

# Consumer expectations regarding hay and pasture-raised milk in South Tyrol

Konsumentenerwartungen an Heu- und Weidemilch in Südtirol

Gesa Busch\*, Sarah Kühl and Matthias Gauly

Freie Universität Bozen, Fakultät für Naturwissenschaften und Technik, Italy

\*Correspondence to: gesa.busch@unibz.it

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## Summary

The mountain landscapes in South Tyrol are characterized by small-scale dairy farms and alpine pastures that currently run the risk of being abandonment due to cost disadvantages. New marketing concepts for milk can be one solution to remunerate mountain farmers for their efforts. Crucial for the success of new strategies is consumers' appreciation. Therefore, this study analyses the expectations of 171 South Tyrolean consumers regarding hay and pasture-raised milk. The results show that associations with hay milk refer to "barns", and "hay (feeding)" whereas associations with pasture-raised milk are "pasture", "naturalness" and "free-roaming cows". Both concepts offer opportunities for milk marketing in South Tyrol, whereas pasture-raised milk is evaluated more positive compared to hay milk.

**Keywords:** milk marketing, hay milk, pasture raised milk, consumer attitudes, mountain dairy farming

## Zusammenfassung

Die Berglandschaft Südtirols ist durch kleinstrukturierte Milchviehbetriebe mit Almen, Wiesen und Weiden charakterisiert, welche aktuell Gefahr laufen, aufgrund von Kostennachteilen, aufgegeben zu werden. Neue Marketingkonzepte für Milch können eine Möglichkeit sein, um Landwirte für ihren Aufwand im Berggebiet ausreichend zu entlohnen. Entscheidend für den Erfolg solcher Strategien ist die Wertschätzung durch die KonsumentInnen. Deshalb untersucht diese Studie die Erwartungen von 171 Südtiroler KonsumentInnen an Heu- und Weidemilch. Die Ergebnisse zeigen, dass als freie Assoziationen zum Begriff Heumilch häufig „Stall“ und „Heu(fütterung)“ genannt werden. Assoziationen mit Weidemilch hingegen sind „Weide“, „Natürlichkeit“ und „freilaufende Kühe“. Beide Konzepte offerieren Möglichkeiten für die Milchvermarktung in Südtirol, wobei Weidemilch etwas positiver als Heumilch gesehen wird.

**Schlagworte:** Milchmarketing, Heumilch, Weidemilch, KonsumentInneneinstellung, Berglandwirtschaft

## 1 Introduction

The competition and price pressures on agricultural markets force farmers and food processors to find innovative ways for marketing their products in order to retrieve sufficient prices that cover production costs. In the milk market, the exploration of premium segments where consumers are less price sensitive (Hermann and Schröck, 2011; Milch-Marketing, 2015) promise higher returns. Product differentiation

using ag-related marketing claims have gained importance in recent years in Europe. In the Netherlands and Germany for example, pasture-raised milk certifies pasture access for dairy cows and in Austria, hay milk is widely established in the market and certifies traditional feeding of cows.

South Tyrol is the northern-most province of Italy and is dominated by an alpine landscape and small-scale mountain farms. The grasslands and mountain pastures are mainly used for fodder production and pasturing of livestock such

as dairy cattle, sheep and goats. Dairy farming is a key pillar and milk and milk products are the second most important product category in terms of value in the South Tyrolean agriculture (ASTAT, 2016). About 4,900 dairy farmers produce around 380 mio. kg of milk per year (Sennereiverband Südtirol, 2016). However, in a national and international comparison these farms have cost disadvantages due to geography, location, size and accompanying higher workload. Nevertheless, they are a crucial factor for the maintenance of the typical landscape that is central for tourism (Cocca et al., 2012; Monteiro et al., 2011). Therefore, product differentiation can be of special interest for farmers in such areas in order to compensate for comparably higher costs and efforts in dairy farming. Such product differentiation can be claimed through labelling and certification on the product in order to communicate the differences in production to the consumer. At best, higher prices for certain production processes can further move farmers to use their land in a way that is supported by society, e.g. through maintaining traditional landscapes with small-scale farms or through animal friendly husbandry systems. A study by Bontemps et al. (2013) confirmed that labels, e.g. the label for protected designations of origin (PDO), could reduce the risk of small farms being abandoned.

Approximately one third of dairy products produced in South Tyrol are sold within the region Trentino-South Tyrol, whereas the larger part is exported to other regions in Italy (Sennereiverband, 2018). Some dairies in South Tyrol already started the marketing of hay milk in 2016 with the aim to increase farmers' income but the concept is comparably new for the region. Furthermore, no South Tyrolean dairy is marketing pasture-raised milk so far. Until now, little is known about consumers' buying motives and associations with pasture-raised and hay milk originated in South Tyrol. Nevertheless, for a sustainable success, consumers' willingness to accept these products is crucial. Therefore, the aim of this study is to analyse consumer understandings of and attitudes towards pasture-raised and hay milk in South Tyrol. In addition, the willingness to buy these milk types will be analysed in order to draw conclusions for implementing such products in the market on a regional level. Although the local market is the smaller one for South Tyrolean dairy products, we focused on local consumers due to the public debates on sustainability and milk production ongoing on a local level in South Tyrol.

The direct comparison of both hay and pasture-raised milk is a new approach and allows looking for similarities and differences. This is of interest not only for South Tyrol but also for other regions where dairies are active in milk market differentiation because consumers tend to perceive only little differences between milk types such as organic and pasture-raised (Conner et al., 2008).

## 2 Criteria for pasture-raised milk and hay milk in different countries

The particularity of pasture-raised milk is that cows have access to pasture for a defined minimum period per year. In the Netherlands and Germany, the standard that has been established in the market is a pasture access of at least 120 days per year with a minimum of six hours per day (shortly: 120/6 standard). This standard is not statutory but an industry driven solution (Milch-Marketing, 2015; Friesland-Campina, 2017). The reasons why consumers buy and pay more for pasture-raised milk are multifactorial and include the assumption of better welfare for animals as well as better milk qualities (Frewer et al., 2005).

The marketing of hay milk is mainly focused on feeding criteria. For the production of hay milk, silage and any kind of fermented fodder are banned and roughage must make up at least 75% of the energy of the yearly ration of dry feed (EU regulation 2016/304), which limits the feeding capacity for concentrates. Especially in mountain areas, hay milk production has its advantages as a traditional production practice in small-scale mountain farms and for cheese production. In 2003, some Austrian dairies and farmers consolidated and established the "Arge Heumilch" to support and maintain small mountain farms that produce hay milk and use this kind of milk for market differentiation. However, a large-scale marketing campaign of the "Arge Heumilch" was needed to reach considerable market shares. The hereby-resulting publicity of hay milk ensured that retailers included hay milk products in their range (top agrar, 2012). On European level, hay milk makes up around 3% of the entire European milk production (Arge Heumilch, 2017) whereas in Austria hay milk accounts for 15% of the market share for milk (Arge Heumilch, 2017). In the provinces Vorarlberg and Tyrol the share even reaches 40% (top agrar Südplus, 2015). Since 2016 hay milk is also protected as a "traditional specialty guaranteed" (TSG) by the EU regulation 2016/304. Both hay and pasture-raised milk production could be valuable approaches for regions such as South Tyrol where small-scale mountain dairy production importantly constitutes to the milk production but suffers cost disadvantages.

## 3 Methods

### 3.1 Survey design and data analyses

In order to answer the outlined research questions, a standardized questionnaire with predominantly closed questions is used. The questionnaire consists of four parts. In part 1, socio-demographic characteristics such as gender, age and education of participants are collected. This is followed by a part about participants' milk consumption habits. Part 3 deals with participants' associations regarding pasture-raised and hay milk characteristics. This part starts with an open question asking respondents to report first associations with the terms 'pasture-raised milk' and 'hay milk'. In the follow-

ing, respondents are asked about their expectations regarding both milk types on a semantic differential scale with opposing word-pairs. Expected and desired production methods on the farmers' side are further tested using five-point Likert-scales and nominal scales. All statements are presented in randomized order to control for systematic order effects. The survey closes with questions about the willingness to buy pasture-raised and hay milk produced in South Tyrol.

Data are analysed using IBM SPSS Statistics 23. Descriptive analysis, cross tabulation with  $\chi^2$ -tests and t-tests are used to further analyse the data. In order to analyse the open questions, categories to structure and bundle the mentioned terms are built and validated by two researchers independently. The categories are derived from data and all answers are matched to the best suitable category (Thomas, 2006; Cope, 2010). Cohen's kappa coefficient is calculated to validate the results (0.91 for the term pasture-raised milk and 0.93 for the term hay milk) (Kraemer, 2015). In a second step, the categories are discussed and adapted until a perfect agreement was achieved.

### 3.2 Participant recruitment and sample description

Participants for the study were conveniently sampled in summer 2016. A link to the self-guided online questionnaire was distributed using snowball system. A total of 171 German-speaking residents from South Tyrol could be used for data analysis.

Table 1 shows some of the participants' characteristics and compares them to data from the official statistics in South Tyrol. The sample consists of more females, a higher percentage of younger people under the age of 29 and a higher share of well educated participants in comparison to the population. Therefore, the results cannot be interpreted on a national scale for South Tyrol. Nevertheless, they give first

insights into the topic under discussion for a certain group of residents.

## 4 Results

### 4.1 Associations and product expectations regarding pasture-raised milk and hay milk

When participants are asked about the first three words that come to their mind when they hear the terms 'pasture-raised milk' or 'hay milk', their answers differ remarkably between these two (see Table 2). All in all, the terms associated with both milk types are quite broad and touch many aspects but we also observe some differences. For pasture-raised milk, the most frequent words refer to pasture, meadow or more specific to cows on pasture, followed by terms mentioning naturalness. In addition, many associations to free-ranging, free movement of cows and freedom are drawn. Terms from these three categories appear less frequent for associations with 'hay milk'. In this case, connections with barns and indoor housing are commonest and contrastingly, such words completely lack for 'pasture-raised milk'. For 'hay milk', the mentioning of hay and hay based diets for cows or renouncing silage or concentrate supplements in the cows' diet are also very frequent, especially compared with the much lower numbers in the 'pasture-raised milk' question.

When participants are asked about what they think is true for the production of pasture-raised and hay-milk, the evaluations are all rather positive (see Figure 1). Pasture-raised milk is evaluated more positive compared to hay milk in terms of animal friendliness, sustainable production, cow health and healthiness of the product (t-tests;  $p \leq 0.05$ ). For all other tested attributes, no differences between the two products are found.

Table 1: Distribution of gender, age and education in the sample in comparison to the South Tyrolean population.

Characteristics	Specification	Sample	South Tyrolean population
Gender <sup>1</sup>	Male	43.9%	49.3%
	Female	56.1%	50.7%
Age <sup>1</sup>	15-29	49.7%	19.4%
	30-49	25.7%	34.2%
	50+	24.6%	46.4%
Education <sup>1</sup>	No graduation (yet)	1.3%	8.4%
	Middle school	7.5%	41.5%
	Vocational training	8.8%	-
	General qualification for university entrance	37.7%	25.7%
	University degree	44.7%	7.2%

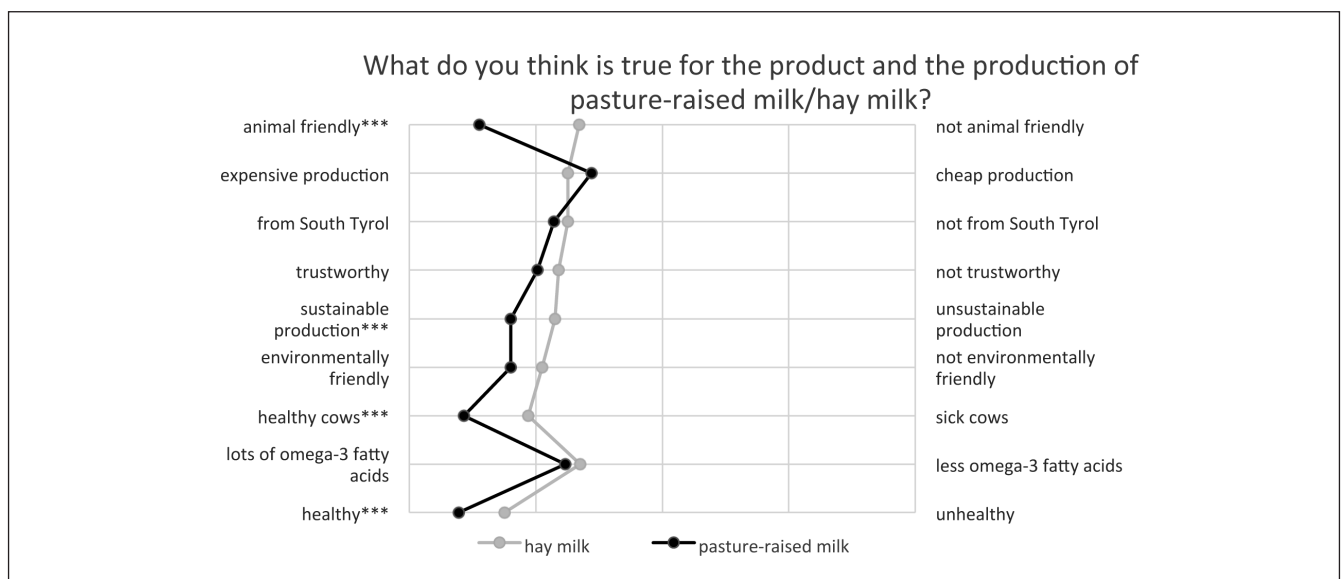
Data for the South Tyrolean population is reported from ASTAT (2017)

Table 2: Percentages of participants' first three free associations with the terms 'pasture-raised milk' and 'hay milk' organized by categories in an alphabetical order.

Categories	% of all answers	
	pasture-raised milk	hay milk
barn/stable/indoor housing	-	7.0%
cow	2.7%	1.2%
fodder/feeding	-	2.5%
free-range (cows)/outlet/being free/free movement	6.2%	0.8%
fresh/freshness	4.3%	1.6%
grass/green fodder/pasture fodder	4.9%	-
hay	0.6%	5.7%
hay feeding/only hay as fodder	-	5.3%
health/healthy	4.7%	2.5%
mountain pasture/alpine meadow/mountain meadow	5.8%	1.0%
nature/naturalness/natural	8.6%	3.3%
no silage/no concentrate	1.6%	4.3%
organic	3.3%	2.5%
pasture/meadow/grassland/cows on pasture	11.7%	1.2%
species-appropriate/animal welfare/happy cows	3.5%	0.2%
taste/tasteful/pleasure	1.4%	2.0%
winter	-	2.5%
others	5.8%	10.1%

Question: "What comes to your mind when hearing the term pasture-raised milk/hay milk? Please give three words if possible."  
 Listed are those categories with at least 2% of all answers for either pasture-raised or hay milk.  
 Total answers=513, including missing values: 98 for pasture-raised and 93 for hay milk.

Figure 1: Display of means of participants' product expectations regarding pasture-raised and hay milk measured on a five-point semantic differential scale with opposing word-pairs. Stars indicate significant differences between hay and pasture-raised milk (t-test, \*\*\*=p<=0.001; \*=p<=0.05).



Source: Own data.

#### 4.2 Expectations regarding feeding, housing and outdoor access for the production systems pasture-raised or hay milk

In order to see how trustworthy criteria for pasture-raised and hay milk should be designed from a consumers' perspective, questions regarding feeding, housing and outdoor access of cows were included in the survey. Figure 2 illustrates respondents' expectations regarding different feedstuff used in the cows' diet. Hereby, the expected allowed quantities of fresh grass, hay, herbs and straw differ between pasture-raised milk and hay milk ( $\chi^2$ -tests;  $p \leq 0.05$ ). For both milk types, more than half of participants agree that fresh grass, hay and herbs are reasonable for feeding the cows with a higher acceptance for fresh grass and herbs in the case of pasture-raised milk and for hay in the case of hay milk. About 15% of respondents expect feeding concentrates and 30% expect feeding vitamins/minerals. The least accepted feed stuffs for a cow producing pasture-raised or hay milk are grass silage, maize silage and soy.

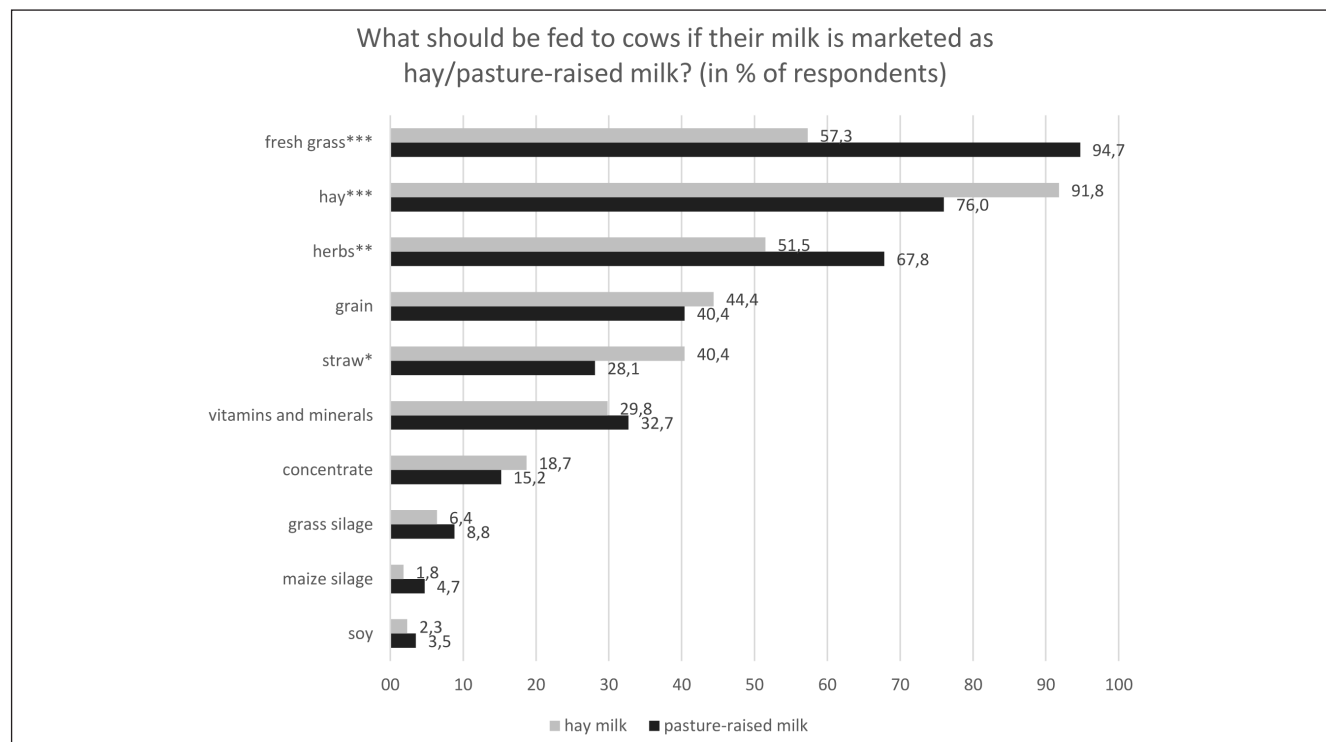
Further, 59.2% of respondents agree that it is reasonable to market pasture-raised milk also during winter or during bad weather periods when pasture access for cows cannot be offered. 24.2% of respondents are unsure about this aspect and 16.6% disagree. In the winter period, 85% of respondents think a free-stall housing with outdoor access is the best option for keeping the pasture cows. 14% select free-stall housing without outdoor access and less than 3% of all respondents select tie-stalls (multiple answers were possible).

#### 4.3 Core target-group for pasture-raised milk and hay milk

The willingness to buy pasture-raised or hay milk is comparably high. Over 70% of all respondents state to probably or for sure buy pasture-raised or hay milk from South Tyrol (see Table 3).

In order to see how potential buyers of pasture-raised and hay milk differ regarding the importance of product characteristics, we compared participants who stated to buy pas-

Figure 2: Participants' opinions about feed allowances in the cows' diet for producing hay and pasture-raised milk. Stars indicate significant differences between hay and pasture-raised milk (t-test; \*\*\*= $p \leq 0.001$  \*\*= $p \leq 0.01$  \*= $p \leq 0.05$ ).



Source: Own data.

Table 3: Willingness-to-buy pasture raised and hay milk produced in South Tyrol (in % of respondents).

Would you be willing to buy...	yes for sure	probably yes	I don't know	probably not	No for sure.
... pasture-raised milk from South Tyrol?	47.2%	35.2%	11.9%	3.8%	1.9%
... hay milk from South Tyrol?	41.2%	35.3%	15.0%	7.2%	1.3%

Source: Own data.

Table 4: Mean comparison of importance ratings of product characteristics for pasture-raised and hay milk between potential buyers and non-buyers of pasture-raised and hay milk.

	Pasture-raised milk			Hay milk		
	Potential buyers	Potential non-buyers	t-value	Potential buyers	Potential non-buyers	t-value
Environmental sustainability	1.62 (0.72)	1.93 (0.96)	2.24*	1.58 (0.70)	1.78 (0.75)	1.60 <sup>n.s.</sup>
Animal friendly housing for dairy cows	1.35 (0.58)	1.61 (0.79)	2.38*	1.58 (0.70)	1.55 (0.73)	-0.26 <sup>n.s.</sup>
Pasture access for dairy cows	1.37 (0.57)	1.65 (0.86)	2.43*	1.65 (0.78)	1.86 (0.90)	1.45 <sup>n.s.</sup>
Nice packaging	3.58 (1.22)	3.43 (1.14)	-0.79 <sup>n.s.</sup>	3.22 (1.33)	3.75 (1.07)	2.51*
No silage	1.82 (1.10)	2.24 (1.11)	2.32*	1.60 (0.87)	2.12 (1.13)	3.12**
No concentrate feedstuff	1.82 (1.08)	2.27 (1.11)	2.50*	1.93 (1.12)	2.18 (1.11)	1.30 <sup>n.s.</sup>

Potential buyers = all respondents that stated “Yes, for sure” when asked about their willingness to buy pasture-raised or hay milk respectively. Potential buyers pasture-raised milk = 47.8%. Potential buyers hay milk = 40.5%.

Question: Which importance would the following attributes have for you when buying pasture-raised milk/hay milk? Scale from 1 = very important, 2 = important, 3 = I don't know, 4 = rather unimportant, 5 = unimportant. Displayed are means and standard deviations in brackets. Stars indicate differences between the two buyer groups (t-test; \*\*\*= $p \leq 0.001$  \*\*= $p \leq 0.01$  \*= $p \leq 0.05$ ; n.s. = not significant).

ture-raised or hay milk from South Tyrol (“Yes, for sure” = potential buyers) with participants who showed a lower willingness to buy such products (all other answers = potential non-buyers). Table 4 shows how important different product attributes are to these groups when thinking about buying pasture-raised or hay milk. In the case of pasture-raised milk, potential buyers value environmental sustainability, animal friendliness of dairy housing, pasture access for dairy cows as well as a silage- and concentrate free diet for dairy cows higher compared to potential non-buyers of pasture-raised milk. Contrastingly, for potential hay milk buyers a nice packaging would be of higher importance compared to potential non-buyers as well as a silage-free diet of the cows is more important to them. For other product characteristics, there are no differences between potential buyers and non-buyers of hay milk.

## 5 Discussion

To the best of our knowledge, our study is the first comparing consumer attitudes, associations and willingness-to-buy towards pasture-raised and hay milk. The results show that consumers evaluate both milk types positive in many aspects such as health value, trustworthiness, sustainability of production and environmental friendliness. Pasture-raised milk gains slightly better evaluations in almost all aspects. The production of pasture-raised milk is assumed to be more animal-friendly and healthier for the cows compared to hay milk production from a consumers' point of view. The open associations reveal broader insights into underlying frames that are associated with both milk types: Whereas hay milk is highly associated with indoor housing (barn/stable) and hay feeding, pasture-raised milk is associated to free ranging cows, naturalness, freshness, and mountain meadows. Pasture access for dairy cows is the most natural and ani-

mal-friendly system for dairy cows evaluated by consumers (Frewer et al., 2005; Schuppli et al., 2014; Cardoso et al., 2016). This could be one of the reasons why pasture-raised milk is perceived to be advantageous for animal welfare. It becomes clear that consumers do differentiate between the two milk concepts. Hay milk focuses on feeding and ration composition whereas pasture raised milk on outdoor access and grazing for dairy cows. Almost half of respondents in the survey state that they would definitely buy pasture-raised milk from South Tyrol and little less state a willingness to buy hay milk. The different perceptions of pasture-raised and hay milk are also visible in the comparison of potential buyers and non-buyers. Potential buyers of pasture-raised milk value animal-friendly housing conditions and pasturing for dairy cows whereas potential buyers of hay milk mostly attach importance to feeding without silage and nice packaging. This result shows that there are diverse target groups and thereby substantiate existing studies showing that milk types and labels are perceived and rated differently by consumers (e.g. Dhar and Foltz, 2005; Hellberg-Bahr et al., 2012). However, if the attitudes revealed in this study transform into buying decisions in the real market remains, due to a hypothetical study design, unanswered.

For pasture-raised milk, the majority of respondents supports that cows should be fed with grass, hay and herbs whereas concentrates and silage are widely rejected. The feeding of dairy cows has already shown to be connected with milk quality by consumers (Tempesta and Vecchiato, 2013). This could also be an explanation for the strong rejection of certain feedstuffs in this study. The results contrast the current criteria for pasture-raised milk applied in the Netherlands or Germany. Thus, consumer expectations exceed existing standards for pasture-raised milk. Including feed restrictions, similar to hay milk criteria, might be an option to increase trust in pasture-based milk concepts because currently a gap between perceptions and practices is

existing, exposing the risk of perceived fraud by consumers. Either pasture-raised milk concepts should include feeding restrictions in their requirements or they should communicate very clearly that the claim only refers to pasture access and not to feeding. In addition, husbandry systems during wintertime are an issue. Our results reveal that 85% of consumers would prefer free-stall housing with outdoor access. Meeting this demand could be challenging in South Tyrol or other mountain areas as tie stalls are still a common system. However, farmers and marketers should consider and communicate these aspects to avoid false expectations in the target group. A large gap between consumers' expectations and reality can lead to mistrust or even market failure if consumers will realize that their expectations are not fulfilled (Akerlof, 1970; Parasuraman et al., 1985; von Meyer-Höfer et al., 2015).

Consumers in the sample connect both milk types with the province of South Tyrol. Thus, marketing a locally produced pasture-raised or hay milk in South Tyrol corresponds with the image of livestock farming in the region. In addition, the association of pasture-raised milk with mountain pasture and alpine meadow underpins this correspondence for pasture-raised milk. In contrast, associations including the terms 'alpine' or 'mountain' were not mentioned in the case of hay milk, although hay milk is mainly produced in mountain areas such as Austria so far. Pasture-raised milk is currently produced in plain areas, such as the Netherlands or Northern Germany. Thus, producing and marketing locally produced pasture-raised milk in the alpine space including South Tyrol could be an alternative for differentiation from the standard market. A mixed marketing concept that combines both milk types would be conceivable: Pasturing in summer and hay fodder during wintertime. This could further fit with consumers' expectations towards feeding of cows producing pasture-raised milk (grass, hay, herbs and less concentrates and silage) and could reduce mistrust towards pasture-raised milk sold in wintertime (Kühl et al., 2017).

Additionally, further studies already show that the origin of food is an important buying motive for consumers and can achieve positive perceptions towards a product (Eurobarometer, 2011). Many European consumers assume benefits from products produced in mountain areas such as natural and traditional production or health values (Matscher and Schermer, 2009). Thus, milk produced in mountain regions could profit from the positive image (van Ittersum et al., 2003), especially because the local population in our study associated pasture-raised milk with alpine areas and mountain meadows.

## 6 Conclusion

Consumers rate pasture-raised milk more positive compared to hay milk. At least in South Tyrol, consumers associate pasture-raised milk with mountains and alpine meadows. This finding is new and points out that also marketing pasture-raised milk could be more promising than a solely con-

centration on the production of hay milk. A combination of pasturing dairy cows with hay feeding in winter could possibly meet consumers' demands and would combine the advantages of both systems without compromising the regions' farm structure. Highlighting these criteria could tighten the competitive advantage and thereby maintain traditional landscapes and small-scale farms that are crucial for tourism and the whole economy in the region.

## 7 Limitations and outlook

We point out that sample size as well as sample composition used in this study were non-representative. The younger and well educated respondents in the sample may have led to biased results with regard to welfare attitudes. In order to validate the results presented herein, subsequent studies should aim for a larger and a random sample according to the distribution in the South Tyrolean population. With regard to the products tested, a comparison of expectations towards standard (conventional) milk would have been interesting. By doing so, the perceived characteristics of specialty products such as hay or pasture-raised milk could have been highlighted more clearly.

## References

- Akerlof, G.A. (1970) The market for 'lemons', qualitative uncertainty and the market mechanism. *Quarterly Journal of Economics*, 84, 3, 488-500.
- Arge Heumilch (2017) Arge Heumilch. URL: <https://www.heumilch.at/heumilch/die-arge-heumilch/> (20.10.2017).
- ASTAT (Landesinstitut für Statistik) (2016) *Landwirtschaft in Zahlen 2014*. URL: [http://astat.provinz.bz.it/de/aktuelles-publikationen-info.asp?news\\_action=4&news\\_article\\_id=534504](http://astat.provinz.bz.it/de/aktuelles-publikationen-info.asp?news_action=4&news_article_id=534504) (22.04.2018):
- ASTAT (Landesinstitut für Statistik) (2017) *Statistisches Jahrbuch für Südtirol 2016*. URL: <http://astat.provinz.bz.it/de/statistisches-jahrbuch.asp> (10.04.2017).
- Bontemps, C., Bouamra-Mechemache, Z. and Simioni, M. (2013) Quality labels and firm survival: some first evidence. *European Review of Agricultural Economics*, 40, 3, 413-439.
- Cardoso, C.S., Hötzel, M.J., Weary, D.M., Robbins, J.A. and von Keyserlingk, M.A.G. (2016) Imagining the ideal dairy farm. *Journal of Dairy Science*, 99, 2, 1663-1671.
- Cocca, G., Sturaro, E., Gallo, L. and Ramanzin, M. (2012) Is the abandonment of traditional livestock farming systems the main driver of mountain landscape change in Alpine Areas? *Land Use Policy*, 29, 878-886.
- Conner, D.S., Campbell-Arvai, V. and Hamm, M.W. (2008) Consumer preferences for pasture-raised animal products: Results from Michigan. *Journal of Food Distribution Research*, 39, 2, 11-25.
- Cope, M. (2010) Coding qualitative data. In: Flick, U., Kar-

- doff, V. E. and Steinke, I. (Eds.) A companion to qualitative research. London: Sage Publications, 279–294.
- Dhar, T. and Foltz, J.D. (2005) Milk by any other name ... consumer benefits from labeled milk. *American Journal of Agricultural Economics*, 87, 1, 214-228.
- Eurobarometer (2011) The common Agricultural Policy – Special Eurobarometer 368. URL: [http://ec.europa.eu/commfrontoffice/publicopinion/archives/ebs/ebs\\_368\\_en.pdf](http://ec.europa.eu/commfrontoffice/publicopinion/archives/ebs/ebs_368_en.pdf) (04.09.2017).
- Frewer, L.J., Kole, S., van de Kroon, S.M.A. and de Lauwere, C. (2005) Consumer Attitudes towards the Development of Animal-Friendly Husbandry Systems. *Journal of Agricultural and Environmental Ethics*, 18, 345-367.
- Friesland-Campina (2017) Weidegang: koeien in de wie. URL: <https://www.frieslandcampina.com/nl/duurzaamheid/mvo-in-de-praktijk/weidegang-koeien-in-de-wei/> (11.09.2017).
- Hellberg-Bahr, A., Steffen, N. and Spiller, A. (2012) Marketingpotentiale für Weidemilch. *Jahrbuch der Österreichischen Gesellschaft für Agrarökonomie*, 21, 1, 3-12.
- Hermann, R. and Schröck, R. (2011) Wie reagieren die Käufer von Biolebensmitteln auf Preisänderungen? Zur Bedeutung von Intensiv- und Gelegenheitskäufern. *Ernährungsumschau*, 58, 11, 614-619.
- Kraemer, H.C. (2015) Kappa Coefficient. *Wiley StatsRef: Statistic Reference Online*, 1, 1-4. URL: <https://doi.org/10.1002/9781118445112.stat00365.pub2> (07.06.2018).
- Kühl, S., Schlüterbusch, L. and Spiller, A. (2017) Trust in Ag-related marketing claims: A segmentation with German consumers. *British Food Journal*, 119, 9, 1999-2012.
- Matscher, A. and Schermer, M. (2009) Zusatznutzen Berg? Argumente für den Konsum von Bergprodukten. *Agrarwirtschaft*, 58, 2, 125-134.
- Milch-Marketing (2015) Kaum Nachfrageimpulse durch Preissenkungen. *Milch-Marketing*, 6, 36-37. URL: [https://www.blmedien.de/data/emags/moproweb/Milch-Marketing\\_06\\_2015/](https://www.blmedien.de/data/emags/moproweb/Milch-Marketing_06_2015/) (07.06.2018).
- Monteiro, A.T., Fava, F., Hiltbrunner, E., della Marianna, G.D. and Bocchi, S. (2011) Assessment of land cover changes and spatial drivers behind loss of permanent meadows in the lowlands of Italian Alps. *Landscape and Urban Planning*, 100, 3, 287-294.
- Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1985) A conceptual model of service quality and its implications for future research. *Journal of Marketing*, 49, 4, 41-50.
- Schuppli, C.A., von Keyserlingk, M.A.G. and Weary, D.M. (2014) Access to Pasture for Dairy Cows: Responses from an Online-Engagement. *Journal of Animal Science*, 92, 11, 185-192.
- Sennereiverband Südtirol (2016) Tätigkeitsbericht 2015. URL: [http://www.suedtirolermilch.com/images/files/Taetigkeitsbericht\\_2015.pdf](http://www.suedtirolermilch.com/images/files/Taetigkeitsbericht_2015.pdf) (07.05.2017).
- Sennereiverband Südtirol (2018) Unsere Milchhöfe. URL: <https://www.suedtirolermilch.com/sennereiverband/unsere-milchhoeefe> (22.04.2018).
- Tempesta, T. and Vecchiato, D. (2013) An analysis of the territorial factors affecting milk purchase in Italy. *Food Quality and Preference*, 27, 1, 35-43.
- Thomas, D.R. (2006) A General Inductive Approach for Analyzing Qualitative Evaluation Data. *American Journal of Evaluation*, 27, 237-246.
- Top agrar online (2012) Vom Ladenhüter zum Trendsetter. URL: <https://www.topagrar.com/archiv/Heumilch-Vom-Ladenhueter-zum-Trendsetter-848166.html> (11.09.2017)
- Top agrar südplus (2015) Jetzt Heumilch erzeugen? URL: <https://www.topagrar.com/archiv/Jetzt-Heumilch-erzeugen-1792736.html?action=download> (11.09.2017)
- Van Ittersum, K., Candel, M.J.J.M. and Meulenberg, M.T.G. (2003) The influence of the image of a product's region of origin on product evaluation. *Journal of Business Research*, 56, 215-226.
- Von Meyer-Höfer, M., Nitzko, S. and Spiller, A. (2015) Is there an expectation gap? Consumers' expectations towards organic. *British Food Journal*, 117, 5, 1527-1546.