Quality beef schemes and consumer perception

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Abstract. *Meat quality is currently conditioned to the fulfilment of different requirements concerning food safety and other ethic and social aspects. Nevertheless, restrictions and other considerations going faster than the above mentioned aspects could be applied in order to gain a higher consumer's satisfaction, that's to say, a higher quality. On the other hand, many different studies point to the existence of important shifts that manifest the need to increase the knowledge about consumer's preferences. This work analyzes different strategies used to increase beef quality, guarantying such quality with the presence of a particular distinctive or brand, at the same time that some aspects concerning consumer's behaviour behind beef quality are manifested. Data coming from the statistical treatment of different interviews are complemented with the information supplied by other secondary information sources, in order to construct the theoretical model to identify the main strategies to perform in order to promote the consumption of this product.*

Keywords: Consumer behaviour, quality beef, quality schemes.

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1. Introduction

For some time, as disposable incomes have risen and there has been technical and economic progress, a trend has been noted among consumers to value and demand high-quality meat products. This has been accentuated in recent years as a consequence of various food crises (mad cow disease, bird flu, the presence of dioxins, and so forth).

The quality of meat, like that of any other product, is a difficult concept to define. It incorporates objective features (nutritional composition, health aspects and the like) with others that are subjective (flavour, tenderness and so on), since in the final analysis it depends on the ability of the product to satisfy consumers. Even the positioning and definition of the various players in the commercial food-supply chain (from the producer to the consumer, by way of support activities) with respect to this concept, varies from one to another.

In any case, both CAP directives and the current legal standards mean that nowadays the quality of meat is, at the very least, subject to the fulfilment of certain requirements linked to food safety, and to features of an ethical and social nature (animal welfare and the environment). One of the chief positive values that the citizens of the European Union see in the CAP is precisely that of its contribution to the production of healthy, high-quality foods [1].

Nevertheless, some products may apply restrictions and considerations that go beyond the requirements mentioned above, with the aim of increasing the level of consumer satisfaction, or what comes to the same thing, the quality of the product, and of guaranteeing this quality by the presence of a distinctive brand or label. For producers this implies an opportunity to increase added value and gain recognition and differentiation for their products, while for consumers it brings several advantages [1]:

- It indicates this is a product of high quality
- It guarantees the product is original (not an imitation).
- It gives confidence that the product has been produced in accordance with a specified procedure.
- When a brand is linked to a given geographical area, it would be necessary to add to the above a further series of values, such as:
  - The possibility of identifying and choosing products from a specific region.

- Information about the origin of the product and its characteristics, as also the traditional methods of production.

In this way, a good number of meat products have gradually appeared on the market that are guaranteed by various brands. This process has been accelerated by new patterns of consumption, in which consumers spend less and less time doing their shopping, going to hypermarkets and supermarkets, and replacing the information previously given by their butchers with what they can glean from labelling and brands as guarantees of quality. It has also been speeded by the effect of mistrust arising from the scandals surrounding various food crises [2].

A large number of studies bear witness to the fact that changes are occurring in consumer demand for meat. These go beyond matters relating to price and to incomes and justify public and private efforts to gain more knowledge of consumer preferences with regard to meat and the perception of quality [3]. The aim of these is to be able to determine what mechanisms aid differentiation of products, these constituting a means of guaranteeing products in the eyes of consumers. This in turn facilitates the integration of the agents involved into the processes of production and sale of meat [4].

The promotion of products that present given characteristics differentiating them from others in consumers' minds and linked to specific geographical areas is seen as potentially very beneficial for the countryside, especially for less advantaged and more remote zones, as it ensures improved incomes for farmers and prevents the rural population from being drained away from these areas [5]. This statement is supported by various studies highlighting the favourable effect that the use of PGIs has in regenerating the countryside. It encourages the preservation of local varieties, bolstering rural diversity and social cohesion, and providing new opportunities for work at all levels (production, processing and ancillary activities) [1].

2. Objectives

Given the context outlined above, the work being reported here was carried out with an eye to achieving the following objectives:

- Deeper knowledge of the use by those involved in the food-supply chain of various mechanisms for differentiating meat that are regulated by the existence of a brand or quality mark. This may relate to specific marks recognized at European level, such as Protected Designations of Origin (PDOs), Protected Geographical Indications (PGIs), or Traditional Speciality Guaranteed (TSG) marks, as well as cattle products of an ecological type. It may also involve brands promoted by Regional Governments or Provincial Councils or by associations of producers and businessmen or other bodies that have the aim of promoting food products, as happens with quality marks.

- Information about the preferences and behaviour of consumers with relation to high-quality meat.

All of this concentrated on a specific geographical area, the Autonomous Community of Castile and Leon. This choice was made on the basis of the high level of consumption of meat in this region, 30% higher than the national average, especially in respect of meat of certified origin, consumption of which is some 6.2 kilograms per person, thus surpassing the national average by around 62% [6].

3. Methods

3.1. Gathering Information

The carrying out of any piece of research requires a first step, which is to obtain information that will permit the objectives laid down to be achieved. In this project, various sources of information were used. On the one hand, there were censuses, data, statistics, studies and articles published in a range of secondary sources. On the other, there were the data derived from consumer surveys undertaken in 2007, with a view to learning about consumer requirements and behaviour.

The first step in designing the sampling plan was the production of the questionnaire intended to gather data. In any survey this is always a tricky operation, since its design can introduce biases that may distort the estimates completed. Hence, particular attention was paid to this compilation stage, involving consultation of other research projects and carrying out a previous detailed study of the situation and problem. This yielded additional information of utmost value in drawing up the various questionnaires used.

These questionnaires were organized around closed-ended questions for preference, with partly open-ended questions occasionally used. Some of the responses were of a multiple type, and each of these was divided into different sections as a function of the topic to be covered, with the aim of facilitating the task of the conductor of the survey and understanding on the part of those surveyed.

The second step was to determine the context for the survey, in this case constituted by the population census for Castile and Leon. With regard to the mode of administration, the choice made was to use a personal survey, seen as the most appropriate. With respect to sample size, the decision was taken to choose a sample made up of 400 individuals, stratified as a function of the variables age and sex, distribution being as shown in Table 1:

3.2. Codifying Questionnaires and Computerizing Databases.

Each of the questionnaires used was coded as a function of the variables and the scale corresponding to each question (the questionnaires included scales of various sorts: nominal or categorical, ordinal, interval and ratio, and also tested attitudes with Likert items and semantic differentials), and the statistical treatment to be applied to it. After coding, at the end of the survey phase, the data were computerized, being gathered into several databases with the aid of the software package Excel.

4. Results

The results are given in groupings on two planes. On one plane, an analysis is undertaken of the implementation at a regional level of various tools used as quality-guarantee mechanisms. On the other, results obtained from consumer surveys are presented.

4.1. State of Quality Standards and the Application by the Food Industry of Quality Marks.

In relation to regulation of the quality of meat, it is possible to speak of two types of mechanism. The first involves horizontal regulation, which has to do with labelling and traceability, requiring the fulfilment of a number of national and supranational standards. The second comprises more specific regulation, to which those products that wish to have a specific quality mark distinguishing them from other meats available in the marketplace submit voluntarily.

The second mechanism is the particular focus of attention of this paper. With respect to specific marks that can be used to differentiate high-quality meat, some enjoy recognition at a European level, as is the case for Protected Designations of Origin (PDOs), Protected Geographical Indications (PGIs), or Traditional Speciality Guaranteed (TSG), as well as ecologically produced meat. Others arise from a range of initiatives supported by Regional Governments or Provincial Councils or by associations of producers and businessmen or other bodies that, with the aim of promoting food products.

Beef and veal from the Castile and Leon region has made use of all the above, though not to the same degree in all cases. On the one hand, specific marks recognized at a European level have been established, such as the PGIs Meat from Avila and Morucha Breed Meat or Ecologically Produced Meat. On the other, there are some 53 private brands.

Tables 2 and 3 show the extent of the two PGIs present in the region.

As may be observed, participation by the producing sector as a fraction of the total national production of meat with PGIs is very small (3% of farms and 1% of animals slaughtered). However, these percentages are somewhat higher in respect of the participation rates for the processing sector, with abattoirs representing 13% and meat-cutting plants 21%. In both cases, the higher contribution from the PGI Meat from Avila is noteworthy.

The total value of sales totals 1.93 million euro for Meat from Avila, and to 0.96 million for Morucha Breed Meat. This comes to 2.1% of the overall amount generated for fresh meats with PGIs in Spain (1.4% relating to Meat from Avila and 0.7% to Morucha Breed Meat). The percentage rises if only Spanish products are considered going up to 2.9% (1.9% for Meat from Avila and 0.96% for Morucha Breed Meat), since all of the meat produced is sold in Spain, at an average price paid to producers for carcasses of 2.88 euro per kilo for Meat from Avila and of 3.20 euro per kilo for Morucha Breed Meat, respectively. This level of prices is amongst the lowest paid to the producers of beef and veal with a PGI. In fact, it is the lowest of all in the case of Meat from Avila, and one of the lowest for Morucha Breed Meat (only the prices for Estremaduran Veal and Cantabrian Meat are as low as or lower than its price).

In respect of ecological cattle farms, according to data from the Spanish Ministry of Agriculture [6] in 2006 there was a total of 18 such farms, this representing 53% of farms producing meat of ecological origin of all sorts present in Castile and Leon and 1.7% of the number of farms rearing ecological beef and veal in Spain as a whole, with 1,114 animals in all (1% of the national total). Most of these farms are situated in the Province of Avila (10), with a few in the Provinces of Segovia (4), Salamanca (3) and Palencia (1). With regard to industrial activities, a total of six abattoirs and meat-cutting plants are in operation in the region as a whole (although the establishments represented by this figure are not restricted exclusively to the beef and veal sector).

The sets of data given above reflect sparse participation by the Castile and Leon cattle farming sector in the three schemes mentioned. With regard to quality guarantee and collective marks, the existence of a large number of brands (53) indicates that the beef and veal sector is not structured on a regional scale. Hence, all the sorts of economic agents tend to draw up a specifications document referring exclusively to their own particular field within the sector, with an eye to ensuring access to the market for their products. In this way, the various economic agents create a chain of specifications documents, when in reality it would be enough to rely on contractual agreements between trading partners. This situation leads to a great multiplicity of specifications documents, which runs counter to the process of differentiating beef and veal for end consumers, and often brings about the progressive abandonment of the system of optional labelling, owing to the absence of any enhancement of product value and to the additional costs arising from the drawing up and monitoring of specifications documents [7].

4.2. Consumer Preferences and Behaviour

4.2.1. Perception of Quality Brands and Purchasing Habits

In the surveys carried out, consumers indicated that, in order to take a decision when shopping, they need mechanisms to guarantee the quality of meat and monitoring, and that they are aware that these may bring with them procedures that increase the final price of the product. In fact, almost 60% of the consumers surveyed would be ready to pay a price premium in order to have a label that would guarantee the quality of the meat and 53% them would be prepared to pay more in order to have greater monitoring on cattle farms. However, the amounts they are willing to pay vary from one respondent to another, with figures running from 1% up to 30%, the average being around 9%.

However, considerable unawareness of premium brands was detected. Thus, 51% of those surveyed were not able to name even one quality brand of beef or veal, and some of those who said they were later proved not to be familiar with them, citing brands of other sorts of meat, or giving the name of a breed. The best known brands were the two PGIs present in the region, followed by Bierzo Veal, then a PGI from outside the region (Galician Veal) and by Aliste Veal. Other private brands were in general little known.

Nevertheless, awareness and consumption (even if sporadic) of premium-quality meat are two clearly linked factors. In fact, 93% of those surveyed who were familiar with any high-quality brand (45% of the total of individuals in the surveys) had also consumed this type of meat on occasions. In any case, consumption of premium-quality meat is sporadic. Only 18.7% of those who consume high-quality meat (7% of those surveyed) do so “always” or “usually”, while 48% do so “sometimes” and the remaining percentage (34%) “rarely”. Similarly, 35% of the consumers of premium-quality meat limit eating it to special occasions such as celebrations and parties, and this consumption has no great weight in the total expenditure on beef and veal (in 67% of cases this outlay is under 20% of the overall amount spent on beef and veal). Consumption is concentrated almost entirely in restaurants and at home, this last predominating (79% of those who have eaten premium-quality beef or veal have done so at home).

In the case of premium-quality meat, the percentages of purchases by type of establishment (butcher’s shops, supermarkets, hypermarkets, local markets and direct from producers) retain the same relationships as in the case of beef and veal purchases in general. However, there is a noteworthy difference with regard to the percentage of consumers of high-quality meat who buy in supermarkets and hypermarkets, this being appreciably smaller than that for consumers of beef and veal without a quality mark who make their purchases in this type of retail outlet (Table 4).

Likewise, the purchase of pre-packaged meat is not widely accepted by consumers, as only 10% buy it regularly, while 55% never or hardly ever do so (a percentage very similar to the overall national figure of 53% [8]). If high-quality meat alone is considered, this percentage rises to 81% (never or hardly ever purchasing), with 53% never purchasing pre-packaged meat on trays.

Finally, the characteristics of the product that consumer rate highest when making a decision to purchase are, in this order, the freshness of the meat, its purchase price, and the quality control monitoring to which it has be subjected. Thereafter come factors like geographical origin, labelling and the age of the animal (scoring 3.5 on a five-point scale). The remaining factors are usually assigned only average weighting, in particular the rearing system (3.0) and the types of feed and fodder given to the animal (3.2). Lastly, the breed of animal and recommendations from experts to consume it are factors rating slightly below the average.

This panorama is not too encouraging when it comes to achieving greater appreciation of premium-quality meat. This is because it is differentiated from other meats thanks precisely to such aspects as the systems for rearing and feeding, or even the breed of animal (as it is usually related to the rearing of native Spanish breeds). Moreover, the aspects which are rated most highly are factors of a general nature, not especially linked to non-extensively farmed products. Even price may work against it, as the costs of this type of production are usually higher than those involved in intensive fattening [9].

Moreover, the aspects relating to systems for producing meat that most concern consumers are those linked to the feeding of animals. Specifically, they are the use of hormones, genetically modified products and the possible existence of mad cow disease, and to a lesser degree the feeds that are used. The first two (hormones and genetically modified materials) are the variables showing the smallest dispersion of responses. Handling and storage at the point of sale, together with monitoring mechanisms (both on farms and all down the commercial distribution chain) come next. This preoccupation about handling and monitoring at the point of sale is even greater than concerns about cattle farmers' actions. This indicates that consumers are more mistrustful of intermediaries, as compared to producers. The impact of systems of production of meat on the environment is equally crucial, while animal welfare is slightly less important.

Concerns about rearing systems attain a score of 3.5 on a five-point scale, similar to the score relating to the actions of cattle farmers, and higher than the rating assigned to the rearing system as a variable of weight in the process of deciding to buy. This indicates that consumer concerns do not always translate into factors that intervene in the decision to make a purchase.

4.2.2. Transmission of Information to Consumers: Traceability

Labelling is one of the chief mechanisms for transmitting information to consumers. Indeed, the appearance of new standards on the labelling of meat products arose during the B.S.E. (Bovine Spongiform Encephalopathy) crisis, as a response to a heightened demand from European consumers for clarity in relation to health and food safety [10], [11], [12], [13].

On this point, one striking weakness of the population surveyed was the fact that they were unaccustomed to reading labels carefully. One quarter of the consumers said they did not read labels, as against 32% who read them "always" or "regularly", while 42% read them "sometimes". This parameter links to one of the few means (the sole means in the case of purchases from supermarket and hypermarket displays) for information to be transmitted to consumers about the features that might differentiate premium-quality meats from others, as well as one of the most trustworthy.

With regard to the information to be incorporated into the label, most consumers felt that all the aspects mentioned in the survey (Figure 1) should be indicated on the label, except the breed of animal (which only 48% of those surveyed thought important). It was especially noteworthy how much consensus there was among respondents with respect to the variable "origin", especially in so far as it referred to the Autonomous Community, which suggests a certain feeling of regional identity. Similarly, the system for monitoring and control, the type of feeds and fodders, the rearing system, and nutrition information were also considered valuable data to include. This contrasts with the moderate rating that was assigned to the rearing system as a variable when deciding to buy. That is to say, people think it important for it to be on the label, but it is not a variable given much weight when they are making up their minds about effecting a purchase.

As in the case of results obtained in other studies [14], the most crucial variables were origin (a desire for an indication of the region being particularly prominent), followed by the monitoring or quality control system, the sorts of feed and fodder provided for the cattle and the rearing system. An identification of the cattle farmer involved was the least important variable. Only 54% felt it should be included, while just 14.6% considered it very important.

In respect of the other mechanisms that consumers use as a means of gaining information about the quality of the meat they buy, all the features proposed in the survey (Figure 2) were used and seen as important. Those rated very important were an assessment of the meat at the place of sale, information from the butcher and price as an indicator of quality. This represents logical behaviour, if it is taken into account that price and an assessment at the point of sale are the two factors given the highest ratings nationwide by Spanish consumers when purchasing products of animal origin [8]. In contrast, the brand and the information on the label, although of importance, were considered “very important” for deciding to make a purchase by just 18% and 7% of respondents, respectively. This implies that the role of a brand as an instrument guaranteeing quality by its mere presence on the product’s label is not yet sufficiently developed in this region’s market. In fact, information from the butcher takes priority over this aspect, even though in recent times consumers’ interest in cutting down on the time they spend making a purchase has grown [6].

5. Conclusions

There is concern from consumers in relation to guarantees about the product (meat) they are buying, together with a demand for mechanisms that will ensure its quality. This contrasts with the lack of information and awareness on the part of consumers about the guarantees that can be offered by the existing quality-control schemes. This second aspect, together with the perception of these sorts of meat as a luxury item whose consumption should be limited to special occasions, puts a brake on the demand for premium-quality meats.

Information about procedures for certification would be a crucial element when promoting demand for these sorts of meat. This is because of the importance set by consumers on monitoring and control systems as mechanisms for guaranteeing quality.

It is clear that consumer concerns are not always reflected in their purchasing decisions. This means that a more in-depth study of the factors that explain their conduct will be needed in future research.

Similarly, greater awareness is needed on the part of consumers, so that they can adopt responsible purchasing habits, such as reading the label carefully, or overcome the barrier implied by purchasing pre-packaged products. It is striking that consumers of premium-quality meat do make purchases in hypermarkets and supermarkets, and yet are more strongly opposed to buying pre-packaged meat).

The re-emphasizing to consumers of the importance of aspects such as a breed and the feeding and breeding systems by means of campaigns for information and promotion, so as to allow them to become familiar with the relationship between the aspects listed and the final quality of the product is equally crucial. For this purpose, co-ordination and co-operation between public bodies and the economic agents involved might result in favourable promotion of this economic activity.

The value set by consumers on products of local origin justifies the use of brands with a geographical indication. However, it is necessary to back up any strategy promoting these brands with the positive effects of the other aspects mentioned above.

Constant effort on these lines will allow differentiation of the product to be achieved and would justify to consumers the payment of a slightly higher price, as long as the product corresponds to the characteristics expected. Its presentation at the final point of sale is of particular importance in this matter.

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6. Tables and Figures

Table 1. Distribution of the Sample of Consumers. Drawn up by author.

	Men			Women			
Total	15-29	30-50	50	15-29	30-50	50	
Avila	3	4	6	3	4	7	27
Burgos	6	10	12	6	9	13	57
Leon	9	14	17	8	12	19	79
Palencia	3	5	6	3	5	7	28
Salamanca	6	10	12	6	9	14	56
Segovia	3	4	5	3	4	6	24
Soria	1	3	3	1	2	4	15
Valladolid	10	15	16	9	14	17	82
Zamora	3	5	7	3	5	9	32
Total	45	70	84	42	65	95	

Table 2. Bodies Producing Beef and Veal with a PGI in Castile and Leon. Source: Spanish Ministry of Agriculture, Fisheries and Food.

Note: Avila meat is a brand from several autonomous communities. The data refer to total sales of the PGI.

	Holdings			**Industries**	
	Production	**Fattening**			
	Number of farms	**Number of farms**	**Number of animals**	**Slaughterhouses**	**Quartering**
Avila Meat	298	117	2950	12	17
Morucha Meat	147	Not available	Not available	5	3
Avila Meat/Total meat	1,5%	9%	4%	9%	18%
Morucha Meat/Total meat	1%			4%	3%
Avila and Morucha Meat over the total national	2,5%			13%	21%

Table 3. Production and Sale of Beef and Veal Holding a PGI in Castile and Leon. Source: Spanish Ministry of Agriculture, Fisheries and Food.

Note: Avila meat is a brand from several autonomous communities. The data refer to total sales of the PGI.

	PRODUCTION			**MARKETING**			
				MARKET			
	Slaughtered animals	**Average weight (Kg)**	**PGI Meat (t)**	**National**	**EU**	**Others**	**Total**
Avila Meat	2439	275	671	671			671
Morucha Meat	1200	250	300	300			300
Avila Meat/Total meat	0,6%		2,0%	2,0%	0,0%	0,0%	2,0%
Morucha Meat/Total meat	0,3%		0,9%	0,9%	0,0%	0,0%	0,9%
Avila and Morucha Meat over the total national	1%		3%	3%	0%	0%	3%

Table 4. Places where Consumers from Castile and Leon Purchase beef and veal. Drawn up by author.
(1): Reflects the percentage of all those surveyed (418) who named the brand
(2): Reflects the percentage out of those 49% of those surveyed who stated they had previous acquaintance with quality brands.

	Beef and veal with brand		**Beef without brand**
	Percentage (1)	**Valid Percentage (2)**	**Percentage**
Butcher's shops	36,4	81,7	83,7
Supermarkets	12,7	28,5	60,8
Hypermarkets	8,9	19,8	47,6
Local Markets	5,7	12,8	18,2
Producer	4,1	9,1	8,9

Figure 1. Frequency Distribution of the Importance of Information that Should Appear on Labels (Consumer Opinions). Drawn up by author**.**

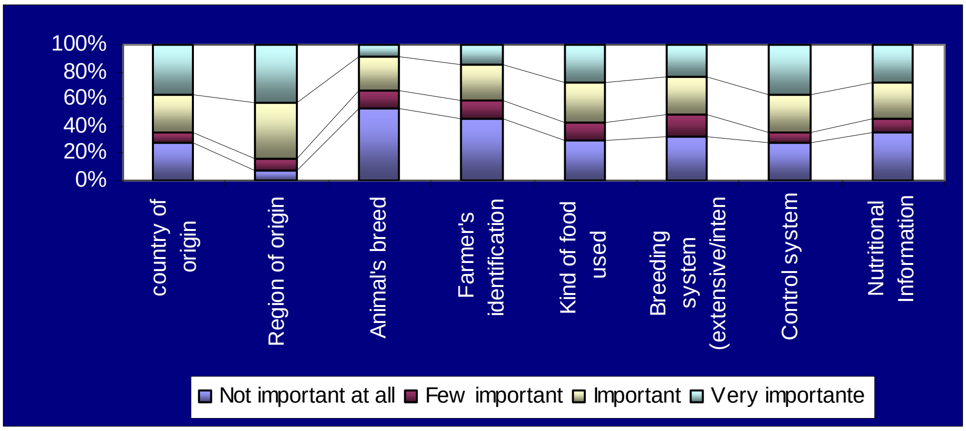

Figure 2. Assessment of the Weighting of the Sources Used by Consumers to Gain Information about Meat Quality when Purchasing. Drawn up by author.