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Traditional Cheese Production and an EU Labeling Scheme: The Alpine Cheese Producers' Opinion

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Abstract: In 2012, the European Union introduced two optional quality terms (OQT) as new tools for the enhancement of food products. Two years later, the requirements for the use of the OQT “mountain product” were defined to enhance agricultural production in harsh environments, such as mountain areas. This new tool aimed at promoting local development, maintaining the economic activities in mountain areas and redistributing wealth. The present research aims at understanding if farmers perceived this tool as useful and evaluates their level of awareness. To this aim, a sample of 68 traditional cheese producers from the North West Alpine Arch was interviewed. The results show that some cheese producers have a positive attitude towards the concepts set out in the OQT “mountain product” and consider it a useful tool to promote and enhance their products. Some critical elements are also discussed.

Keywords: cheese producers; mountain products; traditional cheeses; Italian North West Alps

1. Introduction

One of the roles the EU covers is that of creating an equilibrium amongst the dimensions of governance, embedding, and marketing, in order to define policies and strategies to manage productive activities. One such activity is to define strategic choices for the promotion of European foodstuffs [1]. Indeed, during the early 90s the European Union (EU) introduced and implemented numerous tools for the protection and enhancement of food. The Mediterranean approach to food quality paved the way for the historical base for the promotion of foods in the European Union (EU) [2]. This approach defined food quality on the basis of sensorial aspects, i.e., taste, flavour, smell, texture and colour, as well as the history of its origin and culture along with the *terroir*, i.e., the natural environment a particular wine (and recently also food) is produced in, covering factors such as the soil, topography and climate [3–8].

These various tools can provide opportunities and advantages, such as the geographical indications (GIs), i.e., protected designations of origin (PDOs) and protected geographical indications (PGIs). Numerous authors have reported that there is an opportunity for PDO producers to obtain a premium price [9,10], develop depressed rural areas [11,12], raise tourist interest [13] and transform the agro-food sector into the second most important productive activity in Italy [14]. Moreover, these tools preserve the territorial biodiversity, traditional production systems and cultural practices tied to local history and culture [15], so as to protect the rural economy and communicate and reconnect with consumers [16,17]. However, the GIs also evidenced some negative elements involved in the slight differences between PDOs and PGIs in some cases [18], including the limited diffusion of the term traditional specialties guaranteed (TSG) [19], mainly due to its weak tie with the territory [20,21]; the

fact that there is no integrated supply chain, which reduces the economic activities and the possibility of their being profitable [22]; and the organisational difficulties both big and small GIs have to face [23].

On the one hand, the EU GIs may limit process and product innovation, so as to meet the requirements that define the foodstuff as a typical product, whilst on the other, it provides several advantages that protect against food fraud [23]. Indeed, the purpose of EU GIs is that of protecting the European consumer against counterfeit goods, abuse or agro-piracy, therefore, to reach this goal, typical foodstuffs have been enhanced with the regulation of food reputation and territorial quality by the EU [24]. In this context, the latest EU regulation on geographical indications (EU Regulation No. 1151/2012) has introduced a set of new tools for the protection and enhancement of food products in rural areas, under the group name of optional quality term (OQT). The Commission Delegated EU Regulation, No. 665/2014, regulated the conditions for the use of the optional quality term “mountain product” (MP), to support the implementation of a mountain value chain [25]. This new tool aimed at promoting local development, maintaining the economic activities in mountain areas and redistributing wealth, whilst, at the same time, promoting the territory.

This study aimed at the analysis of the stakeholders’ perception of the optional quality term “mountain product”. In particular, the authors focused their attention on the milk–cheese value chain, interviewing 68 cheese producers. The research highlighted some differences amongst the traditional cheese producers’ perception of the OQT “mountain product” and emphasized some feasible benefits that different food operators could have by using it.

This study is organized as follows:

Section 2: a literature review of studies dedicated to mountain food products.

Section 3: the methodological approach adopted to reach the goal of the paper.

Section 4: the main results obtained.

Section 5: the main elements defined by the results.

The last paragraph presents the conclusions and limitations of the study.

2. Literature Review

The European Commission establishes a tool dedicated to mountain products, also in order to support consumers in their choices. In fact, although some consumers had a positive opinion of mountain products, there was a low level of information on the origin and characteristics of these products, mainly due to poor communication and lack of information [26]. The introduction of official transparent labels at a European level is considered a useful tool to evaluate whether a product really originated in mountain areas [27–29]. The lack of an official definition for “mountain products” and the fact that the consumer has poor and/or inadequate knowledge of the products, generates a number of difficulties for the dealer. However, these factors tend to decrease if the retailer belongs to a “alternative supply chain” [30]. The relationship between dealer and consumer balances out when the local and cultural dimension is considered the main element that characterizes mountain products [31].

On the basis of these indications, the European Union attempted to focus on the adoption of the quality optional indication with the goal of creating a support tool and organizing the mountain supply chain. They did this by networking the various food operators, also to shed more light on the real meaning of “mountain product”. Consequently, the European labelling scheme has been described as a tool of communication, promotion and territorial development, something that creates value and the redistribution of wealth, also in favor of disadvantaged areas [32] affected by different negative phenomena, such as the abandonment of land [33,34].

The European legislators set up some quality systems dedicated to the enhancement of mountain products, to identify the requirements that must be met for the food category, which were conceived and created in Switzerland and France. The Swiss quality scheme has been applied to Swiss agricultural products which respect some requirements, such as origin, foraging, breeding, ingredients and the site of production. The system foresees controls and certification by third parties, which certify all products

that use the terms mountain (*montagna*) and Alps (*Alpe*) in the different phases of the supply chain, including packaging and labeling. The standard also stipulates that the use of the terms, mountain and Alps included in trademarks be regulated. The French standard stipulates that the product is to be specified, i.e., it must have indications of the specific manufacturing process and the product itself. That is to say it must state where the goods were produced and include the various phases of the supply chain, the origin of the raw materials used for animal feed and/or the manufacture of these products. Both the preparation and the application of any specific technical standards, dedicated to the individual product or product categories, is also to be specified. Unlike the Swiss system, the French system stipulates that the management and control of the use of the term mountain be directly managed by the French authorities, without any intervention by a third party certifier. Moreover, this system allows only the term mountain to be used if it has already been used in trademarks and trade names established before the standard was implemented [25,35,36]. The EU legislator chose to define a labeling scheme without the intervention of a third party certifier, in line with the French policy.

Since the introduction of the term “mountain product”, it has been properly defined and officially regulated by the EU Delegated Regulation 665/2014. In fact, Article 1, stipulates that the term “mountain product” may be applied to “products made from animals that are reared for at least the last two thirds of their life in those mountain areas, if the products are processed in such areas” or, in alternative, “products made from transhumant animals that have been reared for at least one quarter of their life in transhumance grazing on pastures in mountain areas”. Article 2 specifies that “feedstuffs for farm animals shall be deemed to come essentially from mountain areas if the proportion of the annual animal diet that cannot be produced in mountain areas, expressed as a percentage of dry matter, does not exceed 50% and, in the case of ruminants, 40%”. Moreover, Article 6 provides derogation: “following processing operations may take place outside mountain areas, provided that the distance from the mountain area in question does not exceed 30 km: (a) processing operations for the production of milk and milk products in processing facilities in place on 3 January 2013”.

Some critical elements came to light, including whether the potential stakeholders saw an effective need for this term [37]. The initial preliminary analysis on this issue showed a need for a more extensive and detailed dissemination of European initiatives. Furthermore, there was poor interest in the implementation of a quality certification scheme for the supply chains with complicated requirements, such as those that cover breeding [38,39].

The paucity of studies dedicated to the implementation of the OQT “mountain product” led us to formulate two research questions:

1. *What perception do cheese producers have of the OQT “mountain product”?*
2. *Could the adoption of the OQT “mountain product” be useful for mountain producers or other stakeholders, to improve their business?*

3. Methodology

The sample identified for the survey was chosen on the basis of three main factors: firstly, the breeding supply chain for cheese is more complex than other if the OQT “mountain product” is to be applied, in agreement with the initial research on OQT [38,39]; secondly, OQT is a labeling scheme and its nature requires particular attention if it is to meet the requirements; thirdly, a model area was defined and the Alpine Arch of North-West of Italy was chosen, as it is a territory with a strong, long-standing cheese tradition, supported by several recent studies dedicated to traditional cheese production [40–45].

So as to satisfy the requirements for the first and third factors, six traditional mountain cheeses produced in the North-West Alpine Arch were identified. They are regulated by Italian ministerial decree (DM 350/99), which is dedicated to Italian traditional foodstuffs [21]. Indeed, the selected cheeses were *Bettelmatt* or *Bettelmatt*, *Maccagno* or *Macagn*, *Toma Del Lait Brusca* or *Bianca Alpina*, *Plaisentif*, i.e., a particular kind of *Toma d’Alpeggio*, *Nostrale d’Alpe* and *Toumin Dal Mel*, all of which are indicated in the Italian national list.

They are characterized by product specifications with production requirements. A brief description of the cheeses follows.

Bettelmat is a pasture cheese, produced in the Antigorio and Formazza Valleys (on the Swiss border of Piedmont). It is a fat cheese, with semi-cooked paste obtained from whole fat milk in a single milking. The yellow paste is soft and compact with a sweet and very intense flavor. The seasoning must be at least 60 days [40,41].

Maccagno is a dry-salted cheese, made from whole fat milk obtained in one or two milkings, coagulated with calf rennet at 35 °C–37 °C [42]. It is made in some Communes of the Vercelli and Novara Provinces (on the Valle d'Aosta border of Piedmont). The aroma is sweet and the cheese has a very intense flavor [35].

Toma Del Lait Brusca (known also as *Bianca Alpina*) is a dairy product from the Susa, Sangone and the Lanzo Alpine Valleys (Piedmont). *Toma* is a raw, semi fat cow's-milk cheese with middle-long ageing. This *Toma* must age for no less than 70 days, to allow this cheese to express its typical aromatic characteristics [38,42].

Plaisentif is a cheese obtained from whole raw milk in pasture obtained at a minimum altitude of 1800 m from the Alta Chisone Valley, in the Communes of Fenestrelle, Usseaux, Prigelato, Roure and Perosa Argentina or from the High Susa Valley, in the Communes of Cesana Torinese, Exilles, Oulx, Salbertrand, Sauze di Cesana, Sauze d'Oulx, Sestriere (the French border of Piedmont). The transformation of milk into cheese must be carried out at a height of no less than 1400 m. The taste is sapid, balanced with a slightly consistent structure [42–44].

Toumin Dal Mel is a cheese produced not only in the Communes of Melle, Frassinò and Valmola, but also in the neighboring municipalities of Brossasco, Isasca, Piasco, Rossana, Sampeyre and Venasca (Piedmont). It is a cheese obtained from whole milk from Piedmontese bred cows, fed mainly on local fodder. Small quantities of goat's milk may be added, but it must not exceed 10%. The taste is sweet and reminiscent of fresh milk [42].

Nostrale d'Alpe is a cow's milk cheese, produced in the mountainous area of the province of Cuneo (the French border of Piedmont). The milk is obtained from pasture animals, bred at a height of no less than 1500 m. Either raw milk, whole milk or slightly skimmed milk is used, to make a raw and pressed paste. The flavor is intense, sapid and balanced [45].

The selected cheeses meet the requirements in the second factor. Indeed, the production of all these cheeses requires that the producer meet all the requirements of a voluntary production scheme dedicated to cheeses, that are not covered by geographical indication or protected denomination.

So as to define the sample, all the producers of these cheeses were selected and, with the application of the three aforementioned factors, the sample covers sixty-eight farmers: eight out of 68 *Bettelmat* producers, 12 out of 68 *Maccagno*, five out of 68 *Toumin Dal Mel*, 12 out of 68 *Plaisentif*, 14 out of 68 *Toma Del Lait Brusca* and 17 out of 68 were producers of *Nostrale d'Alpe*.

A semi-structured telephone survey was implemented [46], so that both the questions and their order could be changed, according to the individual interviewed, in line with other authors [47–49]. Each interview lasted around 20 min. The questions covered were: the distribution channels used to sell the cheese production, the perception of the OQT “mountain product”, related to utility for potential stakeholders (farmers, large distribution operators, agro-industry operators). Moreover, the farmers were asked about their knowledge of the OQT and its potential implementation. Each one gave personal opinions as to the utility for their own farms and reported any disapproval of the term “mountain product”.

Some topics were presented with a series of Likert scale-type questions [50] to assess the cheese producers' perception [22,51–53] as to how important it is that different food operators use the OQT “mountain product”, i.e., small/medium farmers, agro-food industries, large-scale retailers. These scales had seven points, which ranged from one to seven, i.e., 1 = strongly disagree, up to 7 = strongly agree. All interviews were done from November, 2015, to February, 2016.

The interview results were analyzed singularly by one of the authors, so as to avoid their being influenced in the evaluation phase [54]. Lastly, the results obtained by each single author were pooled, compared and the fundamental issues pertinent to the aim of this paper were extrapolated.

4. Results

A total of 57 out of 68 farms analyzed had their own enterprise in a mountain territory, whilst the others went to mountain pastures only in the summer. The transhumance was made by a total of 57 out of 68 enterprises for at least three months a year, whilst three out of 68 farms did so for less than three months and eight out of 68 farms that were located in the mountains did not make a transhumance.

A total of 24 out of 68 farms also produced milk that was given to other packing and processing centers, such as the dairies (three located in mountain areas, seven in the plain), the dairy cooperatives (one in the mountains and one in the plain) and the powdered milk industrial plants (one in the plain); five farms also sold their cheese to maturing centers.

The farmers were asked about the retail channels used and which percentage of the total distribution of the traditional cheeses produced this represented. A total of 44 out of 51 producers used direct sales companies as their main channel, taking into consideration an average of 73.68% of the production of the traditional cheeses considered. The second distribution channel was direct sales in market areas (49.41%) for 17 producers, whilst 11 farms sold their traditional cheeses to wholesalers and retailers, for an average of 39.09% and 25.45% respectively. Another eight farms commercialized to restaurateurs, for an average of 17.50% and six farms sold their production to large retail organizations, for an average of 28.33% of the total production (Figure 1).

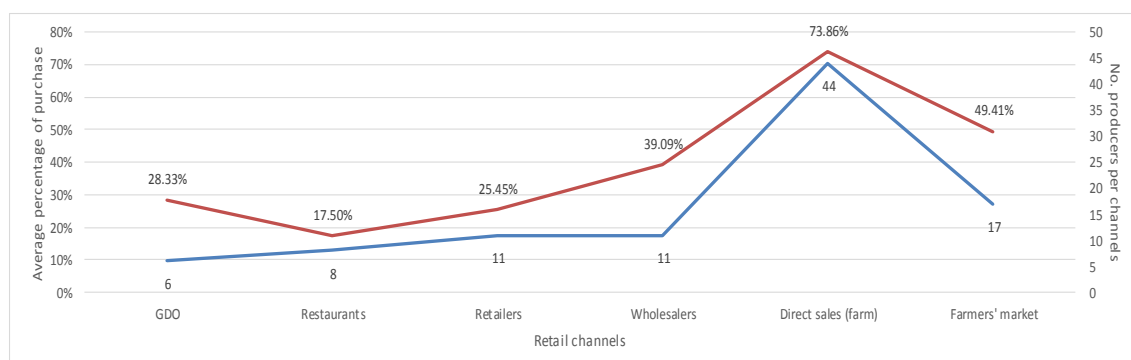


Figure 1. Retail channels and percentage of purchase of traditional cheeses.

The farmers were then asked to assess how important the use of the term “mountain product” was for three categories of operators, i.e., large food companies, small farms and large retail organizations. They quantified the degree of importance using a Likert scale with scores that ranged from one to seven, for each category of trader identified. In terms of absolute value, the highest scores were recorded amongst the *Bettelmatt* producers, both for large agri-business (4.625) and small farms (6.25) and the *Toma lait brusc* producers for large retail organizations (4.29). Conversely, the lowest scores were reported by the *Maccagno* producers for large food companies (3.25), the *Nostrale d’Alpe* producers for large retail organizations (2.65) and the *Toma Del Lait Brusc* producers for small farms (4.93).

However, the interviewees tended to assign a higher value of the use of the term “mountain product” to small farms, for an average of 4.93–6.25 and an average of the entire sample of 5.544. Conversely, large retail organizations (min 2.65; max 4; av. 3.412) and agribusiness (min 3.25; max 4.625; av. 3.794) gave a lower value to the use of this term.

Noteworthy with regard to variance was that a wider variability was expressed by *Toumin Dal Mel* producers than small farms (5.700), *Bettelmat* producers for agro-industry (4.625) and *Plaisentif* manufacturers for large retail organizations (4.061). Whilst there was lower variance amongst the

Bettelmat (1.929) and *Maccagno* (2.061) manufacturers, who agreed on the efficacy of adopting the term “mountain product” for direct and retail sales from the small farms.

There was, however, a certain homogeneity in the replies given by food companies: the variance was 3.909–5.411, with an average of 4.554. A more contained evaluation was given as to the differences between the producers in the analysis of large retail organizations, with a variance of 2.2–4.061 and an average of 3.201.

These guidelines were confirmed by the figures obtained in the standard deviation: the lowest values came from *Bettelmat* manufacturers on small farms ($\sigma = 1.38873$), *Toumin Dal Mel* manufacturers for large retailer organizations ($\sigma = 1.4832397$) and *Plaisentif* manufacturers for agro-industrial companies ($\sigma = 1.977143$). The standard deviation of the whole sample showed that small farms were homogeneous on their opinions as to the use of this term ($\sigma_2 = 1.66109$) as were large retail organizations ($\sigma_3 = 1.7891$), whilst the evaluation was less homogeneous for large food companies ($\sigma_1 = 2.134009$) (Table 1).

Table 1. The farmers’ perception of how useful it is to adopt the term “mountain product” for some market operators, in the reply to the question: “In your opinion, how useful is the OQT mountain product label for (assigning value from 1 to 7; 1 = strongly disagree, 7 = strongly agree): large food companies, small farms, large retail organizations”.

	AVERAGE SCORE			(σ)-STANDARD DEVIATION		
	Food Companies	Farmers	Large Retailers	Food Companies (σ_1)	Farmers (σ_2)	Large Retailers (σ_3)
<i>Maccagno</i>	3.25	5.67	2.67	2.094365	1.435481	1.669694
<i>TouminDal Mel</i>	3.4	5.2	3.8	2.302173	2.387467	1.4832397
<i>Nostrale d’Alpe</i>	3.47	5.76	2.65	2.095162	1.786386	1.497547
<i>Plaisentif</i>	4.5	5.5	3.67	1.977142	1.507557	2.015095
<i>Bettelmat</i>	4.625	6.25	4	2.326094	1.38873	1.85164
<i>Toma del Lait Brusc</i>	3.71	4.93	4.29	2.267787	1.730464	1.728876
TOTAL	3.794	5.544	3.412	2.134009	1.66109	1.789149

As to the questions dedicated to the knowledge and usefulness of adopting the term “mountain product” for their company, only 36.76% of the sample (25 out of 68 farms) declared that they knew the European legislation on mountain products. After providing the basic information on the regulation of the instrument to all respondents, it was asked whether, on the basis of the information acquired, they would have complied with the requirements of the EU Regulation No. 665/2014. A total of 56 producers (83.25% of the sample) were sure that they were able to respond positively to the requirements. In fact, all the producers of *Bettelmat*, *Toma del Lait Brusc* and *Plaisentif* were convinced that they were able to comply with this regulation, whilst those of *Nostrale d’Alpe*, *Maccagno* and *Toumin Dal Mel*, were divided on this point (Table 2).

During the interview, the need for a documented management system to ensure fulfillment of the requirements came to light. The cost of this quality control system, to be carried out by the farms themselves, was hypothesized in terms of man hours and 67.65% of the producers were willing to bear these costs, in particular, all producers of *Bettelmat* and most of those of *Maccagno*, *Nostrale d’Alpe* and *Plaisentif*. A total of 44.12% of the sample was willing to bear the costs if a certification scheme for the identification of mountain products were to be made available (Table 2). The *Plaisentif* manufacturers were particularly sensitive to this kind of initiative, as almost all (11 out of 12) would have accepted reasonable costs. Indeed, amongst the farms willing to recognize an economic value of the certification, 33.3% of the sample declared they would have incurred a cost of 2–5% of the total value of the production and 10% even more than 5%. Whilst, 36.7% of the sample was not able to quantify the certification costs.

Then the producers were asked if they thought that the application of this term could have been considered a useful promotion and enhancement tool for the product and the territory linked to it. A total of 86.78% of the sample were of the opinion that it would have most likely had positive effects, in terms of increased visibility and promotion of the territory, whilst 77.94% thought that it might well have also provided added value to the product at the time of the sale (Table 2).

One of the potential weak points of this European tool is that the Regulation 665/2014 is applied to a maximum distance limit of 30 km from the reference mountain and where the transformation phases take place. This rule allows for the transformation of the milk outside the mountain territories, but this is not in line with the philosophy most producers follow that all the production activities must be carried out in mountain areas. Indeed, a total of 69.12% of the sample thought that such a concession is absurd and hope that the competent authorities will modify it.

Table 2. Knowledge of and use of the term “mountain product” (MP), i.e., know-how on Optional Quality Term (OQT), ability to meet MP requirements and to sustain the quality control costs, willingness to pay certification costs, perception of added value of product and benefits of the use of the OQT “mountain product”.

	No. Producers	MP Knowledge	Meet Requirements	Producer's Quality Control Costs	Certification Costs	MP Benefits	Added Value
Maccagno	12	4	7	9	3	11	9
TouminDal Mel	5	2	2	0	0	3	2
Nostrale d'Alpe	17	6	13	11	9	14	13
Plaisentif	12	6	12	11	11	11	11
Bettelmatt	8	2	8	8	2	8	6
Toma Del Lait Brusc	14	5	14	7	5	12	12
TOTAL	68	25	56	46	30	59	53
%		36.76	82.35	67.65	44.12	86.76	77.94

In the concluding part of the interview, the producers were asked if they thought there were any other potential criticisms they could have made as to the use of this term, on the basis of their experience in the field and considering the information that came to light during the interview itself. A total of 26.47% of the interviewees were of the opinion that the term “mountain product” was not so useful for the smaller farms that have to work in less advantaged rural areas. A total of 23.53% of the sample thought that the control systems seemed to be bound to the honesty of the individual concerned and, therefore, they do not suffice to ensure the application of the labeling scheme. Some enterprises considered that European funds could be taken advantage of better if they were to be applied to business counseling and/or supporting easy access to other forms of funding (8.82%) and thought that the local public organizations should support farm activities more.

Conversely, some of the producers (8.82%) emphasized the need for more specific labelling systems, both geographically, i.e., that indicate the origin of the valley and in terms of altimeters, i.e., the altitude of the pasture or the farm should be indicated (Table 3).

Table 3. The doubts involved in the OQT “mountain product” by the producers i.e., the derogation of 30 km, the scarce usefulness of OQT for small mountain farms, the lack of a regulated control system, the lack of local entities’ support, the lack of consultancy activities to access European funds, the lack of a classified labelling system.

	No. Producers	30 km Limit	MP Useless	No Controls	Local Entities	Consultancies /Support	Classify Labelling
Maccagno	12	10	3	1	2	2	0
Toumin Dal Mel	5	4	2	0	0	0	0
Nostrale d'Alpe	17	15	5	5	0	1	5
Plaisentif	12	6	4	6	3	2	0
Bettelmatt	8	4	2	1	0	0	1
Toma Del Lait Brusc	14	8	2	3	1	1	0
TOTAL % (n = 68)	68	47	18	16	6	6	6
		69.12	26.47	23.53	8.82	8.82	8.82

5. Discussion

Noteworthy is the fact that 51 out of 68 of the farms that answered the question on the reference sales markets, 36 out of 51 sell at least 90% of their production directly to the consumer without commercial intermediaries, of which 17 sell all their production on the farm and two producers in outdoor markets. The added value of the direct relationship between the farm and the consumer, that in terms of guarantee can be considered the most effective tool, is evident here [55]. The last part of the interview brought to light the fact that the term “mountain product” was considered of no use for the farms that made direct sales, which, in itself, is a guarantee of quality.

However, the data show some linearity of judgment of the term, with a higher average score (5.544 out of 7) for farms and a lower one (3.412 out of 7) for large retail organizations. The average value assigned to the usefulness of this term for food enterprises is intermediate and slightly higher than that of the large retail organizations (3.794 out of 7) even if assigned individual assessments do show a higher level of inhomogeneity in assessing the issue ($\sigma_1 = 2.134009$; $\sigma_2 = 1.66109$; $\sigma_3 = 1.789149$).

When compliance with the requirements of the regulations on mountain products was discussed, it was seen that those who do not think they can comply live in the provinces of Cuneo (seven out of 12) and Biella (five out of 12). This is mainly due to the difficulties involved in obtaining the necessary quantity of fodder, due to the scarcity of usable agricultural land in the vicinity and/or compliance with the mountain residence times foreseen for the transhumance.

Overall, the survey data emphasize that some of the respondents have a positive attitude towards the contents of the European regulation and that they consider it to be a useful tool for the promotion and commercial enhancement of their products. However, mainly those producers that deal directly with the customer believe that the presence of producer and promotion through “word of mouth” seem to suffice to sell their entire production. They emphasize the importance of sacrifice and passion as the most elected tools to promote their products. Therefore, these observations led us to re-evaluate the tool and consider other hypothetical initiatives according to individual producers’ needs, e.g., consultancies on the access to EU funding.

The survey also emphasized the critical issues that have emerged in the past, such as the possibility of carrying out the processing activities within 30 km of the mountainous border area and the self-declaration limit and its control system [32,37]. Moreover, at least in the Italian context, the labelling system has mainly been set-up by the food industry for well-known consumer brands such as Parmigiano Reggiano [56]. Another problem that came to light is the lack of regulation for the symbols and the terms, i.e., “mountain”, “alpine” or the like, which are used to promote foods that do not necessarily conform to the EU Regulation 665/2014 [25,37]. Moreover, the producers report a lack of information and communication as to the OQT “mountain product”, according to Finco et al. [26].

Mountain foodstuff enhancement is a priority which involves not only all the operators that work in such territories, but all stakeholder networks, including public and territorial organizations. The EU labeling scheme is a demonstration of how this question is of institutional interest at a European level, in line with other authors [26,32]. This tool is to be considered an enhancement of a set of territorial marketing tools that can be of help to small producers of niche production in marginal areas [40].

However, there is yet another European noteworthy initiative disciplined by the EU Regulation no. 1151/2012, which would seem to satisfy an implicit need, according to the data related to the purchase channel used. That is the strong propensity for direct sale to the consumer demonstrated by cheese producers, which seems to underline the importance of the instrument at the time of the study, known as “local farming and direct sales” [57]. Emphasizing this type of message on the labels of EU food could be the start of a virtuous path towards greater social and environmental sustainability of food production and consumption [58].

6. Conclusions and Limitations

The results highlighted the importance of direct sales for territorial products, such as traditional cheese. The literature review shows that, although local production is not always sustainable from

an environmental point of view [59–63], it does provide some benefits, such as the organization of a production and distribution network between the different chain actors [64–68]. Moreover, the improvement of local supply chains allows for the visibility of products and advises consumers to reconsider their diet [69,70], making them aware that a particular product is to be consumed during a certain season [71], as well as protecting the products from the effects of globalization, which are not always positive [72]. This can be translated into an attempt to achieve a balance in the system to be perfected [73].

The implementation of a labeling system dedicated to “mountain products” or “local farming and direct sales” is no easy task, since it is difficult to understand exactly what the consumer perceives when reading the information on the packaging [10,74,75] and what the main benefit of this label is from an environmental or economic point of view [76,77]. Obviously, a proper structure that includes a certified labeling system that ensures greater transparency of the information given is desirable [78].

However, the study and the collected data presented some limitations determined by the methodology applied:

1. The number of cheese producers is related to only six Piedmontese traditional cheeses; moreover, the surveyed model area is one part of the Alpine Arch that also includes French, Swiss, German, Austrian and Slovenian territories beyond Italian land;
2. Although the data obtained from cheese producers are interesting, the poor know-how as to the OQT “mountain product” allows for only an approximate interpretation of the collected data; indeed, the producers thought that the OQT is a useful tool to commercialize their product, but the main channel they use to sell their products is direct sale on their own farms or at farmers’ markets. However, this channel does not need to be promoted because the farm and the farmers are actually in the mountains.

The findings show how various studies on the new European tool dedicated to local farm and direct sales can be implemented. When the stakeholders are small producers and small farms operating in harsh environments, the enhancement of a local product seems the best way to proceed.

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Abbreviations

The following abbreviation are used in this manuscript:

EU	European Union
GI	Geographical Indication
MP	Mountain Product
ODMA	Ordonnance sur les Dénominations “Montagne” et “Alpage”
OQT	Optional Quality Term
PDO	Protected Denomination of Origin
PGI	Protected Geographical Indication
TSG	Traditional Specialty Guaranteed

References

1. Roep, D.; Wiskerke, J.S.C. On Governance, Embedding and Marketing: Reflections on the Construction of Alternative Sustainable Food Networks. *J. Agric. Environ. Ethics* **2012**, *25*, 205–221. [[CrossRef](#)] [[PubMed](#)]

2. Barjolle, D.; Sylvander, B. Report for European Commission Protected Designations of origin and Protected Geographical Indications in Europe: Regulation or Policy? Recommendations. 2000. Available online: <http://www.origin-food.org/pdf/pdo-pgi.pdf> (accessed on 30 June 2017).
3. Haas, G.; Wetterich, F.; Köpke, U. Comparing intensive, extensified and organic grassland farming in southern Germany by process life cycle assessment. *Agric. Ecosyst. Environ.* **2001**, *83*, 43–53. [[CrossRef](#)]
4. Peri, C. The universe of food quality. *Food Qual. Prefer.* **2006**, *17*, 3–8. [[CrossRef](#)]
5. Nemecek, T.; Huguenin-Elie, O.; Dubois, D.; Gaillard, G.; Schaller, B.; Chervet, A. Life Cycle Assessment of Swiss farming systems. *Agric. Syst.* **2011**, *104*, 233–245. [[CrossRef](#)]
6. Bowen, S. The Importance of Place: Re-territorialising Embeddedness. *Sociol. Rural.* **2011**, *51*, 325–348. [[CrossRef](#)]
7. Todorova, L.; Sârbu, O. Innovation policy in agriculture and rural development of the European Union: Prospects for the Republic of Moldova. *Sci. Pap. Ser. Manag.—Econ. Eng. Agric. Rural Dev.* **2014**, *14*, 311–316.
8. Riviezzo, A.; Garofano, A.; Granata, J.; Kakavand, S. Using terroir to exploit local identity and cultural heritage in marketing strategies: An exploratory study among Italian and French wine producers. *Place Brand. Public Dipl.* **2017**, *13*, 136–149. [[CrossRef](#)]
9. Bouamra-Mechemache, Z.; Chaaban, J. Determinants of Adoption of Protected Designation of Origin Label: Evidence from the French Brie Cheese Industry. *J. Agric. Econ.* **2010**, *61*, 225–239. [[CrossRef](#)]
10. Van Ittersum, K.; Meulenberg, M.T.G.; Van Triip, H.C.M.; Candel, M.J.J.M. Consumers' appreciation of regional certification labels: A pan-European study. *J. Agric. Econ.* **2007**, *58*, 1–23. [[CrossRef](#)]
11. Caetano, S.F. Productive practices of companies, conventions and rural territorial development: Case study of the Spanish wine PDO Méntrida. *Cuadernos Geográficos* **2015**, *54*, 98–123.
12. Teixeira, A. Quality labels of sheep and goats meat. A fact or a fiction? *Arch. Zootec.* **2016**, *65*, 303–308. [[CrossRef](#)]
13. Cianflone, E.; Di Bella, G.; Dugo, G. Preliminary insights on British travellers' accounts of Sicilian oranges. *Tourismos* **2013**, *8*, 341–347.
14. ISMEA QUALIVITA Rapporto 2013 Sulle Produzioni Agroalimentari Italiane DOP, IGP e STG, 2013. Available online: <http://www.ismea.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/8765> (accessed on 14 March 2017).
15. Scintu, M.F.; Piredda, G. Typicity and biodiversity of goat and sheep milk products. *Small Rumin. Res.* **2007**, *68*, 221–231. [[CrossRef](#)]
16. Tiberio, L.; Francisco, D. Agri-food Traditional Products: From Certification to the Market—Portuguese recent evolution. *Reg. Sci. Inq. J.* **2012**, *4*, 57–86.
17. Maye, D.; Kirwan, J.; Schmitt, E.; Keech, D.; Barjolle, D. PDO as a mechanism for reterritorialisation and Agri-Food governance: A comparative analysis of cheese products in the UK and Switzerland. *Agriculture* **2016**, *6*, 54. [[CrossRef](#)]
18. Lamarque, P.; Lambin, E.F. The effectiveness of marked-based instruments to foster the conservation of extensive land use: The case of Geographical Indications in the French Alps. *Land Use Policy* **2015**, *42*, 706–717. [[CrossRef](#)]
19. Door Agriculture and Rural Development. Available online: <http://ec.europa.eu/agriculture/quality/door/list.html?locale=en> (accessed on 3 February 2016).
20. Peira, G. I sistemi di qualità in ambito europeo nel settore agroalimentare (European food quality systems). In *La Qualità Nel Settore Agroalimentare. SISTEMI di Qualità e Strumenti Innovativi (Agri-Food Quality. Quality Systems and Innovative tools)*; Celid: Torino, Italy, 2014; pp. 71–124.
21. Bonadonna, A.; Macar, L.; Peira, G.; Giachino, C. The Dark Side of the European Quality Schemes: The Ambiguous Life of the Traditional Specialities Guaranteed. *Qual.—Access Success* **2017**, *18*, 102–108.
22. Tudisca, S.; Di Trapani, A.M.; Sgroi, F.; Testa, R. Economic evaluation of PDO introduction in Sicilian orange farms. *Qual.—Access Success* **2014**, *15*, 99–103.
23. Antonelli, G.; Viganò, E. Economy of typical food: Technical restrictions and organizative challenges. *Ital. J. Agron.* **2009**, *4*, 125–136. [[CrossRef](#)]
24. Pacciani, A.; Belletti, G.; Marescotti, A. Problemi informativi, qualità e prodotti tipici. Approcci teorici diversi. In *Il Settore Agroalimentare in Italia e L'integrazione Europea*; Fanfani, R., Montresor, E., Pecci, F., Eds.; Franco Angeli: Milano, Italy, 2001.

25. Santini, F.; Guri, F.; Gomez y Paloma, S. *Labelling of Agricultural and Food Products of Mountain Farming*, JRC Scientific and Policy Reports; Report EUR25768EN; European Union: Luxembourg, 2013; Available online: http://ec.europa.eu/agriculture/external-studies/mountain-farming_en.htm (accessed on 3 February 2016).
26. Finco, A.; Bentivoglio, D.; Bucci, C. A label for mountain products? Let's turn it over to producers and retailers. *Qual.—Access Success* **2017**, *18*, 198–205.
27. Borec, A.; Majkovic, D.; Neve, N. How much do consumers know about mountain food products: Is there a need for labelling? In Proceedings of the Agricultural Economics and Rural Sociology 44th Croatian & 4th International Symposium on Agriculture, Opatija, Croatia, 16–20 February 2009; pp. 134–138.
28. Majkovic, D.; Borec, A. Are consumers in Slovenia concerned about the mountain quality food? *J. Geogr.* **2010**, *5*, 115–124.
29. Schermer, M.; Matscher, A.; Borec, A. The perception of quality aspects for mountain products in long supply chains—Cases from Slovenia and Austria. In *Mountain food products: A special system of provision, Proceeding of the 9th European IFSA Symposium, Wien, Austria, 4–7 July 2010*; pp. 1588–1598. Available online: http://ifsa.boku.ac.at/cms/fileadmin/Proceeding2010/2010_WS4.1_Schermer.pdf (accessed on 31 July 2017).
30. Baritoux, V.; Tebby, C.; Revoredo-Ghia, C. How well do food retailers know their customers? *The case of mountain food products in Europe*. *J. Chain Netw. Sci.* **2011**, *11*, 223–234. [[CrossRef](#)]
31. Schjoll, A.; Amilien, V.; Tufte, A.; Revoredo-Ghia, C.; Leat, P.; Kupiec, B.; Lamprinopoulou, C. Promotion of Mountain Food: An Explorative a Study about Consumers' and Retailers' Perception in Six European Countries. In *Mountain food products—A Special System of Provision, Proceeding of the 9th European IFSA Symposium, Wien, Austria, 4–7 July 2010*; pp. 1558–1567. Available online: <https://www.cabdirect.org/cabdirect/FullTextPDF/2013/20133409930.pdf> (accessed on 25 May 2017).
32. McMorran, R.; Santini, F.; Guri, F.; Gomez-Y-Paloma, S.; Price, M.; Beucherie, O.; Monticelli, C.; Rouby, A.; Vitrolles, D.; Cloye, G. A mountain food label for Europe? *Rev. Geogr. Alp.* **2015**, *103*, 4. [[CrossRef](#)]
33. Hinojosa, L.; Napoléone, C.; Moulery, M.; Lambin, E.F. The “mountain effect” in the abandonment of grasslands: Insights from the French Southern Alps. *Agric. Ecosyst. Environ.* **2016**, *221*, 115–124. [[CrossRef](#)]
34. MacDonald, D.; Crabtree, J.R.; Wiesinger, G.; Dax, T.; Stamou, N.; Fleury, P.; Lazpita, J.G.; Gibon, A. Agricultural abandonment in mountain areas of Europe: Environmental consequences and policy response. *J. Environ. Manag.* **2000**, *59*, 47–69. [[CrossRef](#)]
35. ODMA del 25 maggio 2011. Ordinanza Concernente L'impiego Delle Designazioni “Montagna” e “Alpe” Per i Prodotti Agricoli e le Derrate Alimentari da Essi Ottenute. Available online: <https://www.admin.ch/opc/it/classified-compilation/20102725/index.html> (accessed on 27 June 2016).
36. République Française. Code Rural et de la Pêche Maritime Articoli da L 641-14 a L 641-18, da R. 641-32 a R. 641-43, R. 671-3. Available online: <http://www.legifrance.gouv.fr/affichCode.do?cidTexte=LEGITEXT000006071367> (accessed on 27 June 2016).
37. Bonadonna, A.; Rosati, U. La valorizzazione delle produzioni agroalimentari europee in aree svantaggiate: L'indicazione facoltativa di qualità ‘prodotto di montagna’. In *Food and Heritage. Sostenibilità Economico—Aziendale e Valorizzazione del Territorio*; G. Giappichelli Editore: Torino, Italy, 2015; pp. 49–63.
38. Bonadonna, A.; Peira, G.; Varese, E. The European Optional Quality Term “Mountain Product”: Hypothetical Application in the Production Chain of a Traditional Dairy Product. *Qual.—Access Success* **2015**, *16*, 99–104.
39. Bonadonna, A. What does the Optional Quality Term “Mountain Product” Involve? The Biellese Mountain (North-West Italy) Farmers' Opinions. *Mediterr. J. Soc. Sci.* **2016**, *7*, 18–23. [[CrossRef](#)]
40. Bonadonna, A.; Duglio, S. A mountain niche production: The case of Bettelmatt cheese in the Antigorio and Formazza valleys (Piedmont-Italy). *Qual.—Access Success* **2016**, *17*, 90–96.
41. Palèari, M.A.; Beretta, G.; Vanoni, L. An old traditional mountain cheese: The “Bettelmatt®”: Microbiological and chemical characteristics. *Ind. Aliment.-Italy* **2010**, *49*, 23–31.
42. Zeppa, G.; Rolle, L. A study on organic acid, sugar and ketone contents in typical Piedmont cheeses. *Ital. J. Food Sci.* **2008**, *20*, 121–137.
43. Cavallarin, L.; Antoniazzi, S.; Giaccone, D.; Tabacco, E.; Borreani, G. Transfer of aflatoxin M1 from milk to ripened cheese in three Italian traditional production methods. *Food Control* **2014**, *38*, 174–177. [[CrossRef](#)]
44. Dalmaso, A.; Soto del Rio, M.D.; Civera, T.; Pattono, D.; Cardazzo, B.; Bottero, M.T. Characterization of microbiota in Plaisentif cheese by high-throughput sequencing. *LWT-Food Sci. Technol.* **2016**, *69*, 490–496. [[CrossRef](#)]

45. Brocardo, R. I prodotti agroalimentari tradizionali del Piemonte a quota 370. *Quad. Reg. Piemonte —Piemonte Agric.* **2002**, *33*, 19–24.
46. Alvesson, M. Methodology for close up studies—Struggling with closeness and closure. *High. Educ.* **2003**, *46*, 167–193. [CrossRef]
47. Pitrone, M.C. *Il Sondaggio*; Franco Angeli Editore: Milano, Italy, 1984.
48. Fideli, R.; Marradi, A. Intervista. In *Enciclopedia delle Scienze Sociali*; Istituto della Enciclopedia Italiana: Roma, Italy, 1996; pp. 71–82.
49. Marbach, G. *Le Ricerche di Mercato*; UTET: Torino, Italy, 2000.
50. Likert, R. A technique for the measurement of attitudes. In *Archives of Psychology No. 140*; The Science Press: New York, NY, USA, 1932; pp. 1–55.
51. Vidogbéna, F.; Adégbidi, A.; Tossou, R.; Assogba-Komlan, F.; Martin, T.; Ngouajio, M.; Simon, S.; Parrot, L.; Garnett, S.T.; Zander, K.K. Exploring factors that shape small-scale farmers' opinions on the adoption of eco-friendly nets for vegetable production. *Environ. Dev. Sustain.* **2016**, *18*, 1749–1770. [CrossRef]
52. Kvakkestad, V.; Rørstad, P.K.; Vatn, A. Norwegian farmers' perspectives on agriculture and agricultural payments: Between productivism and cultural landscapes. *Land Use Policy* **2015**, *42*, 83–92. [CrossRef]
53. Tudisca, S.; Di Trapani, A.M.; Sgroi, F.; Testa, R. Socio-economic assessment of direct sales in Sicilian Farms. *Ital. J. Food Sci.* **2015**, *27*, 101–108. [CrossRef]
54. Atkinson, A.C.; Shaffir, W. Standards for Field Research in Management Accounting. *J. Manag. Account. Res.* **1998**, *10*, 41–68.
55. Belliveau, S. Resisting global, buying local: Goldschmidt revisited. *Great Lakes Geogr.* **2005**, *12*, 44–53.
56. Parmigiano Reggiano—Progetto Qualità Prodotto di Montagna. Available online: http://www.parmigianoreggiano.it/consorzio/progetto_qualita_prodotto_montagna/default.aspx (accessed on 27 March 2017).
57. European Commission. Report from the Commission to the European Parliament and the Council on the Case for a Local Farming and Direct Sales Labelling Scheme, 2013. Available online: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52013DC0866&from=EN> (accessed on 20 February 2017).
58. Tencati, A.; Zsolnai, L. Collaborative Enterprise and Sustainability: The Case of Slow Food. *J. Bus. Ethics* **2012**, *110*, 345–354. [CrossRef]
59. Saunders, C.; Barber, A.; Taylor, G. *Food Miles—Comparative Energy/Emissions Performance of New Zealand's Agriculture Industry Research Report NO. 285*; Lincoln University: Lincoln, New Zealand, 2006; Available online: <https://researcharchive.lincoln.ac.nz/handle/10182/125> (accessed on 27 April 2017).
60. Saunders, C.; Hayes, P. *Air Freight Transport. of Fresh Fruit and Vegetables Research Report NO. 299*; Lincoln University: Lincoln, New Zealand, 2007; Available online: https://researcharchive.lincoln.ac.nz/bitstream/handle/10182/248/aeru_rr_299.pdf?sequence=1 (accessed on 27 April 2017).
61. Saunders, C.; Barber, A. Carbon Footprints, Life Cycle Analysis, Food Miles: Global Trade Trends and Market Issues. *Polit. Sci.* **2008**, *60*, 73–88. [CrossRef]
62. Waye, V.C. Carbon Footprints, Food Miles and the Australian Wine Industry. *Melb. J. Int. Law* **2008**, *9*, 1–30. [CrossRef]
63. Saunders, C.; Barber, A.; Sorenson, L.C. Food miles carbon footprinting and their potential impact on trade. In Proceedings of the AARES Australian Agricultural and Resource Economics Society 53rd Annual Conference, Northern Queensland, Australia, 10–13 February 2009; Available online: <http://purl.umn.edu/48051> (accessed on 17 March 2017).
64. Verhaegen, I.; Van Huylenbroeck, G. Costs and benefits for farmers participating in innovative marketing channels for quality food products. *J. Rural Stud.* **2011**, *17*, 443–456. [CrossRef]
65. Chiffolleau, Y. From politics to co-operation: The dynamics of embeddedness in alternative food supply chains. *Sociol. Rural* **2009**, *49*, 218–235. [CrossRef]
66. Ikerd, J.E. Local food: Revolution and reality. *J. Agric. Food Inf.* **2011**, *12*, 49–57. [CrossRef]
67. Nonini, D.M. The local food movement and the anthropology of global systems. *Am. Ethnol.* **2013**, *40*, 267–275. [CrossRef]
68. Rapisarda, P.; Rizzo, M.; Scuderi, A. Analysis of a direct selling network for agrifood products. *Ital. J. Food Sci.* **2015**, *27*, 109–117. [CrossRef]
69. Moresi, M.; Valentini, R. Dieta Mediterranea e impatto ambientale. *Ind. Aliment.-Italy* **2010**, *49*, 9–20.

70. Pairotti, M.B.; Cerutti, A.K.; Martini, F.; Vesce, E.; Padovan, D.; Beltramo, R. Energy consumption and GHG emission of the Mediterranean diet: A systemic assessment using a hybrid LCA-IO method. *J. Clean. Prod.* **2015**, *103*, 507–516. [[CrossRef](#)]
71. Brown, C.; Miller, S. The impacts of local markets: A review of research on farmers markets and community supported agriculture (CSA). *Am. J. Agric. Econ.* **2008**, *90*, 1296–1302. [[CrossRef](#)]
72. Schnell, S.M. The local traveler: Farming, food and place in state and provincial tourism guides, 1993–2008. *J. Cult. Geogr.* **2011**, *28*, 281–309. [[CrossRef](#)]
73. DuPuis, E.M.; Goodman, D. Should we go home to eat? Toward a reflexive politics of localism. *J. Rural Stud.* **2005**, *21*, 359–371. [[CrossRef](#)]
74. Caputo, V.; Vassilopoulos, A.; Nayga, R.M.J.; Canavari, M. Welfare effects of food miles labels. *J. Consum. Aff.* **2013**, *47*, 311–327. [[CrossRef](#)]
75. Caputo, V.; Nayga, R.M.J.; Scarpa, R. Foodmiles or carbon emissions? Exploring labelling preference for food transport footprint with a stated choice study. *Aust. J. Agric. Resour. Econ.* **2013**, *57*, 1–18. [[CrossRef](#)]
76. Lovell, H.; Bulkeley, H.; Liverman, D. Carbon offsetting: Sustaining consumption? *Environ. Plan. A* **2009**, *41*, 2357–2379. [[CrossRef](#)]
77. AGCM (Italian Antitrust Authority). Relazione annuale sull'attività svolta 2013. Available online: http://www.agcm.it/component/joomdoc/relazioni-annuali/relazioneannuale2013/Relazione_2014_testocompleto.pdf/download.html (accessed on 20 January 2017).
78. Calabrò, G.; La Gioia, G. L'etichetta climatica sui prodotti alimentari: Un nuovo approccio dell'industria alimentare. *Ind. Aliment.-Italy* **2013**, *52*, 15–25.



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