	0.10	0.06	0.88 **	-0.09	0.20 **		
(7) "Secretos" (%)	-0.05	-0.25 **	0.13	0.02	0.89 **	0.15 *	0.04	
(8) Sirloins. "presas" and "secretos" (%)	-0.30 **	0.05	0.40 **	0.74 **	0.22 **	0.57 **	0.87 **	0.39 **

(**) $P < 0.01$; (*) $p < 0.05$.

IV – Conclusions

Sirloins. presas and secretos from Iberian pigs represent a low percentage of carcass. Hence, having in mind that these are becoming more popular and reach a higher price than other pork products, these should be well described to avoid fraud to consumers.

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