

Consumer Perceptions of Meat Quality





CONSUMER PERCEPTIONS OF MEAT QUALITY

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This research was carried out within the framework of the EC-FAIR programme (Project FAIR-CT 95 -0046, "Consumer behaviour and quality policy - meat"); the authors acknowledge EU financial support from this programme.

ISBN 1 84170 078 9

October 1999





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SUMMARY

This study describes the policies in place for meat quality in six EU states, ascertains the consumer perception of quality for beef, pork and chicken and suggests how quality policy can be improved so it better meets the perceived needs of consumers.

The main results are:

Quality Policy

- Quality Policy, as presently implemented in Ireland and EU countries, falls significantly short on meeting consumer needs, in terms of reassuring consumers about the safety and eating quality of meat.
- For safety, mandatory standards dominate, whereas for quality voluntary standards mainly apply. However, many product attributes are not well covered by any of the voluntary schemes.
- Public quality policy is mainly operated through national, local or regional government. Industry organisations or industry players, such as retailers, operate private policy.

Consumer perceptions

- Quality: intrinsic attributes particularly flavour and tenderness are perceived as very important in terms of eating quality while colour and leanness are very helpful for predicting eating quality. Two extrinsic factors, place of purchase and country of origin are also important for predicting eating quality.
- Safety: there is a high level of concern about hormones, antibiotics, salmonella and other bacteria, and BSE. Freshness is perceived as the most helpful factor in assessing safety at the time of purchase for all three meats. For poultry, free range is next in helpfulness while for beef and pork, country of origin and the type of feed used are the next most helpful factors.
- Judging quality: many consumers cannot judge the quality of meat by its appearance.



- Awareness of schemes: generally, many consumers are not aware of any quality schemes or labels.
- For all countries, butchers (in the supermarket or independent) are the most trusted group as an information source on food safety.

Improving quality policy

- Improvement of voluntary schemes by including intrinsic quality cues and extrinsic eating quality cues should be an industry objective.
- While safety concerns of consumers are covered by mandatory elements of quality policy, the consumers are not sufficiently informed by those who operate the schemes about the inclusion of tests that deal with these concerns. This should be rectified.
- There is a need for additional information to help consumers assess quality at the point of purchase.
- As butchers are trusted, they should be used as much as possible to communicate information on safety to the consumer.

OBJECTIVES

This study aimed to establish current consumer perceptions of meat quality, to describe quality policy and to relate consumer perceptions and quality policy for meat with a view to improving quality policy and to better meeting the needs of consumers.

METHODOLOGY

The current policies for quality were first documented. A framework was developed for analysis of consumer perceptions of quality for three fresh meats, beef, pork and chicken. Quality was defined in a broad sense; thus safety was also included. The approach taken, perceived quality, concentrates on the quality perception process i.e. the way consumers form judgements about the quality of a product on the basis of incomplete information. The cues or indicators of quality used by consumers in buying and eating meat were established for the three meats from consumer discussion (focus) groups and the literature. These are classified as intrinsic



factors (e.g. flavour) and extrinsic factors (e.g. quality assurance labels). Irish consumer perceptions of these indicators were measured using 5 point scales in a consumer survey of 500 consumers, undertaken in March 1997.

Respondents were those who eat meat and carried out most of the shopping in the household. A similar survey was undertaken by partners in 5 other EU countries, UK, Germany, Italy, Sweden and Spain.

FINDINGS AND IMPLICATIONS

EU QUALITY POLICY

Quality policy can have mandatory and voluntary components and includes initiatives that are initiated and /or monitored by Government intervention.

Mandatory: Mandatory policy establishes a minimum level of product or process safety/quality by direct legislative intervention. Legislation can be both national and European. e.g. Sweden has stricter regulations regarding antibiotics, salmonella monitoring and animal welfare than other EU countries. The main mandatory elements aim to allow equality in competition and they generally deal with safety aspects such as traceability and hormones. Issues such as animal welfare are also included, but mandatory policies do not tend to deal with intrinsic quality.

In Ireland, the Department of Agriculture and Food implement so called 'vertical' directives which apply to specific sectors e.g. EEC – Fresh Meat Directives. Other government departments implement 'horizontal' directives e.g. Hygiene of Foodstuffs by the Department of Health. The recently established Food Safety Authority of Ireland now has the primary role for enforcement of all food safety legislation in Ireland.

Voluntary: Each country has voluntary policies that generally define product or process requirements for participation. They tend to emphasise the superior character of the products and the main objective is sales promotion. Most are recent in origin and came into operation in the late 1980's or early 1990's. They are implemented by a variety of industry and national bodies, including industry organisations, producers and retailers.



- (1) In all, 39 voluntary schemes were identified in the 6 participating countries.
- (2) Increasing concerns for beef safety mean there are more beef than pork or poultry schemes.
- (3) For most schemes, integrity and credibility is developed by use of independent third parties for monitoring purposes.
- (4) However, there is little use of consumer panels or research in developing scheme standards, and intrinsic product attributes are not well covered by schemes. At the same time, many schemes advertise directly to the consumer.
- (5) The more integrated the supply chain, the more likely it is that an integrated quality assurance scheme exists.
- (6) The greater the power of retailers, the more likely it is that an integrated quality assurance scheme exists.
- (7) The more homogenous the size of producers, the more likely it is that schemes are national rather than regional.

In Ireland, there are basically four types of voluntary schemes, which can be classified according to their scope and origin as:

- *International:* IS EN ISO 9000 series
- *National:* Quality and Hygiene Marks (Excellence Ireland, formerly Irish Quality Association)
- *Sectoral:* Quality Assurance Schemes (Bord Bia: pigmeat and beef schemes)
- *Company:* Multiple Retailer Schemes

In addition, a small amount of meat is sold under organic labels.

Voluntary public quality policy in Ireland has been developed and run mainly by Bord Bia. Funding is partially from membership fees by participating companies. As quality standards are now a market requirement, they do not necessarily command any direct price premium.



For the voluntary schemes, uptake varies within each of the three sectors, pigmeat, beef and poultry. Many companies in the poultry and pigmeat sectors are registered to ISO 9000 and the Excellence Ireland Quality Mark. The extensive nature of the beef producing sector and the limited amount of secondary processing explains the virtual absence of Excellence Ireland or ISO registrations.

The beef and pigmeat sectors are well represented in the Bord Bia scheme whereas such a scheme is yet not available for the poultry sector (other than eggs). The larger multiples and symbol groups exercise controls on meat suppliers through their own quality schemes or through requiring them to adopt the Bord Bia scheme(s). The individual butchers' shops are reorganising into a single representative body to provide for similar quality controls.

Aspects covered by the Bord Bia schemes include animal feed, origin, hormones, bacteria, antibiotics (pigmeat), tenderness, colour (pH requirements) and leanness. BSE is covered by the scheme due to the regulatory requirements. Flavour and smell of the products and the producers names are not included (directly) in the schemes.

CONSUMER SURVEY – EU CONSUMER PERCEPTIONS

Eating quality – factors important in assessment

Beef: Flavour and tenderness are the most important factors for beef in nearly all countries, including Ireland. Juiciness, smell, colour and texture are next in importance while absence of gristle and leanness tended to be least important.

Pork and Chicken: For pork and chicken, results were similar but smell and colour are as important as flavour and tenderness in many countries (including Ireland).

Implications for quality policy

Quality policy needs to put an emphasis on flavour and tenderness, if it is to best meet the needs of consumers. To achieve an input on flavour, considerable research on flavour assessment will be required. In Ireland the Bord Bia scheme covers only one of these two attributes e.g. tenderness as the scheme specifies the minimum hanging period for beef.



Planning processes that take account of consumer needs and expectations such as Quality Function Deployment (QFD) are now being developed and should enable better matching of technological capability and consumer needs in the future.

Predicting eating quality when shopping

For beef, colour and place of purchase are regarded as the most helpful predictors of eating quality in most countries. Country of origin, leanness, a brand or quality assurance label and marbling are next. Price is regarded as the least helpful predictor. There are exceptions, with labelling among the most helpful factors in Sweden, origin in Sweden and Ireland, and leanness in Ireland and the UK.

Generally the quality assessment for pork is similar to that of beef with colour and place of purchase perceived as most helpful.

For chicken, colour and place of purchase tend to be the most helpful indicators, but country of origin and leanness are also considered very helpful in most countries (including Ireland).

Implications for quality policy

Intrinsic product attributes are important quality indicators. They are not generally covered by quality schemes. For example, in Ireland only the Bord Bia scheme addresses some intrinsic aspects of quality e.g. a pH measure is taken as it influences colour. More research is needed on consumer requirements for these attributes so they can be included in schemes.

As consumers regard two extrinsic factors, place of purchase and country of origin, as very helpful indicators of final eating quality, quality policy needs to consider how these should be incorporated and used to advantage. For example, the retail outlet is an appropriate place to provide consumer information on sources of meat. In the case of beef, most Irish consumers know the beef they are buying is Irish and this may be why they regard country of origin as a helpful indicator of quality.

The fact that quality labels are seen as less helpful indicators of quality than other factors needs consideration for their future use.



Safety concerns

There is a lot of concern about safety issues (Table 1). Salmonella is the greatest concern in the case of chicken. For beef and pork, antibiotics and growth promoters are equally important concerns. BSE is also a major concern.

Overall, the Irish (Table 1) and Spanish are the most concerned about the safety of meat.

Table 1. Consumer concerns about meat safety - Ireland and six country averages

Percentage of consumers "very concerned"									
Concern	Beef			Pork			Chicken		
	Av.	Range	IRL.	Av.	Range	IRL.	Av.	Range	IRL.
Hormones	60	(52-76)	76	57	(44-67)	67	56	(47-67)	67
Antibiotics	57	(45-72)	72	57	(42-68)	68	55	(43-71)	71
BSE	62	(51-72)	72						
Bacteria/salmonella	58	(46-73)	73	60	(46-71)	71	68	(48-81)	81
Fat/cholesterol	37	(20-47)	47	39	(24-57)	47	34	(21-46)	41

Av. = average

IRL = Ireland



Implications for quality policy

In the case of salmonella and other bacteria, the need for maintaining hygiene standards and incorporating proper HACCP (hazard analysis, critical control points) procedures is paramount.

Although quality policy addresses both antibiotics and growth promoters, it is apparently not succeeding in communicating these activities to consumers. Consumers are uncertain about these issues; therefore reducing this uncertainty is a key point for quality policy.

Safety indicators

Freshness is perceived as the most helpful factor in assessing safety at the time of purchase for all three meats. For poultry, free range is next in helpfulness while for beef and pork, country of origin and the type of feed used are regarded as the next most helpful factors, followed by organic and a quality label. Price and the name of the producer were regarded as least helpful. A higher percentage of Irish consumers generally perceived each factor more helpful than consumers in other countries.

Implications for quality policy

New ways of providing meaningful information on freshness should be considered by the operators of quality assurance schemes.

The advantages and disadvantages of giving consumers information on the country of origin of the meat they buy, particularly in the case of beef, needs to be assessed. This is reinforced by the findings on symbols and quality labels. Quality schemes could introduce such a label with relative ease. Irish exporters could use the grass-fed beef image to advantage in this regard as many consumers wish to have information on the type of animal feed used. Quality labels, while helpful (particularly in the UK and Sweden), did not top the agenda and this merits some debate. There is a need to provide consumers with information on schemes and labels and on what the labels mean.



Table 2: Factors perceived to be helpful in assessing safety – six country averages

Percentage of consumers saying factor is “very helpful”									
Factor	Beef			Pork			Chicken		
	Av.	Range	IRL.	Av.	Range	IRL.	Av.	Range	IRL.
Animal feed	61	(44-82)	72	56	(40-82)	68	59	(53-83)	66
Quality label/brand	54	(40-70)	70	50	(38-66)	66	50	(35-65)	65
Producer name	38	(23-66)	66	37	(22-59)	59	38	(22-61)	61
Country of origin	67	(51-84)	84	56	(41-78)	70	53	(37-76)	70
Freshness	78	(58-89)	89	81	(66-89)	89	81	(65-91)	91
Organic production	46	(29-67)	67	45	(29-63)	68	-		
Price	27	(10-39)	38	24	(13-36)	35	25	(16-34)	32
Free range	-			-			62	(40-76)	76

Av. = average IRL. = Ireland

Attitudes

1. Over 30% of consumers claim they cannot judge meat quality by appearance.
2. The status of meat is declining among meat eaters.
3. Consumers feel strongly about animal welfare issues.
4. There were differences in consumers’ attitudes towards the origin of the meat. The Irish, Spanish, Italians and Germans said that they have a high preference for food that is produced locally. This is less so in the case of Sweden and the United Kingdom.
5. In some countries, almost 40% of consumers are not confident that the food in the shops is safe. The Swedes had the most confidence about the safety of food.



6. Many consumers believe meat is essential for a balanced diet but do not see it as the main source of protein.
7. Most consumers believe that in order to get good quality meat, a higher price must be paid. Thus, price was not the main consideration when buying meat.

Implications for quality policy

There is a need for additional information because about a third of consumers cannot assess quality at the point of purchase. While animal welfare related elements are often included in schemes these elements will need ongoing assessment. If schemes provided information on the source of the meat it would allay consumer concerns about meat safety. In some countries it would be beneficial for consumers to have information on the region of production.

Symbols, labels and brands

In most countries, many consumers were not aware of any quality label or scheme. In Ireland, of those who were aware, a symbol or indication of the fact that the beef and pork is Irish is what most looked for when buying these meats. Otherwise, 'Q' marks were sought or the butcher's reputation and/or place of purchase were regarded as quality indicators. For chicken, consumers look for brands and whether the product is free range. Many respondents gave equal credence to the appearance of the meat, besides using the above factors. Others tended to rely solely on aspects of appearance.

Implications for quality policy

The lack of use of symbols by consumers suggests private quality policy is not very effective in convincing consumers about the quality and safety of meat.



Trust

There is high level of trust in butchers. The level of trust is much higher compared to that for any other information source.

Implications for quality policy

The trust in butchers is something that can be built into and on by quality schemes. As consumers gave unprompted answers and were not asked directly about how much they trust public agencies on meat safety matters, it is difficult to know the extent to which they trust the public agencies with such responsibilities.

Further analysis of Irish consumer perceptions

Further work on the Irish data looked at how factors associated with perceived quality influenced beef consumption behaviour in Ireland.

Seven such factors were derived: safety, meat status (in the diet), absence of non-meat components (fat, marbling and free of gristle), freshness, country of origin, sensory factors and animal welfare. Additional discriminant analysis found that only two of the factors, safety and meat status, differentiated significantly between those who had maintained and those who had reduced beef consumption. Those more concerned about safety and with a lower perception of the status of meat were more likely to have reduced their consumption.

It was also found that those who had reduced their consumption regarded BSE as being of more concern than those who had maintained their consumption.



CONCLUSIONS

- There are several schemes in place in the EU, mandatory and voluntary, public and private, but none completely address all aspects of consumer needs.
- Results point to a need for components of quality policies to be specific to each meat. However, the need for quality policy is greatest for beef because of the extent of consumer concern.
- Voluntary schemes need to put an emphasis on intrinsic attributes of eating quality, particularly flavour and tenderness, and on colour and leanness for predicting eating quality.
- Consumers also rely on two extrinsic factors, place of purchase and country of origin, for predicting meat eating quality. Schemes must seek to incorporate retail outlets as much as possible and to use these as a source of information for consumer feed back. The consumer interest in knowing the country of origin is now being addressed by the EU.
- For safety cues, mandatory controls are essential. Therefore policy should clearly distinguish between safety and quality. As there is considerable concern about meat safety issues, the agencies involved in mandatory policy need to reduce consumer concern by provision of information in clear and attractive forms. The results suggest that insufficient was being done at the time of the survey.
- Meat labelling is not achieving the desired impact both from a quality and safety viewpoint. Creating greater awareness of labels and their role is necessary if they are to achieve their objectives.
- There is a need for additional information about meat to help consumers assess quality at the point of purchase.
- The trust in butchers should be built on to help consumers at the point of purchase. Both independent and supermarket butchers could be successfully used to provide consumer information on meat handling and storage and to give advice to consumers on cooking methods.



ACKNOWLEDGEMENTS

Support from the Commission of the European Communities, Agriculture and Fisheries (FAIR) specific RTD programme, CT-95-0046 'Quality Policy and Consumer Behaviour', is acknowledged. The paper does not necessarily reflect the EU Commission views and does not anticipate the Commission's future policy in this area. The report is based on the work of the teams in six countries; and draws on the national and comparative reports of colleagues from the universities of Göttingen/Hohenheim, Reading, Pisa, Madrid and Uppsala.

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