

**Quality Assurance:
Challenges and Opportunities for the Uruguayan Beef Industry**

By

José Luis Inciarte¹ and Luís Kluwe Aguiar²

Paper submitted to the
16th World Food and Agribusiness Symposium and Forum
10 – 13 June 2005 – Buenos Aires

¹ Market Researcher at the National Meat Institute, Uruguay.

² Lecturer at the Royal Agricultural Collage, Cirencester, UK.

ABSTRACT

Uruguay is a small country whose primary sector plays an important role in the country's economic development. This paper explores the ways in which Quality Assurance programmes can be used as a marketing tool to improve the competitiveness of the Uruguayan beef industry aiming at international markets.

Quality Assurance schemes aim to satisfy customers that stipulated standards relating to characteristics of a product are met during the production process. In the beef processing industry it has become one of the main vehicles used to define and differentiate meat products. Thus, in order to improve consumer confidence the INAC (the National Meat Institute in Uruguay) has developed the '**Certified Natural Meat Programme**' to encourage the production of 'natural meats'. Such a programme is expected to provide some sustainable competitiveness that, by being implemented at the farm level, could work as a marketing tool to ensure customers that Uruguayan beef attains to international requirements regarding food safety and quality, and also provides added value to the Uruguayan product by going further than those requirements.

Interviews with stakeholders of Uruguayan beef supply chain and in the UK were carried out in 2005 to collect information on quality and safety attributes they regard relevant. As for the outcome, it was expected that some proposals for the Uruguayan beef industry could be put forward to improve its competitive position.

Problem Statement

Modern consumers demand food products of highly consistent quality, in large assortments throughout the year and at competitive prices. Consumers have also become increasingly concerned about the safety of food. Such views have been aggravated by several sector-wide crises in the last decade such as the BSE outbreak dioxin and the food colouring Sudan 1 contaminations and most recently the threat of bird flu.

These sector-wide crises put extra pressures on those in the food business. The crises also increase the emphasis for the need of quality and safety controls as well as environmental issues. Nonetheless, at the same time the beef industry faces more challenges as a result of the shift from bulk commodity-type production towards the production of 'specialties' i.e. beef with higher added value. To comply with the new demands, companies are forced to introduce sophisticated information systems that focus on identification, registration, tracking and tracing capabilities. These processes generally known as Quality Assurance (QA) systems have affected the entire food chain from producer to retailer and to consumer. It is the authors' understanding that QA schemes aim to satisfy customers that certain stipulated standards relating to characteristics of a product are met during the production process.

The net result of impacts from intensive farming practices, the use of biotechnology and the raising public health risks that might be attributed to lack of transparency and traceability are supposedly the major drivers of recent breakdowns in consumer confidence. In order to restore the loss of consumer confidence, many actors of the food industry have introduced QA schemes as the market concerns on assuring 'quality' have become a priority.

With these changes in the food industry business environment, Uruguayan farmers strive to improve their position in the beef market. Beef is the most

important industry in Uruguay. More than 70% of its production is exported and this trend is growing year by annually. Uruguay has important comparative advantages in beef production that need to be converted into competitive advantages. Therefore, it is important to know what international markets are requiring in terms of food safety and quality.

Because of the small size of the country, the Uruguayan beef sector cannot prosper by producing undifferentiated meat for commodity markets. In order to gain international competitiveness and increase its market share in high-income markets it is of great importance that the actors in such a supply chain are aware of beef attributes that consumers use to evaluate beef quality and safety. Bearing these in mind, the next step would be to use this knowledge to develop a product that truly reflects these attributes thus providing added value to consumers.

With the bulk of Uruguayan beef being exported, the actors of the beef chain know that International markets are increasingly requiring certain controls on food products and processes, and to satisfy them, Uruguayan producers must not only meet those requirements but also provide certification. Stakeholders understand that by having a QA scheme at the farm level it could be used as a marketing tool by ensuring customers that Uruguay is meeting international requirements on food safety and quality. Hence, a QA scheme that goes a step further than those requirements as it offers added value to Uruguayan beef.

Methodology

The underlying objective of this paper was to explore the ways in which Quality Assurance programmes can be used as a marketing tool to improve the competitiveness of the Uruguayan beef industry in international markets. But to achieve this, and bearing in mind that little investigative work is done on Uruguayan beef, the another motif of this research was to understand how the

beef supply chain stakeholders relate towards different attributes regarding quality and safety. We also aimed at gauging what market leaders were doing in light of the changes in their business environment in order to generate some proposals for the Uruguayan beef industry to improve its position.

This is an exploratory study where qualitative research approach was selected as it is more adapted to investigating social and behavioural phenomenon, and as it is more suitable for understanding organisations groups and individuals (Peurez et.al., 1995). Secondary data was summarised and analysed to develop a good understanding of the topic. Primary data was then collected using semi-structured in-depth interviews conducted with different actors of the beef chain in Uruguay and in the UK in 2005 (Appendix 1).

Framework

QA schemes impact both domestic as well as international firms. Market and economic impacts will depend on the provisions and credibility of the scheme, the market structure of the national food system, as well as the consumer demand for the attributes targeted by the schemes.

At domestic market level, the effects on the development, operation and interaction of food QA schemes are an increasingly important determinant of the competitiveness of agricultural and food industries through their effects on production, transactions costs and prices. QA schemes may convey a competitive advantage to domestic producers covered by the programme. For example, all of the large retail food chains in the United Kingdom require Farm Assured (FA) livestock. Clearly, in order to source this primary market, QA membership schemes has become *de facto* mandatory, conveying an advantage to suppliers participating in the schemes and a disadvantage to those who do not.

At international level, the effects are reflected more on the increasing internationalisation of food production and consumption is a force that has led to intense competition among alternative suppliers of food products. As a result, food safety has become a truly transnational issue. It is fast becoming an important element in the drive for food industries to be internationally competitive. If stakeholders in one country can convince international buyers that its food safety system has more integrity than others, this can create a source of competitive advantage through product differentiation. Conversely, food safety may be used as a non-tariff barrier to trade. Some importing countries may be tempted to restrict imports to only those exporters able to offer what they consider to be enhanced food safety systems. Spriggs and Isaac (2001) believe that food safety is a real social concern that must be addressed in the context of the pressures for international competitiveness.

QA schemes could have important impacts on trade in food products, should they provide a product attribute that closely matches intermediate customer or final consumer demands, and, thus, competitive advantage. The impact of QA schemes on trade will depend on a complex set of factors. Ultimately, it depends on the value customers place on particular quality attributes and companies' relative ability to deliver them.

Domestic customers' specifications may act to reduce the competitiveness of foreign suppliers, if not block imports entirely. Trade could be blocked as a result of imports having to adhere to the same set of attributes as provided by food produced using domestic QA schemes. This type of trade barrier is likely to become more prevalent for exporters to the EU, as domestic customers increasingly insist that technical requirements in schemes as well as the inspectors involved in certification of these requirements be accredited to national or EU-level standards (Henson and Northen, 1998; cited by Bredahl et.al., 2001).

Studying food quality requires a thorough understanding of the concept. It is not a single concept, but is rather multi-factorial. It refers to the characteristics related to the physical appearance (colour, shape, texture), sensory features (taste, aroma) of the food product and other values (healthfulness, safety, nutrition) acquired from such a food product. 'Quality' is a complex of properties of a good or service that satisfies a customer's implicit and explicit needs.

Food quality can be a 'search good' if the consumer is able to obtain information through inspection. Alternatively, quality is an 'experience good' if the consumer can access readily available information, for example through labelling, repeated purchases or reputation effects, the latter translated as branding or retail loyalty. (Nelson, 1970, cited by Poole, 2002).

Other attributes are 'credence goods' for which information cannot be discerned even after repeated consumption (Darby and Karni, 1973, cited by Poole, 2002). Yet, Tuncer (2001) proposes that credence attributes are 'believed-in attributes' that can only be acquired through information or personal judgement of the product.

Table 1: The quality aspects according to attributes (search, experience and credence)

	Quality Aspect
Quality expectations or Search attributes at the point of purchase	Intrinsic Cues Physical appearance of the product such as colour, shape, texture, smell, leanness, marbling, cut juiciness, packaging, etc.
	Extrinsic Cues Information of labels, brand, country of origin, price, traceability, etc.
Quality experience upon consumption	Experience attributes Sensory aspects such as aroma, taste, texture, tenderness, juiciness and functionality i.e. easy to prepare
Believed-in Quality	Credence attributes Healthfulness, safety, nutritive value, environmental friendliness, animal welfare, ethical concerns, use of GMOs, social responsibility, enhancement of local economy, cultural value preservation.

Source: Tuncer, 2001

Search attributes or quality expectations at the point of purchase are based on perceptions of one or more quality cues. **Intrinsic** cues are part of the product. In this respect they cannot be changed without also changing the physical product itself. Some examples that can be given are colour and texture of meat products. On the other hand, **extrinsic** cues are attached to the product but they are not physically part of it. Well-known cues include price, brand name and country of origin. Extrinsic cues are usually communicated to the consumer through marketing efforts, including labelling.

Upon consumption, quality expectations are judged and the product's true quality performance is experienced. The judgement of 'quality experience' is based on the perception of quality attributes, namely **experience** and **credence** attributes. Experience attributes are those ascertained by the consumer on the basis of an actual consumption experience of the product, such as aroma, colour, taste, tenderness and ease of preparation of the meat product. On the other hand,

credence attributes are intangibles that cannot be explicitly verified through personal experience even after normal use for a long time. Examples that can be given here are the absence of additives, healthfulness and environmental healthiness. Consumers do not only consume the physical food product itself but a bundle of attributes. The consumption of all these three different attributes, all together, form a perception of the product.

One way of grouping attributes has been to consider whether they are **process** attributes or **product** attributes. The table shows the different attributes for meat products (Bredahl et.al, 2001).

Table 2: Subsets of Quality Attributes

Process Attributes	Product Attributes			
	Food Safety	Nutrition	Sensory	Functional
Animal Welfare	Pathogens	Fat content	Taste	Convenience
Biotechnology	Residues	Calories	Texture	Storage
Organic production	Hormones	Fibre	Tenderness	na
Traceability	Food additives	Vitamins	Juiciness	na
Growth enhancers	GMO	Minerals	Freshness	na
Feed	Cholesterol	na	na	na

Source: Northen (1999)

Consumers purchase products to consume physical product attributes, such as sensory and nutrition attributes, but also purchase food to consume a desired set of quality attributes. Depending on personal values and cultural norms, consumers may also purchase products to consume process attributes i.e. those which are a part of the production process, but which cannot be detected during

consumption. Examples of process attributes include country or region of origin, animal welfare practices, or environmental impacts of certain production practices. Quite often consumers may be also willing to pay a higher price for products that provide these desired attributes.

Consumer base the amount they are willing to pay for a product on cues of intrinsic product attributes and indicators of process or extrinsic product attributes. A label certifying that a product was produced to meet the requirements of a quality assurance scheme is one indicator guiding consumer purchases. For example, the presence or absence of many feed additives cannot be readily detected on the basis of consumer experience or perception of a product and, hence, these attributes can only be communicated through an extrinsic indicator, such as a label. Many process attributes, such as how animals are treated during production and transport, can only be communicated through an extrinsic indicator. Whereas intrinsic quality cues such as flavour and tenderness can only be used to predict experience attributes, extrinsic cues are additionally able to communicate credence attributes (Northen, 1999).

In terms of communication, credence attributes cannot be predicted by intrinsic cues; hence, the only way of successfully predicting credence attributes will be through the use of extrinsic cues, such as information provided on labels or through verbal communication at point of purchase (Northen, 1999). Credence of the product is only conveyed to the customer if the product is labelled accordingly and the definition of that label is independently verified. Labelling is the key issue of farm assurance schemes as without it there is no information transmission (Montgomery and Aguiar, 2003).

According to some research done in the UK at the consumer level (Hornibrook and Fearn, 2001) credence attributes, such as food safety, nutritional and process attributes, represent the main concerns associated with the beef category. Credence attributes are associated with higher levels of perceived risk

because they are associated with lower levels of pre-purchase knowledge. Increasing the level of information to consumers is one of the strategies for reducing the perceived risk associated with beef.

Having thus characterised the concept of 'quality', the concept of 'quality assurance' may be also defined as the way someone communicates within their business issues related to safety and quality controls. And how these are communicated to the workforce, customers and consumers (Baines, 2002). QA schemes provide a system for assuring and certifying desired product attributes by establishing production and processing standards as well as managerial practices that relate to the provision of these attributes. The inspection process ensures that these standards are being observed, and provide an indicator of these attributes that are communicated through a brand, label or certification.

This entire framework is valid not only to final consumers but also to intermediate customers in the supply chain. Intermediate buyers will also need to identify that attributes desired by their customers are present in required quantities. Baines (2004) proposes that FA is also marketing tool at the intermediate level.

By studying and analysing different QA schemes, it is possible to assert how {that} the credence attributes are mainly affected. Usually, no intrinsic cues are directly affected by QAS. As the physical product is not generally altered by scheme standards and as the attributes affected can be seen as credence in nature, extrinsic cues must be used to communicate the output of these schemes to customers.

In the EU, QA schemes have arisen in response to several developments in the food sector. Consumer concerns over food safety have increased dramatically as a result of health scares linked to incidents such as *Salmonella* in poultry and eggs and the possible correlation of BSE in cattle and the new variant Creutzfeldt Jacob Disease (vCJD) in humans. Recent incidents have included the

Escherichia coli 0157 contamination of meat in Scotland, which killed 19 people, and dioxin contamination of animal feeds in Belgium. These incidents led to increased demand for assurances regarding food production processes and practices.

A common aim of many QA schemes is to communicate to a customer, either intermediate or final consumer, that the scheme has tackled particular product attributes in a desired way. QA provide documented assurance to customers that the supply of the assured product contains all the attributes that the scheme seeks to address, for example, improved animal welfare, improved trace-back capability etc.

According to Fearne (2004) QA programmes can deliver two main benefits to livestock farmers:

- a) A premium price.
- b) Market access.

Price premiums are observed, if the programme includes attributes that are valued by the customer and they are effectively communicated. Premiums generally reflect product scarcity. Usually at the implementation phase FAs deliver a premium price to farmers because the majority of them remain non-assured. But as more farmers become assured and retailers demand only assured meat, being assured becomes ultimately common practice and non-assured producers will not find outlets for their production and are forced to sell their products at discounted prices.

As the volume of farm assured products increases, so the scarcity factor diminishes and price premiums become increasingly difficult to justify. However, in these circumstances the benefits of scheme membership should come in the form of market access. If consumers assume FA as given, there will be no

premium paid for it. Therefore, it is going to be an issue of having or not having access to the market.

Fearne (2004) states that in a normal trading environment the message from downstream processors and retailers is clear: FA is a market qualifier and an entry requirement. However, by itself FA cannot and does not justify a premium price. One could argue that in fact there is a premium farm assured products receive since it is likely that in the future non-assured livestock will invariably be traded at a discounted price.

Discussion

Uruguay is a small country of only 3.4 million inhabitants and more than 12 million heads of cattle. The beef industry represents 25% of Uruguayan total exports. Thus, exports are an important component for economic growth. It also means that in Uruguay the beef sector most of the drivers of change are external. To be competitive at the international level it requires building competitive advantages linking quality and origin and/or food safety as well as QA management as key drivers of agribusiness (Jatib, 2003).

The Uruguayan cattle-farming system is based on native pastures grazed by an integrated bovine and ovine herds system in the open all year round. This means animals are not stabled during the winter period and are raised under environmental natural conditions which ensure animal well-being. This is possible by country's moderate weather enabling ideal conditions for an extensive beef production system on natural grasslands that suit the nutritional requirements of the cattle all year round.

In the Uruguayan farming systems, beef is produced from vegetable proteins with animal origin products by-products being banned by law. More over, since 1988 the use, trade, importation or manufacture any kind of hormones, anabolic and

growth promoters are prohibited. In May 2004 the International Epizooties Organisation (OIE) provisionally declared Uruguay as the lowest risk category for BSE country and expectations are high that by May 2006, it will be declared BSE free. Presently, Uruguay is free of Foot and Mouth disease with vaccination.

INAC (the National Meat Institute) took the initiative to develop a programme called '**Certified Natural Meat Programme**' (CNMP). The programme encourages the production of 'natural meat' under a specific QA scheme that includes all the conditions required for certification by an international certifying body. The 'natural meats' concept is distinct from that of organic. Whilst organic meat derives from systems in which no agrochemicals are used but animals can have access to feedlots and grain feeding, the natural meat scheme allows for a controlled use of chemicals (based on GAP codes) but does not accept the production under feedlots. All CNMP is produced from grass-fed animals. The CNMP scheme consist of concepts such as:

- Traceability
- Grass-fed and open range.
- Appropriate animal management at the farm (animal welfare)
- Veterinary control, hygiene and environmental care
- Animal feeding (no hormones, no antibiotics, no animal proteins)
- Appropriate buildings and equipment for cattle
- Suitable transport of cattle
- Adequate slaughter and packing conditions at the abattoir.

The CNMP began as a result of the many changes in the business environment mainly at international meat markets level. Consumers are demanding more 'natural' products. In the US, Sterling-Rice (2004) mention that a market research showed the possibilities for an important market for natural beef that amounts to a population of about 57 million people (Appendix 2). The increasing demand for cattle reared under more natural and environmentally friendly conditions i.e. reared outdoors and on natural pastures using sustainable methods, which taste

better, produced without hormones and antibiotics, is already a fact in the UK. With Uruguayan beef products being merchandised under certified 'natural meat' stakeholders have attempted to capture these important opportunities as this type of beef is perfectly suited for this strategy type of production.

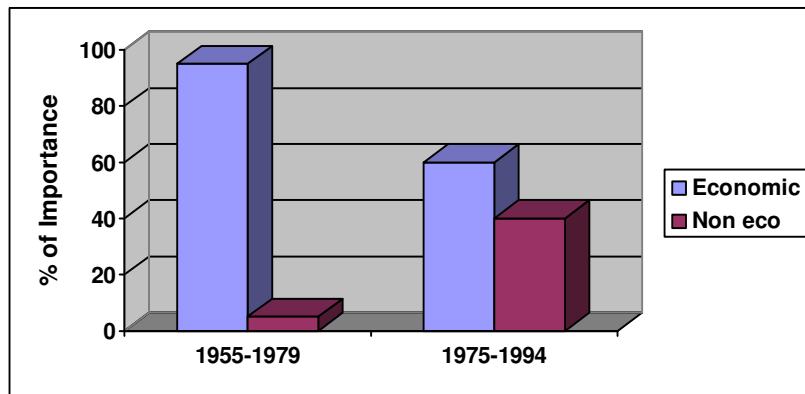
It is common knowledge that the most attractive meat markets are those where people have higher income. Yet, in those markets there is greater concern regarding quality and food safety. New niche markets are being developed that are requiring special standards for meat products. These characteristics are usually related to 'natural' product' and 'natural food' and are clear opportunities for those countries that are able to supply this natural product to satisfy these requirements (Sterling-Rice, 2004).

According to De Mattos (2000), meat consumption is driven by different factors. Economic factors are those related to the price of the product and the income level of the consumer. But meat demand is also affected by non-economic factors (emotional or credence characteristics). These are:

- Health and safety.
- Convenience:
 - Referring to the way meals are prepared,
 - How easy is the preparation.
 - Dependent on demographic changes taking place.
- Quality:
 - High-income segments demand a high quality product.
- Animal welfare and environmental care.

From 1955 to 1979, 95% of purchase decision was made on the basis of economic factors. But from 1975 to 1994 this economic/non-economic factors relationship changed to 60 – 40% (Figure 1) (De Mattos, 2000). Non- economic factors are new requirements for EU markets and could be a barrier to Uruguayan meat exports in the future.

Figure 1: Average weight in the UE of factors affecting meat consumption



Source: De Mattos (2000)

To ensure a high quality process and a high quality product the development of a brand is very important because it reduces shopping time, guarantee satisfaction and customers become loyal to brands that offer them high quality and safe products. Brands help to develop consumer confidence. Brands provide process standards that can ensure the quality of their products. The CNMP created a country brand that would allow for the consumer of Uruguayan meat to closely relate to the certainty that she is obtaining from a product that follows a certification process. The country brand appears on the label of each and every one of the different meat cuts. A stamp of the international certification body that overlooks the CNMP logo is aimed at providing extra assurance.

Figure 2: Certified Natural Meat Logo

The logo below identifies the product on the package, and is used on labels and advertising material.



Figure 3: “From Nature to consumer” icon and slogan.



De la naturaleza a su mesa.

Besides the brand and its logo, there is an icon or image that reinforces the idea of traceability and food safety. This image shows how grass is transformed into a code bar.

Below this image there is a text that says ‘**from nature to table**’ as a way of transmitting confidence. The imagery used here effectively communicates the aspirations of the beef industry and evokes the consumers’ desires to be linked to the countryside and natural issues (Goodman and Goodman, 2001).

Presently, the bulk of Uruguayan beef production is traded as commodity, despite much of the beef exported having natural grass-fed attributes it is treated as industrial beef. Being a small country with limited beef production, compared to other beef producers, Uruguayan farmers ought to differentiate their product and distance themselves from the commodity market as much as possible.

In 2005, the NAFTA (United States, Canada and Mexico) market was the most important destination for Uruguayan beef. The EU came second, with both markets characterised by having high expectations for quality assurance and traceability of meat products. Because of its product dependency but having to serve a diverse set of export markets, the way forward for the Uruguayan beef sector was to develop a QA programme that differentiated its beef in the global market and assured customers that the product is safe and meets consumers’ needs. Thus as an exporting country, the need to have traceability systems and good safety standards should be treated as basic requirement to capture and sustain access to foreign markets. Contrary to countries that export very little and

mainly satisfy the home market consumption, and thus, tend to be slightly more relaxed about their systems and rely more on governments (Manning, 2002), the QA systems in Uruguay have to be market led.

From the interviews carried out with stakeholders in the beef chain (Appendices), some expressed that the most important attribute of Uruguayan beef is its sanitary status. Uruguay is free from FMD and provisionally free from BSE according to the by the (IEO). This attribute has enabled Uruguay to increase export markets both in volume and value, reaching a record of more than 450,000 tons of beef exports in 2005.

Mr Lautaro Perez, manager of *Establecimiento Colonia Abattoir*, stated that markets in developed countries are more sensitive to credence attributes. In the USA two fast food chains, McDonald's and Burger King's, are actually leading the push for animal welfare as well as food safety with the later being specially related to microbiological contaminations. Other stakeholders consider intrinsic attributes such as tenderness, marbling, colour and juiciness as more important than extrinsic attributes. For the UK, 'tenderness' is the most significant attribute determining 'eating quality' and repeat purchases during consumption. Michael Simard, international trader for the US and Canada markets, suggested that farmers in Uruguay should try to improve the beef tenderness attributes. Despite the credence attributes, if beef is not of a high intrinsic quality (eating quality), customers will not buy the product.

Effective QA systems are set up to address both product safety and quality along the process, but it is not enough. Mr. Ameglio, international meat broker, supports that both, credence attributes and intrinsic attributes are important for selling meat abroad. According to him, credence attributes have been growing in importance and probably in the near future nobody will be able to sell meat if one does not have the required standards of credence attributes. In his view, credence attributes are more relevant than best intrinsic attributes to access markets. This notion is also backed by Ms Visca- Casas, working for meat importer Weddel Swift, who believes that in the future QA will be an issue of determining who is in or out of the market.

Following Fearne (2004) QA programmes can deliver two main benefits to Uruguayan livestock farmers: Premium price and Market access. Mr Green from CMi and Mr Wood from EFSIS stated that presently there is not a premium price in the UK for those farmers under QA schemes. But, by complying with a QA protocol it means market access to large retailers. This should be considered by farmers to be of great importance, otherwise they have to sell their meat in secondary markets. Consumers in the UK assume farm assurance and expect food safety as given. Since retailers should be committed to only sourcing farm assured livestock products, it is also true that some major retailers end up importing less costly meat from South America. Nonetheless, the farmers' lobby in the UK and Ireland work against South American imports in favour of British assured meat. As a result, retailers have expressed a commitment to buy British assured beef whenever possible, and do supply some top price cuts such as Tesco Finest range, Sainsbury's extra matured beef and M&S Angus beef, among others, that are all sourced from the UK. In the near future, retailers will require exporting countries to certify their exports as FA. Stakeholders in the beef export sector considered this to be a fair demand as international suppliers should be treated the same as local suppliers. As this happens in the UK it is likely that it will happen in other countries as well .

Aspects in QA Programmes to be enhanced

According to Tim Green from CMi certification body, food safety, traceability, animal welfare and environmental care are the four topics that are addressed by almost all the assurance schemes. The 'quality' attribute most schemes want to deliver is food safety. Messrs Wood and Fairbank from EFSIS agreed on that, and added that eating quality attribute is not commonly addressed by QA schemes.

Knowledge of the beef's origin is essential for butchers, caterers and retailers. Thus the demand for 'traceability systems' is considered a significant attribute as 'animal information' and 'transparency' of production processes become available to beef suppliers. Michael Simard, international meat purchaser, understands that as traceability is directly linked with food safety traceability is

the most important attribute of QA schemes. Andrew Pasterfield, Weddel Swift (UK) General Manager, pointed out individual traceability as the most important credence attribute Uruguayan beef producers should seek in order to maintain the access to the EU market. Thus, QA programmes should require this attribute and lead to the development of full traceability in Uruguay.

One of the trends that seem most probable is that consumers in developed markets will continue to increase their wealth. Increasingly people are seeking food or products produced with higher animal welfare, environmental and ethical standards. The recent growth in demand for organic food is an example of how quickly this new behaviour can generate a commercially viable category. This has also being perceive by Mr Perez who feels that demand of natural beef with no hormones, no antibiotics and feeds free of animal proteins is growing. According to James Cleeton, from the Soil Association, consumers perceive 'organic food' as safer and more natural. The market for overall organic food has a great potential because demand is growing faster than supply. The lower cost of production in Uruguay may give it an advantage over EU organic beef producing countries. 'Uruguay has a great opportunity to develop this niche market where supply is still limited' according to Mr Cleeton fo the Soil Association. This market opportunity has already been tackled by some Uruguayan abattoirs, which have already developed organic beef programmes. This is possible because of the Uruguayan extensive production conditions that perfectly match the requirements of international organic programmes. However, better integration between abattoirs and producers is needed to foster the adhesion to these programmes.

In addition, animal welfare is an attribute that is growing in importance according to Ms Visca-Casas, meat trader for Weddel Swift (UK), who considers in the future, unless exporter countries comply with animal welfare standards, they will not be able to enter the European market. Many institutions like Freedom Foods and RSPCA and the Soil Association in the UK are working towards the improvement of animal welfare standards. This position is also backed by Mark Wood, EFSIS, who believes that animal welfare is the most important of the credence attributes and that it is a real issue on the meat industry. Yet Michael

Simard regards dark cuts as being a common problem, thus a consequence of the high levels of stress previous to slaughter. In respect of this, animal welfare not only relate to the wellbeing of animals and extrinsic attributes per se, but also to quality of beef cuts.

Nevertheless, following Mr Ameglio, volume traded stills plays a crucial role. Uruguay's beef export volumes are small, in comparison with those of other neighbouring export countries such as Brazil and Argentina. Such a small volume cannot influence the international market as their neighbour countries do.

Results and Conclusions

The Uruguayan beef sector plays an important economic role in such a small country. However, the sector's sustainability is threatened by the production of undifferentiated meat for commodity markets. The interviews show still a strong production orientation as respondents regarded the most important attribute of Uruguayan beef to be its sanitary status i.e., free from FMD and provisionally free from BSE. However, in order to gain international competitiveness, those in the beef supply chain must be aware of what attributes consumers use to evaluate quality and safety.

It is also true that stakeholders in the beef industry understand the value of a QA scheme at the farm level as it could be used as a marketing tool. Customers in different markets are assured that Uruguayan beef meets international requirements on food safety and quality. Hence, such a QA scheme guarantees value adding to Uruguayan beef. It is known from the literature that the impact of QA schemes depend on the value customers place on particular quality attributes and companies' relative ability to deliver them. Food attributes are generally multi-factorial and refer both physical or intrinsic (colour, shape, texture) and sensory or extrinsic (taste, aroma) features. De Mattos (2000) proposes that meat consumption is driven by economic factors, those related to price and levels of income. But meat demand is also affected by credence or emotional characteristics, thus non-economic factors. Nonetheless, this is not enough as other higher value product features such as healthfulness, safety and nutrition

are also determinant in the buyer's process. In view of this quality attributes reflect complex properties of products that satisfies a customer's implicit and explicit needs.

According to Fearne (2004) QA programmes deliver benefits to farmers such as market access and premium price. Consumers are quite often keen on paying a higher price for products that provide this bundle of desired attributes. Following Tuncer (2001), here quality experience (experience attributes) and believed-in quality (credence attributes) with its subsets of process and product attributes (Northen, 1999) presently play the most important role in determining purchase and re-purchase of food stuff. Consumers will be willing to pay a premium price only if there are added value attributes involved, therefore those attributes need to be well communicated. Despite this the way to communicate credence attributes to customers has not the objective of this paper and therefore has not been explored here. But some efforts from INAC have attempted to tackle this topic.

The challenge to the industry is to understand how to communicate these attributes for consumers. Managers know that certification labelling establish trust between producers and consumers in international supply chain where the act of production and the act of consumption are dissociated by a gap of thousands of miles. If we understand that QA may be also defined as the way we communicate the standards are being observed by the means of certification, branding and labelling.

The Certified Natural Meat Programme in Uruguay is a way to communicate beef attributes of Uruguayan Natural Beef both in Europe and the US. The CNMP being approved by the USDA under the Process Verified Programme scheme means that every beef exported to the USA can carry the USDA Process Verified logo (see appendix 3) consequently facilitating trade with that country. INAC aims at benchmarking the CNMP against the EurepGAP as many stakeholders interviewed perceive this as the best tactics to way access European markets.

The development of beef attributes that reflect an image of natural beef being raised from cattle on extensive pastures without the use of hormones and antibiotics is considered the greatest selling point. Nonetheless the naturalness attribute is not enough. Farmers have to be conscious to improve intrinsic beef attributes as well as credence attributes. Animal welfare plays here an important role in aiding the matching of the QA standards. Animal welfare is an important issue at the farm but at the slaughterhouse too with high stress levels previous to slaughter being a major point for improvement. This is corroborated by Michael Simard who regards dark cuts a common problem and as consequence low beef quality.

Despite this, Uruguayan beef exports are of low volume compared to countries such as Argentina and Brazil. Those behind the Uruguayan initiative should bear in mind that, QA programs have to maintain a balance by requiring high standards of attributes demanded by international markets and making it easy enough for farmers to comply with those attributes and join the programme. If standards are very high, producers will not be able to achieve them and beef volumes from the programmes will be very small.

References

- Baines, R. *Quality Assurance and Food Trade: a Critical Comparison of Systems*. Summary report for the Farmers Club Charitable Trust. (2002)
- Baines, R. et.al. HACCP at the farm level: the missing link in food safety and security. *Conference Proceedings International Agribusiness Management Association*. 14th Annual Conference, Montreaux. (2004)
- Bredahl, M. et.al Consumers demand sparks the growth of quality assurance schemes in the European food sector. In, *Changing structure of global food consumption and trade*, Economic Research Service/USDA, pp 90-101. (2001)
- De Mattos, D. Cambios en el consumo de carne a nivel mundial. In, *Situación y Perspectivas de la Cadena Cárnica Internacional*, Instituto

Plan Agropecuario – Instituto Interamericano de Cooperación Agrícola, pp 10-16. (2000)

- Fearne, A. *Best Practices through an Agricultural Industry Crisis: Insights from the UK*. [on line]. Available from: <http://www.bestpracticeofleadingfarmers.com/CongressProceedings2004/AndrewFearne.ppt> [Date accessed: 25/07/2004] (2004)
- Goodman, D and Goodman, M. Sustaining Foods: Organic Consumption and the Socio-Ecological Imaginary. In Maurie Cohen and Joseph Murphy (eds.) *Exploring Sustainable Consumption: Environmental Policy and the Social Sciences* (pp. 97-119). Oxford: Elsevier. (2001).
- Hornibrook, S. and Fearne, A. *Managing Perceived Risk: a Multi-tier Case Study of a UK Retail Beef Supply Chain*. Journal of Chain and Network Science, Vol 1, No 2, pp 87-100. (2001)
- Inciarte, J. *Farm Assurance: Challenges and opportunities for the Uruguayan beef industry*, Unpublished MBA dissertation, Royal Agricultural College. (2005)
- Jatib, I. *Food Safety and Quality Assurance Key Drivers of Competitiveness*. International Food and Agribusiness Management Review, Vol 6, Iss 1. (2003)
- Manning, R. *A Study of Integrated Beef Supply Chain*. Nuffield Farming Scholarship Trust. (2002)
- Montgomery, S. and Aguiar, L. A License to Farm. *Conference Proceedings International Agribusiness Management Association*. 14th Annual Conference, Montreaux. (2004)
- Northen, J. and Henson, S. Communicating Credence attributes in the Supply Chain: the role of trust and effects on firms` transaction costs. *Conference Proceedings International Agribusiness Management Association*. Florence. (1999)
- Perez L. and Varsi A. *The Natural Beef Market in the United States*. National Meat Institute, Uruguay. (2003)
- Poole, N. et.al *Quality assurance initiatives for peri-urban food production in India*. Fifth International Conference on Chain and Network Management in Agribusiness and the Food Industry, `Paradoxes in Food

Chains and Networks`, pp 298-314. Conference held at Noordwijk, The Netherlands, 6-8 June, Wageningen Academic Publishers. (2002)

- Saunders, M, Lewis, P and Tornhill, A. *Research Methods for Business Students (3rd Edition)*, Pearson Education Limited, Essex. (2003)
- Spriggs, J. and Isaac, G. *Food Safety and International Competitiveness: the Case of Beef*. CABI Publishing, Wallingford, UK. (2001)
- Sterling-Rice Group *Positioning and Launching Uruguayan Beef in the United States*. Report to the National Meat Institute. (2004)
- Tuncer, B. *From Farm to Fork? Means of Assuring Food Quality*. Unpublished MSc dissertation, IIEE, Lund University. (2001)

APPENDIX 1

List of interviewees

- Mr. James Cleeton, Policy Projects Coordinator, Soil Association.
- Mr. Tim Green, CMI (certification body) Agriculture Director.
- Mr. Marcus Wood, EFSIS Certification Manager.
- Mr. Peter Fairbank, EFSIS Operations Manager for Agriculture.
- Mr. Michael Simard, Intercity Packers (Canada), Purchasing Agent.
- Mr. Lautaro Perez, Establecimiento Colonia, Uruguayan exporter Abattoir.
- Mr. Alejandro Ameglio, Maximeat Co., Uruguayan International Meat Brokers.
- Miss. Magdalena Visca, Weddel Swift (UK), Trade and Procurement Assistant.
- Mr. Tony Elson, Weddel Swift (UK), International Trade Manager.
- Mr. Andrew Pasterfield, Weddel Swift (UK) General Manager.

APPENDIX 2

Natural Beef Producer Companies in the United States

The following information was gathered through companies' Web sites on the Internet. The following table shows a list of the 15 selected companies. The information was processed and classified according to companies' characteristics, process and production characteristics, and product characteristics.

Name	Started	Location	Website
1. Coleman	1979	Denver, Colorado	www.colemannatural.com/
2. Laura's	1985	Lexington, Kentucky	www.laurasleanbeef.com
3. Maverick	1985	Denver, Colorado	www.maverickranch.com/
4. B3R Country Meat	1986	Texas	www.b3r.com/
5. Painted Hills		Oregon	www.natural-beef.com
6. Harris Ranch	1937	California	www.harrisranchbeef.com/
7. PM Beef Group	1991	Kansas, Missouri	http://pmholdings.com/b.html
8. Niman Ranch	1974	Oakland, California	http://nimanranch.com/
9. Meyer Natural Angus	1990	Missoula, Montana	www.mevernaturalangus.com/
10. Oregon Country Beef	1987	Oregon	www.countrynaturalbeef.com
11. Montana Range Beef		Montana	www.montanarange.com/
12. Wolfe's Neck Farm	1959	Maine	http://wolfesneckfarm.org/
13. North Star Neighbors	2000	Nebraska	www.northstarneighbors.com/
14. Small Farm Cooperative	1999	Nebraska	
15. Van Wie Natural Foods		Houston River Valley, NY	http://vanwienaturalmeats.com/

Source: Perez and Varsi (2003)

The majority of the companies have been present for a long time in the United States. Coleman was the pioneer in 1979. In 2002, it was the leader in the segment, marketing more than 60,000 head per year with annual sales of \$70 million, which was almost half of the natural beef market (Natural Food Merchandiser, March 2002).



APPENDIX 3

Certified Natural Beef – USDA Process Verified Logo

