Abstract

We review herein the relevance of credence and sensory attributes for cheese liking as a basis for subsequent discussion on attributes related to traditional dairy products such as place of origin, process characteristics, etc. Several studies suggest that place of origin may have a positive impact on consumer evaluation. In addition, protected designation of origin labels generally affects consumers’ purchasing decisions, with a premium price paid for traditional products. Some of the main dimensions of traditional food products are: familiarity of the product, processing through traditional recipes, sensory properties and origins. However, different dimensions can be relevant for consumers of different countries. Southern European regions frequently tend to associate the concept of traditional with broad concepts such as heritage, culture or history; whereas central and northern European regions tend to focus mainly on practical issues such as convenience, health or appropriateness. Sensitivity to traditional cheese attributes may also vary according to different groups of consumers with older, more educated and wealthier subjects showing higher willingness to pay and acceptance levels. Given that sensory properties play a central role in product differentiation, we can conclude that information about credence attributes, if reliable, positively perceived and directed to sensitive groups of consumers, is able to affect consumer liking and willingness to pay for traditional cheese. Thus, it provides a further potential tool for product differentiation to small-scale traditional farms, where husbandry is often based on extensive rearing systems and production costs tend to be higher.

Introduction

The quality perception by consumers in the most economically advanced countries has undergone a gradual change, from the concept of product quality to the quality of the production process (Rijswijk et al., 2008). The post-modern consumer, in fact, is increasingly focusing on new aspects of food as a result of specific processing and conservation methods, the regional culture and an ethical sound production chain (Herslieth et al., 2012). Monitoring the quality of production chain means not only to provide consumers with information about production process, but also to be able to provide information about the impact that this process has on the environment and on animal welfare, allowing to assess its sustainability. Consumers, in fact, increasingly criticise globalisation of agricultural production and are aware of economic, environmental and social consequences of global production and trade (Jordana, 2000; Raynolds, 2000; Abbott, 2003; Jones et al., 2003). As a consequence, they react to this trend with their purchase behaviour and prefer products produced according to specific ethical standards (Zander and Hamm, 2010). As several consumer ethical needs can be fulfilled by local and traditional foods, there is an increasing market potential for these products.

In the present review we describe the relevance of credence attributes and sensory properties for cheese liking, subsequently focusing on place of origin, location and other dimensions associated with traditional dairy products acceptance and consumer willingness to pay (WTP).

Credence attributes

According to the multidimensional concept of food quality (Shirai, 2010), ethical aspects belong to the credence attributes of food products, as they cannot be ascertained by direct experience. Consumers, in fact, are not able to know with certainty whether a credence attribute is actually present in a product (Anderson and Anderson, 1991). In addition, consumers before purchase or after consumption are not able to evaluate credence attributes unless they are reliable and verifiable (Darby and Karni, 1973; Anderson and Anderson, 1991). Other characteristics, such as colour and taste, are readily discernible by consumers (Anderson and Anderson, 1991). These are known as search and experience attributes (Nelson, 1974). In particular, search attributes refer to a product’s visual attributes, such as size and colour, for which consumers can seek pre-purchase information, whereas experience attributes, such as taste, are those perceived after that the product has been consumed (Thilmany and Watson, 2004; Monson et al., 2008). Credence attributes are linked to the amount of trust consumers have in the product. An example of this would be food safety, which can only be evaluated by specifically assigned regulatory institutions (Mitra et al., 1999).

The demand for credence attributes in food products has been increasing in recent years (Caputo et al., 2011). However, asymmetric information issues frequently arise in markets mostly characterised by credence attributes, which cannot be directly observed by consumers even after purchase. Therefore, specific information cues provided to consumers might increase their awareness about the quality characteristics of food products. As stated by Espejel et al. (2009), the degree of product knowledge has been proven to be a crucial factor in consumers’ decision-making process. Thus, information plays a central role in determining, maintaining, and communicating food product quality, differentiation and safety (Unnvehr et al., 2010). In this context, food labels could mitigate the imperfect information problems, promoting market incentives (Caswell and Padberg, 1992; Unnvehr et al., 2010) and highlighting product attributes that may be desirable for specific niche markets (Golan et al., 2001; Unnvehr et al., 2010). Studies concerning the effect of information
about ethical attributes of animal based products (Napolitano et al., 2010b) have shown that expectations induced by the information can affect the quality perception. Thus, if expectations are either positively (the liking score of the product tasted without external information is higher than expected) or negatively disconfirmed (the product is worse than expected), the hedonic ratings move towards the expectations (assimilation) when an external information is given compared to tasting without external information (Anderson, 1973; Cardello and Sawyer, 1992). Recently, Napolitano et al. (2008) observed that, as for food liking, the assimilation model is also applicable to consumer willingness to pay for dairy products. However, as observed for other credence attributes, liking and WTP premium prices of dairy products may be affected by demographics, beliefs and consumer sensitivity, inducing a segmentation of preferences (Carlucci et al., 2009). In particular, Carlucci et al. (2009) showed that actual likings were significantly affected by family income, frequency of consumption and sensitivity to animal welfare issues. Family income and frequency of consumption were more important in a group of consumers, whereas animal welfare issues were more important in another group of consumers. The first group was prepared to increase their actual ratings and willingness to pay only when information about high standards of animal welfare were paired with products characterised by high sensory properties, whereas the second group was willing to increase their likings and willingness to pay even when a disliked product was offered (Table 1).

**Local products**

Over the past decade, there has been a lot of focus on marketing and selling products as locally grown (Darby et al., 2008). As food quality is considered a multidimensional concept (Shirai, 2010), one notable dimension of quality is space and it refers to the degree in which a given food product is associated with particular places or regions. Accordingly, Strate and Marsden (2006) proposed two dimensions of quality: spatial quality that can be placeless (products for which place of origin has little relevance to the quality of the product) or localised (where the degree of local involving is high); and technological quality that can be standardised (i.e., with focus on technical, hygienic quality) or specialised (i.e. focused on niche production methods like organic and traditional productions).

The provision of information about the origin of food products via labelling is motivated by the presence of a link between the area of production and the quality attributes of the product. For instance, a specific area of production could be considered as a determinant of a product's quality (Menapace et al., 2011). Consequently, consumers have increased their demand for products that have quality designations, such as Protected Designation of Origin (PDO) or Protected Geographical Indication (PGI) as set by the current legislation (Reg. EC No. 1151/2012; European Commission, 2012), and are willing to pay premium prices for them (Loureiro and Hine, 2001; Fotopoulos et al., 2009). In particular, the above mentioned Regulation states that the specific objectives of protecting designations of origin and geographical indications are securing a fair return for farmers and producers for the qualities and characteristics of a given product, or of its mode of production, and providing clear information on products with specific characteristics linked to geographical origin, thereby enabling consumers to make more informed purchasing choices.

The importance of the information about origin-locality on consumers’ valuation and appreciation of traditional food products has been studied and demonstrated in several studies (Caporale and Monteolene, 2004; Roininen et al., 2006; Hersleth et al., 2011). In addition to its role as a quality cue, place of origin has a symbolic and emotional meaning for consumers, which induce cognitive, affective and normative mechanisms (Verlegh and Steenkamp, 1999): the stronger and more favourable is the association with the place of origin, the greater the level of success of products (Van der Lans et al., 2001). However, when people have little knowledge or experience on food product attributes, the corresponding measured preferences may be less stable (Lusk and Briggeman, 2009). This seems to be the case for the PDO, PGI and organic farming labels in Europe. Some consumers seem to be confused and disoriented by the meaning of these labels (Carbone and Sorrentino, 2004; Aprile et al., 2009).

The major dimension of place-of-origin attributes that have been studied in agricultural economics and marketing literature since the 1960s is country-of-origin (Dichter, 1962; Balabanis and Diamantopoulos, 2004; Ehmke et al., 2008), whereas in the last decade region-of-origin attributes have been studied separately, in relation with consumers’ values for tradition and authenticity of agro-food products (Van der Lans et al., 2001). The concept of place-of-origin attributes has often been used in the literature (Van der Lans et al., 2001; Skuras and Vakrou, 2002) to generalise the analysis across country-of-origin attributes and region-of-origin attributes. Country-of-origin attributes are typically communicated through the wording made in a specific country and they are an extrinsic product cue similarly to price, brand name or warranty, as none of these directly bear on product performance (Peterson and Jolibert, 1995). Region-of-origin attributes are similar extrinsic product cues that, differently from the previous ones, are usually strongly associated to culture, history and people of a geographical area (Kuznesof et al., 1997; Van der Lans et al., 2001). When making their food choices, consumers may give value to place of origin (POO) attributes as cue of other product attributes, including food safety (Loureiro and McCluskey, 2000) and overall food quality (Olson, 1972; Verlegh and Steenkamp, 1999), or they may give value to the origin of the product on its own because they have a positive attitude towards the place of origin (Li and Monroe, 1992; Batra et al., 2000; Van der Lans et al., 2001; Van Ittersum et al., 2001). The choice of POO attributes may be motivated by consumers’ ethnocentrism (Orth and Firbasova, 2003; Balabanis and Diamantopoulos, 2004), willingness to support their local economy or their willingness to have fresh food (Darby et al., 2008), when the place-of-origin of the product corresponds to the origin of the product, or by consumers’ value for other POO tradition and authenticity (Lusk et al., 2006; Lusk and Briggeman, 2009).

Various studies in marketing and agricultural economics have agreed that POO attributes may have a positive impact on consumers’ evaluation of products (Dichter, 1962; Peterson and Jolibert, 1995; Ehmke et al., 2008), but also a negative impact when country image is not favourable to consumers or when the image of the place does not fit with the product (Van Ittersum et al., 2001). Liefeld (2004) questioned the importance of the country of origin in the decisions of consumers and the core findings in this area of study. He hypothesised that country of origin effects overestimation, as such studies had limitations, e.g. external validity and generalisability issues. To verify this hypothesis, he conducted a survey in US and Canadian stores, and found that country of origin plays a role in the product choices for 33% of customers. Profeta et al. (2012), following the recommendations of Liefeld (2004), applied his knowledge test approach for different product categories (meat, dairy products, beer) in four outlets of the largest German food retailer. They
observed that origin might play a role in the choice among available products for approximately one-fifth of the consumers.

Consumers’ willingness to pay is said to be different across countries of origin and, within a country, consumers are willing to pay more for PGI than for non-PGI products (Menapace et al., 2009). This claim is also supported in a paper by Giraud et al. (2005). Accordingly, a study conducted in Denmark showed that the majority of Danes generally prefer Danish-made products to foreign ones, particularly in the case of dairy products produced locally (Cernea, 2011). The consumer attitudes towards products with labelled geographical origins, however, may also depend on factors like stereotyping (Maheswaran, 1994). Stereotyping is usually used to explain assumptions people have about others coming from different cultures, but it can also be applied to the way people view products made in countries other than their own (Hinner, 2010). Several studies have also proven that consumers from developed countries tend to firstly prefer domestic products, followed by foreign products from developed countries and only then followed by products from less developed countries (Ahmed et al., 2004).

### Traditional products

Traditional food has a general positive image in Europe (Hersleth, 2010), and several attributes contribute to this image (e.g. high and constant quality, special and good taste, high safety, high nutritional value and supportive of local economy). A study investigating the association between traditional food consumption and motives for food choice in six European countries found that general attitude toward traditional foods, familiarity, and importance of food naturalness emerged as drivers for traditional food consumption (Pieniak et al., 2009). More recently, it has been shown that consumers evaluate four main specific dimensions of traditional food products: i) familiarity of the product, ii) processing through traditional recipes, iii) sensory properties, and iv) the origin of the product (Guerrero et al., 2009). Guerrero et al. (2010) interviewed a total of 721 consumers in order to obtain and compare consumer-driven associations to the word traditional, in a food context, in different European regions. In general, southern European regions tended to associate the concept of traditional more frequently with broad concepts such as heritage, culture or history. Central and Nordic European regions tended to focus mainly on practical issues such as convenience, health or appropriateness.

Guerrero et al. (2009) tried to give some definitions of traditional food products based on consumers’ perspective. According to these authors, a traditional food product is frequently consumed or associated with specific celebrations and/or seasons; in addition, it is transmitted from one generation to another or made in a specific way according to the gastronomic heritage. Other consumers defined it as a naturally processed product or as a distinguished and known product because of its sensory properties. Finally a traditional food should be associated to a certain local area, region or country. Jordana (2000) has pointed out that traditional food have good perspectives for growing in the future if the following challenges are accomplished: appropriate communication, legal protection of collective brands, quality assurance and innovation. More knowledge about the importance for consumers of different quality dimensions in traditional products is necessary to accommodate these challenges.

### Traditional cheese

Several studies investigated the effect of process characteristics on traditional cheese quality (e.g. Carpio et al., 2004). Parcell and Gedikoglu (2012) performed two comparisons: the first between domestic artisanal cheese and processed cheese, the other one between imported French cheese and US artisanal cheese. They found that consumer preferences vary between domestic and imported cheese and that experience attributes are more influential than search and credence attributes. Accordingly, Bonnet and Simioni (2001), in a study carried out to evaluate consumers’ willingness to pay for French Camembert cheese displaying a PDO label and a brand, observed that at the same price, only a small proportion of consumers would prefer to buy a similar Camembert brand with a PDO label than without it. Conversely, Garavaglia and Marcoz (2012), studying the value of PDO certification of Fontina cheese and its impact on consumer’s preferences and willingness to pay, found that the PDO certification had a substantial importance in consumers’ purchasing decisions, with a premium price to products with PDO. Monteiro and Lucas (2001) carried out a conjoint analysis on consumer preferences for four main quality attributes of Portuguese traditional cheeses: price, quality certification label, type of paste or texture and sale size unit. These authors showed that the most important attribute for consumers of Portuguese traditional cheeses was the PDO protection label, followed by price, type of paste or texture and then, sale size unit. By showing that the PDO labelling is more important to the consumer than the price, they supported the idea of a PDO benefitting from a price premium.

Italian consumers assessing different pasta filata products, gave higher scores to cheeses associated with typicality information, which represented, along with price, quality indicators. Moreover, descriptive data showed that typical cheese was characterised by several specific attributes differentiating this product by other industrial cheeses (Di Monaco et al., 2005). Accordingly, Spanish consumers valued PDO cheese and also preferred certified products characterised by long ripening and high prices (Tendero and Bernabéu, 2005).

Summing up consumer profiles and WTP determinants, Danish consumers who are older, more educated and wealthier tend to have higher willingness to pay price premiums for PGI cheese. In addition, quality perceptions were found to be strongly correlated with WTP, meaning that, in general, Danish consumers’ WTP for traditional PGI cheese depends on the quality perceptions they have about it (Cernea, 2011).

Organic cheese productions are often associated with traditional cheese making practices used in small-scale enterprises. Napolitano et al. (2010a) studied the effect of information about organic production on Pecorino cheese liking and consumer WTP. They found similar liking scores given in blind conditions (i.e. without information on the product) for organic Pecorino cheese and conventional Pecorino cheese. However, expected liking scores (without tasting and based on information only) were higher for organic than for conventional Pecorino cheese and actual liking of the organic product moved in the direction of expectancy. The authors concluded that the information about organic farming could be a major determinant of cheese liking. Consumers, in addition, showed a willingness to pay organic Pecorino cheese higher (4.20±0.13 EUR/100 g) than the local retail price for conventional Pecorino (1.90 EUR/100 g) and even for organic cheese (3.00 EUR/100 g). Therefore, the information about production process of traditional cheese may provide a potential tool for product differentiation, particularly for small-scale enterprises producing cheese according to traditional practices.

Many factors, such as distinctive consumer...
attitudes and beliefs and different family income levels, may have affected the diverse response of consumers from different countries to traditional cheese.

**Sensory properties of traditional cheeses**

Sensory properties are very important in characterising finished products such as traditional cheeses (SISS, 2012). They may be affected by many factors, at different levels of the production chain. According to Barcenas et al. (2001), the combination of market and sensory analysis could give a more accurate explanation of consumer liking for traditional cheeses than either method could on its own.

The sensory profile technique can be used to identify differences between products, as well as for quality control and protection of PDO cheeses (Cayot, 2007). Scintu et al. (2010) studied the sensory attributes characterising Fiore Sardo PDO cheese. Differences among cheeses from different farms, all belonging to the Fiore Sardo PDO Cheese Producers’ Association, show that subtle technological variations within the same product specifications can induce different sensory characteristics. Sensory analysis is based on the use of trained panels to measure the sensory properties of foods (Stone et al., 2012). For complex attributes, such as texture or flavour of cheese, panelists may be unable to generalise sensory concepts to products unrelated with the category under evaluation (Murray and Delahunty, 2000) and the application of quantitative reference standards is needed to achieve alignment in sensory panels (Braghieri et al., 2012). To this end, Albenzio et al. (2013a) developed a specific quantitative vocabulary and reference frame for assessor training to ovine Scamorza cheese sensory analysis. During preliminary sessions, the assessors, on the basis of available literature (Muir et al., 1995; Adhikari et al., 2003), developed and then agreed on a consensus list of attributes and their definitions (Tables 2 and 3). Subsequently, standard reference products specific to each identified attribute were sought. Under the guidance of the panel leader, the assessors determined which of the proposed references were most suitable to represent the previously identified sensory attributes (Tables 2 and 3).

Following this approach, Esposito et al. (2014) detected the effect of different rearing systems (grazing vs confinement) on sensory properties of Caciocavallo cheese, a traditional product from southern Italy. Cheese from animals kept on pasture, in fact, was more yellow, and showed a lower intensity of butter and smoked odours, a higher intensity of spicy flavour a lower intensity of bitter taste, and higher friability and graininess intensities as compared with cheese from confined animals (Figure 1). An effect of forage type on texture characteristics and sensory properties of Mozzarella cheese was also observed by Claps et al. (2007). These results suggest that animal feeding is one of the elements linking the product to its geographical area. In agreement

![Figure 1. Effect of rearing system (grazing vs confinement) on sensory profile of Caciocavallo cheese (modified from Esposito et al., 2014).](image)

![Figure 2. Effect of inclusion of probiotics (C, control; BB, mix of Bifidobacterium longum and Bifidobacterium lactis, LA, Lactobacillus acidophilus) on sensory profile of Scamorza cheese (modified from Albenzio et al., 2013a).](image)

Table 1. Number of consumers (total=104) either willing or unwilling to increase their liking and willingness to pay for yogurt in relation with product credence (animal welfare) and sensory properties (eating quality) (modified from Carlucci et al., 2009).

| Consumer characteristics | Product credence and sensory properties |
|--------------------------|-----------------------------------------|
|                          | HW+GEQ | HW+LEQ | LW+GEQ | LW+LEQ | Unwilling |
| Frequency of consumption and family income | 39     | 0      | 0      | 0      | 0         |
| Sensitivity to animal welfare | 52     | 52     | 0      | 0      | 0         |
| None                     | 0      | 0      | 0      | 0      | 13        |

HW, high welfare standards; GEQ, good eating quality; LW, low welfare standards; LEQ, low eating quality.
Table 2. Descriptive attributes (odour/flavour and taste), definitions and reference frame used to evaluate Scamorza cheese (modified from Albenzio et al., 2013a).

| Descriptor | Odour/flavour | Acid | Sweet | Bitter | Salty | Seasoned |
|------------|---------------|------|-------|--------|-------|----------|
| Milk       | Odour/flavour arising from milk at room temperature | Fundamental taste associated with citric acid | Fundamental taste associated with sucrose | Fundamental taste associated with quinine | Fundamental taste associated with sodium chloride | Taste associated with the degree of seasoning |
| LIRS       | 120 g Fontina cheese cut in blocks of about 1 cm² cross-sectional area | 8 mL of stock solution*/100 mL solution | 8 mL of stock solution*/100 mL solution | 4 mL of stock solution*/100 mL solution | 15 mL of stock solution*/100 mL solution | 20 g Ricotta cheese |
| MIRS       | - | 20 g butter mixed with 100 g Ricotta cheese | - | - | - | 20 g Asiago cheese |
| HIRS       | 120 g Mozzarella cheese cut in blocks of about 1 cm² cross-sectional area | 16 mL of stock solution*/100 mL | 20 mL of stock solution*/100 mL | 8 mL of stock solution*/100 mL | 3 mL of stock solution*/100 mL | 20 g Parmesan cheese seasoned 36 months |

LIRS, low intensity reference standard; MIRS, medium intensity reference standard; HIRS, high intensity reference standard. *2.5 g of citric acid/250 mL solution; †50 g of sucrose/150 mL solution; ‡1.25 g of quinine/250 mL solution; §25 g of sodium chloride/250 mL solution.

Table 3. Descriptive attributes (texture and appearance), definitions and reference frame used to evaluate Scamorza cheese (modified from Albenzio et al., 2013a).

| Descriptor | Texture | Appearance |
|------------|---------|------------|
| Definition | Tenderness | Creaminess | Grainy | Adhesivity | Moisture | Friability | Colour uniformity | Structure uniformity | Yellowness |
| LIRS       | Minimum force required to chew cheese sample | Formation of a creamy bulk | Perception of course during mastication | Force required to remove the mouth coating layer of cheese | Moisture released by the product in the mouth during early mastication | Extent to which cheese fragments are perceived during mastication | Overall uniformity in colour: shades reduces uniformity | Overall uniformity in structure: fissures and holes reduce uniformity | Overall intensity of yellow colour |
| MIRS       | 30 g Parmesan cheese seasoned 36 months | 30 g Parmesan cheese | 30 g Asiago cheese | 30 g Mozzarella cheese | 30 g Parmesan cheese seasoned 36 months | 30 g Taleggio cheese | 30 g Caciocavallo cheese seasoned 6 months | 30 g Asiago cheese | 30 g Asiago cheese |
| HIRS       | 30 g Mozzarella cheese | 30 g Taleggio cheese | 30 g Parmesan cheese seasoned 36 months | 30 g Taleggio cheese | 30 g Ricotta cheese | 30 g Caciocavallo cheese seasoned 6 months | 30 g Fontina cheese | 30 g Fontina cheese | 30 g Caciocavallo cheese seasoned 6 months |

LIRS, low intensity reference standard; MIRS, medium intensity reference standard; HIRS, high intensity reference standard.
Innovation of traditional cheeses

In order to increase the efficiency of production processes, traditional foods, and traditional cheese in particular, can be subjected to innovations. Acceptance of innovation in traditional cheese is strongly dependent on type of product and type of innovation. Some suggested areas for potential improvement of traditional food products are their safety, healthiness and convenience. The addition of functional ingredients, such as probiotic bacteria may be accepted if tangible benefits are exposed to the consumer. An example of innovation in traditional cheese may be represented by the incorporation of probiotic strains (Bifidobacterium longum and Bifidobacterium lactis or Lactobacillus acidophilus) into the cheese matrix of Scamorza cheese obtained from ovine milk (Albenzio et al., 2013b).

Probiotic bacteria survived to the technological phases of pasta filata cheese production maintaining their specific metabolic pathways. The matured Scamorza cheeses containing probiotics were characterised by significantly higher level of some amino acids compared with Scamorza cheese without probiotic. In particular, cheese with B. longum and B. lactis contained higher levels of Gln, Ser, Arg, Ile, Leu, effective in improving gut function, mucosal integrity and vascular development; whereas cheese containing L. acidophilus was characterised by higher levels of Met, an essential amino acid, playing an important role in the intestinal immune response (Grimble, 2006). In addition, probiotic containing Scamorza cheese showed beneficial effect on human health in terms of fatty acid profile (e.g. Omega-3 fatty acid series, vaccine, oleic and total conjugated linoleic acid) compared with control cheese. Sensory profile, based on texture and appearance characteristics was different between the products. In particular, the incorporation of B. longum and B. lactis determined the highest differences with the control product whereas the incorporation of L. acidophilus produced intermediate characteristics. Within taste attributes only seasoned was affected by the inclusion of probiotics (Figure 2), whereas most of the texture (e.g. creamy, grainy, adhesivity and friability) and appearance descriptors (e.g. colour uniformity and structure uniformity) were able to differentiate the products. The inclusion of probiotics into the cheese determined lower adhesivity and friability. The modification of the textural properties of cheese, due to the probiotic incorporation may be related to the impact of these bacteria on acidification rate of cheese. In this study no data on consumer liking were reported.

Conversely, a Nofima experiment in Spain revealed a negative effect of omega-3 inclusion in traditional cheese and modified atmosphere on product liking (Hersleth, 2010). The author suggests that innovations providing consumers of traditional cheese with relevant benefits are generally well accepted only if producing no substantial sensory changes. In fact, Carunchia Whetstine et al. (2006) found that when fat was removed from aged full-fat Cheddar cheese, most of the flavour and flavour compounds remained in the cheese and consumers perceived the intensity of flavour in the reduced-fat cheese to be equal to the full-fat cheeses.

Another study exploring consumers’ acceptance of innovations in traditional cheese in France and Norway showed that pasteurisation was well accepted in Norway, whereas French consumers preferred raw milk. These results may be attributed to the fact that Norwegian consumers were more concerned about safety issues, whereas French were more interested in cheese sensory properties. In both countries, appropriateness affected consumer acceptance with traditional cheese consumption related with special occasion rather than everyday use (Almil et al., 2011).

Conclusions

We conclude that, along with sensory properties, process characteristics and ethical attributes may play an important role in affecting traditional cheese liking and consumer WTP, thus providing a potential tool for cheese differentiation to traditional farms where husbandry is often based on extensive rearing systems and high animal welfare standards, and production costs tend to be higher. These ethical aspects can play a role in promoting traditional product market penetration.

Further elements potentially supporting market share increase may be represented by innovation within traditional products; however, different dimensions can be relevant for consumers from different countries. In addition, the degree of sensitivity to traditional cheese attributes may vary according to different groups of consumers. Therefore, further studies are needed to assess segmentation based on consumers’ perceived importance and attitude toward traditional cheese.

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