

## Differentiation of rearing systems: Is there a market for organic beef from extensive suckler cow husbandry?

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**Key words:** extensive suckler based beef, market differentiation

### Abstract

*Animal welfare is becoming increasingly important to German consumers. Extensive suckler-based rearing is supposed to meet consumer preferences for animal welfare to a much higher degree as conventional indoor rearing. However, beef products differentiated according to rearing systems are not available on the German market yet - except direct sales from farmers. In order to gain insights into consumer preferences in beef purchases regarding different rearing systems, a consumer survey along with a choice experiment was carried out. The data collection took place in three different regions in Germany (South-, West- and North-Germany), n= 341 consumers were interviewed in organic grocery stores. The survey population did not regard price as the most important product attribute. Consumers were willing to buy products from suckler cow husbandry. However, the differences between the rearing systems need to be communicated to close knowledge gaps.*

### Introduction

Animal welfare is becoming increasingly important to German consumers. One of the main reasons for buying organic products is the perceived animal-friendliness of the production system (SPILLER *et al.* 2004; Oekobarometer 2012). However, due to an undifferentiated marketing, there is no possibility so far for German consumers to purchase a beef product according to the rearing system of the cattle - except for the purchase directly from farms.

Within the beef market there is a great range of products coming from different rearing systems: starting from intensive stocks of male cattle with a minimum of outdoor access to intensive grazing systems, extensive grazing, and up to extensive suckler cow systems with year-long grazing. Within the conventional beef market intensive breeding is dominant, whereas in the organic beef market extensive suckler cow rearing is often applied in Germany. A differentiation of beef products according to the system, in which the animal is raised, seems to be promising, taking consumer preferences into account. Yet, there is only little research published on the potential of a differentiated marketing approach for beef from animal-friendly rearing systems, such as extensive suckler cow husbandry. The objective of the present paper is to present findings from a project that assessed the potential for a differentiation of rearing systems for the organic German beef market.

### Material and methods

In order to gain insights into consumer preferences regarding the organic beef market and in particular the potential for a differentiated marketing of products from differing rearing systems, a consumer survey along with a choice experiment was carried out. Choice experiments are increasingly used to evaluate market situations for innovations within the food market as they enable the researcher to specifically assess preferences for certain product attributes. The aim of the choice experiment was to evaluate consumer preferences for beef products from different designated rearing systems. The experiment was designed as a food-choice situation in which three different 200g beefsteaks with different product attributes were offered, varying in the rearing system, organic or conventional production, and the price. Consumers were given an incentive of 8€ and were informed that one of the decisions made in the choice experiment was binding. Within the choice experiment the rearing system had three different levels: barn-based-production, pasture-based-production, and suckler-cow-based-production. Furthermore, the production was declared to be either organic or conventional, and four different price levels were applied: 1.98€, 3.98€, 5.98€, and 7.98€. Also, consumers could decide not to buy a steak. The focus of the consumer survey was to assess underlying attitudes, factors, and sociodemographics.

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The data collection took place in organic grocery stores in three different regions in Germany (South-, West- and North-Germany) during April and May 2013, each offering a variety of different beef products. Overall 341 consumers were interviewed. Prior to the choice experiment different communication materials about suckler cow husbandry were applied: a documentary film (n=84), an image film (n=86), and an information leaflet (n=86). One group received no information and served as a control group (n=85).

Data were gathered by trained investigators through computer-assisted self-interviewing (CASI) and computer-assisted personal interviewing (CAPI). Data were analyzed using the software SPSS 20 and NLogit 4.0.

## Results

Results of the study indicate that consumers highly value the organic production process. Results of the choice experiment (ref. Table 1) show that organic production was the most valued attribute ( $\beta$ -coefficient=2,66;  $P=0.000$ ). In addition, suckler cow husbandry ( $\beta$ -coefficient=1,61;  $P=0.000$ ) and pasture based husbandry ( $\beta$ -coefficient= 1,23;  $P=0.000$ ) were significantly impacting the buying decision in the choice experiment. The price, on the other hand, was not of high importance for consumers. The data from the experiment revealed that the price had the least impact on the buying decision ( $\beta$ -coefficient=0.04;  $P=0.1067$ ). Survey data confirmed that price is not of high importance for most of the consumers. When asked to evaluate how important a low price was, almost 70% of the consumers stated that it is not or not at all important when buying a beef product.

**Table 1: Results from the Mixed Logit Model<sup>3</sup>**

Product attribute	Coefficient	Standard Error	P
Organic production	2,66	0,22	.0000
Suckler cow husbandry	1,61	0,23	.0000
Pasture based husbandry	1,23	0,21	.0000
Price	0,04	0,02	.1067

The rearing system was significantly more important to consumers ( $P=0.004$ )<sup>4</sup> when they were informed about it prior to the choice situation. Further analysis of the variety of the means for the estimated regression model (Tab.1) showed, that a film, which rationally documented information about a suckler cow rearing system, had the highest impact on the buying decision of suckler-based beef (value for heterogeneity of the mean (HfM)=1.91). An image film, which emotionally transported the information about suckler cow based rearing also showed a positive impact on buying decision (HfM=0.99) as well as an information leaflet (HfM=0.89).

In addition to the choice experiment, the consumer survey confirmed that animal welfare is a very important attribute when buying a beef product: 81% of the consumers valued this attribute as highly important. Animal welfare is almost equally important to product quality attributes like freshness (78% of the studied population evaluated this attribute as very important) and good taste (74%). Above, results showed that other product attributes, such as grass based feeding (50% valued this as highly important, 33% valued this as important) or ethical values like supporting local economic structures (55%; 31%), the protection of the environment (66%; 27%), conserving biological diversity (46%; 29%) were evaluated to be highly important or important, respectively, for most of the consumers.

<sup>3</sup> Modellspezifikation: McFadden Pseudo  $R^2 = 0,22$ ; Log Likelihood: -1919,98

<sup>4</sup> Using Kruskal-Wallis Non-Parametric-Testing

## Discussion

Differentiation according to extensive suckler cow rearing system seems to be a promising approach, since it can accomplish consumer preferences for ethical values like animal welfare and environmental conservation.

Even though organic production quality was the most important product attribute, animal welfare was very important to consumers. In the survey it was valued equally important to product attributes like taste and freshness. Suckler cow husbandry was a highly appreciated product attribute in the choice experiment. Especially if consumers were informed about the rearing system, consumers preferred beefsteak from suckler cow rearing in the choice experiment. Additionally, other ethical values such as the protection of the environment and biological diversity seem to be important aspects for market differentiation, which can be accomplished through extensive suckler cow husbandry.

Organic beef products should not only focus on the organic production process, but should differentiate beef products according to the rearing system, like extensive suckler cow husbandry, to meet consumer preferences.

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