

LABEL INFLUENCE ON KID'S MEAT ACCEPTABILITY BY SPANISH CONSUMERS

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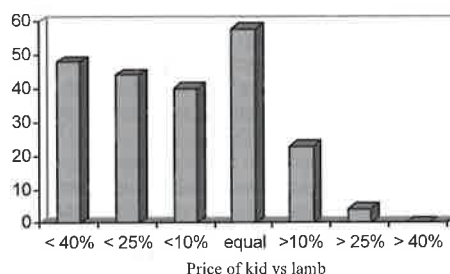
Introduction

In Spain there are 5860 goat farms for a total of 2.5 million heads, but only 14.4 % have more than 50 heads in the exploitation (INE, 2002). From this percentage, most of them rear dairy goats, making Spain are the third largest country in Europe in goat's milk production, behind France and Greece, contributing to a 3.7% of the total world goat's milk (FAO, 2006). Such a small farming size supports the status of social and traditional husbandry, keeping human population in difficult areas since it prevents emigration, with an ecological role due to the cleaning of forest against fire, aspects mainly related with meat breeds. The production of most of these farms is a suckling kid that is sold around Christmas, competing in the market with a suckling lamb and other products, all of them traditionally included in family's menus. The suckling lamb is mainly produced in the centre of the country and has a quality label (Lechazo de Castilla y León, PGI), coming mainly from a dairy sheep breed (Sañudo *et al.*, 1997). However, there has not been attempts to produce a quality label in kid's meat even when the production, although locally, is extended to most of the country. The objective of this work was to assess the perception that the Spanish consumer has about suckling kid in relation to its most direct competitor in the market.

Table 1: Consumer's characteristics, n=120.

	%
≤ 29 years old	20.0
30-44 years old	33.3
45-59 years old	31.7
≥ 60 years old	15.0
Female	50.0
Male	50.0

Figure 1: Percentage of consumers who would buy with certainty kid's meat when its retail price is higher, lower or equal to the selling price of lamb.



Materials and Methods

A total of 60 suckling male animals, comprising of five breeds of goats (Moncaína, (MO), Blanca Celtibérica, (BC), Negra Serrana, (NS) and Pirenaica, (PI), meat purpose, and Murciano-Granadina, (MG), dairy purpose) and one of lamb Churra, (CH) were used in this study. All animals were reared in the farms of origin throughout the country (MO and PI in Aragón; BC in Castilla-La Mancha and Andalucía; NS and MG in Andalucía, and CH in Castilla-León) using common husbandry practices, slaughtered at less than 30 days of age in local licensed abattoirs and sent in refrigerated transport to the laboratory 24 hours post mortem. The *M. longissimus dorsi* from both sides was dissected, cut in 7-cm thick pieces, vacuum packaged and aged for 3 days at 4°C. Samples were then frozen and kept at -18°C.

Samples were thawed at 4°C for 24h prior to the analysis at the facilities of the University of Zaragoza. Meat was grilled until reaching an internal temperature of 70°C. Then, three 2-cm thick pieces were cut from each loin, wrapped in aluminium foil and codified as suckling kid, suckling lamb or without label. All three pieces were tasted by the same consumer in a given order to avoid first-over and carry-over effects (Macfie *et al.*, 1989) in individual booths under red light to mask colour differences. Half of the consumers tasted only kid's meat and half of them only lamb meat, although they did not have this information since they thought they tasted what was writing on the label (Dransfield *et al.*, 2005). A total of 120 consumers (Table 1) assessed overall acceptability on an 8-point scale: like extremely, like very much, like moderately, like slightly, dislike slightly, dislike moderately, dislike very much and dislike extremely.

Table 2: Percentage of consumers (n=120) whose acceptability is positively (+) or negatively (-) influenced by tasting meat labelled as either suckling kid or suckling lamb, in comparison with a blank sample.

	Suckling kid			Suckling lamb		
	-	0 *	+	-	0 **	+
Female	26.7	33.3	40.0	23.3	35.0	41.7
Male	23.2	35.0	41.7	23.3	46.7	30.0
Female	≤ 29 years old	45.5	18.2	36.3	27.3	27.3
	30-44 years old	10.0	50.0	40.0	15.0	30.0
	45-59 years old	26.3	36.8	36.9	15.8	47.4
	≥ 60 years old	40.0	30.0	30.0	50.0	30.0
Male	≤ 29 years old	7.7	46.2	46.1	23.1	46.2
	30-44 years old	25.0	40.0	35.0	35.0	45.0
	45-59 years old	26.3	26.3	47.4	10.5	52.6
	≥ 60 years old	37.5	25.0	37.5	25.0	62.5

* % of consumers who scored the same value to suckling kid than to a blank sample

** % of consumers who scored the same value to suckling lamb than to a blank sample

Results and Discussion

Only 15.8% of consumers were not influenced by the label and scored the three samples with the same value. This segment of the population was the only one to follow organoleptic characteristics as the exclusive criteria to value the meat, confirming that sensory perceptions can change depending on which non-sensory information is made available to the consumer (Stefani *et al.*, 2006). The majority of consumers changed their score depending on the information given in the label, increasing or decreasing their liking for samples labelled as suckling kid and/or lamb in comparison with the same sample labelled as blank (Table 2). Nevertheless, there were more people positively influenced, matching the sample the image that they had about suckling animals. In general, men changed their opinion less than women, with a higher number of uninfluenced opinions for both kid and lamb. However, men were more positively influenced by the suckling kid label than by the suckling lamb, the negative scores remaining in the same percentage.

Nevertheless, market segments were observed in the behaviour of gender in different age groups. As age increased, men were more negatively influenced by the label suckling kid and less influenced, positive or negatively, by the label suckling lamb. Women on the range between 30-44 years old were the least influenced by suckling kid (50% of consumers in this group did not differ their score from the blank) but were positively influenced by the label of suckling lamb. Since suckling lamb is well known in the region due to the PGI label, expectations of this group of consumers may have been higher for lamb than for kid.

Information in the label can increase the price that the consumer is willing to pay for a product by 5% (Dransfield *et al.*, 2005). However, 23% of consumers claimed that they would buy with certainty kid's meat even when it was 10% more expensive than lamb (Figure 1). This percentage decreased down to 4.2 % when kid was 25% more expensive than lamb. As expected, the intention of consumption decreased with price. Nevertheless, the percentage of consumers who would buy kid when it was cheaper than lamb was lower than when the price was the same between the two of them, showing a certain lack of confidence of consumers towards this product.

Conclusions

Consumers can be influenced in their acceptability of meat by the information that they perceive in the label. Meat from suckling animals is well appreciated in Spain. There is a potential market for commercialising suckling kid in the same way as there is an existing market for suckling lamb, although certain segmentation has been observed.

References

- Dransfield, E., Ngapo, T.M., Nielsen, N.A., Bredahl, L., Sjöden, P.O., Magnusson, M., Campo, M.M. and Nute, G.R. (2005). Consumer choice and suggested price for pork as influenced by its appearance, taste and information concerning country of origin and organic pig production. *Meat Science*, 69, 61-70.
- FAO. (2006). <http://faostat.fao.org>
- INE. (2002). www.ine.es
- Macfie, H. J., Bratchell, N., Greenhoff, K. and Vallis, L. V. (1989). Designs to balance the effect of order presentation and first-order and carryover effects in hall tests. *Journal of Sensory Studies*, 4, 129-148.
- Sañudo, C., Campo, M.M., Sierra, I., María, G.A., Olleta, J.L. and Santolaria, P. (1997) Breed effect on carcass and meat quality of suckling lambs. *Meat Science* 46, 357-365.
- Stefani, G., Romano, D. and Cavicchi, A. (2006). Consumer expectations, liking and willingness to pay for speciality foods: Do sensory characteristics tell the whole story? *Food Quality and Preferences*, 17, 53-62.

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