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Consumers' Perception of Feed Origin in Organic Food Products Declared as Local

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Abstract

In the recent years, the organic animal production in Gemany has constantly been increased. This growth was accompanied by an increasing demand for organic animal feed which could not be satisfied by the supply of German organic farmers only, especially with regard to protein feed. To fill this gap between demand and supply, a high amount of protein feed is imported. Due to the new EU Regulation 889/2008, which from 2015 on requires the use of 100% organic feed in organic farming, even more organic animal feed will be needed. However, the high amount of imported organic feed is opposed to a growing consumer demand for local food products. Consumers have become increasingly aware of production processes and are concerned about their food choices. But so far, it is unknown if consumers include feed origin in their understanding of local supply chains. The aim of the research project was to analyse organic consumers' understanding and perception of feed origin. If consumers prefer local feed, this would open up a new market opportunity for German organic farmers: A new market segment of local organic animal products from animals which have been raised with local feed could be established. Three focus group discussions with 8 to 12 participants were conducted in three towns in Germany. The results show that organic consumers have little knowledge about organic food production and feeding. Information about the import of organic feed is likely to unsettle organic consumers and undermine their trust in organic production. However, the results of our study indicate a high consumer preference for products from animals raised with local feed.

Keywords: *Consumers' perception, organic consumer, local food, feed origin*

1 Introduction

The importance of local food origin for consumers has been analysed in many different countries and consumers' preference for local food has been verified many times (e.g. Adams and Salois 2010). For organic consumers, local origin is one of the most important additional food attributes on top of organic production (Zander and Hamm 2010). Given that the complexity and anonymity of food supply chains is still increasing, a growing number of consumers ask for more transparency in the food production process (Hobbs 2003). Furthermore, several food scares have damaged consumer trust in existing complex food supply chains in recent years, for example, the scandal of Dioxin in animal feed during the winter of 2010 in Germany (Waver et al. 2011). Therefore, consumers are increasingly becoming aware of food production processes and they are concerned about their food choices (Grunert 2005). In other words, 'local food' remains a strong and growing market segment, both in the conventional and organic food markets.

While there are many studies of consumers' perceptions relating to local food (e.g. Stockebrand and Spiller 2009), it is still not clear if, or how, consumers include the whole supply chain in their comprehension of what is meant by the term. Nonetheless, it is of interest if consumers take the whole agricultural process of animal production, including feeding and animal breeding, into account when asking for locally-produced meat, milk or eggs. It can be assumed that consumers prefer a complete local production process and supply chain to support the local economy and agriculture as much as possible, because this is the motive named most frequently for buying local food (e.g. Carpio and Isengildina-Massa

2009; Wannemacher and Kuhnert 2009). For animal products, this would include consumer interest in the origin of feedstuffs, as feed is the most important resource in European agricultural livestock production (Bouxin 2010). However, there are very few consumer studies regarding the production of feedstuffs for animal products (e.g. Font i Furnols et al. 2011; Xue et al. 2010; Chung et al. 2009), although local feed production could be a significant part of value creation for a local economy.

In the EU-27, agricultural livestock eat 460 million tons of feedstuff each year, of which around 50% is roughage; various crops account for the other 50%. Most farmers produce part of their feed themselves, mostly roughages, and remaining requirements are bought from feed manufacturers or the compound feed industry. The raw materials for the compounds are obtained from the EU or imported from third countries, if domestic supply is insufficient (Bouxin 2010). However, a study from 2005 has already shown an undersupply of local protein feed in organic farming in the EU (Padel 2005). To fill this gap between demand and supply, a large amount of protein is imported. In the coming years, even more organic animal feed will be needed, due to the new EU-Regulation 889/2008 which requires 100% organic feed in organic farming from the year 2012 (European Committee 2010). Thus, still more organic feed will have to be imported, and the question arises as to whether or not consumers agree with feed imports in organic agriculture, despite their preference for *local* organic animal products. This is an important question for the organic sector, which has to make sure that consumers' expectations are met comprehensively in order to further assure consumers' willingness-to-pay price premiums for organic food and to keep their trust in organic animal products. Thus, the aim of the present study has been to analyse organic consumers' understanding and perception of locally-produced organic animal products. Furthermore, the awareness of organic consumers with regard to feed origin was also explored in detail.

2 Consumers' views and preference for local food

The term 'local' is used for food in different ways and a general definition for 'local origin' does not exist. Likewise, local food is not a clearly-defined product group and has no legal standard. To understand consumers' perception of 'local', different views are given in the following summary. As the definition of local origin is influenced by the socio-cultural context of people (e.g. Tregear et al. 1998), the focus of the literature review is mainly on Europe, where test persons can be expected to have a similar socio-cultural background. In recent European studies, authors often presume that consumers define local in the territorial context (Stockebrand and Spiller 2009; Wannemacher and Kuhnert 2009). While the studies of Stockebrand and Spiller (2009) and Wannemacher and Kuhnert (2009) revealed that organic consumers consider the distance between the place of production and point of sale of food as important for local products, it remains unclear how far local production must be established throughout the value chain, for consumers to accept a food product as 'local'. Some studies of food origin define local as 'country of origin' (COO) (e.g. Westerlund Lind 2007). In others, local means 'region of origin' (ROO) (e.g. Zander and Hamm 2010) whereby a region is an area, a small district or even a province of a country. In this paper, only those studies that deal with region of origin are considered.

The literature review of Henseleit et al. (2007), who investigated factors influencing consumers' preference for local origin, has already confirmed a strong preference for labelling the food origin. Over recent years, numerous international studies support this

result and researchers have observed a strong consumer preference for *ROO labelled food* (Adams and Salois 2010; Zander and Hamm 2010; Carpio and Isengildina-Massa 2009; Sirieix et al. 2009; Stockebrand and Spiller 2009; Wannemacher and Kuhnert 2009; Thilmany et al. 2008; Padel et al. 2007).

In a study about the ethical values of organic consumers in five European countries, "local production" was one of the most important attributes of organic products next to "animal welfare" and "fair prices" (Zander and Hamm 2010). Stockebrand and Spiller (2009) and Wannemacher and Kuhnert (2009) observed similar results in Germany. Padel et al. (2007) investigated the role of local food for both organic consumers and producers in the UK. Both groups strongly associated local and organic production with the same values as, for example, sustainability, closed production cycles, freshness and quality. Accordingly, it seems that organic consumers see a strong correlation between local and organic.

3 Consumers' perception of animal feed and its origin

There are only few studies about consumers' perception of animal feed when purchasing livestock products (Font i Furnols et al. 2011; Xue et al. 2010; Chung et al. 2009; Stranieri and Banterle 2009; Carlsson et al. 2006; Bernués et al. 2003; Roosen et al. 2003; Chern et al. 2002). Most of the studies concern feed that is free from Genetically-Modified Organisms (GMOs). Even though many studies investigate consumers' acceptance of food produced with GMOs, only a small number explicitly covers genetically-modified *feed* in food production. However, consumer preference for GMO-free animal feeding could be observed in these studies. According to Roosen et al. (2003), consumers in France, Germany and the UK have a higher willingness-to-pay for animal products produced with non-GMO feed. Researchers in other countries have observed similar results (Taiwan: Chung et al. 2009; Sweden: Carlsson et al. 2006; Norway and USA: Chern et al. 2002).

Other studies have examined consumer preference for a particular feeding system with a special focus on the influence of the feeding system on meat quality (e.g. better taste) (Font i Furnols et al. 2011; Xue et al. 2010; Bernués et al. 2003). Although Font i Furnols et al. (2011) detected a preference for pasture-fed lamb meat, there was no information about consumers' underlying intentions (e.g. taste or animal welfare). Bernués et al. (2003) even found that consumers evaluate animal feeding regimes as one of the most important extrinsic quality attributes of red meat. Stranieri and Banterle (2009) investigated consumers' views on beef labelling. They revealed that just about 80% of the consumers interviewed (n=1025) expected information about animal feeding from a beef label. However, exactly what information consumers had asked for was not indicated. Summing up, it can be stated that there is very little knowledge of consumers' awareness and preferences with respect to the origin of animal feed used in food production systems.

4 Methodology and data

To analyse consumers' perception and awareness of local supply chains and feed origin, the study was based on focus group discussions. A qualitative approach seemed reasonable, on the grounds that there are no previous studies of this topic (Bryman 2008). Three focus groups of 9 to 13 participants were conducted.

In a focus group, the aim is to discuss many different aspects of a topic and, therefore, to gain a broad view of the topic in a short time. The discussion is usually focused on the

attitudes and opinions of participants (Bryman 2008; Finch and Lewis 2006). Due to group dynamics, test persons are willing to express their opinions more freely than in a personal interview. Openness is one of the main elements of a focus group so that the discussion will gain an explorative character. In the sessions, a moderator leads participants through question guidelines and encourages open, interactive discussion (Finch and Lewis 2006; Greenbaum 2000). All groups were moderated by the lead author of this paper.

Participants were recruited by members of University staff and students, from public squares located in each of the cities where the focus groups took place. Passers-by were interviewed at random using a screening questionnaire. All test persons had to be organic consumers and consumers of animal products. Persons who had grown up on a farm or worked in the agricultural sector or market research companies were excluded, to ensure a similar knowledge between all those participating.

The study took place in three medium-sized cities in the central part of Germany during September and October 2010. The discussions lasted between 90 and 100 minutes. The sample composition of 39% men and 61% women is not representative of the whole population in Germany. Nevertheless, previous studies (e.g. Plaßmann-Weidauer 2011) revealed that up to 70% of buyers of organic food in Germany are female. The participants in the study were between 18 and 75 years old. According to the statistical yearbook (2010) in Germany, 45% of 18 to 75 year olds are between the ages of 18 and 44. Proportions were similar in two out of three focus groups, while, in one group, two-thirds of participants were 44 years old or younger. Fifty-two per cent of all participants were employed; this proportion is close to the German average of 49% (Statistisches Bundesamt 2010).

The focus group results were analysed on the basis of qualitative content analysis of Mayring (2000). The general aim of this methodology is to trim down the data and therefore identify all relevant information. Data from qualitative studies are “usually voluminous, messy, unwieldy and discursive” (Spencer et al. 2006, p. 202), thus data reduction is a fundamental part of the analysis. Reduction of qualitative data aims to extract relevant information and summarise the data, and is, therefore, similar to a consolidation of results.

The three focus group discussions were transcribed using standard orthography. Subsequently, relevant information was identified and paraphrased. The analysis which followed was based on a category scheme adapted from Mayring (2000) and Ritchie and Lewis (2006). This system helped to structure and summarise the information gathered. Similarly, through categorisation, the content analysis is traceable and transparent (Bryman 2008).

5 Results and discussion

In this section, the results of the focus group study have been supplemented with quotations from actual discussions in order to illustrate the findings. Quotations from the group discussions are coded with two numbers: the first refers to the focus group and the second, to the speaker. Some quotations have needed supplementary text from the authors to enhance comprehensibility. Such sections are marked with brackets, for example, (product). To reduce the text to relevant content only, parts of quotations have been left out and replaced by squared brackets with three spaced dots […]. The results of the study are presented in four parts. The first two deal with organic consumers’ perception and preferences with respect to local animal products. The motives behind the purchase of such

products are discussed in the third part and, finally, results concerning organic consumers' perception of feed origin and animal feeds in general are presented.

Organic consumers' definition of local animal food products

In all of the discussion groups, many participants referred to the concept of distance to define local food, as previous studies have also reported (Stockebrand and Spiller 2009; Wannemacher and Kuhnert 2009). Some consumers remarked that the distance within which food can be defined as 'local' varies, depending on the product group. For example, the distance for eggs to be 'local' was seen to be a lot less than the distance for 'local' meat.

The maximum distance that participants mentioned as acceptable for local food ranged from 20 to 100 km. In two groups, participants agreed on a radius of 50 km to define local food. The results correspond to the findings of Stockebrand and Spiller (2009) and Wannemacher and Kuhnert (2009): in their studies a radius of 50 to 100 km was identified. Political areas or provinces were only used occasionally to define local food, as previous literature has also described (Stockebrand and Spiller 2009).

Some participants remarked that the definition of 'local' would depend on their own location and place of residence, and most participants found it difficult to come up with an accurate definition of the term. This was especially the case for those who had not lived for long in their place of residence.

The definitions used in the focus group discussions correspond to the results of the literature review. Obviously local food is defined differently by consumers. Interestingly, none of the consumers in the focus groups mentioned the production process in connection with the identification of local animal products.

Organic consumers' preference for local animal products

Local production had a positive image in all focus groups. However, local origin was very important for only a few consumers when buying food. Others pointed out that they prefer local products, but buy non-local products as well. Just one consumer was not interested at all in the origin of food. These results are in accordance with several other studies showing an organic consumer preference for local food (e.g. Zander and Hamm 2010; Stockebrand and Spiller 2009).

Most participants in our study explained that local origin is not the most important criterion when buying organic animal products; for many consumers, organic production was the most relevant aspect of food. Local production was more of an additional attribute on top of the organic production process. One consumer illustrated the role of local origin as follows: "*And I think, it's like, when I see or read just by chance that it (the product) comes from the region, it's an additional plus the product has. […] And then it's more likely to end up in my trolley as if I had not seen it by chance. (2.5)"* Hence, for organic consumers, the local origin of animal products is of additional value. This is a similar conclusion to that reached in the study by Zander and Hamm (2010).

Our results also show that organic consumers judge the importance of local origin differently, depending on the product group. In some cases, participants preferred the local product instead of the organic one, measuring the role of local origin very differently for eggs, meat and dairy products. Many consumers preferred meat from a local source: "*Again,*

(the importance of local) depends on the product. Regarding sausage, I would say, local is more important to me than organic. And regarding eggs, it is more important to me that it is organic and not local. (1.8)" Other studies have also revealed that the relative importance of local origin depends on product category (Carpio and Isengildina-Massa 2009; Stockebrand and Spiller 2009; Wannemacher and Kuhnert 2009). So Stockebrand and Spiller (2009) and Wannemacher and Kuhnert (2009) concluded that German organic consumers prefer fresh products (such as vegetable produce, fruits, milk products and eggs) to be local. However, to our knowledge, there have been no publications concerning consumers' preference for local origin as regards different animal products.

Organic consumers' motives for buying locally-produced animal products

In all three focus groups, three buying motives for local animal products were expressed consistently: Support of local economy and agriculture, shorter transport distances for food and higher degree of transparency with regard to the origin of food.

For organic consumers, the most important reason for buying local animal products related to supporting the local economy and agriculture. A typical statement was, for instance: *"Just to know, ok, it (the product) is from the region, and I also support the people who work there, and that's why it is important to me. (1.11)"* This result corresponds with many previous international studies, which have suggested that support for the local economy or agriculture is one of the most important buying motives for conventional as well as for organic consumers (Carpio and Isengildina-Massa 2009; Sirieix et al. 2009; Stockebrand and Spiller 2009; Wannemacher and Kuhnert 2009; Padel et al. 2007).

Furthermore, shorter transport distances and the issue of reducing food miles were highlighted several times as important motives for buying local. For some participants, the reason for preferring shorter distances centred on decreasing the transport time for animals whereas, for others, it was to reduce CO_2 emissions. Consumers' perceptions of food miles are discussed controversially in literature. For example Thilmany et al. (2008, p. 1307) "could not verify that food miles were a significant determinant of demand for locally-produced melon" in the USA. According to our results, food miles do play a role for organic consumers when buying local food, even though the relative importance of transport distances in comparison to other motives is not completely resolved, either in our study or in previous literature.

A higher degree of transparency as the third motive for buying locally-produced animal products was also discussed at length by focus group participants. Several indicated that they have more trust in locally-produced food due to the better transparency of local production processes. Participants often used the word "traceability" and several remarked that traceable products are safer. Knowledge of product origin, particularly local provenance, leads to higher levels of consumers trust and a "good feeling". Conversely, other studies did not find that transparency is an important motive for buying local products. Just two studies with organic consumers mention transparency as a buying motive (Sirieix et al. 2009; Wannemacher and Kuhnert 2009).

Other motives in the purchase of local food, such as freshness, taste or healthiness were mentioned just few times in our focus groups. Of these, only freshness seemed to be a significant motive in previous studies as well (Adams and Salois 2010; Wannemacher and Kuhnert 2009).

Organic consumers' perception of feed origin

To analyse consumers' perception of feed origin when purchasing local organic products, participants were asked to recall all steps in the value chain through which an animal product passes, from the starting point of production to purchase in their preferred shop. Afterwards, the moderator raised the question: *"Which requirements do you have for each step so that the end product can be stated as "local"?"* The aim of this procedure was to investigate consumers' awareness of the value chain and the importance of feed origin in the purchasing process.

The results of discussions revealed that many consumers place their main focus on the local *processing of food* (slaughtering, cheesing, etc.) in the definition of a 'local value chain'. In general, the participants demanded that transport distances between each stage of production had to be short. A regular comment was that the animals have to "come" from the region, but it was unclear if they meant place of birth or place of rearing the animals. Just one participant mentioned that animals must be born in the region, because he knew that farmers sometimes buy young animals for fattening, instead of rearing them themselves. Only one consumer was not interested in the origin of animals at all.

Although one consumer in each focus group mentioned the topic of feed origin, most participants, overall, had previously been unaware of this issue. However, once someone brought up the subject of feed origin, others in the focus group discussed it more often. Having being confronted with the matter, therefore, many consumers were interested in it. The following example illustrates how feed origin appeared in the discussions: *"But I think, for me it is also important that when I buy a sausage which is local, the animals are also […] from the region – and also that the farm sources local feed. Though, that local origin isn't just used to be stated on the package, but that it is part of the whole production process. (2.5)"*

After consumers' comments on a local value chain, participants were asked directly about the importance of animal feed and most stated that they had not yet paid attention to feed origin when buying animal products. For most, feed origin had not yet played a role in buying local organic food: *"I have never really thought about it (the origin of the feed). I always expected, maybe a little naive, that they (the organic farmers) have their own feed production. And if it is not enough, then maybe something is bought in addition, preferably regional. That's what I thought, so far. (1.11)"* Furthermore, participants remarked that the origin of animal feed is rarely declared on products.

The last quotation shows that the participant's lack of awareness about feed origin was linked to lack of agricultural knowledge and incorrect perceptions of organic feed production: "*Here I trust very much in an organic product, for which it should be guaranteed that most feed comes from the own farm. Therefore I always hope, and expect a bit, that actually, if it is a regional product, the animal should definitely have been fed with local feed, if it was an organic animal. (2.4)"* Most consumers shared this image of organic farming and were convinced that organic farmers use only home-produced feed. Many participants did expect that organic farming has fully local production processes. They saw a closed production cycle as part of the fundamental idea of organic farming practices: *"In the moment when I buy an organic product, I assume that it is part of the principles of an organic farm, that it (the farm) actually grows as much as possible itself or in addition buys from the region from other organic farmers. And on this I just rely on, because I don't really have the chance to retrace anything. (2.6)"* It was generally held that organic farmers only purchase

additional feed if they are unable to grow it on-farm or cannot grow enough. Consumers' conviction of a local production process in organic farming was very strong, as the following shows: *"I just trust in the fact […] that organic farmers are not using feed from some random place because of ethical reasons, but […] I simply believe that also for farmers it is a matter of course that feed doesn't travel far. (1.2)"* Such an idealised, and perhaps romantic, image of organic agriculture has also been found in other consumer studies. Sehrer et al. (2005) analysed consumers' perceptions of organic agriculture in general and found that many consumers know very little about agriculture and have a "romanticised" view of organic agriculture. Consumers expect organic farming to be free of chemical treatments, animal friendly and to be practiced on small farms with small fields, low machine usage and no feed purchase (Sehrer et al. 2005). Janssen and Hamm (2011) also came to the conclusion that consumers have a low level of knowledge with regard to organic agriculture in general.

In the current study only very few consumers showed no interest in feed origin and these participants were of the opinion that the quality of feed and traceability of feed origin are more important. Surprisingly, none of the consumers mentioned that, in reality, a substantial amount of organic feed is imported into Germany.

Consumers' reaction to feed imports in organic agriculture

Participants in this study were shown the following text about the feed import situation in Germany. This exercise was designed to analyse consumers' knowledge about the feeding of organic livestock and to explore the influence of information about the organic feed market in Germany on consumers' perception of feed origin:

> *"Many farmers in Germany, also organic farmers, only produce a small amount of the feed for their animals by themselves. The farmers buy the feed in organic quality from an animal feed producer. Big amounts of the feed are imported and come from overseas, from countries such as Brazil or the USA, or from East European countries, such as Ukraine and Russia. A supply shortage exists mainly for protein feed in the whole European Union – that means less protein is produced than demanded. By now more than half of the protein feed is not produced in the EU."*

In all focus groups, many consumers reacted with astonishment or even shock at the information about the situation in the German organic feed market. None of the participants had known these facts before and most showed a negative reaction to feed imports. There was a general view that the import situation was not in line with their idea of organic farming. They expressed disappointment, as in the following quote: *"Even if it (the feed) is produced organically, for example from Brazil or somewhere else, if it is transported so far, then it is definitely not organic. No matter how organically it is produced, but when it has travelled more than 1000 km, that's not ecological to me. (1.2)"* Furthermore, some consumers had no trust in feed producers and their production methods in distant countries. For example, one participant insisted that organic feed should not be imported from overseas because of GMO contamination. Another expressed her fears as follows: *"When I know the feed is here from the region, I am more assured that this feed complies with respective (organic) standards and so on. When it is coming from other countries, […] I wouldn't be so sure. (3.2)"* A further consumer did not like feed from Eastern Europe, because of lack of trust in the methods of production. Consequently, some participants saw feed origin in close connection with feed quality or other attributes such as, for example, organic production.

However, a few participants agreed with the import of organic feed into Germany. Most of these participants identified organic production as first priority. Some consumers also saw organic feed imports as inevitable due to the strong competition for cultivated area in Germany and they suggested that there were other, more significant, requirements for feed than local origin. Two participants mentioned that local production does not necessarily mean that it is ecological. Others remarked that importing feed is likely to be more economical for farmers. It seems that, from the consumer perspective, feed imports are acceptable when it is not possible to grow enough local feed or when it is not ecologically sustainable to grow it in the region. However, very few participants were in complete agreement with feed imports in organic farming.

Feed origin continued to become more important during discussions, mainly after participants had assimilated the feed import information. More than a few consumers stated that they would change their buying and eating habits due to their newly-gained knowledge. Several did not like to eat meat which had been produced with imported feed and they stated that they would refrain from doing so in future. The reaction of one consumer was to remark that: *"As a consumer I'm just able […] to decide what I buy. […] And consequently I would say that I just buy less meat. (3.4)"* Others were of the opinion that excessive meat consumption in Germany is responsible for the high rate of imported feedstuffs. Others suggested the implementation of an identification scheme on food packaging for animal products, which would show where the feed originated, for example with a particular logo. One consumer proposed that the entire ecological background of a product be listed on the package, inclusive of the whole feed production process. Another participant said that, from then on, she would always ask about feed origin when buying meat.

At the end of the focus group discussions, participants were confronted with a new product idea: *"We like to hear your view about a product idea. A new local organic product will be launched, for example yoghurt or a sausage, for which just local feed has been used."* All participants expressed positive views on an organic and local animal product produced with local feed. Nearly all of them stated that they would pay more for such a product. Nevertheless, a few participants mentioned that purchase of a local animal product produced with local feed would depend on the taste and the price of the product.

Organic consumers' requirements on feed in general

Regarding feed attributes other than origin, the focus group discussions revealed a consumer preference for organic feed. At the time this study was undertaken, organic regulations in the European Union did not require 100% organic feed in organic animal production and, therefore, a preference for organic feed was understandable. However, the new EU Regulation 889/2008 states that 100% organic feed will be a requirement for organic farming from the year 2012 (European Committee 2010). Many focus group participants emphasised that organic production of feed is much more important than local origin. One participant stated: *"First organic, second local. And when the optimum cannot be achieved, what of course happens, then as close as possible - but exactly in this sequence. (1.6)"*

A further aspect of concern to participants was the use of GMOs in feed and, in all three focus groups, this topic was discussed extensively. However, it was not exactly clear if participants knew that GMOs are banned in organic agriculture. It can be concluded from the focus group discussions that consumers clearly prefer GMO-free feed. These findings are

consistent with previous study results in Europe (Carlsson et al. 2006; Roosen et al. 2003; Chern et al. 2002).

Some study participants added that only feed which is appropriate to the particular (animal) species should be used in organic farming. Animal welfare was very important to many involved in the study, and participants mentioned several times that feed must be healthy for animals. Several previous studies also confirm that organic consumers are especially concerned about animal welfare (Zander and Hamm 2010; Hughner et al. 2007).

In our study, consumers mentioned that animal feed should not include pesticides, harmful substances or hormones. Some participants expect feed in organic agriculture to be "natural" or as "it used to be". Two participants specified a preference for the use of "real" and "authentic" feed. Others were more interested in final quality, and expect the use of feed which results in a high quality food product. One participant proposed that an endemic, local variety of grain should be used.

6 Conclusions

Focus group discussions were an appropriate method for the research question, as a variety of new insights were gained into a relatively unexplored research topic. However, as socio-cultural background is important in the consumer's perception of local organic food and this study was conducted in the German context, our findings cannot be readily transferred to other parts of the world, especially outside Europe. There are some indications, for example, that US consumers have different views on genetically-modified feedstuffs (e.g. Chern et al. 2002) and on the food miles discussion (e.g. Thilmany et al. 2008).

Our focus group study confirmed that local production is very important for organic consumers. Local origin is perceived as added value for organic animal products and consumers are willing to pay premiums for local food. However, as our results let assume that consumers' perception of local origin varies depending on the product group and on the consumer, additional studies are needed to verify this result and to identify the differences between consumers' perceptions of different animal products. Our findings have shown that individual consumers define the concept of local very differently and this has been confirmed in recent literature as well. Overall regulation of the term 'local' or 'local food' is therefore difficult and not a reasonable proposition.

The outcome of our study also suggests that organic consumers are not satisfied with 'just' 100% organic feed in organic animal production, as laid down in the new EU Regulation 889/2008, but also expect an entirely local supply chain when buying such products. Local production is seen as an important element of organic farming and our results show that the current situation with regard to feed production is not in line with consumers' ideas of sustainable organic agriculture. Two different strategies are possible in order to deal with these findings:

One strategy would be to introduce stricter regulations for feed production in organic farming. Our results indicate that although consumers do not consider feed origin when buying animal products, they become disappointed when they are informed about organic feed imports. This leads to a loss of trust in organic production. To date, consumers' expectations about feeding organic animals are far removed from common agricultural practice in organic farming. However, due to the lack of organic feed in Germany, the adoption of stricter regulations in feed production is not easy for organic farmers.

The other possible strategy is to develop and establish a new market segment for organic food. The results of our study indicate a strong consumer preference for products which have been produced using locally-produced feed. This would offer organic farmers a new market niche for the creation of a higher value-added farm product. As organic consumers have little knowledge of organic animal production or feeding systems, extensive consumer information would be necessary for the market success of an organic animal product produced with local feed. Consumers are relatively unaware of the production process and supply chain for organic animal products. However, after they were informed about the feed import situation, they instantly developed a new awareness, as was shown in the focus groups. Our results further illustrate that additional information about feed imports in organic agriculture is also likely to promote the demand for local animal products produced using local feed. Moreover, a higher demand for information can be expected due to recent food scandals.

Through providing transparency along the value chain for local organic animal production, organic products will become more trustworthy and credible, and consumers are more likely to pay premium prices. However, for an analysis of the real market potential for a new organic animal product that has utilised local feed, more research must be undertaken and, in particular, an evaluation of consumers' additional willingness-to-pay is necessary. When farmers substitute imported, often cheaper, feed with local or home-produced feed, they will have higher production costs. These additional costs must be covered by higher market prices for local organic animal products. If consumers are willing to pay a premium, organic farmers will have a greater incentive to either produce more feed on-farm or to buy feed locally.

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