

Is animal welfare of great importance when purchasing poultry meat? - Results from cross-national focus groups with consumers -

Cathleen Lehmann and Inken Christoph-Schulz

*Thuenen Institute of Market Analysis, Bundesallee 63, 38116 Braunschweig, Germany
cathleen.lehmann@thuenen.de; inken.christoph@thuenen.de*

Received July 2022, accepted December 2022, available online April 2023

ABSTRACT

Farm animal husbandry is increasingly criticized by consumers across Europe. This paper provides insights into consumer attitudes and perceptions regarding animal welfare poultry meat in the study countries Denmark, France, the Netherlands and the United Kingdom. Animal welfare is stated to be an important product characteristic, although it obtains less importance than other product attributes such as quality and price. However, many participants indicated to be willing to pay a higher price for poultry meat produced under improved husbandry conditions. The main motivating factors for buying improved animal welfare poultry meat are the perception of better quality and ethical concerns.

Keywords: *Animal welfare; poultry meat; consumer attitudes; consumer perceptions; focus groups*

1 Introduction

In Germany and other EU countries, farm animals' husbandry conditions as well as their welfare receive a growing interest within society. Current livestock production techniques are often described as intensive and are therefore not accepted by many consumers. In particular, poultry and pig farming techniques are often criticized because of the large number of animals per farm, high stocking densities and the lack of outdoor access (Christoph-Schulz and Rovers, 2020; de Jonge and van Trijp, 2013; Kayser et al., 2012; Wildraut et al., 2018; Zander et al., 2013).

In a European wide study, most of the surveyed EU citizens, in fact 94%, categorized the protection of farmed animals as important (European Commission, 2016). Furthermore, the percentage of EU citizens who think it is necessary to better protect farm animal welfare has increased from 77% in 2006 to 82% in 2015. While 88% of French respondents shared this opinion, the proportion was considerably lower among Danish (78%), British (76%) and Dutch (66%) participants. Most German consumers surveyed (83%) also believed that farm animal welfare should be better protected (European Commission, 2016). Despite these stated concerns about animal welfare in livestock production systems, the share of organic livestock production, which comprises improved animal husbandry conditions, as well as sales of organic poultry meat in Germany is still rather low (Brzukalla et al., 2019; EUROSTAT, 2021a).

Moreover, although consumer disapproval of livestock husbandry conditions is rising, poultry meat production has increased in many EU countries over the last decade (EUROSTAT, 2021b) and most often goes along with more intensive animal farming practices. Besides an increase in gross indigenous production of poultry meat in Germany by about 11.3% from 2010 to 2020, production also increased in the Netherlands (34.8%) and the United Kingdom (24.1%). In France and Denmark, on the other hand, it decreased by around 0.9% and 8.3% respectively (AMI, 2012, 2022a).

As society tends to strongly criticize and no longer accept current conventional livestock husbandry, the German government seeks to fundamentally improve farm animal husbandry conditions (BMEL, 2019). This improvement would go along with increased production costs which are consequently likely to lead to higher product prices for consumers (Deblitz et al., 2021; Schlosser et al., 2018). In this case, the role of consumers and their willingness to pay higher prices is crucial for the market success of poultry meat produced under improved animal welfare standards. Germany exports a high proportion of its produced poultry meat, which accounted for 414.973 tons (without preparations, live poultry and salted meat) of the total net production volume of 1.636.600 tons of German poultry meat in 2020 (AMI, 2022a). Therefore, the question arises whether consumers in key export countries are willing to purchase meat that is produced under improved animal welfare standards in Germany. In 2020, Germany exported the highest volumes of poultry meat, foremost chicken, to the Netherlands, France, the United Kingdom and Denmark (AMI, 2022a). Hence, this study focuses on these important export countries. The objective is to investigate the relevance of farm animal welfare on consumers' purchase decisions when buying poultry meat in the countries under consideration. Furthermore, the project contributes to the question whether and if so, under which conditions consumers are interested in purchasing poultry meat that was produced under improved animal welfare standards. Consequently, it adds to the research about the export potential of German animal welfare poultry meat and can contribute to elaborate policy recommendations.

Numerous studies about consumers' attitudes and preferences regarding farm animal welfare in the EU have already been conducted (e.g. European Commission, 2006, 2016; Harper, 2001; Kehlbacher et al., 2012; te Velde et al., 2002; Vanhonacker and Verbeke, 2009; Vigors et al., 2021). A considerable number of these focused on the countries this project is dealing with (e.g. de Jonge and van Trijp, 2013; de Jonge and van Trijp, 2014; Hall and Sandilands, 2006; Harper and Makatouni, 2002; Mulder and Zomer, 2017). However, so far there is a lack of comparable cross-national studies.

Therefore, this article deals with consumers' attitudes and perceptions regarding animal welfare poultry meat in Denmark, France, the Netherlands and the United Kingdom and focusses on

- the role that animal welfare plays for consumers' purchase decisions of poultry meat,
- the role that product labels play on consumers' purchase decisions of poultry meat,
- consumers' understanding of the term "animal welfare" and
- consumers' willingness to pay a surcharge for better animal welfare poultry meat

2 Method

Online focus group discussions were conducted in Denmark, France, the Netherlands and the United Kingdom in August and September 2021. Focus groups are a method in qualitative research which has an explanatory function in very complex or little researched fields. With this approach, a specific sample of people discusses a given topic. By conducting focus group discussions, opinions as well as attitudes of individual participants can be explored and the diversity of consumers' opinions can be captured. Focus groups aim to create a natural and relaxed atmosphere to encourage discussants to express their real opinions. Compared to standardized interviews, individual opinions emerge more clearly due to the mutual stimulation of the participants. Since many opinions and attitudes are tied to social contexts, they can be best collected in social situations such as groups. Different perspectives will be expressed and that contributes to break down the reserve of individual participants (Flick, 2009; Kühn and Koschel, 2018; Lamnek, 2010; Mayring, 2016).

Ideally, focus groups are conducted with five to twelve participants (Lamnek, 2010). Due to the fact that the discussions took place online because of COVID-19, a group size of six discussants was chosen. In each study country, five focus group discussions were carried out with six poultry meat consumers in each group (in total: 30 participants per country). Participants were recruited via market research institutes. In order to avoid discussants familiarizing themselves with the topic and therefore preventing biases, the topic of the discussions was not announced beforehand. The sample was selected according to specific characteristics in order to create heterogeneous groups of consumers, which can help to increase the dynamics of the discussions. All participants were natives of the respective country and consumers of poultry meat. They were aged between 20 and 70 years and were mixed into groups with a minimum of 33% and a maximum of 66% under 45 years respectively 45 years or older per focus group. In terms of gender, 50% males respectively 50% females per focus group should have been accomplished. Furthermore, at least 33% and at most 66% of the participants of each discussion were in full-time or part-time employment. Those who were employed in agriculture or in the upstream or downstream sector, who completed a degree course related to agriculture, who had any other connection with agriculture or who took part in a focus group discussion on the topic of agriculture or food within the last six months were excluded from the discussions. In each country, discussions were executed in three different regions. Each focus group discussion lasted no longer than 120 minutes. In Denmark, two discussions each were conducted with people from Copenhagen and Aarhus and one with individuals from Odense. The discussions lasted on average about 108 minutes and the average age was 44 years. Among the focus group discussions in France, two were

held with participants from Lyon and Toulouse and one with participants from Lille. These discussions lasted on average about 106 minutes and the average age of the participants was 46. In order to capture the opinions of the Dutch, two discussions were carried out with residents from Rotterdam and Amersfoort and one with residents from Groningen and participants had a mean age of about 46 years. With an average of around 94 minutes, the discussions with the British participants were the shortest. The average age was 44 years and two discussions were conducted with individuals from Birmingham and Glasgow and one with residents from Leeds.

The discussions were guided by a qualified moderator (native speaker) who followed a structured series of questions with specific questions coming from four fields of topics: purchasing and consumption habits, relevance of labels, importance of animal welfare and changed perception of the relevance of animal welfare after receiving some information on animal welfare. The series of questions was developed based on existing literature and on findings of expert interviews which had been conducted beforehand. During the discussions, the questions were shown in a power point presentation. Specific questions coming from participants on the topic were not answered, even if they were addressed directly to the moderator. All focus group discussions were audio and video recorded, transcribed and translated into English. For the evaluation, the qualitative content analysis according to Mayring was applied, which is one of the most widely used evaluation methods in qualitative research. Thereby, texts are systematically analyzed by classifying parts of text in categorical systems (Mayring, 2015).

3 Results

3.1 Purchase criteria and consumption habits

At the beginning of the discussions, participants were asked about their purchasing criteria regarding poultry meat. Similar criteria were mentioned in the different study countries. Quality, which includes the product attributes appearance, smell, taste and texture, as well as animal welfare, which includes specific animal welfare criteria and descriptions like free-range, were frequently stated purchasing criteria in every country under consideration (see Table 1). Discussants mentioned that they buy their poultry meat in supermarkets or at butchers. Butchers were often connected with the perception of selling better quality meat or selling meat that was produced under improved animal welfare conditions.

The majority of the **Danish** participants stated that in terms of poultry meat, they mainly consume chicken. Turkey and duck, on the other hand, seemed to be of lower importance. According to their own statements, the discussants mainly buy fillet pieces of breast and thigh as well as whole animals. They mentioned that their poultry meat consumption has increased in the previous years. The reasons given were that poultry meat is thought to be better for the environment and cheaper than red meat. Comparatively fewer participants stated that they consume less poultry meat or that the amount consumed has not changed. The main reason for the decrease in consumption seemed to be the reduction of meat consumption in general.

Besides animal welfare and quality (especially taste), Danish consumers also mentioned that price, origin and “organic” are important criteria when buying poultry meat. Another important purchase criterion among Danish participants was that no water was added to the meat, e. g. in the form of brine or marinades. The water content of poultry meat was stated to be important, because this determines how much the size of the meat shrinks during the cooking process. Although some Danish respondents claimed that they prefer to buy organic poultry meat, the price seems to dominate purchase decisions:

“I prefer it to be free range or organic, but the economy sets the limits.” (DK)

“Organic would be the best scenario, but personally, I think it is too expensive.” (DK)

In terms of poultry meat, the **French** discussants also said they mainly consume chicken, but duck and turkey were also mentioned more often compared to the focus groups in the other study countries. Regarding their preferred cuts, the participants likewise primarily named breast and thigh fillets as well as whole chickens. The vast majority of the French respondents also stated that they now consume more poultry meat than in previous years. The main reason given for this was that poultry meat is perceived as healthier than red meat, but also that the quality and taste are perceived as better. For some consumers, on the other hand, poultry meat consumption has not changed or they now consume less poultry meat than in previous years, which was primarily justified by the fact that they now pay more attention to the origin and quality or consume less meat for health reasons. Besides geographical origin and quality, which referred especially to the appearance and the taste of the meat, animal welfare was mentioned to be an important purchase criterion:

“For me, I think I already mentioned it, but animal welfare. [...] Animal welfare is important. That’s an essential.” (FR)

“I pay attention to the packaging, the Red Label, and whether it came from a battery, which I don’t like.” (FR)

The consumption habits of **Dutch** participants also seemed to be similar when it comes to the type of poultry meat consumed. In the Netherlands, respondents likewise indicated that they mainly consume chicken meat when it comes to poultry. In addition to fillets of thighs and breasts, preferred cuts were also feet and wings and whole birds. In contrast to the other countries surveyed, the majority of participants in the Dutch focus groups stated that they consume less poultry meat than in previous years. Reasons for this included substituting poultry meat with fish or generally avoiding meat for environmental reasons. The discussants also said that poultry meat is more expensive than for example beef, which also leads to lower consumption. For many participants, however, the amount of poultry meat consumed has not changed, while some others claimed that they now eat more poultry meat. As in the other countries, this was justified by the fact that it is perceived as being healthier than red meat, but also because of the perception that pork, for example, was subject to many manipulations.

Dutch participants also often stated that the quality is an important criterion for them when buying poultry meat. Other important criteria named were price and food safety. The geographical origin, on the other hand, did not seem to be very relevant to the participants when purchasing meat. However, some consumers claimed that it is important that the meat is "organic", which goes hand in hand with animal welfare, which was also frequently mentioned as a purchasing criterion:

„I also pay attention if there is a Beter Leven label on it, on the meat that I buy. Or I buy it from the organic butchery and I also look at offers.” (NL)

The majority of **British** participants said that when it comes to poultry meat, they likewise mainly consume chicken meat, also especially cuts such as chicken breast fillets or chicken thigh fillets as well as whole birds. Many of the British participants reported that they now consume more poultry meat compared to previous years, which was again primarily justified by the health aspect as poultry meat is perceived to be healthier than red meat. However, a large number of participants also stated that they now consume less poultry meat. Once again, this was claimed to be mainly due to the reduction of meat consumption in general. Others, however, stated that their poultry meat consumption has not changed or has changed only insignificantly. As in the other countries surveyed, the quality of the poultry meat seemed to be very important to the British participants when buying it. However, animal welfare or "free range" as well as origin, price and food safety also seemed to play a major role for the participants in the focus groups. With regard to the geographical origin of the meat, the British participants indicated to prefer domestic, preferably regionally produced meat:

"[...] the issues that were raised there, they're all important to me as well, ehm, that it's good quality, locally sourced, organic, free-range, corn-fed, you know, and I would rather pay more for the better quality." (UK)

Table 1.
Most frequently mentioned purchase criteria in the study countries
(in descending order)

Country	Purchase criteria
Denmark	Price, animal welfare, quality
France	Quality, animal welfare, origin
Netherlands	Quality, organic, animal welfare
United Kingdom	Quality, animal welfare, origin

3.2 Knowledge about and trust in (animal welfare) labels

3.2.1 Knowledge about labels

Participants from all study countries mostly stated that they can identify improved animal husbandry conditions by animal welfare labels on product packages. They were asked which labels they knew for poultry meat. It turned out that the discussants were almost exclusively familiar with domestic labels and often not even with the specifics of them. Table 2 shows labels, certificates and marks mentioned by the respondents.

In **Denmark**, the Ø-label, which is the governmentally certified organic label, as well as the word "organic" were often mentioned by focus group participants. Other named labels were *Nøglehulsmærket* and *Fair Trade*. The animal welfare labels *Bedre Dyrevelfærd* and *Dyrenes Beskyttelse* were named comparatively rarely. When it comes to the label "with the three hearts" (DK; refers to *Bedre Dyrevelfærd*), which is the animal welfare label published by the state, respondents were aware that it refers to animal welfare, but were not able to give additional explanation regarding specific criteria of this label. The requirements that the product has to fulfill in order to receive the label were not known by the participants:

"They created a labelling system including a category 1, 2 and 3. I think that type of grading is too comprehensive, it waters it all down and it's difficult for me to understand." (DK)

“There are too many of them, there are so many labels, it’s difficult to find out what they stand for. What do the red hearts stand for? What is Dyrevelfærd? What is Dyrenes Beskyttelse?” (DK)

In the discussions with consumers from **France**, *Label Rouge* was the most frequently mentioned label for poultry meat and was named in every focus group. Also “*organic*” was mentioned comparatively often and was cited in almost every discussion. “*Free-range*”, which can be related to animal welfare, was likewise mentioned a few times. Compared to the participants of the other study countries, the French participants seemed to be most aware of animal welfare labels. Some discussants were aware that *Label Rouge* refers to animal welfare and claimed it to be “*a guarantee of animal husbandry, a diet and good treatment provided for the animals*” and “*a guarantee concerning the feed for the animals and the conditions for raising them*”. However, similar as among Danish participants, respondents were not able to say what criteria have to be fulfilled in order to receive the label:

“To be honest, I look at them, but I don’t know what the Red Label really means. I don’t know what the Organic Label really corresponds to.” (FR)

During the discussions in the **Netherlands**, the label *Beter Leven* was mentioned by far the most often. Other very rarely named product marks with regard to poultry meat were “*organic*” and “*free-range*”. Respondents associated *Beter Leven* with the animals’ living conditions, a good life, good food and more space. Apart from the mentioned principles, discussants did also not know any details about the labels’ criteria and the differences between the one-, two- and three-star gradation¹ of the label:

“I also only know Beter Leven. But actually, I do not know it, I only know it by name.” (NL)

In the focus groups with consumers from the **United Kingdom**, comparatively few participants mentioned poultry meat labels at all. The *Red Tractor* was the most frequently named label. *RSPCA Welfare* and *Soil Association*, which also refer to animal welfare and the word “*organic*”, were also mentioned. Regarding the meaning of these labels, the respondents were not sure and formulated their answers as questions. With regard to the *Red Tractor* label, respondents were unsure whether it refers to either British origin or the farming quality:

“The Red Tractor, is it not ... like basically raised and bred in Britain and prepared in Britain?” (UK)

“Is it to do with the quality of the farming that the product comes from? And how they adhere to the rules?” (UK)

In general, in **all four study countries** respondents showed and claimed lack of information about the specific criteria of animal welfare as well as organic poultry meat labels. This lack of information was negatively reflected in the trust in these labels, which will be outlined in the next section. In principle, it is evident that discussants would like to receive more information about the criteria of animal welfare labels.

Table 2.

Labels, marks and certifications on product packaging’s mentioned by consumers

Country	Labels/marks/certifications
Denmark	Bedre Dyrevelfærd, Dyrenes Beskyttelse, Fair Trade, Keyhole label, Nordic Swan Ecolabel, Ø-label, organic
France	AOC, Bio, chicken from Bresse, demeter, free-range, Label Rouge, organic, sustainable farming
Netherlands	Beter Leven, Blijje Kip (eggs), free-range, organic
United Kingdom	British Kite, corn-fed, Fair Trade, free-range, Halal, LOUE, organic, Red Tractor, RSPCA Welfare, Soil Association

3.2.2 Trust in labels

The participants in the different study countries were also asked whether labels are a purchase criterion for them and whether they trust them.

Most **Danish** participants stated that labels are a purchasing criterion for them. It was said that labels can present product information in a simple and clear way and can be helpful when there is not much time available for shopping:

¹ *Beter Leven* is a label scheme from the Dutch Society for the Protection of Animals, which uses a star rating to indicate the applied husbandry conditions. More stars refer to better animal husbandry conditions.

"They make it easy for you to make a quick decision because you don't always have a lot of time for shopping." (DK)

Some participants, on the other hand, stated that labels are not important to them and that they know nothing or not much about their meaning. Others claimed that information on the labels is necessary in order to trust them:

"If I am trusting a label, then I would have to sit down and read about it. What does it mean? What are the requirements and standards? Then I would trust it." (DK)

In principle, however, respondents seemed to have confidence in labels or at least in specific labels they are familiar with. It was mentioned that their trust in labels depends on the specific label and the authority standing behind it. Labels published by the government seemed to be more trustworthy than those coming from specific organizations and these in turn also more trustworthy than those implemented by supermarkets. However, labels were also doubted because they were considered to be used just for marketing purposes.

Similar results were found among the **French** discussants. Labels were stated to be a purchase criterion for many of the French participants, as, according to them, they provide clear information about the product and are a kind of "insurance" for consumers regarding the product quality. Labels were described as a sign of quality and were mentioned to be "always better than chicken without a label". The participants claimed that they mainly have confidence in labels and mentioned in this context that the controls carried out create trust. They also said that labels give them a feeling of security. Some focus group participants, on the other hand, expressed doubts and questioned labels because of a lack of information and because respondents were not sure what exactly these labels stand for. Like the Danish participants, the French discussants also indicated that it depends on which authority initiated the label and that labels implemented by the government are perceived as more trustworthy than private labels. Only few respondents reported that labels are not a purchase criterion for them. As several participants were not familiar with the details of the labels and did not know the exact criteria they are based on, they indicated that more information about the actual criteria and more transparency is needed to gain more trust. Also, the large number of labels available on the market were seen as problematic.

Dutch participants also predominantly stated that labels are a purchase criterion for them. The reasons given were that they make the packaging more attractive in terms of design and the information it provides, and that labels can be used to quickly identify whether the product is from "organic" or "free-range" production. Among Dutch respondents, confidence in labels seemed to be broadly present, but they likewise claimed that more information on the labelling is needed. Furthermore, many participants expressed scepticism about labels, because they cannot be sure that what the label actually stands for applies to that respective product and because they lack knowledge about the precise criteria of the labels:

"Like okay, that lifestyle, but how can I assume that they had a better life? Because it is still not very transparent to me. I think there would be more to find on the internet, but yes, I do not know." (NL)

It was also mentioned in the Dutch focus groups that trust in labels depends on which authority stands behind the label and that requirements set out by the government are perceived as more trustworthy than labels introduced by the industry. Moreover, EU labels were found to be even more credible than national ones.

In the focus groups with **British** consumers, as in the other study countries, labels were predominantly seen as a purchase criterion. Among others things, participants claimed that labels provide information about where the product comes from. However, it was also mentioned several times by participants that they do not look out for labels. This was repeatedly justified by the fact that they do not know what the labels mean and what exactly they stand for:

"I think it's probably just lack of, complete lack of knowledge." (UK)

"I think we all recognize Red Tractor means something and it's going to mean something good, even if we don't know exactly what it means [...]." (UK)

This lack of information caused participants to critically question poultry meat labels. Participants also explicitly claimed that they look for labels such as "New" or the nutritional labelling, but apparently not to, for example, animal welfare labels or organic labels. Discussants' trust in labels seemed to be limited and comparatively more doubts about labels were expressed than among respondents from the other study countries. Many British participants said that they do not trust labels or trust them only partially. It was claimed several times that labels can be misleading. In addition, some discussants stated that they consider supermarket labels to be less trustworthy than, for example, information they receive from the farmer.

3.3 Understanding of animal welfare

The participants in the focus groups were furthermore asked what they understand by the term "animal welfare". An overview of the different aspects and criteria indicated on the topic of animal welfare in the study countries is given in Table 2. It should be noted that only those aspects and criteria were taken into account that

were mentioned in response to the successive questions on the understanding of the term “*animal welfare*” and also on the consumers’ relevance of improved animal husbandry conditions when purchasing poultry meat. In this section, no strict separation of the responses within each country is made, as the responses were similar in all study countries.

Table 3.
Aspects and criteria mentioned by consumers regarding the understanding of “*animal welfare*”

Aspects/Criteria	Denmark	France	Netherlands	United Kingdom
Living conditions	X	X	x	x
Transport conditions	X		x	x
Slaughter conditions	X	X	x	x
Whole lifespan	X	X	x	x
Good life	X	X	x	
Fair treatment			x	x
Respect	X	X		
Natural/normal life/environment	X	X	x	x
More/enough space	X	X	x	x
Freedom ²		X	x	
Movement ³		X	x	
Free-range		X		x
Access to outdoor areas	X	X	x	x
Fresh air	X		x	x
No caging	X	X	x	x
Feed	X	X	x	x
No force-feeding	X	X	x	
No medication/antibiotics	X	X	x	x
No growth hormones	X	X	x	x
Slower growth	X		x	
No stress	X	x	x	x
Lighting conditions	X			
Hiding places			x	
Interaction with conspecifics	X			

In general, many participants from all study countries linked the term “*animal welfare*” to the living conditions of the animals and their treatment. It was mentioned by discussants that the animals should have a “*good life*” (DK, FR, NL). Many respondents furthermore claimed that animal welfare refers to the whole life “*from cradle to grave*” (DK) and, besides the animals’ living conditions, also touches upon the slaughter conditions:

“It means that the animal had a reasonable life from birth to death, reasonable living conditions. I guess that’s what animal welfare means.” (DK)

In addition to the aspects already mentioned, transport conditions were also explicitly named as an animal welfare criterion by Danish, Dutch and British consumers. In all the countries studied, one criterion of animal welfare claimed was the living space for each animal, which was described with terms such as “*living space*” (NL), “*more space*” (DK, NL) and “*enough space*” (DK, FR, NL). Furthermore, outdoor access, feed, the omission of caging, the avoidance of antibiotics or medication and growth hormones were named in all countries under consideration. All in all, among the most frequently stated criteria within all focus groups were outdoor access, feeding, space for each animal and the slaughter method.

Some participants from Denmark, the Netherlands and the United Kingdom referred to a natural life and said that the animals should grow up “*as natural as possible*” (DK), whereas in conversation with consumers from the United Kingdom and the Netherlands it was also stated that the animals should be “*humanely treated*” (UK). In a Danish focus group it was claimed that the husbandry systems from the past, which were associated with conditions like in storybooks, account for better animal welfare. Beside this, some Danish and French consumers

² Cannot be specified.

³ Cannot be specified.

named more specific criteria like light during daytime, no force-feeding, access to hiding places and the avoidance of fattening. Another criterion that was specifically stated by Danish and Dutch consumers was slower growth of the animals. Comparing the given explanations about the understanding of animal welfare, it can be assumed that in the focus groups with British consumers the least specific criteria were mentioned.

3.4 Importance of animal husbandry conditions

When talking specifically about the relevance of improved animal husbandry conditions for poultry, only some consumers in the **Danish** focus groups mentioned that animal welfare and improved husbandry conditions are very important:

"It means a lot to me. If there is no chicken in the fridge that had a good life, then I am not having chicken that day." (DK)

Others, however, said that this was a dream idea, that all animals would be kept in a species-appropriate way but that this would not be possible. It also became clear that price and quality are often the most important criteria for the consumers when buying poultry meat:

"Organic doesn't matter much to me, or animal welfare. I look at quality and price." (DK)

French participants seem to be predominantly of the opinion that improved animal husbandry conditions for poultry are *"a very important criterion"*. This was often mentioned in terms of a better meat quality, which consumers associate with better animal welfare, but animal husbandry conditions also seemed important for ethical reasons:

"The ethical aspect, respect for animals as people were saying earlier, and the taste aspect as well, because it's been proven that when the animal husbandry conditions are normal, with respect to animal welfare, the meat tastes better." (FR)

Nevertheless, some respondents said that they find themselves hypocritical because they still consume meat or do not pay enough attention to better husbandry conditions. In addition, there were also a few respondents who said that they do not pay attention to the husbandry conditions at all:

"It's a question of price, as well, obviously, looking for a chicken that has been raised in better conditions. I won't get into the debate because I normally don't look at the label which says what the conditions should be. I don't pay attention to that, so I don't know." (FR)

In focus groups with **Dutch** consumers, many said that animal husbandry conditions would generally be important to them, but some doubted how they can be sure that the husbandry conditions are really better. It was mentioned several times that husbandry conditions matter because the taste of the meat depends on it. Furthermore, some discussants stated that it is important to keep the husbandry conditions transparent for the consumers. It was apparent that the lack of information regarding animal husbandry is a barrier for buying products from improved husbandry conditions:

"I have no idea when I buy such a product. If I were to be better informed about it then it could play a part in my decision-making, but now I do not have a clue how much space a chicken has when I buy a chicken. Well yes, it says free-range but free-range chickens are also often cooped up together. So, then you wonder how much space is it, is it outside? I have no idea." (NL)

Despite this, it emerged that for some, animal husbandry conditions play a major role in the purchase of poultry meat:

"[...] that is probably why I buy organic because I find it important that animals are simply treated well." (NL)

Among the **British** participants, it became apparent that many consider animal husbandry conditions to be important:

"It's very relevant to me. It's something that I would choose my ... my poultry meat on. How much space they've had to exercise ... and the quality of life they've had before they go to the slaughterhouse is important to me. How well they've been looked after." (UK)

But as in the other countries, it emerged from the discussions in the United Kingdom that the lack of information about animal husbandry conditions is a barrier to buying better animal welfare meat:

"I would actually say yeah, if I knew and I was educated on it and I knew a million percent that yes, that yeah, it had been the quality of life or whatnot and it had been improved then, yeah, it wouldn't really change if I bought it from the butchers or I bought it from the supermarkets as long as I knew that." (UK)

Also, the conflict between time and convenience was apparent and respondents specified the search costs for poultry meat from improved animal husbandry conditions negatively. Discussions with British consumers also revealed that the conditions in which farm animals are kept do not play a major role for all respondents and that the price often leads them not to buy meat from improved husbandry conditions:

"It is important, but yet ultimately the bottom line is the price." (UK)

There were different opinions on the relevance of animal welfare in **all study countries**. While for some consumers animal welfare is one of their various purchase criteria and might influence the purchase decision, for some consumers animal welfare comes first. Some indicated that although they would like to say that animal welfare is important to them, this is still not (always) reflected in their purchasing behaviour. A few participants stated that animal welfare and improved animal husbandry conditions were not important to them at all. Here, much higher prices were mentioned as the main reason. Furthermore, in some discussions, quality seemed to be a more important factor than animal welfare when buying poultry meat from improved animal husbandry conditions.

When participants were asked about the information that they would like to receive on the packaging of poultry meat, in every country it was claimed by some consumers that as much information as possible is wished for. This could, according to the suggestions of some discussants, be solved by using QR codes. The request to receive information about the meats' origin and the animals' husbandry conditions was mentioned most. In contrast, some participants also claimed disinterest concerning animal husbandry conditions. This became particularly obvious among a few British respondents who claimed that knowing about farm animals' husbandry conditions would discourage them from buying the poultry meat product:

"I'd rather not know very much. It would probably put me off." (UK)

"Ignorance is bliss." (UK)

Overall, it became clear that the interest in poultry husbandry conditions differed between discussants within and between the focus groups. In general, consumers in the focus groups said they were interested in poultry husbandry conditions and animal welfare. They would prefer to receive more information about it, but the current search costs seemed to be too high. Therefore, some participants suggested to introduce a common EU animal welfare label to ensure that all labels meet the same criteria. As sources of information on animal husbandry conditions, butchers, farmers, labels or other information on packaging as well as media campaigns with the help of documentary television programs, leaflets next to the product, posters in supermarkets, pictures on packaging and newspaper articles were named.

3.5 Willingness to pay for animal welfare

In many of the conducted focus groups, the dilemma between animal welfare and having to pay higher prices was already evident right at the beginning of the discussions. Nevertheless, in **all study countries**, most discussants indicated that they would be willing to pay more for poultry meat from better animal welfare standards. This willingness to pay was often linked to a perceived better quality of the meat. Especially among French respondents, but also among Danish participants, the increased willingness to pay was often more pronounced for quality than for animal welfare:

"I'm not willing to pay more for animal welfare but I would pay more if the quality of the poultry is better or different." (DK)

"Animal welfare wouldn't make me pay more; it would be the increase in quality." (FR)

However, a few group members within every study country claimed not to be willing to pay more for poultry meat from improved animal welfare standards, mainly because *"budget is important"* (UK):

"I'm not willing to pay for improved animal welfare." (DK)

"I might spend money for different reasons but not for animal welfare." (FR)

"I am not willing to pay more actually." (NL)

"It doesn't bother me where it comes from as long as, I like to get the most buying for my buck. So I want to have the biggest best for the cheapest price possible." (UK)

The participants were also asked how much they would be willing to pay more for one kilogram of chicken breast produced under higher animal welfare standards compared to a kilogram of chicken breast from conventional husbandry for which a reference price was given. The vast majority of **Dutch** participants said they would be willing to pay between 20% and 30% more. Some mentioned that they would pay up to 75% or even 100% extra. Also, most **French** respondents indicated that they would pay a surcharge of between 20% and 30% for meat from higher animal welfare standards. A few claimed that they would even pay up to 50% more. Among **British** respondents, many participants said that they would be willing to pay a premium of between 5% and 20%, but some indicated they would be willing to pay over 30% and up to 65% more. In the **Danish** focus groups, the

fewest statements regarding the willingness to pay were made. Participants from Denmark mainly stated that they would be willing to pay a premium of 20% to 30%, but some others also claimed that they would even be willing to “pay double to get a good chicken” (DK).

4 Discussion

Results indicate that modern poultry husbandry is widely unaccepted among consumers in the study countries and that the demand for improving husbandry conditions is apparent. That consumers in these countries do not accept current conventional poultry husbandry was also discovered in a study in which respondents, among them French and British, rated the poultry production as “*somewhat unacceptable*” (Harper, 2001). In German research, only 18% of respondents rated the animal husbandry conditions as “*good*” or “*rather good*” and more than 88% agreed that farm animal welfare standards should be enhanced (Heise and Theuvsen, 2018; Schulze et al., 2008). Accordingly, consumers who took part in the focus groups of the present project have a positive attitude towards systems with improved animal husbandry conditions which was also shown among consumers in other research (e.g. European Commission, 2016; Weible et al., 2016). Talking about poultry, participants mainly referred to chicken. In comparison to chicken, turkey, duck and goose meat seemed to have a subordinate status which is also reflected in the production and consumption data of poultry meat in the respective countries (AMI, 2022a).

Animal welfare was, besides quality, among the most frequently mentioned purchase criteria for poultry meat in every country under consideration. Other frequently mentioned purchase criteria were geographical origin and price. Also “*organic*”, which was occasionally related to improved animal husbandry conditions, was named as a purchase criterion within many focus groups. This association between “*organic*” and improved animal husbandry conditions could also be confirmed in literature (e.g. Akaichi et al., 2019; Harper and Makatouni, 2002; Hilverda et al., 2016; Hjelmar, 2011; Toma et al., 2011; van Loo et al., 2010). In a Dutch study dealing with chicken it was likewise found that animal welfare was, besides price, an important criterion when buying food (Mulder and Zomer, 2017). Although concerned about animal welfare, most participants of the focus groups in the present study gave a higher priority to primary product attributes, such as quality which was also a result of Vanhonacker et al. (2010). However, consumers saw a relation between animal welfare and better quality. In some discussants’ views better quality was related to more tender and leaner meat as well as better taste. The connection between higher animal welfare standards and higher quality was also presented in other publications (e.g. Kehlbacher et al., 2012; Vanhonacker et al., 2010). Overall, the relation to better quality seemed to be a driving factor for the purchase of improved welfare poultry meat.

In many discussions, animal welfare labels were the most frequently mentioned labels that respondents were aware of and were mentioned several times as a purchase criterion. Most consumers stated that improved animal husbandry conditions can be recognized by animal welfare labels on the product packaging. Especially in France, the *Label Rouge*, which refers to animal welfare, seemed to be quite popular, whereas in Denmark the animal welfare labels were not as frequently mentioned by discussants. From the fact that consumers were aware of animal welfare labels, a certain interest in animal welfare can be inferred. However, it must be kept in mind that most discussants from all countries studied did not know what exactly the animal welfare labels entail and what requirements have to be fulfilled in order to achieve the respective label. This leads to the assumption that the participants have not yet investigated the labels further. Although the trustworthiness of labels was questionable for some discussants, many participants from all study countries generally claimed to have trust in animal welfare labels. They claimed to see them as a kind of quality marker which has also been noted in literature (e.g. Hoogland et al., 2007; Vanhonacker et al., 2010; Walley et al., 2014, 2015). It can therefore be assumed that poultry meat labels have an overall positive influence on consumers’ product perception and purchase decision. In general, participants classify such markers as a good way of obtaining clear information and of easily recognizing improved animal husbandry conditions. Trust issues seemed to mainly arise from the fact that consumers lack knowledge about these labels. They do not know what actual criteria producers have to comply with and what advantages the labelled products have compared to products from conventional husbandry without label certification or with indication of a rather low animal welfare level. As a result, consumers sometimes perceive the labels as misleading which has also been shown in other research (e.g. Heise and Theuvsen, 2018; Schröder and McEachern, 2004). In literature, lack of information turned out to be the most important barrier to purchasing better animal welfare products and Europeans generally would like to receive more information about the conditions in which animals are kept (e.g. European Commission, 2016; Harper, 2001) which goes hand in hand with the results of this project. Therefore, it can be assumed that a better understanding of label claims can have a positive impact on trust and can result in positive purchase behavior which was already discovered in other research (Samant and Seo, 2016). Participants mentioned to prefer unbiased animal welfare labels, such as those provided by governments. Vanhonacker et al. (2010) found similar results.

In addition, some discussants indicated a preference for common EU animal welfare standards and an EU animal welfare label which coincides with the findings of another study among Europeans (European Commission, 2016).

It has been shown that the participants from each study country had a certain basic understanding of animal welfare. Animal welfare was often related to the living, transport and slaughter conditions. Frequently mentioned animal welfare criteria were available space, outdoor access and feed. Also in other studies, inter alia from the Netherlands and the United Kingdom, space allowance and outdoor access were assessed as the most important or one of the most important aspects when it comes to the welfare of chickens (Christoph-Schulz and Rovers, 2020; de Jonge and van Trijp, 2013; de Jonge and van Trijp, 2014; Hall and Sandilands, 2006; Weible et al., 2016). To frame the understanding of animal welfare, discussants used words like “good life”, “humanely” and “naturally”. Results show that consumers believe that natural conditions are better for the animals and the closer the conditions are to the animals’ natural living conditions and behavior, the better the animal welfare. In another study, more than 92% of respondents agreed that animals should have the possibility to follow their natural behavior in order to feel comfortable (Heise and Theuvsen, 2018). In general, the understanding of animal welfare and consumers’ expectations regarding animals’ husbandry seemed to be influenced to some extent by an idyllic image of small farms in the countryside. This perception was also identified in other research (te Velde et al., 2002) and does not go along with the current practices in livestock production.

Furthermore, participants in this study associated higher animal welfare products with a higher price, which also goes in line with findings in literature (e.g. Harper, 2001; Harper and Makatouni, 2002; Vanhonacker et al., 2010). Apparently, participants classify animals’ husbandry conditions as relevant for the purchase decision, but at the same time price or the budget often limit the purchase of improved animal welfare products. Nevertheless, most consumers in all study countries stated to be willing to pay more for poultry meat from improved husbandry conditions, especially if it is of better quality than conventionally produced meat. The price-quality ratio seemed to be of high importance. Studies already determined that many Europeans claimed to be willing to pay a price premium for animal welfare products (e.g. Clark et al., 2017; European Commission, 2016; Makdisi and Marggraf, 2011; Walley et al., 2014, 2015). It became apparent in a Dutch study that respondents value outdoor access and that a clear majority is willing to pay more than the actual surcharge for a chicken that is labeled with a one star *Beter Leven* label (Mulder and Zomer, 2017). In contrast to our study in which many discussants claimed to be willing to pay a price premium of 20% to 30% if animal welfare conditions were improved and quality was enhanced, a European-wide study found a significantly lower willingness to pay: According to their results, the majority of respondents from Denmark, France, the Netherlands and the United Kingdom claimed to be willing to pay up to 10% more for meat from better animal welfare conditions (European Commission, 2016). One possible reason for the differences might be that the awareness of consumers regarding animal welfare and animal husbandry conditions has increased during the last few years. Furthermore, this could be due to effects of social desirability which could result in participants’ responses not always honestly reflecting their personal opinions due to social expectations from an ethical and moral perspective.

In general, opinions were more likely to differ between participants within a focus group rather than between the focus groups in the different study countries. This goes in line with findings of other research which showed that consumers cannot be seen as one homogeneous group and opinions differ (e.g. Heise and Theuvsen, 2018; Schulze et al., 2008; Vanhonacker and Verbeke, 2014). However, many consumers from all study countries seem to have a general knowledge of and interest in animal welfare. Nevertheless, regarding the claimed relevance of animal welfare for poultry meat purchases, the attitude-behavior-gap has to be considered. This refers to the difference between citizens’ views of farm animal welfare and their behavior concerning purchase and consumption. Although many people state that animal welfare is an important aspect and that they are willing to pay more for poultry meat coming from improved husbandry conditions, this could not yet be seen in the market shares (Terlau and Hirsch, 2015). One possible reason for the low market shares of animal welfare poultry meat could be explained by the knowledge deficit about the meaning of respective labels and about poultry farming in general. Therefore, more explanation about husbandry conditions is needed and might increase market shares. Another reason could be social desirability within the focus groups. During the discussions, consumers often mentioned that animal welfare was important to them which could also be due to the fact that they do not want to admit that animal welfare is of no great importance to them or that other product attributes have a higher priority. Even though organic poultry meat still has a much smaller market share than conventionally produced poultry meat, it should nevertheless be noted that organic poultry meat production has increased in Germany, France, the Netherlands and the United Kingdom in recent years. Furthermore, the demand for organic chicken in Germany has increased significantly (AMI, 2022b).

In conclusion, it can be assumed that animal welfare will play a major role if consumers engage with it directly. During purchasing this behavior often cannot be detected due to other priorities like budget constraints, lack of knowledge and the search costs for poultry meat from improved husbandry conditions.

5 Summary and Conclusion

The objective of this study was to analyze the relevance of animal welfare among poultry meat consumers from Denmark, France, the Netherlands and the United Kingdom. Therefore, focus group discussions were conducted to investigate what role animal welfare as well as labels play during the purchase of poultry meat, how consumers conceptualize animal welfare and if consumers are willing to pay extra for poultry meat from improved animal husbandry conditions.

Welfare of poultry seemed to be of considerable importance among many participants in all four study countries, although the importance of animal welfare as a product attribute differed substantially within the focus groups. Many consumers do not accept current conventional livestock husbandry conditions and concerns regarding the husbandry conditions were especially raised regarding the animals' space allowance, outdoor access, feed and slaughter methods. Some respondents described animal welfare with a "*good life*" and the possibility for animals to follow their natural behavior. Besides the already mentioned criteria, discussants also referred to aspects like medication, use of growth hormones, slower growing breeds, lighting conditions and hiding places. Nevertheless, in relation to animal welfare, other criteria such as taste as well as other quality attributes and price seemed to be more important for the purchase decision. The price-quality-ratio plays an important role. Although many consumers stated that they are willing to pay around 20% to 30% more for animal welfare poultry meat, the limiting factor for purchasing seemed to be the higher price for these products as well as the missing knowledge about animal husbandry conditions. Therefore, the often stated relevance of animal welfare is thus predominantly not yet reflected in consumers' purchasing behavior.

For most participants animal welfare is positively related to product quality and taste, which are besides ethical aspects the main reasons for purchasing animal welfare meat. Some discussants specifically stated that they are willing to pay more for quality but not solely for animal welfare. Therefore, results of focus group discussions indicate the existence of a specific market segment that values animal welfare and considers it when choosing poultry meat products, especially because of the perceived relation to better quality. Since better quality in some consumers' view seemed to be subordinate to the animals' living conditions, this leads to the conclusion that it should be considered defining animal welfare as a quality characteristic in the future. Specifying animal welfare as a marker of quality can make it more tangible for consumers. Furthermore, doubts concerning animal welfare labels were uttered because respondents did not know what they encompass. In general, labels were regarded as a guarantee and seemed to represent a significant purchase criterion. They were seen as a simple communication tool that can minimize the search cost for information. It can be assumed that clear and easy to understand information can help to generate more knowledge and trust among consumers regarding welfare of poultry. Media like television, newspapers, posters and leaflets in the supermarket next to the products could be used as communication tools. Nevertheless, it must be stressed that additional information is not a panacea. If animal welfare is generally considered relevant and information deficits exist, only then can additional information achieve the desired effect. All in all, results were similar for the countries studied which may be related to the fact that these countries are pioneers in the field of animal welfare. It is possible that results would have been different had this research been carried out in other countries, for example southern or eastern European countries.

Acknowledgements

This study is part of the research project "Export potential of meat produced under high animal welfare standards in Germany". The project is funded by the Federal Ministry of Food and Agriculture (BMEL) within the framework of the Federal Programme Livestock Husbandry by decision of the German Bundestag. The project is managed by the Federal Office for Food and Agriculture (BLE).

References

- Akaichi, F., Glenk, K., Revoredo-Giha, C. (2019). Could animal welfare claims and nutritional information boost the demand for organic meat? Evidence from non-hypothetical experimental auctions. *Journal of Cleaner Production*, **207**: 961–970.
- AMI (2012). *Markt Bilanz: Eier und Geflügel 2012*. Bonn, Germany, Agrarmarkt Informations-Gesellschaft mbH.
- AMI (2022a). *Markt Bilanz: Eier und Geflügel 2022*. Bonn, Germany, Agrarmarkt Informations-Gesellschaft mbH.
- AMI (2022b). *Markt Bilanz: Öko-Landbau 2022*. Bonn, Germany, Agrarmarkt Informations-Gesellschaft mbH.
- BMEL (2019). Nutztierstrategie: Zukunftsfähige Tierhaltung in Deutschland. Available at https://www.bmel.de/SharedDocs/Downloads/DE/Broschueren/Nutztierhaltungsstrategie.pdf;jsessionid=941FBEC94049C52497C05A70B1BD278B.live841?__blob=publicationFile&v=9 (Accessed 16 December 2021).
- Brzukalla, H.-J., Heß, J., Moewius, J., Röhrig, P., Sanders, J., Schaack, D. (2019). Die Bio-Branche 2019. Available at https://www.boelw.de/fileadmin/user_upload/Dokumente/Zahlen_und_Fakten/Brosch%3BCre_2019/B OELW_Zahlen_Daten_Fakten_2019_web.pdf (Accessed 20 December 2021).
- Christoph-Schulz, I.B., Rovers, A.K. (2020). German citizens' perception of fattening pig husbandry - Evidence from a mixed methods approach. *Agriculture*, **10** (8): 342.
- Clark, B., Stewart, G.B., Panzone, L.A., Kyriazakis, I., Frewer, L.J. (2017). Citizens, consumers and farm animal welfare: A meta-analysis of willingness-to-pay studies. *Food Policy*, **68**: 112–127.
- de Jonge, J., van Trijp, H. (2014). Heterogeneity in consumer perceptions of the animal friendliness of broiler production systems. *Food Policy*, **49**: 174–185.
- de Jonge, J., van Trijp, H.C.M. (2013). The impact of broiler production system practices on consumer perceptions of animal welfare. *Poultry Science*, **92**(12): 3080–3095.
- Deblitz, C., Efken, J., Banse, M., Isermayer, F., Rohlmann, C., Tergast, H., Thobe, P., Verhaagh, M. (2021). Politikfolgenabschätzung zu den Empfehlungen des Kompetenznetzwerks Nutztierhaltung. Available at https://literatur.thuenen.de/digbib_extern/dn063574.pdf (Accessed 20 December 2021).
- European Commission (2006). Attitudes of EU citizens towards Animal Welfare: Special Eurobarometer 270 - September - October 2006. Available at <https://europa.eu/eurobarometer/api/deliverable/download/file?deliverableId=37799> (Accessed 6 December 2021).
- European Commission (2016). Attitudes of Europeans towards Animal Welfare: Special Eurobarometer 442 - November - December 2015. Available at <https://europa.eu/eurobarometer/api/deliverable/download/file?deliverableId=54424> (Accessed 6 December 2021).
- EUROSTAT (2021a). Organic farming statistics. Available at https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Organic_farming_statistics (Accessed 16 December 2021).
- EUROSTAT (2021b). Production of meat: poultry. Available at <https://ec.europa.eu/eurostat/databrowser/view/tag00043/default/table?lang=de> (Accessed 6 December 2021).
- Flick, U. (2009). *An Introduction to Qualitative Research*. 4th edn. SAGE.
- Hall, C., Sandilands, V. (2006). Public Attitudes to the Welfare of Broiler Chickens. Available at <https://ageconsearch.umn.edu/record/45998/> (Accessed 18 January 2022).
- Harper, G. (2001). Consumer Concerns about Animal Welfare and the Impact on Food Choice: Proceedings of the Dissemination Seminar. Available at <https://orgprints.org/id/eprint/1650/2/EU/harper.pdf> (Accessed 27 December 2021).
- Harper, G., Makatouni, A. (2002). Consumer perception of organic food production and farm animal welfare. *British Food Journal*, **104**(3/4/5): 287–299.
- Heise, H., Theuvsen, L. (2018). Citizens' understanding of welfare of animals on the farm: An empirical study. *Journal of applied animal welfare science*, **21**(2): 153–169.
- Hilverda, F., Jurgens, M., Kuttschreuter, M. (2016). Word associations with “organic”: what do consumers think of? *British Food Journal*, **118**(12): 2931–2948.

- Hjelmar, U. (2011). Consumers' purchase of organic food products. A matter of convenience and reflexive practices. *Appetite*, **56**(2): 336–344.
- Hoogland, C.T., de Boer, J., Boersema, J.J. (2007). Food and sustainability: do consumers recognize, understand and value on-package information on production standards? *Appetite*, **49**(1): 47–57.
- Kayser, M., Schlieker, K., Spiller, A. (2012). Die Wahrnehmung des Begriffs "Massentierhaltung" aus Sicht der Gesellschaft. *Berichte über Landwirtschaft - Zeitschrift für Agrarpolitik und Landwirtschaft*, **90**(39): 417–428.
- Kehlbacher, A., Bennett, R., Balcombe, K. (2012). Measuring the consumer benefits of improving farm animal welfare to inform welfare labelling. *Food Policy*, **37**(6): 627–633.
- Kühn, T., Koschel, K.-V. (2018). *Gruppendiskussionen*. Wiesbaden, Springer Fachmedien Wiesbaden.
- Lamnek, S. (2010). *Qualitative Sozialforschung*. 5th edn, Weinheim, Beltz.
- Makdisi, F., Marggraf, R. (2011). Consumer Willingness-To-Pay for Farm Animal Welfare in Germany - The Case of Broiler. Available at <https://ageconsearch.umn.edu/record/115359/> (Accessed 18 January 2022).
- Mayring, P. (2015). *Qualitative Inhaltsanalyse: Grundlagen und Techniken*. 12th edn, Weinheim, Beltz.
- Mayring, P. (2016). *Einführung in die qualitative Sozialforschung*. 6th edn, Weinheim, Beltz.
- Mulder, M., Zomer, S. (2017). Dutch Consumers' Willingness to Pay for Broiler Welfare. *Journal of Applied Animal Welfare Science*, **20**(2): 137–154.
- Samant, S.S., Seo, H.-S. (2016). Effects of label understanding level on consumers' visual attention toward sustainability and process-related label claims found on chicken meat products. *Food Quality and Preference*, **50**: 48–56.
- Schlosser, K., Mohrmann, S., Theuvsen, L. (2018). Ökonomische Bewertung ausgewählter Tierwohlmaßnahmen in der Schweinehaltung aus einzelbetrieblicher Sicht. *LANDTECHNIK*, **73**(5): 162–176.
- Schröder, M.J., McEachern, M.G. (2004). Consumer value conflicts surrounding ethical food purchase decisions: a focus on animal welfare. *International Journal of Consumer Studies*, **28**(2): 168–177.
- Schulze, B., Lemke, D., Spiller, A. (2008). Glücksschwein oder arme Sau? Die Einstellung der Verbraucher zur modernen Nutztierhaltung. *Zukunftsperspektiven der Fleischwirtschaft: Verbraucher, Märkte, Geschäftsbeziehungen*. pp 465–488. Available at https://www.uni-goettingen.de/de/document/download/f290dff55784327bc3094e02a51562fe.pdf/Schulze_GL%C3%BCcksschwein%20oder%20arme%20Sau.pdf (Accessed 17 January 2022).
- te Velde, H., Aarts, N., van Woerkum, C. (2002). Dealing with ambivalence: Farmer's and consumers' perceptions of animal welfare in livestock breeding. *Journal of Agricultural and Environmental Ethics*, **15**: 203–219.
- Terlau, W., Hirsch, D. (2015). Sustainable Consumption and the Attitude-Behaviour-Gap Phenomenon - Causes and Measurements towards a Sustainable Development. *International Journal on Food System Dynamics*, **6**(3): 159–174.
- Toma, L., McVittie, A., Hubbard, C., Stott, A.W. (2011). A Structural Equation Model of the Factors Influencing British Consumers' Behaviour toward Animal Welfare. *Journal of Food Products Marketing*, **17**(2-3): 261–278.
- van Loo, E., Caputo, V., Nayga, R.M., Meullenet, J.-F., Crandall, P.G., Ricke, S.C. (2010). Effect of organic poultry purchase frequency on consumer attitudes toward organic poultry meat. *Journal of Food Science*, **75**(7): 384–397.
- Vanhonacker, F., van Poucke, E., Tuytens, F., Verbeke, W. (2010). Citizens' Views on Farm Animal Welfare and Related Information Provision: Exploratory Insights from Flanders, Belgium. *Journal of Agricultural and Environmental Ethics*, **23**(6): 551–569.
- Vanhonacker, F., Verbeke, W. (2009). Buying higher welfare poultry products? Profiling Flemish consumers who do and do not. *Poultry Science*, **88**(12): 2702–2711.
- Vanhonacker, F., Verbeke, W. (2014). Public and Consumer Policies for Higher Welfare Food Products: Challenges and Opportunities. *Journal of Agricultural and Environmental Ethics*, **27**(1): 153–171.
- Vigors, B., Ewing, D.A., Lawrence, A.B. (2021). Happy or healthy? How members of the public prioritise farm animal health and natural behaviours. *PLoS One*, **16**(3): e0247788.

- Walley, K., Parrott, P., Custance, P., Meledo-Abraham, P., Bourdin, A. (2014). A review of UK consumers' purchasing patterns, perceptions and decision making factors for poultry meat. *World's Poultry Science Journal*, **70**(3): 493–502.
- Walley, K., Parrott, P., Custance, P., Meledo-Abraham, P., Bourdin, A. (2015). A review of French consumers purchasing patterns, perceptions and decision factors for poultry meat. *World's Poultry Science Journal*, **71**(1): 5–14.
- Weible, D., Christoph-Schulz, I., Salamon, P., Zander, K. (2016). Citizens' perception of modern pig production in Germany: a mixed-method research approach. *British Food Journal*, **118**(8): 2014–2032.
- Wildraut, C., Rovers, A.K., Sonntag, W.I., Christoph-Schulz, I.B., Meyer-Höfer, M. von, Luy, J., Wolfram, J., Spiller, A., Mergenthaler, M. (2018). SocialLab – Nutztierhaltung im Spiegel der Gesellschaft. *Journal of Consumer Protection and Food Safety*, **13**(2): 145–236.
- Zander, K., Isermeyer, F., Bürgelt, D., Christoph-Schulz, I.B., Salamon, P., Weible, D. (2013). Erwartungen der Gesellschaft an die Landwirtschaft. Available at https://literatur.thuenen.de/digbib_extern/dn052711.pdf (Accessed 18 January 2022).