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Consumer Concerns About Animal Welfare And The Impact On Food Choice¹

Report on national survey - Germany

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1 Introduction

This paper reflects the current (March 2001) state of an ongoing analysis of a consumer survey on "Consumer concerns about animal welfare and the impact on food choice". The survey was conducted in Germany from November, 30th to December, 15th, at approximately the same time as the surveys in the project-partner countries, UK, France, Ireland and Italy. It is part of the EU funded project EU FAIR-CT98-3678.

Results of earlier steps in the project are briefly reviewed. Then hypotheses are presented that guide the analysis of the reports in all partner countries. A concise model of "Consumer concerns about animal welfare and the impact on food choice is presented". The analysis tries to answer the formulated hypothesis. The demographic variables that are looked at are gender and social class of the respondent herself. Additionally some tables of correlation coefficients are presented for the barrier statements and total model statements with behavioural variables - largely without comment.

1.1 Objectives of the survey

- To assess consumer concerns about animal welfare amongst a representative sample of consumers in each study country.
- To identify segments of consumers with similar concerns about animal welfare.

(This report looks at this point only in terms of gender and social class)

- Relate concerns about animal welfare, and changes in the methods applied in animal production to the potential choice of animal-based food products.

(This is done in the correlation coefficient tables, that are additional to the guiding hypotheses, i.e. correlation coefficients of behavioural variables with the barrier scales and with model statements)

- To assess the trade-off consumers make between animal welfare, price and other product characteristics.

Various barriers are investigated. Many associations can be looked at in the correlation-coefficient tables that are presented without comments in the chapter on the barrier scale and in the chapter on the 'total' model statements.

1.2 *Review of literature*

The German literature review investigated more than fifty empirical studies with some relevance on the subject. Most empirical work was found to be quantitative in nature and only briefly touched on the issued of consumer concerns about animal welfare. The link between concerns about animal welfare and food choice was mostly not investigated in previous empirical work.

The literature review revealed that attitudes towards modern husbandry practices are clearly negative. This is for instance reflected in the commonly used critical term 'factory farming' (Massentierhaltung). Modern husbandry practices are believed to hardly respect animal welfare, animal health is seen to be poor and food safety threatened. Both aspects, poor animal welfare in itself and unhealthy practices are important. People advocate political action to improve husbandry practices and animal welfare. A sense of obligation is identified for humans to provide good welfare for animals to serve human needs.

The chapter on food products in the literature review revealed that the image of meat deteriorated over the last twenty years and also the kind of negative meat image factors changed. Health and food safety issues were identified as important reasons for distrust, deteriorated image and perceived quality of meat. Animal welfare issues were less clearly, but still found to be relevant in these respects, too: Distrust of animal products hinged less on individual products than on a generally negative perception of husbandry practices, which might also be due to animal welfare reasons. In most studies questions about animal welfare were not directly posed but rather implied in terms like 'free-range'. 'Free range' was e.g. found to be on the fifth importance rank from a set of twelve product and process quality criteria. A survey which included 50% animal-friendly meat shoppers found the animal welfare related quality criteria 'careful transport & and slaughter' and 'husbandry which respects animal needs' to be among the three most important meat quality criteria from a given list, very much on the same rank as 'no fed antibiotics'. An earlier study from the eighties inquired into purchase motives of battery and barn egg purchasers. An open ended question found 'price' to be the most important motive for conscious battery egg purchasers and the welfare related 'more appropriate keeping', to be the most important motive for conscious barn egg purchasers. The importance of animal welfare as a purchase criterion is

mixed for both open and closed end questions, but closed-ended questions clearly make it more important.

Further evidence suggests that people believe animal friendly produced products to be healthier and taste better and local or German origin products were e.g. associated with better keeping conditions for animals.

The literature review identified a significant gap between the often measured high consumer concerns about animal welfare in food production and relatively low market share for animal friendly products. Lack of knowledge about what product labels really mean was, for 1994 and 1998, identified as an important obstacle to buying eggs regarded as more animal friendly. Mislead purchase decisions probably also explain to some extent that self-reported purchase behaviour for eggs is exaggerate when compared to market shares. Availability of free-range eggs was not considered an important obstacle by a majority of respondents in a survey conducted in 1996.

1.3 Focus Groups

The focus group discussion confirmed the importance of health and food safety issues for food choice and also the negative perception of modern, in contrast to traditional husbandry and food production practices. Animal welfare was spontaneously not the most important association in relation to the catchword 'food', but was nevertheless spontaneously mentioned in all female groups – it was thus spontaneously mentioned more often than BSE and almost as often as the issue of genetically modified organisms. In the ensuing discussion animal suffering and poor welfare in modern production systems was criticised and it was demurred that animals were not treated as an end in themselves but exploited. Humans were seen to be responsible for the welfare of animals. However, slaughter itself was not accepted to be an ethical problem, i.e. it was not seen as problematic in itself that humans eat animals.

People in the focus groups nearly unanimously expressed empathic feelings and were deeply concerned about the welfare of the animals when they were confronted with video images of production systems – reactions to the video were in this respect very distinct from the general discussion on food. As in the literature review the level of concern about animal welfare clearly depended on how concern was measured.

What did people regard as important for animal welfare? Animals should have the opportunity to express natural behaviour, e.g. unrestricted movement, dust bathing, they should be provided access to fresh and natural food and daylight. Hygiene should be assured. Both human care and the opportunity for the animals to decide what to do for themselves were seen important.

Perceived consequences of buying better animal welfare products were not only self-centred in the form of better taste, quality and healthier products but also had the form of simply feeling better and having a good conscience. Mentioned obstacles for purchasing more animal-friendly products or purchasing less animal products are lack of imagination and disassociation of the product from the animal, good taste, good nutritional value of animal products, everyday problems that absorb ones energy, low trust in claims about better produced products, perceived inconsistent marketing (e.g. well produced meat pre-packaged) and higher price. Many participants inferred the standard of animal welfare from the source of purchase and how much they trusted it.

1.4 *Laddering Interviews*

The three most important areas of concern about farm animal welfare were identified in the concepts of 'Space', 'Transport' and '(appropriateness of) Feed'. For the whole data set 'Space' was the attribute with the strongest connections to other concepts. It was linked to areas of concern coded under 'outside', 'husbandry' and 'mass'. Further clusters of closely connected concerns consist of the following attribute-pairs: 'feed' and 'additives', 'transport' and 'slaughter'² and 'mass' and 'additives'. Roughly speaking 'Space', 'Transport' and 'Feed' are at the centre of the three most important attribute clusters.

Most consequences and values in the hierarchical value map can be thought of as either more oriented towards people or animals. The attribute 'space' evokes associations in both directions. Limited space restricts natural behaviour of the animal and is not seen compatible with people's wish that animals should live, feed and move naturally, which is strongly emphasised as right and justified by referring to what people want to have for themselves.

This is the more dominant ethical concern. Another more complex but probably weaker concern is that animal health is adversely affected from lack of space and the ensuing lack of natural exercise and behaviour. Poor animal health adversely affects food safety and hence human health, which is seen valuable. There also is a more direct link from animal health to quality of life in the sense that when the animal feels bad, the person feels bad too, which is much like empathy, but worded differently. A different chain leading from 'space' over animal health and 'safety' leads to consumption and purchase patterns.

The probably dominant chain for feed concentrates more on the consequences for humans: Feed affects animal health, food safety and hence human health. But a chain can also be constructed leading from animal health to the 'empathy' code. An interesting aspect for the human related chains from 'feed' and 'space' is, that they can be related to purchase and consumption patterns via 'safety' as a consequence.

Transport conditions are ultimately most strongly connected to the ethics code which comprises various qualifying statements, from ordinary rejections of practices to more sophisticated moral rules about what is right or wrong, should or shouldn't be done. In the sample there is widespread concern about animal transport. Transport conditions are disapproved of. Transport is seen necessary for slaughter and consumers feel unhappy, distressed, upset and pity for the animal when they think about transport, since it impinges on the animals quality of life and causes suffering for the animal, particularly mentioned is emotional and mental suffering and stress . Transport is qualified as cruel and seen as leading to premature mortality of the animals. The link between transport conditions and the empathy-codes is also strong. These codes comprise statements of identification, role taking, empathy and compassion. The 'empathy as a value' code is particularly strongly linked to the transport code, it comprises statements like "One should treat animals like one wants to be treated oneself". But transport is also linked to the competitiveness code: People believe that bad transport practices result from an attempt to minimise costs e.g. by limiting the amount of care provided. Participants clearly disapprove of the profit motive. Among the three attributes 'space', 'transport' and 'feed', 'transport' is the one most strongly connected to the 'rules[®ulations]' code: Two people mention that bad transport practices exist despite improved legislation.

² Slaughter therefore is more of an issue in connection with transport and stress associated with it and not so

To summarise the consequences and values associated with the attributes: more relevant for the animal oriented chains are concepts like empathy and inference from human animal comparisons, nature and perceived adequacy, quality of life, suffering of animals, views about what is right to do and feelings of distress as well as good feelings about good practices. More relevant for the human oriented chains are animal health, food safety and other quality of food, human health, life quality and enjoyment.

1.5 *Development of Hypotheses*

The hypotheses and the model were developed from the work done at previous project stages, from joint discussion among the project partners and from literature on moral and social-psychology and environmental behaviour.

2 Method

2.1 *Hypotheses*

2.1.1 Consumption

1. Consumers will have decreased their consumption of animal-based food products for health rather than animal welfare reasons.
2. More women than men will have decreased their consumption of animal-based food products.
3. There will be a greater decrease in red meat compared to white meat, eggs and milk.
4. There will be variation amongst the five participating countries in level of change in consumption and type of animal-based food product.

2.1.2 Concern

- Women will be more concerned about animal welfare than men.
- ABC1s will be more concerned than C2DEs.
- Consumers will express more concern for the animals' welfare than for human health, quality of food or healthiness of food.
- There will be variation amongst the five participating countries in level and type of concern.

2.1.3 Acceptability of production methods

- Consumers will find production methods for beef, veal and eggs least acceptable.
- Women will find conditions less acceptable than men.
- There will be variation amongst the five participating countries in level and type of acceptability.

much one of violating the right to life of animals.

2.1.4 Attributes of animal welfare

- Consumers will consider those attributes which directly affect human health, such as feed, most important.
- Women will consider each of the attributes more important than men.
- There will be variation amongst the five participating countries in level and type of attribute.

2.1.5 Decreased consumption due to animal welfare concerns

- More women than men will have decreased their consumption because of animal welfare concerns.
- There will be variation amongst the five participating countries in level of decrease.
- There will be variation in decreased consumption between red meat, white meat and dairy products.

2.1.6 'Animal-friendly' products

- More women than men will select animal-friendly products.
- ABC1s will select more animal-friendly products than C2DEs.
- There will be variation amongst the five participating countries in type and amount of product selected.

2.1.7 Barriers to purchasing animal-friendly products

- There will be variation amongst the five participating countries in level and type of barriers.
- There will be variation between men and women in level and type of barriers.
- There will be variation between ABC1s and C2DEs in level and type of concern.
- There will be variation in importance between concrete and abstract barriers.

2.1.8 Information

- Consumers will be most informed about production methods for eggs.
- Consumers will consider themselves to be uninformed overall.
- There will be variation amongst the five participating countries in level and type of information.

2.1.9 Trust

- Consumer will express least trust in the Government and the food industry.
- There will be variation amongst the five participating countries in level and type of trust.

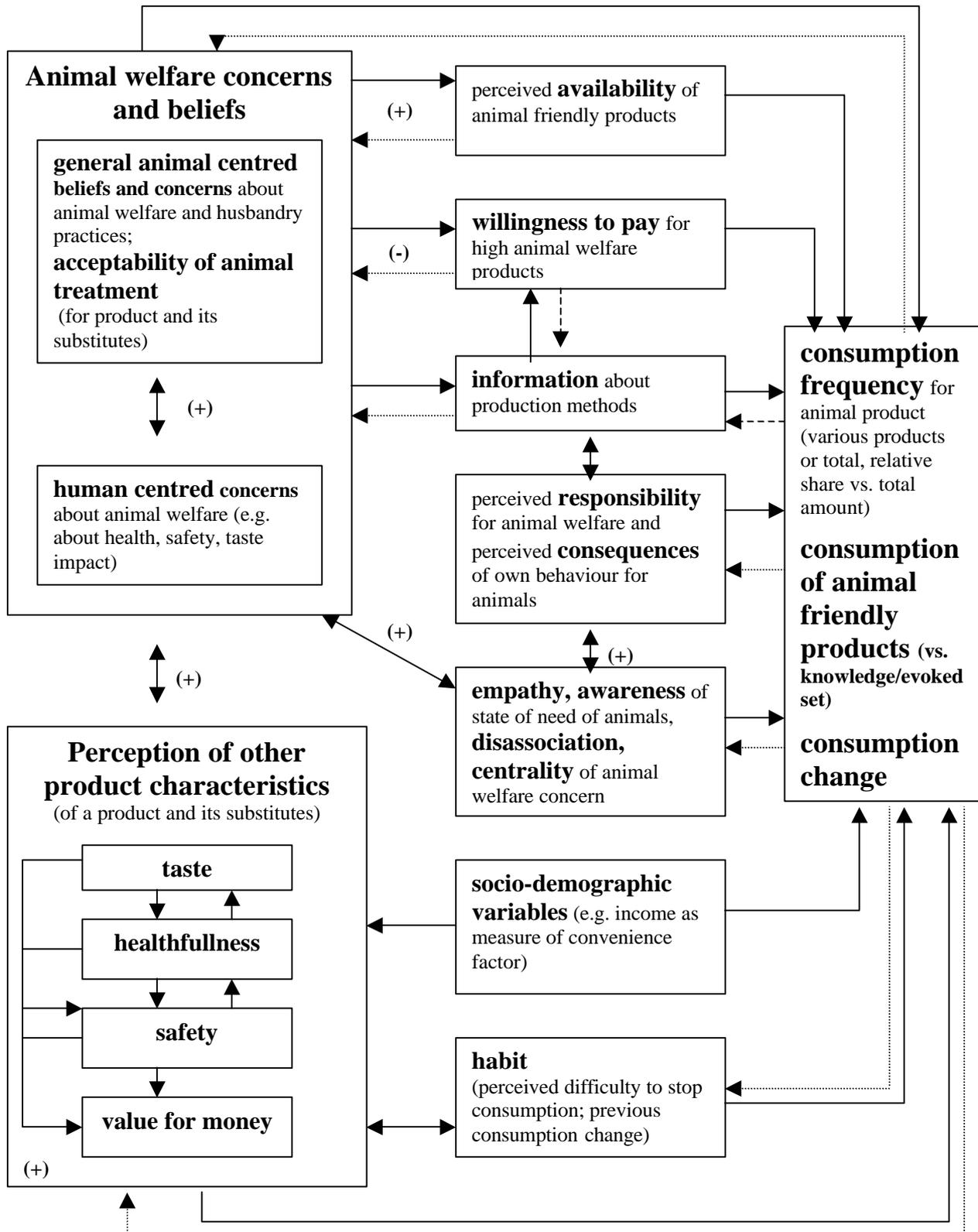
2.1.10 Responsibility

- Consumers will attribute responsibility externally.

2.1.11 Total model factors

- There will be product variation in terms of taste, healthiness, safety, convenience and value for money.

2.2 Model of consumer concern about animal welfare and the impact on food choice



2.3 Pilot

Two pilot interviews of 15 interviews each were conducted by the author of this report. Results of the pilot interviews were discussed by all partners and amendments incorporated in the main survey.

The final German questionnaire can be looked at in the appendix.

2.4 Sample

507 people were interviewed (computer aided telephone interviews) by "Produkt und Markt". Interviews were conducted from November 30th till December 15th, amidst the most severe BSE crisis Germany experienced so far. Some results of the survey need to be interpreted against the background of the BSE crisis.

2.5 Analysis

The survey data were inputted into and analysed with SPSS. Many of the data were either ordinal or nominal. T-tests and Pearson-correlation-coefficients are strictly speaking not applicable to these data, therefore, wherever possible (in the time given), non-parametric tests were employed and mostly yielded the same results as the parametric alternatives (which are presented, too - to ensure better comparability).

Some of the **notation** used in the report is as follows: vl = very low correlation, l = low correlation, m = medium correlation, h = high correlation. * = the zero hypothesis can be rejected significantly at $p = 0.05$, ** = the zero hypothesis can be rejected very significantly at $p = 0.051$, *** = the zero hypothesis can be rejected highly significantly at $p = 0.001$.

Multivariate analyses are not employed in this report. They remain to be done.

Open ended questions were coded manually.

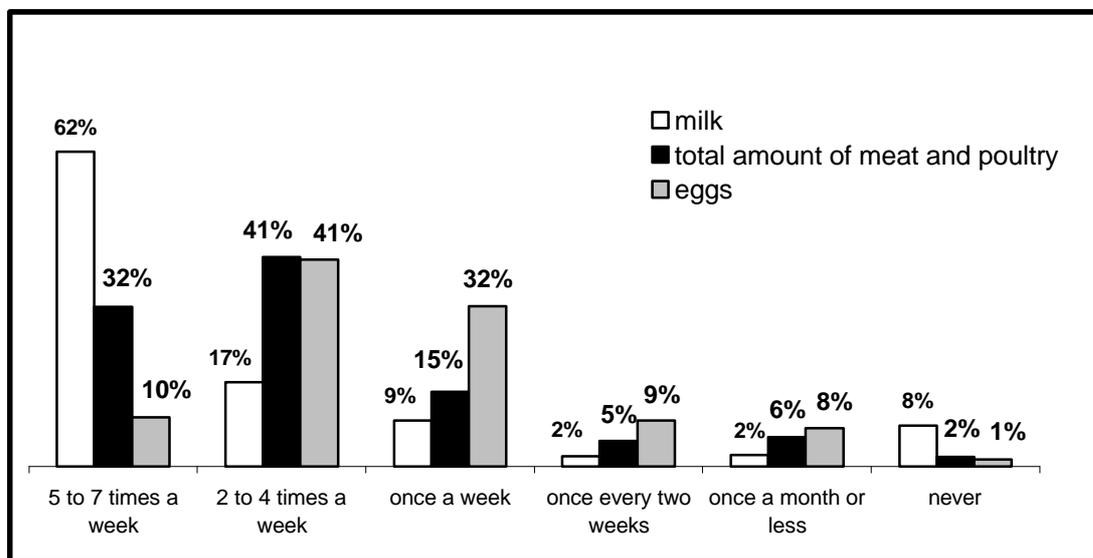
3 Results

3.1 Consumption frequencies (Question 1):

In the questionnaire consumption frequencies for seven individual animal products were inquired, five meat products, eggs (including processed eggs) and milk (including dairy products) - and additionally the total amount of meat.

The consumption was defined to include both the processed and unprocessed product. Reported consumption frequencies will only approximate real consumption. This is e.g. due to the fact that people are not always aware about what exactly they consume - especially when it comes to processed products and sometimes even for away from home consumption.³

Figure 1: Consumption of milk, eggs and total meat

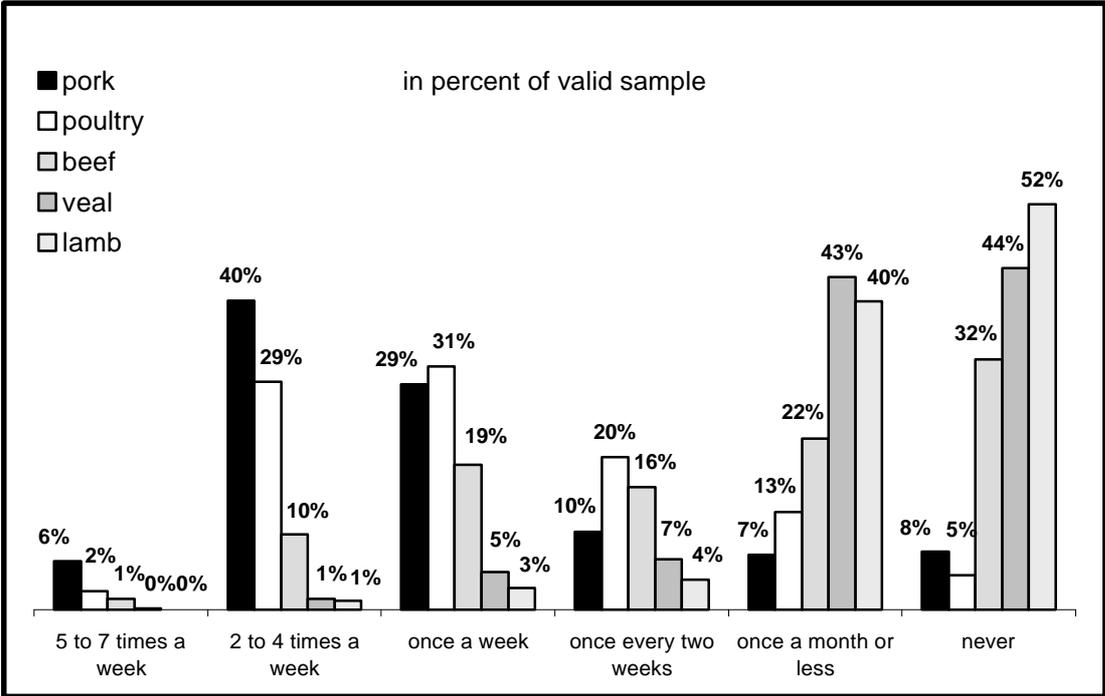


Milk followed by eggs were the two most often consumed individual animal products. Only then followed pork, poultry and beef as three meat products traditionally consumed in Germany. All these products were consumed considerably less than veal and lamb which are traditionally not so much part of the German cuisine. The total meat consumption frequency was higher than for eggs but lower than for milk and dairy products.

Milk, eggs and meat in general are consumed on a regular basis: more than eighty percent of the sample consume each of these three product classes at least once a week and many considerably more. A majority of 75% consume pork at least once a week and 62% poultry. Only a minority of 30% does so for beef. These are outnumbered by the 32% of people who say to never consume beef or the 52% who either never consume beef or only 'once a month or less'. The consumption of scandal stricken beef is nevertheless higher than that of lamb and veal. Lamb and veal are not so much part of people's evoked set, the set of products about which they might make consumption decisions.

³ In one of the pretests to this survey, I experimented on the effect of different question wording on reported consumption frequency: I used question 1, worded the same as in the final survey and added a question on consumption frequency for eggs and milk which emphasised that these categories also include the processed form. I then listed a few examples for processed milk and egg products. Although the meaning of the two questions was the same, considerably higher reported consumption frequencies resulted in the second format of the question.

Figure 2: Specific meat consumption frequencies

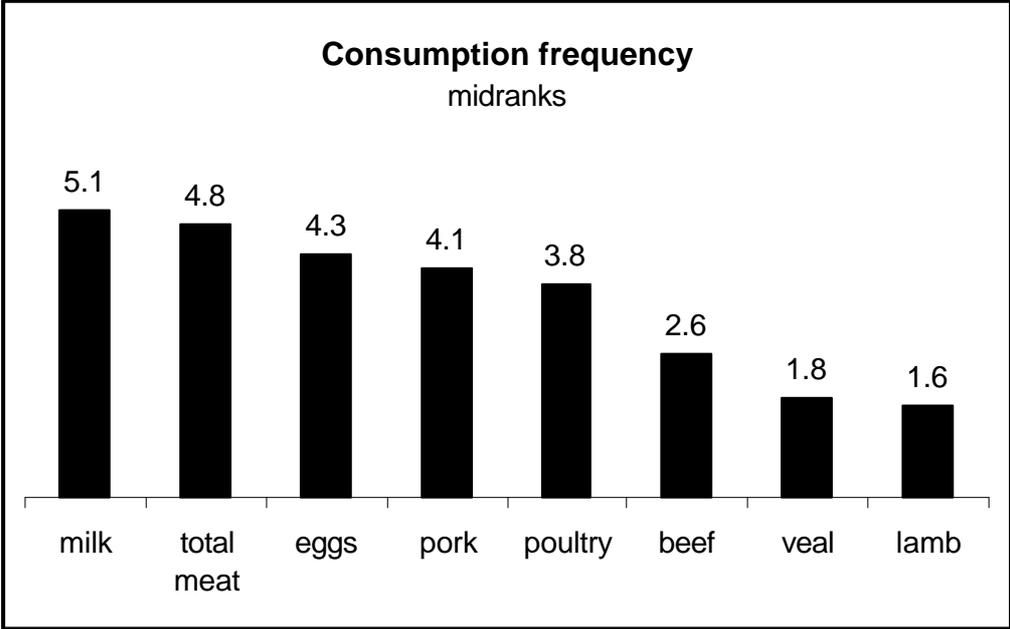


4.5% of the sample say, they never consume poultry and 1.4% never consume eggs. A relatively high proportion of 8% never consumes milk. 9.3% of the sample rate their total meat consumption as 'once a month or less' (7.5%) or 'never' (1.8%). 3% of respondents see themselves as vegetarians and further 5.3% have been vegetarians in the past. 7.1% have one or more vegetarians in their household. The share of vegetarians in the sample might underestimate the total share of people who see themselves as vegetarians in Germany, because the first screening question excluded people who said not to consume more than two of the seven animal products presented. This excluded vegans but might have also deterred ordinary vegetarians from participation, as a certain proportion of them consume eggs and milk not on their own but only when it can't be easily avoided in products.

'Pork' had the highest correlation with the 'total amount of meat' (Spearman-Rho: 0.524), followed by poultry (Rho: 0.298), beef (Rho: 0.288) and veal (Rho: 0.143). Lamb consumption was not significantly correlated with total meat consumption, but eggs (Rho 0.232) and milk (Rho: 0.106) were slightly.⁴

⁴ All significant correlation coefficients were highly significant at p = 0.001, only milk was less significant (i.e. at p = 0.05).

Figure 3: Average product specific consumption frequencies (midrank = mean)



The median consumption frequencies are: milk = 6 (5 to 7 times a week), total meat = 5 (once a week), eggs = 5 (once a week), pork = 4 (every two weeks), poultry = 4 (every two weeks), beef = 2 (once a month or less), veal = 2 (once a month or less), lamb = 1 (never). A Wilcoxon test rendered consumption frequency differences between all 28 product pairs highly significant at the $p = 0.001$ error level.

Does consumption frequency differ between men and women?

Both the non-parametric Mann-Whitney-U test for the centre of location and the test of association in a contingency analysis (Cramer's-V) show gender effects for the consumption of pork, beef, lamb, veal and total meat. Men tend to consume more of these than women. The following table also suggests that women consume more milk than men. Descriptive statistical measures show higher poultry consumption for women, but inductive statistical tests yield no significant difference here.

Mean egg consumption differences are too small to be significant, but Cramer's V nevertheless shows an association between gender and egg consumption. Looking into the cross-table one finds more men than expected (under the assumption of independence of gender and egg-consumption) on both extremes of the consumption scale. This contrasts the distribution of women who tend to cluster more around the medium egg consumption levels.

Table 1: Gender and consumption frequency

product	Mann-Whitney-U Test for equality of location	Mean for men (m) compared with women (w)	Cramer-V
pork	***	m > w	0.234 ***
poultry	not significant (0.067)	m < w	not significant (0.119)
beef	***	m > w	0.255 ***
lamb	***	m > w	0.197 ***
veal	***	m > w	0.209 ***
total meat	***	m > w	0.153 *
eggs	not significant (0.656)	m > w	0.191 **
milk	***	m < w	0.196 **

***: probability of erroneously rejecting the equality assumption $p \leq 0.001$; **: $p \leq 0.01$; *: $p \leq 0.05$; the consumption frequency variable is coded on an ordinal scale in this and the other cases in this report.

Reading example 1: The assumption of equal pork consumption of men and women can be rejected with an error $p \leq 0.001$. Gender differences are thus highly significant for pork, means show that men consume more than women.

Reading example 2: A contingency analysis shows a highly significant degree of association between gender and pork consumption. Association strength is measured by Cramer's $V = 0.234$. This measure can assume values between 0 and 1.

Does consumption frequency differ between social classes?

The hypothesis that there are no differences between social classes for the consumption frequency of a product could not be rejected for any of the eight items when a Kruskal-Wallis-Test was employed. But there was a tendency towards significance for poultry ($p = 0.083$) and beef ($p = 0.082$). A Spearman-correlation-coefficient of 0.114 (very low correlation) for the items 'frequency of poultry consumption' and 'social class of respondent' was statistically significant at $p = 0.05$ and suggest that the lower a social class is, the higher is a person's poultry consumption.

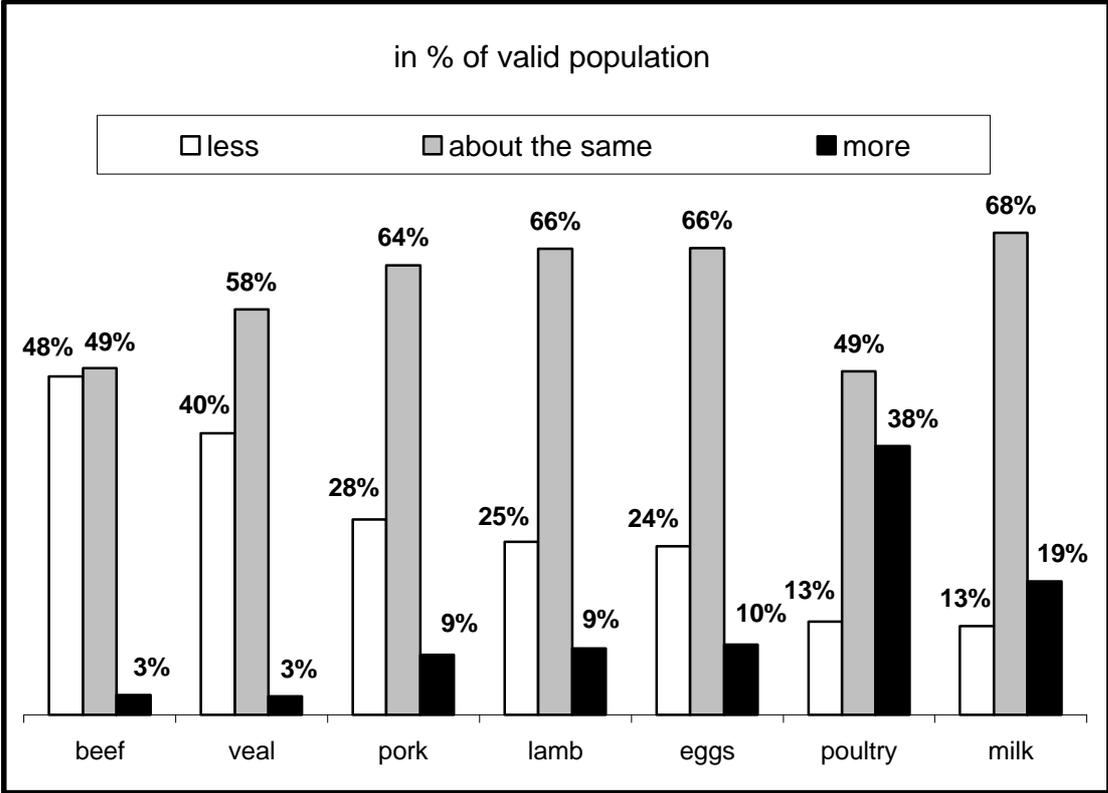
Table 2: Social class and consumption frequency

Frequency	Gender	milk	total meat	eggs	pork	poultry	beef	veal	lamb
Never	<i>AB</i>	7% (4)	2% (1)	2% (1)	7% (4)	5% (3)	23% (14)	51% (31)	40% (25)
	<i>C1</i>	7% (5)	3% (2)	-	13% (9)	7% (5)	47% (33)	47% (33)	48% (34)
	<i>C2</i>	8% (22)	1% (4)	1% (4)	6% (17)	4% (11)	34% (96)	41% (117)	55% (157)
	<i>DE</i>	9% (6)	1% (1)	1% (1)	9% (6)	3% (2)	23% (16)	48% (34)	52% (37)
Once a month or less	<i>AB</i>	5% (3)	7% (4)	13% (8)	10% (6)	19% (12)	26% (16)	38% (23)	50% (31)
	<i>C1</i>	-	9% (6)	6% (4)	7% (5)	11% (8)	11% (8)	38% (27)	42% (30)
	<i>C2</i>	2% (5)	4% (11)	8% (22)	6% (17)	12% (33)	22% (64)	48% (136)	39% (111)
	<i>DE</i>	4% (3)	9% (6)	4% (3)	10% (7)	11% (8)	32% (23)	37% (26)	38% (27)
Once every two weeks	<i>AB</i>	3% (2)	7% (4)	7% (4)	11% (7)	23% (14)	13% (8)	7% (4)	5% (3)
	<i>C1</i>	3% (2)	4% (3)	7% (5)	13% (9)	23% (16)	13% (9)	7% (5)	6% (4)
	<i>C2</i>	2% (5)	5% (14)	9% (25)	11% (30)	19% (55)	18% (50)	6% (16)	4% (10)
	<i>DE</i>	1% (1)	3% (2)	14% (10)	7% (5)	18% (13)	17% (12)	9% (6)	3% (2)
Once a week	<i>AB</i>	2% (1)	16% (10)	27% (17)	32% (20)	31% (19)	21% (13)	2% (1)	2% (1)
	<i>C1</i>	14% (10)	17% (12)	35% (25)	25% (18)	34% (24)	23% (16)	4% (3)	3% (2)
	<i>C2</i>	9% (27)	16% (44)	31% (89)	31% (87)	32% (91)	16% (47)	5% (14)	2% (6)
	<i>DE</i>	11% (8)	10% (7)	32% (23)	24% (17)	30% (21)	14% (10)	7% (5)	6% (4)
2 to 4 times a week	<i>AB</i>	19% (12)	42% (26)	40% (25)	36% (22)	19% (12)	16% (10)	2% (1)	3% (2)
	<i>C1</i>	18% (13)	34% (24)	32% (23)	39% (28)	24% (17)	6% (4)	4% (3)	1% (1)
	<i>C2</i>	16% (46)	45% (127)	43% (124)	38% (109)	32% (91)	9% (25)	1% (3)	1% (2)
	<i>DE</i>	14% (10)	37% (26)	41% (29)	48% (34)	32% (23)	13% (9)	-	1% (1)
5 to 7 times a week	<i>AB</i>	65% (40)	27% (17)	11% (7)	5% (3)	3% (2)	2% (1)	2% (1)	-
	<i>C1</i>	58% (41)	34% (24)	20% (14)	3% (2)	1% (1)	1% (1)	-	-
	<i>C2</i>	63% (181)	29% (83)	8% (22)	9% (25)	2% (5)	1% (4)	-	-
	<i>DE</i>	61% (43)	41% (29)	7% (5)	3% (2)	6% (4)	1% (1)	-	-
Percentages apply relative to the total number of people in a social class. Total number of people are given in brackets.									

3.2 Consumption changes (Questions 2 + 3)

Consumption changes were measured as consumption changes within the last five years. Two different questions were used, one for currently consumed products and one for currently not consumed products. In this section I will discuss total consumption change, a new variable calculated by combining these two questions (questions 2 and 3).⁵

Figure 4: Total 5 year consumption change



For any product the largest share of people did not change their consumption in the previous five years. This indicates the habitual nature of food consumption and the fact that it is culturally embedded. Hence past consumption levels are important predictors for future consumption. A second interesting point is that the number of consumption reductions outweigh consumption increases for all meat products but poultry. Hence something like a change in food culture, away from (red) meat seems to be on its way. Also eggs see more consumption reductions than increases.

The survey was conducted amidst the most severe BSE crisis Germany experienced so far. This is probably reflected in the fact that both beef and veal experienced the largest reported five year consumption reductions. Nearly half the survey population reported to have reduced beef consumption while only 3% claimed they increased their consumption. Milk presents itself rather unaffected in the current crisis: more people currently report increases than reductions. Compared to other products, milk presents the most stable consumption pattern.

⁵ Tables for consumption changes (question 2 only) of currently consumed products are presented in the appendix.

Consumption changes for a product are invariably weakly, highly significantly and positively correlated with the corresponding consumption frequency of a product.⁶ Previous five-year consumption reductions tend to go hand in hand with comparatively lower consumption levels. The Spearman-correlation coefficient between consumption change of beef and consumption frequency of poultry (Sp.-Rho = -0.121, significant at level $p = 0.01$) is one of the few further significant coefficients between changes and frequencies. Consumption reductions for beef correlate very weakly but highly significantly with higher poultry consumption levels. This is the only negative correlation in a correlation matrix of frequencies and changes. However no correlation was significant between consumption changes for poultry and consumption changes for beef. Where there are significant correlations between consumption changes for different products, these tend to be very weak and positive. If reported and actual consumption changes were the same, this would imply, that the various sorts of meats are either complementary goods to a certain extent or independent, but not substitutes. The current BSE crisis would then result in lower overall meat-consumption levels.⁷ The highest positive and significant correlations occur between consumption changes for the red meats, 'veal and beef' (Spearman-Rho: 0.326, $p = 0.001$) and 'veal and lamb' (Spearman-Rho: 0.236, $p = 0.001$).

Do total consumption changes differ between men and women?

A Mann-Whitney-U test was significant for pork, beef, veal (men consume more of these three products than women) and milk (women consume more than men). Differences of location were not significant for poultry, lamb and eggs. Cramer's V revealed significant associations in the cases of pork, poultry, beef and veal consumption changes and no significant associations for gender and lamb, milk and egg consumption changes. Women tended to say more often than men that they decreased their consumption of pork, beef and veal over the past five years. At the same time they increased their poultry consumption more often than men.

Do total consumption changes differ between social classes?

Kruskal-Wallis tests rejected the hypothesis of no difference between social class only in the case of consumption changes for eggs (significant at $p = 0.05$). Paired Mann-Whitney-tests were then conducted between all pairs of social class for 'egg consumption changes'. The AB group said to have reduced its egg consumption significantly more than the C2 group (at $p = 0.01$) and likewise the DE group reduced its egg consumption considerably more than the C2 group ($p = 0.05$). No other social group differences were significant in the case of egg consumption changes.⁸

⁶ Spearman rank-correlation coefficients vary between 0.253 and 0.389 (significant at the level 0.001). The exception is the correlation coefficient for veal (very weak correlation of 0.124 at $p = 0.006$).

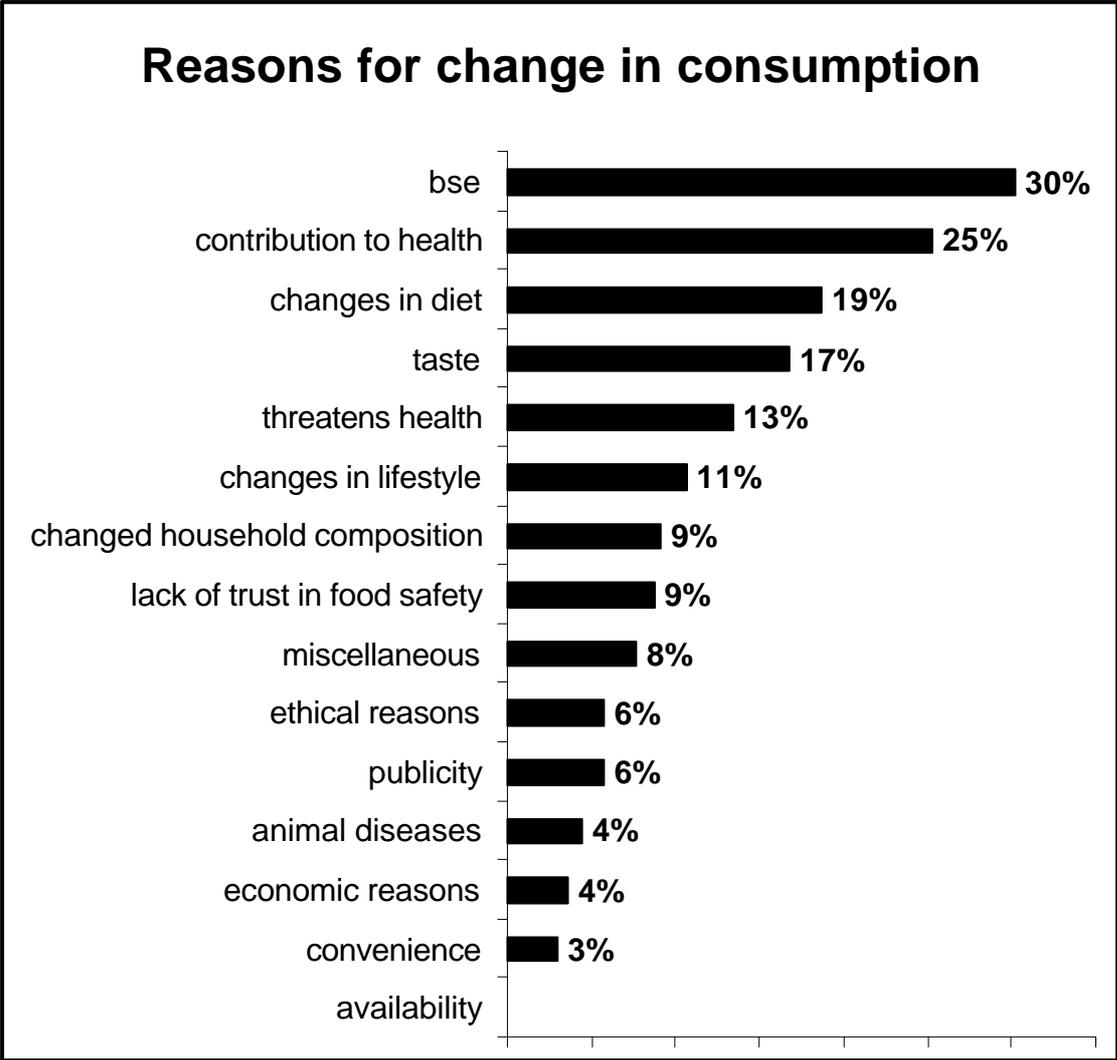
⁷ It is not clear whether correlation coefficients between reported consumption changes reflect correlations between actual consumption changes. The conclusion is therefore not necessarily a prediction.

⁸ The other products were not tested on Whitney-Mann-U as the Kruskal-Wallis-test showed no significant overall differences.

3.3 Reasons for consumption change (Question 4)

People who mentioned that they had changed their consumption for at least one of the products were asked to express their main reason. 364 people were asked and 133 not asked. Answers were coded with the same coding framework as in the other countries. Often answers coded with more than one code, be it that the person mentioned more than one item or that the item mentioned did not apply unambiguously to only one code.

Figure 5: Reasons for consumption change



The table graphs all the codes by their frequencies. 'BSE' was the relatively most frequently given reason (30%). This is no real surprise as the interviews were conducted in an acute bse crisis. Related to this reason were other codes like 'contribution to health' (25%), 'threatens health' (13%), 'lack of trust in food safety' (9%) and 'animal diseases' (4%). Health and safety concerns hence come out as the most important determinant of consumption change. Even some of the remaining codes might be connected to the safety issue to a considerable degree (e.g. 'changes in diet').

Convenience reasons (3%), availability (0%) and economic reasons (4%) come out as less important than 'ethical reasons' (6%). 'Ethical reasons' largely have to do with the way animals are reared, with 'factory farming' and animal welfare. Some convenience reasons might however also be contained in 'changes in lifestyle' (11%) and other codes. Publicity (6%) is as important as ethical reasons (6%).

3.4 Animal- and human-oriented concerns and beliefs about animal welfare

The following tables display univariate statistics and bivariate Spearman rank-correlation coefficients for statements related to animal-oriented and human-oriented beliefs and concerns about animal welfare. Consumers expressed both kinds of beliefs and concerns in a previous project stage that inquired into the motivational bases of animal welfare concerns (compare the laddering interviews report). Concern about animal welfare was there found to be motivated by various beliefs and concerns about unfavorable consequences of those husbandry practices perceived to imply poor animal welfare. These could often be classified into two broad categories, namely human-oriented (anthropocentric) and animal-oriented (zoocentric) beliefs and concerns.

Due to limited space only a small fraction of beliefs and concerns found in the laddering interviews were used as statements in the survey. Animal-oriented (zoocentric) beliefs related to the impact of various production conditions on animal welfare, i.e. the impact of crowded conditions, outdoor access, transport conditions and intensive production on animal welfare. Human-oriented (anthropocentric) beliefs related to the impact of animal welfare relevant production conditions on food safety, healthiness of food and taste.

A human-oriented and an animal-oriented scale was constructed, each as mean over six human- and animal-oriented belief-statements respectively. Univariate statistics indicate that prompted beliefs about the impact of husbandry conditions on both animal welfare and matters of more direct human interest (taste, food safety & healthiness) are generally very strong: Typically between 40% and 50% of respondents agreed very strongly (and generally another 20 - 30% agreed slightly) that selected husbandry conditions (crowded conditions, no outdoor access, intensive practices, no daylight) have adverse effects on both animals and humans. However, beliefs are slightly stronger with regard to the impact of husbandry conditions on animals (median = 4.33) than humans (median = 4) - the Wilcoxon-test yields a highly significant ($p = 0.000$) difference. On the other hand, the variance and standard deviation are slightly higher for the human- than the animal-oriented scale.

The proportion of valid answers for individual statements ('don't know'-cases excluded) is slightly higher for animal-oriented beliefs (97.6% - 99.6%) than for human-oriented beliefs (77.7% - 97.8%). I.e. slightly less people have an opinion about the effect of husbandry conditions on product characteristics compared to the effect on animals. This is particularly true for certain special cases like the effect of daylight on taste. But 97.4% of respondents have a view on the more general statement that 'the health of farm animals affects the safety of the food we eat'.

Table 3: Animal- & human-oriented beliefs & concerns about production conditions

	coding	agree strongly %	agree somewhat %	neither agree nor disagree%	disagree somewhat %	disagree strongly %	standard deviation	mean (median)	valid (missing) %	correlation with confql	correlation with conaw
Animal-oriented beliefs (Cronbach's $\alpha = 0.69$)⁹											
Farm animals have an acceptable quality of life even in crowded conditions (acrowd)	1-5	3.2	8.7	5.2	28.4	54.5	1.09	4.22 (5)	98.0 (2.0)	0.248 ***	0.289 ***
Farm animals have a good quality of life even if they have no access to the outdoors (aacout)		3.4	10.7	9.1	34.9	41.8	1.12	4.01 (4)	97.6 (2.4)	0.235 ***	0.303 ***
Farm animals kept only indoors have a good quality of life (aindoor)		5.2	8.7	6.8	29.4	49.9	1.17	4.10 (4)	98.0 (2.0)	0.209 ***	0.290 ***
Poor transport conditions reduce the welfare of farm animals (atrans)	5-1	75.6	16.6	0.8	3.8	3.2	0.93	4.58 (5)	99.6 (0.4)	0.359 ***	0.375 ***
Intensive animal production affects the animal's quality of life (aintens)		57.2	23.8	5.8	9.2	4.0	1.15	4.21 (5)	98.6 (1.4)	0.396 ***	0.425 ***
Animals kept in intensive conditions have a poor quality of life (aincond)		58.3	22.4	6.2	9.6	3.6	1.30	4.22 (5)	98.8 (1.2)	0.432 ***	0.484 ***
Animal-oriented-beliefs scale (arithmetic mean over the above six statements): (animalmn)							0.67	4.18 (4.3)	100 (0)	0.438 ***	0.495 ***
Animal-oriented concern											
I am concerned that the way farm animals are treated affects their quality of life (conaw)	(5-1)	56.5	28.7	5.0	6.0	3.8	1.12	4.28 (5)	98.8 (1.2)	0.478 ***	1
Human-oriented beliefs (Cronbach's $\alpha = 0.68$, $\alpha = 0.70$ if statement 'sfheat' deleted)											
Intensive production of farm animals produces food that is safe to eat (sfinten)	1-5	6.9	10.6	10.4	29.0	43.1	1.26	3.91 (4)	96.6 (3.4)	0.278 ***	0.291 ***
Animals with no outdoor access produce food that is healthy (hltout)		5.0	8.9	8.3	32.9	45.0	1.16	4.04 (4)	97.8 (2.2)	0.292 ***	0.269 ***
Farm animals with no access to natural light produce poor tasting food. (tslight)	5-1	35.8	26.4	16.0	15.2	6.6	1.28	3.69 (4)	77.7 (22.3)	0.319 ***	0.362 ***
Farm animals kept only indoors affects the healthiness of food. (hthind)		41.5	25.9	10.5	13.9	8.2	1.33	3.79 (4)	93.7 (6.3)	0.418 ***	0.373 ***
The health of farm animals affects the safety of the food we eat (sfheat)		55.9	26.5	6.3	7.5	3.8	1.10	4.23 (5)	97.4 (2.6)	0.286 ***	0.259 ***
Overcrowding of farm animals is bad for the nutritional value of food (ntovrc)		47.8	26.9	5.3	12.2	7.9	1.31	3.94 (4)	92.5 (7.5)	0.374 ***	0.359 ***
Human-oriented-beliefs scale (arithmetic mean over the six statements above): (humanmn)							0.72	3.88 (4)	100 (0)	0.478 ***	0.466 ***
Human-oriented concern											
I am concerned that the way farm animals are treated affects the quality of animal-based food (confql)	5-1	54.6	27.1	6.8	7.4	4.0	1.11	4.21 (5)	98.2 (1.8)	1	0.478 ***

Numbers under the rating scale refer to valid percentages for each statement.

⁹ Cronbach's α is a measure of scale reliability, i.e. internal consistency of a scale. It is related to the average correlation between scale items and may assume values between zero and one.

Wording direction of statements (positive versus negative) might have had an effect on the extent to which people confirm effects of husbandry practices: Statements that point out adverse consequences of poor husbandry practices receive a higher proportion of consent compared to the proportion of dissent for statements that suggest favourable consequences of unpopular husbandry practices.

Spearman-rank-correlation coefficients between all pairs of belief-statements are significantly different from zero (mostly highly significant at $p=0.000$) and range between 0.107 and 0.518 (the table contains correlation coefficients multiplied by 1000). Pairs of statements worded in the same direction tend to have slightly higher correlation-coefficients than pairs which are oppositely worded. The average correlation coefficient for statements within the group of animal-oriented belief-statements (0.314) was slightly higher than the correlation coefficient for statements within the group of human-oriented belief statements (0.271) and across the two groups of belief-statements (0.271). The impact of husbandry conditions on animal welfare was perceived more generalised than the impact of husbandry conditions on food attributes and hence humans.

Table 4: Correlation coefficients between human- & animal-oriented beliefs

	ACR OWD	AAC OUT	AIND OOR	ATR ANS	AINT ENS	AINC OND	CON AW	SFIN TEN	HLT OUT	TSLI GHT	HLT HIND	SFH EALT	NTO VRC	CON FQL	
ACR OWD	1	376 ***	370 ***	202 ***	293 ***	335 ***	289 ***	366 ***	308 ***	220 ***	295 ***	227 ***	179 ***	248 ***	ACR OWD
AAC OUT	376 ***	1	489 ***	159 ***	269 ***	317 ***	303 ***	325 ***	320 ***	266 ***	396 ***	107 *	190 ***	235 ***	AAC OUT
AIND OOR	370 ***	489 ***	1	127 **	288 ***	304 ***	290 ***	279 ***	414 ***	193 ***	332 ***	152 ***	102 *	209 ***	AIND OOR
ATR ANS	202 ***	159 ***	127 **	1	336 ***	345 ***	375 ***	163 ***	177 ***	113 ***	245 ***	279 ***	360 ***	359 ***	ATR ANS
AINT ENS	293 ***	269 ***	288 ***	336 ***	1	504 ***	425 ***	363 ***	172 ***	280 ***	461 ***	261 ***	252 ***	396 ***	AINT ENS
AINC OND	335 ***	317 ***	304 ***	345 ***	504 ***	1	484 ***	385 ***	225 ***	343 ***	415 ***	293 ***	302 ***	432 ***	AINC OND
CON AW	289 ***	303 ***	290 ***	375 ***	425 ***	484 ***	1	291 ***	269 ***	362 ***	373 ***	259 ***	359 ***	478 ***	CON AW
SFIN TEN	366 ***	325 ***	279 ***	163 ***	363 ***	385 ***	291 ***	1	285 ***	205 ***	361 ***	202 ***	153 ***	278 ***	SFIN TEN
HLT OUT	308 ***	320 ***	414 ***	177 ***	172 ***	225 ***	269 ***	285 ***	1	273 ***	326 ***	128 **	233 ***	292 ***	HLT OUT
TSLI GHT	220 ***	266 ***	193 ***	113 *	280 ***	343 ***	362 ***	205 ***	273 ***	1	518 ***	144 **	405 ***	319 ***	TSLI GHT
HLT HIND	295 ***	396 ***	332 ***	245 ***	461 ***	415 ***	373 ***	361 ***	326 ***	518 ***	1	294 ***	398 ***	418 ***	HLT HIND
SFH EALT	227 ***	107 *	152 ***	279 ***	261 ***	293 ***	259 ***	202 ***	128 **	144 **	294 ***	1	140 **	286 ***	SFH EALT
NTO VRC	179 ***	190 ***	102 *	360 ***	252 ***	302 ***	359 ***	153 ***	233 ***	405 ***	398 ***	140 **	1	374 ***	NTO VRC
CON FQL	248 ***	235 ***	209 ***	359 ***	396 ***	432 ***	478 ***	278 ***	292 ***	319 ***	418 ***	286 ***	374 ***	1	CON FQL
	ACR OWD	AAC OUT	AIND OOR	ATR ANS	AINT ENS	AINC OND	CON AW	SFIN TEN	HLT OUT	TSLI GHT	HLT HIND	SFH EALT	NTO VRC	CON FQL	

Spearman-rank-correlation-coefficients multiplied by 1000.

In addition to belief-statements, one animal-centred concern statement and one human-centred concern statement were employed in the survey. 85% of respondents said to be either slightly or somewhat concerned about the impact of husbandry practices on animals and 82% about the impact on product characteristics and humans. A Wilcoxon-test did not yield statistically significant differences for the distributions of these two variables.

Do beliefs correlate with concerns? All correlation coefficients between concern and belief statements were statistically highly significant. Animal-oriented belief statements were slightly more strongly associated with animal-oriented than human-oriented concern. This clear relationship did not prevail in the case of human-oriented beliefs. Anthropocentric and zoocentric concerns were relatively highly correlated with each other (0.478) - suggesting either strong interdependencies or lack of involvement in the subject area which leads to generalised judgements. Correlation coefficients between concern and belief scales ranged from 0.438 to 0.495 (which is higher than the correlation coefficient for individual belief-statements). Anthropocentric concern (confql) about animal welfare seems only slightly more motivated by human-oriented beliefs (corr.-coeff. with humanmn = 0.478) than animal-oriented beliefs (corr.-coeff. with animalmn = 0.438). Zoocentric concern (conaw) in turn seems only slightly more motivated by animal-oriented beliefs (0.495) than by human-oriented-beliefs (0.466).

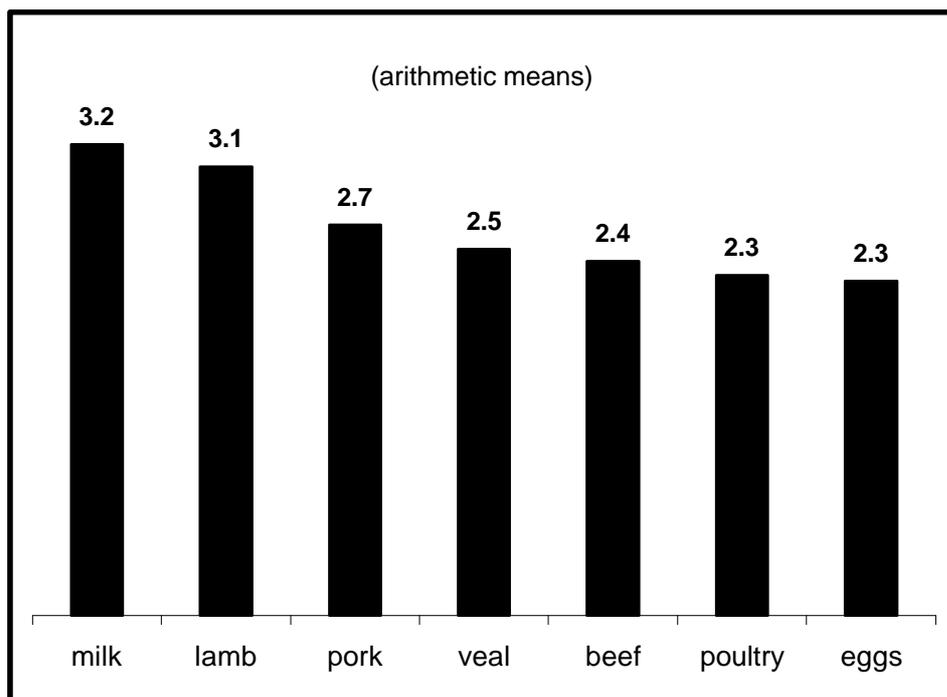
Table 5: Mean over correlation coefficients across and within animal- & human-oriented statement groups

	animal-oriented beliefs	human-oriented beliefs	animal-oriented concerns	human-oriented concerns
animal-oriented beliefs	0.314 (mean over 15 statements)	0.271 (mean over 36 statements)	0.361 (mean over 6 statements)	0.393 (mean over 6 statements)
human-oriented beliefs	0.271 (mean over 36 statements)	0.271 (mean over 15 statements)	0.319 (mean over 6 statements)	0.399 (mean over 6 statements)
animal-oriented concerns	0.361 (mean over 6 statements)	0.319 (mean over 6 statements)	1	0.478 (mean over 6 statements)
human-oriented concerns	0.393 (mean over 6 statements)	0.399 (mean over 6 statements)	0.478 (mean over 6 statements)	1

3.5 Acceptability of animal treatment in food production (Question 9)

The following chart presents average acceptability (in the form of midranks or arithmetic means over the ordinal ratings) of animal treatment in the production of the various products. Least acceptable are conditions in the production of eggs and poultry, followed by beef and veal. Also pork is on the unacceptable side of the scale. Treatment of animals in farming is therefore generally 'somewhat unacceptable' on average. Only lamb and milk have means slightly higher than 3 ('neither acceptable nor unacceptable'). Food production for these products is probably associated with free-range systems and outdoor access by many. Interesting is the different acceptability of milk and beef. Acceptability of animal treatment in beef production probably dropped because of the current bse scandals and what is seen as disastrous feeding practices. The feeding practices do not seem to be at the forefront of people's minds for milk. Maybe this is so, because milk is not perceived to pose a food safety threat and because milk as a product is mentally one step further removed from the animal itself.

Figure 6: acceptability of production methods



answer scale from 1 = very unacceptable to 5 = very acceptable

The median acceptability levels of animal treatment in the production of the various products are: milk = 4, lamb = 3, pork = 2, veal = 2, beef = 2, poultry = 2, eggs = 2.

Table 6: Product specific acceptability of animal treatment: tests of equality and correlation coefficients

	pork	poultry	beef	lamb	veal	eggs	milk
pork: t-sig. Wilcoxon-sig. Sp.-corr.							
poultry: t-sig. Wilcoxon-sig. Sp.-corr.	.000 *** .000 *** .000 *** (.689, m)						
beef: t-sig. Wilcoxon-sig. Sp.-corr.	.000 *** .000 *** .000 *** (.465, l)	.092 (ns) .051 (ns) .000 *** (.450, l)					
lamb: t-sig. Wilcoxon-sig. Sp.-corr.	.000 *** .000 *** .000 *** (.379, l)	.000 *** .000 *** .000 *** (.208, l)	.000 *** .000 *** .000 *** (.439, l)				
veal: t-sig. Wilcoxon-sig. Sp.-corr.	.005 ** .008 ** .000 *** (.559, m)	.002 ** .000 *** .000 *** (.510, m)	.103 (ns) .103 (ns) .000 *** (.581, m)	.000 *** .000 *** .000 *** (.491, l)			
eggs: t-sig. Wilcoxon-sig. Sp.-corr.	.000 *** .000 *** .000 *** (.567, m)	.353 (ns) .330 (ns) .000 *** (.674, m)	.019 * .018 * .000 *** (.322, l)	.000 *** .000 *** .001 *** (.175, vl)	.000 *** .000 *** .000 *** (.407, l)		
milk: t-sig. Wilcoxon-sig. Sp.-corr.	.000 *** .000 *** .000 *** (.621, m)	.000 *** .000 *** .000 *** (.551, m)	.000 *** .000 *** .000 *** (.464, l)	.076 (ns) .100 (ns) .000 *** (.443, l)	.000 *** .000 *** .000 *** (.495, l)	.000 *** .000 *** .000 *** (.481, l)	
t-sig. = significance level (first kind error probability, i.e. probability that the hypothesis of no difference between means is erroneously rejected) for the t-test. Wilcoxon-sig. = significance level for the Wilcoxon test. Sp.-corr.: first the significance level is presented and then the spearman correlation coefficient (vl = very low, l = low, m = medium, h = high correlation). Two-tailed tests of significance were conducted in all three cases.							

Only four paired tests (Wilcoxon-tests) did not allow to reject the hypothesis of no differences between products: No differences in the level of acceptability can be assumed between a) beef and poultry, b) veal and beef, c) eggs and poultry, d) milk and lamb. All Spearman-correlation-coefficients were statistically highly significant at $p = 0.001$. Correlations ranged from very low to medium (from 0.175 to 0.689). Particularly high correlations occurred between pork and poultry, eggs and poultry, milk and pork, veal and beef, eggs and pork, veal

and pork, poultry and milk, veal and poultry. All correlation coefficients are positive, i.e. a critical attitude towards the treatment of animals in the production of one product typically facilitates a critical attitude about other production conditions. A factor like "factory farming", a generalised negative perception of modern animal husbandry practices seems reflected in these positive correlations.

Table 7: Product specific acceptability of animal treatment and gender

	women: mean (median)	men: mean (median)	tests of significance
eggs t-test-sig. Mann-Whitney-U Spearman-Rho Cramer's-V	2.22 (2)	2.37 (2)	.174 (ns) .147 (ns) .147 (ns) (-.065, vl) .381 (ns) (.092)
beef t-test-sig. Mann-Whitney-U Spearman-Rho Cramer's-V	2.25 (2)	2.67 (2)	.000 *** .000 *** .000*** (-.169, vl) .004 ** (.177)
poultry t-test-sig. Mann-Whitney-U Spearman-Rho Cramer's-V	2.36 (2)	2.33 (2)	.828 (ns) .902 (ns) .902 (ns) (.006, vl) .910 (ns) (.045)
veal t-test-sig. Mann-Whitney-U Spearman-Rho Cramer's-V	2.37 (2)	2.70 (2)	.003 ** .002 ** .002 ** (-.145, vl) .024 * (.158)
pork t-test-sig. Mann-Whitney-U Spearman-Rho Cramer's-V	2.66 (2)	2.73 (3)	.489 (ns) .481 (ns) .482 (ns) (-.032, vl) .838 (ns) (.055)
lamb t-test-sig. Mann-Whitney-U Spearman-Rho Cramer's-V	2.91 (3)	3.28 (4)	.004 ** .005 ** .005 ** (-.145, vl) .033 * (.168)
milk t-test-sig. Mann-Whitney-U Spearman-Rho Cramer's-V	3.16 (4)	3.35 (4)	.089 (ns) .138 (ns) .138 (ns) (-0.068vl) .279 (ns) (.104)
Two-sided tests of significance for all parametric and non-parametric tests, vl = very low correlation.			

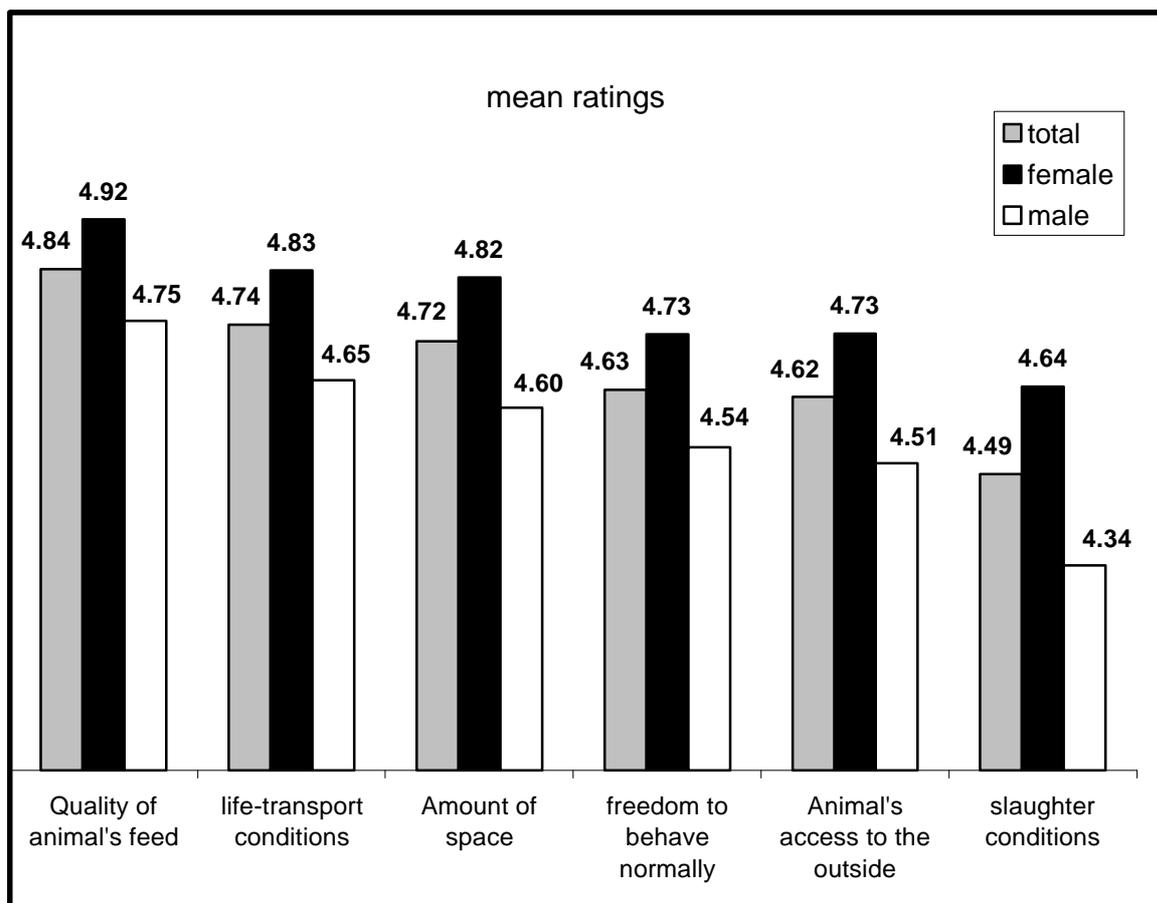
Significant gender differences emerged for the acceptability of animal treatment in the production of beef, veal and lamb. In all cases did women rate the acceptability significantly lower than men. In the case of veal and lamb women might empathise with these very young animals more than men. In the case of beef it might be that women know more about the importance of food for personal well-being or are simply more health conscious than men.

3.6 Importance of animal welfare factors (Question 10)

Respondents were asked to rate the importance of six factors that were identified in the previous qualitative research as important for adequate animal welfare. The means for all six factors show, that on average all six factors are rated between 'somewhat important' and 'very important'. Women rated the importance of each factor significantly higher than men.

Quality of animal's feed was valued highest. Given that importance of food safety to consumers, as shown in responses to question 4, there is a question about how to interpret these answers. One interpretation is that consumers have learned that poor food leads to animal diseases and illnesses, which impinges on animal welfare. Drawing on results of the laddering interviews one can say, that consumers value animal feed so highly because they are concerned about animal health. They see animal health directly connected with food safety and human health, but poor animal health also leads them to empathise with the animal. As the latter point is present in the other animal welfare factors, too, it can be concluded, that animal feed is seen as particularly important as no other animal welfare factor is perceived to be similarly strongly connected with food safety.

Figure 7: Importance of animal welfare attributes



'Life transport conditions' and 'amount of space' come next in importance. This confirms results of the German laddering interviews in which the three most important animal welfare issues identified, centred around the concepts of 'space', 'transport' and 'feed'. Transport issues have received widespread media coverage which makes high concern no surprise.

Next in importance come 'freedom to behave normally' and 'animal's access to the outside' which are correlated relatively strongly with the concept 'amount of space' (Spearman-correlation coefficients above 0.5). 'Slaughter conditions' while still seen as important, receive the lowest importance rank. Some people in the pilot interviews were somehow unsure, how to rate 'slaughter' as they saw slaughter either as violating the interests of the animal anyway or they did not see any problem, as it wouldn't last very long.

Differences for the various factor-pairs were significant in all cases but the pairs 'amount of space and life transport conditions' and 'animal's access to the outside and freedom to behave normally'. All correlations between the factors were positive and highly significant at $p = 0.001$. Correlation values ranged from low to medium correlation, from 0.283 to 0.515.

Table 8: Gender and perceived importance of animal welfare factors

	women: mean (median)	men: mean (median)	tests of significance
Quality of animal's feed t-test-sig. Mann-Whitney-U Spearman-Rho Cramer's-V	4.92 (5)	4.75 (5)	.000 *** .000 *** .000 *** (.198, vl) .000 *** (.206)
Life transport conditions t-test-sig. Mann-Whitney-U Spearman-Rho Cramer's-V	4.83 (5)	4.65 (5)	.000 *** .000 *** .000 *** (.158, vl) .008 ** (.165)
Amount of space t-test-sig. Mann-Whitney-U Spearman-Rho Cramer's-V	4.82 (5)	4.60 (5)	.000 *** .000 *** .000 *** (.195, vl) .000 *** (.208)
Freedom to behave normally t-test-sig. Mann-Whitney-U Spearman-Rho Cramer's-V	4.73 (5)	4.54 (5)	.001 *** .016 ** .015 ** (.108, vl) .011 * (.161)
Animal's access to the outside t-test-sig. Mann-Whitney-U Spearman-Rho Cramer's-V	4.73 (5)	4.51 (5)	.000 *** .000 *** .000 *** (.175, vl) .002 ** (.184)
slaughter conditions t-test-sig. Mann-Whitney-U Spearman-Rho Cramer's-V	4.64 (5)	4.34 (5)	.000 *** .000 *** .000 *** (.192, vl) .001 *** (.197)
two-sided tests of significance for all parametric and non-parametric tests, vl = very low correlation			

Table 9: Importance of various animal welfare factors: Tests of equality and correlation coefficients

	Quality of animal's feed	Life transport conditions	Amount of space	Freedom to behave normally	Animal's access to the outside	slaughter conditions
Quality of animal's feed						
Life transport conditions: t-sig. Wilcoxon-sig. Sp.-corr.	.000 *** .000 *** .001 *** (.283, 1)					
Amount of space: t-sig. Wilcoxon-sig. Sp.-corr.	.000 *** .000 *** .000 *** (.388, 1)	.320 (ns) .190 (ns) .000 *** (.342, 1)				
Freedom to behave normally: t-sig. Wilcoxon-sig. Sp.-corr.	.000 *** .000 *** .000 *** (.312, 1)	.000 *** .000 *** .000 *** (.380, 1)	.002 ** .002 *** .000 *** (.518, m)			
Animal's access to the outside: t-sig. Wilcoxon-sig. Sp.-corr.	.000 *** .000 *** .000 *** (.368, 1)	.000 *** .000 *** .000 *** (.431, 1)	.000 *** .001 *** .000 *** (.515, m)	.615 (ns) .533 (ns) .000 *** (.505, m)		
slaughter conditions: t-sig. Wilcoxon-sig. Sp.-corr.	.000 *** .000 *** .000 *** (.329, 1)	.000 *** .000 *** .000 *** (.392, 1)	.000 *** .000 *** .000 *** (.329, 1)	.000 *** .000 *** .000 *** (.388, 1)	.001 *** .001 *** .000 *** (.344, 1)	
two-tailed tests of significance in all three cases						

3.7 Reduced consumption due to concerns about animal welfare? (Question 11)

38% of people in the German sample say to have reduced their consumption of an animal product in the last five years due to animal welfare concerns and a majority of 62% says it has not. More women (47%) than men (29%) reported reduced consumption due to animal welfare concerns. A contingency analysis shows highly significant chi-square and Cramer-V values (at $p = 0.001$). Cramer-V as a measure of association between gender and reduced consumption due to animal welfare concerns has a value of 0.195 (possible range from 0 to 1).

Table 10: Reduced consumption due to concerns about farm animal treatment?

	All	Men	Women
Yes	38%	29%	47%
No	62%	71%	53%

Table 11: Cross tabulation of gender and concern induced consumption reduction

Reduced consumption of food because of concerns about way in which animals are treated *
Gender of respondent Kreuztabelle

			Gender of respondent		Gesamt
			Male	Female	
Reduced consumption of food because of concerns about way in which animals are treated	No	Anzahl	178	134	312
		Erwartete Anzahl	154.1	157.9	312.0
	Yes	Anzahl	71	121	192
		Erwartete Anzahl	94.9	97.1	192.0
Gesamt	Anzahl	249	255	504	
	Erwartete Anzahl	249.0	255.0	504.0	

Table 12: Chi-Square-Test of association between gender and concern induced consumption reduction

Chi-Quadrat-Tests

	Wert	df	Asymptotische Signifikanz (2-seitig)	Exakte Signifikanz (2-seitig)	Exakte Signifikanz (1-seitig)
Chi-Quadrat nach Pearson	19.157 ^b	1	.000		
Kontinuitätskorrektur ^a	18.363	1	.000		
Likelihood-Quotient	19.327	1	.000		
Exakter Test nach Fisher				.000	.000
Zusammenhang linear-mit-linear	19.119	1	.000		
Anzahl der gültigen Fälle	504				

a. Wird nur für eine 2x2-Tabelle berechnet

b. 0 Zellen (.0%) haben eine erwartete Häufigkeit kleiner 5. Die minimale erwartete Häufigkeit ist 94.86.

Has social class any effect on whether or not people reduced consumption due to animal welfare concerns? Less AB and DE people reduced their consumption than would be expected for independence between social class and consumption. C2 and especially C1 people reduced their consumption relatively more. The chi-square-test rejects the hypothesis of independence between social class and consumption reduction due to animal welfare concerns at $p = 0.01$. Cramer-V = 0.170, a similar magnitude as in the case of gender. One could interpret this finding either as indicating, that people in different social classes behave differently or understand the question differently.

Table 13: Cross tabulation of social class and concern induced consumption reduction

Reduced consumption of food because of concerns about way in which animals are treated * Social class of respondent Kreuztabelle

			Social class of respondent				Gesamt
			AB	C1	C2	DE	
Reduced consumption of food because of concerns about way in which animals are treated	No	Anzahl	46	32	175	49	302
		Erwartete Anzahl	38.4	44.0	175.5	44.0	302.0
	Yes	Anzahl	16	39	108	22	185
		Erwartete Anzahl	23.6	27.0	107.5	27.0	185.0
Gesamt	Anzahl	62	71	283	71	487	
	Erwartete Anzahl	62.0	71.0	283.0	71.0	487.0	

Table 14: Chi-Square-Test of association between social class and concern induced consumption reduction

Chi-Quadrat-Tests

	Wert	df	Asymptotische Signifikanz (2-seitig)
Chi-Quadrat nach Pearson	14.037 ^a	3	.003
Likelihood-Quotient	13.993	3	.003
Zusammenhang linear-mit-linear	.042	1	.837
Anzahl der gültigen Fälle	487		

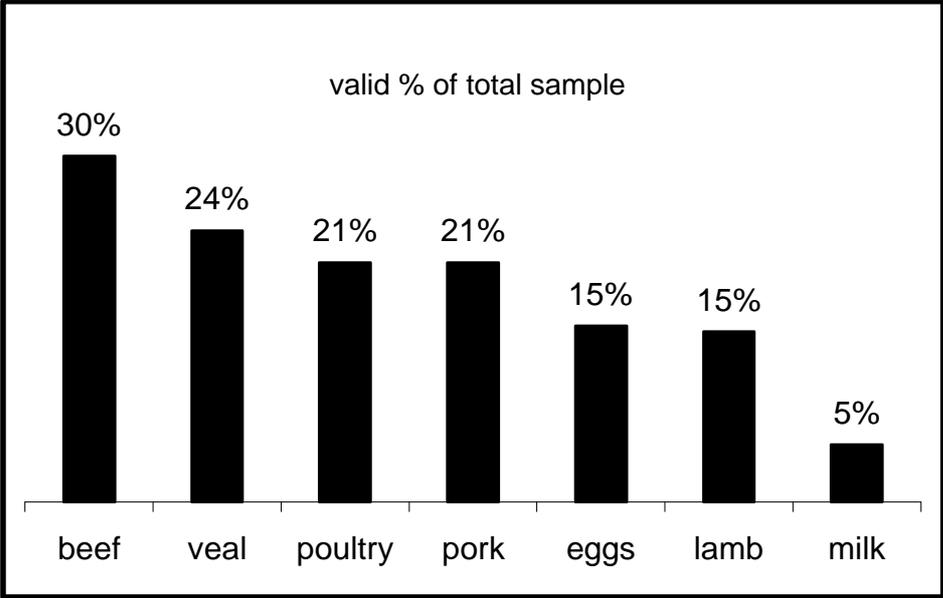
a. 0 Zellen (.0%) haben eine erwartete Häufigkeit kleiner 5. Die minimale erwartete Häufigkeit ist 23.55.

3.8 Products with reduced consumption due to concerns about animal welfare (Question 12)

Those people who reported reduced consumption due to concerns about animal welfare were asked, for which precise products they reduced their consumption. With some exceptions consumption reductions due to animal welfare concerns follow similar patterns as general reductions in question 3. Reported consumption reductions are invariably lower here than in question three. The one exception is poultry: only 13% reported reduced consumption in question 3 but 21% of German respondents claim to have reduced their consumption on grounds of animal welfare. Either this is a manifestation of social answering or respondents interpreted both questions differently. Differing time perspectives might have been applied to

the two questions. People might also report here that they reduced their consumption in a relative not an absolute sense, i.e. they might have wanted to say, they had consumed even more poultry, had they been unconcerned about animal welfare.

Figure 8: Reduced consumption due to animal welfare concerns



Beef and veal are top of the list for reduced consumption - as in question 3. This is probably again an effect of the recent events in the area of BSE. Pork loses its third rank to poultry. Less people reduced their egg consumption (15%) due to animal welfare concerns than their poultry consumption (21%) - this might be due to the relatively better availability of animal friendly alternatives for eggs than for poultry. As concerns about animal welfare can either lead to reduced consumption levels or choice of animal friendly alternatives, better availability can certainly tilt the balance between these two options in favour of process-quality consumption.

For pork and poultry the same percentages of animal welfare induced consumption reductions were reported. No meat product is reported with a lower animal welfare induced consumption reduction than eggs and milk. Again it is striking that milk is treated so differently from beef and veal.

When only people with some concern induced consumption changes are considered, contingency analysis reveals no significant differences between product specific concern induced consumption changes and either gender or social class. The only chi-square-test which showed a tendency towards significance was one between milk consumption reduction and gender: concern-motivated women reduced their milk consumption due to concerns about animal welfare slightly more than concern-motivated men.

3.9 General choice of animal welfare labelled food products (Question 13)

70% of respondents claim to choose food products that are labelled as produced with standards of animal welfare above average and 30% say they do not.

The Spearman rank correlation coefficient did not reveal a significant correlation between social class and choice of 'animal friendly' products. Gender however was statistically significantly (at $p = 0.001$) associated with the consumption of 'animal friendly' products, the strength of the relationship is indicated in Cramer's-V = 0.172. There is a certain tendency for women to more often report consumption of animal friendly products. Also a statistically significant correlation shows up in a contingency analysis between the two variables 'reduced consumption due to animal welfare concerns' and 'choice of 'animal friendly' products'. Reduced consumption due to animal welfare concerns tends to be associated with self-reported choice of 'animal friendly' products. This is probably due to the fact that both kinds of behaviours require similar awareness and willingness to act.

This question is in a certain conflict with question 9 on the acceptability of the way animals are usually treated in food production. General husbandry practices are perceived to be unacceptable by most people, yet most people report personal choice of products for which the animals experience better treatment in production. This needs to be interpreted. One explanation are socially desirable answers (or simply wishful thinking), which could work both ways, to decrease reported acceptability of animal treatment and to increase reported amounts of personally consumed 'animal friendly' products. While there seems to be an overall awareness that husbandry practices do not respect animal welfare enough, the problem is denied at the personal level to protect ones self-esteem. Put differently, this reflects an attribution bias: consumers seem to say that they do not personally cause the problem, they do not blame themselves, it is the others fault. Another explanation is lack purchase relevant knowledge, i.e. consumers do not know enough to really tell whether they do or do not purchase 'animal friendly' products.

3.10 Particular animal friendly products consumed (Question 14)

People who claimed to consume 'food products labelled as being produced to higher than normal standards of animal welfare' were asked to mention the most important three of these products. Each of the three verbatim answers were coded with the same scheme of eighteen codes. Frequencies for each code were then summed over all three products. The resulting overall frequency for each code is presented in the following chart.

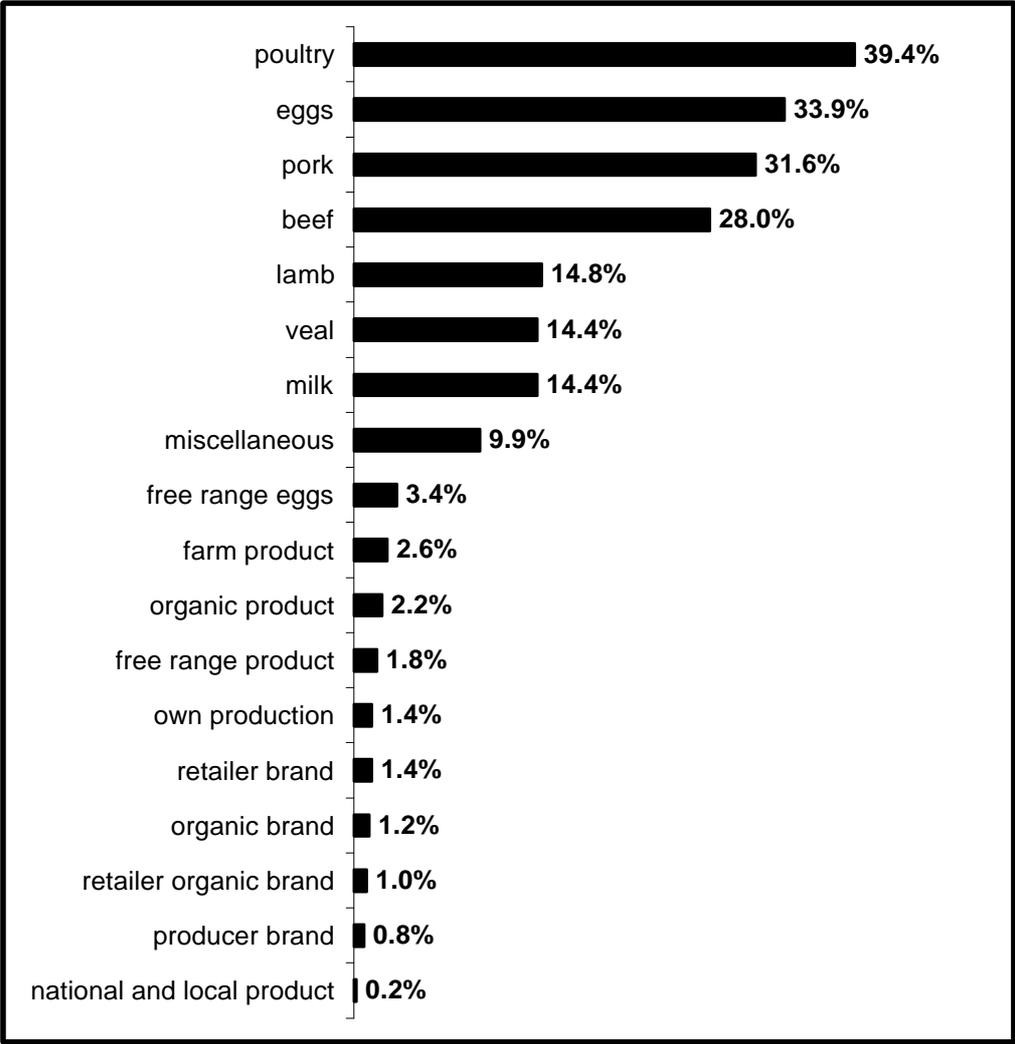
Participants employed two different strategies to answer this question: most of them mentioned only the general type of product, without any further explanation on why the product they chose was deemed animal friendly. For these answers it is not clear whether or not someone thought a whole product category, e.g. 'pork', animal friendly or whether she wanted to hint at a certain kind of 'pork' not further specified. Fewer participants went through the pains of specifying the exact production process or product characteristics which made them believe that their purchased product was animal friendly.

Sometimes answers like 'meat' could not be clearly attributed to only one code. In these cases the answer counted in more than one code. An answer like 'organic meat' was coded both as

'organic product' and under the five meat codes. Compared to the specific codes, the general product codes are therefore slightly overemphasised.

Let's have a look at the specific products first. As might be expected, free range eggs were most often mentioned. Further important indicators of good animal welfare levels are 'farm products', e.g. products bought from farmers themselves. Implied here is probably the 'romantic farm'. 'Farm' (Bauernhof) still is a word that conveys trust to the products as it sounds more like sound and personalised craft than factory production. Organic products are similarly trusted. Also some free-range products other than eggs were mentioned - but the term free-range is, to date, very much reserved for eggs. Brands for animal products also play a role. But less than might be expected - so far.

Figure 9: 'Animal friendly' products consumed



Percentages apply relative to all respondents (n=507)¹⁰

¹⁰ When only respondents with general self-reported consumption of welfare-labelled food are considered (n=344), the following percentages of people with self-report consumption of a specific welfare-labelled product result: poultry 58,1%, eggs 50%, pork 46,5%, beef 41,3%, lamb 21,8%, veal 21,2%, milk 21,2%, miscellaneous 14,5%, free-range eggs 4,9%, farm product 3,8%, organic product 3,1%, free-range product 2,6%, own production 2,6%, retailer brand 2,0%, organic brand 1,7%, retailer organic brand 1,5%, producer brand 1,2%, national and local product 0,3%.

Given the comparatively lowest acceptability of animal treatment in the production of poultry, it is surprising, that poultry is the self-reportedly most often consumed 'animal friendly' product. There are various interpretations to this. People might buy poultry particularly consciously and look out for 'animal friendly' production. This is in contrast to market figures. Alternatively white meat might not so much be regarded as 'meat'. Insofar as 'meat' is connected with animal welfare (or animal rights) issues 'poultry' (as further removed from 'meat') might be considered an 'animal friendly' alternative. A third interpretation is that on the one hand animal welfare problems in the production of meat are considered worst and paradoxically exactly this might necessitate defensive steps that protect ones self-esteem and lessen what might be seen as an awkward psychological problem (namely: to know by oneself, that you yourself are the/a bad person). According to this explanation the defensive step would consist in a denial of the fact that the poultry a person consumes has been produced under poor animal welfare conditions.

Similar deliberation could be applied to 'eggs'. The just mentioned first explanation seems more plausible as 'animal-friendly' egg alternatives are supposedly well known. The third most often product is 'pork'. Beef is probably not so much consumed due to the perceived low food safety. Lamb and veal on the next ranks are not really part of many people's range of meat choices and are therefore probably not mentioned so often. 'Miscellaneous' contains all other items that could not be summed under any other codes, like vegetables, fish, etc.

As animal friendly products are often less convenient to obtain and are often more expensive, one might expect that people need to be well motivated to buy them. Problem awareness seems to be an important ingredient for truly 'animal friendly' consumption behaviour. I therefore conducted a set of contingency analyses between the variables of question 9 (acceptability of method of production) and question 14 (specific animal friendly products consumed). The two questions were 1. is there a statistically significant association between variables of the two questions and therefore 2. how valid are answers to question 14.

Results:

1. The acceptability of animal treatment in the production of *eggs* can be seen as associated with the consumption of welfare-labelled 'eggs' ($p = 0.05$, Cramer's-V = 0.144) when the total sample $n = 507$ is considered. People who judged the treatment of hens in egg production as unacceptable mentioned personal welfare-labelled 'egg'-consumption more often than people who thought production more acceptable. When only people with general self-reported consumption of animal friendly products are considered ($n = 344$) Cramer's-V = 0.155, but is not significant.
2. A similar relation could not be found for poultry consumption. Case numbers were too small to conduct a meaningful analysis for people who mentioned production process criteria more specifically.
3. Welfare-labelled beef consumption is associated with perceived cattle-welfare in beef production for people with general self-reported consumption of food ($n = 344$) with Cramer's-V = 0.186 at $p = 0.05$, but not in the total sample ($n = 507$) where Cramer's-V = 0.122 (ns).
4. No other product specific associations between personal consumption of welfare-labelled products and perceived animal-welfare problems in production were significant. This indicates that self-reported consumption of welfare-labelled products has a low validity for all products but eggs and beef.

This analysis casts some doubt on the validity of many of the general product answers to question 14. Further, these self-reports are at odds with actual market figures. Wishful

thinking might be behind many of the answers. Answers are probably more valid in the case of self-reported consumption of welfare-labelled 'eggs' than in the case of poultry.

3.11 Barriers and promoters for the impact of animal-welfare concerns on food choice (Question 18)

The statements in the following table were posed in question 18 of the survey. They are meant to measure barriers and promoters for the impact of animal-welfare concerns on food choice. You find statements sorted by scale in the table below. The scales were each calculated as means over four relevant statements. The statements were coded and reverse coded to achieve unidirectional coding of oppositely worded statements for each scale. Five scales were constructed from 20 statements. Cronbach's Alpha is reported for each. It is a measure of internal consistency, i.e. reliability of a scale. Where a scale would have a higher internal consistency (higher Alpha), if a particular statement was deleted, this is reported.

The mean for each scale is displayed in the following figure. The higher the mean of a scale, the lower the barrier- or the higher the promoter-effect of animal welfare concerns on food choice. Looking at the simple means, costs and low empathy (including disassociation) do not constitute barriers for purchases of animal friendly products, neither does a low perceived effectiveness of own behaviour. 'Costs/willingness to pay', 'empathy' and 'influence' can instead be interpreted as self-perceived 'promoters' of the impact of animal-welfare concerns on food choice. Two important barriers are revealed (i.e. barriers from the respondents own point of view): 'availability' and 'information'. Means for all barrier scales differ highly significantly at $p = 0.001$ ¹¹, with the exception of the difference between the 'cost' and the 'empathy'-scale which is not significantly different from zero.

Contrary to everyday market experience, but in line with comparable survey data, **costs** or **willingness to pay** are in the view of the average respondent not seen as barriers to purchasing animal-friendly products. Socially desirable answers might play a role here and also the fact that verbally expressed willingness to pay did not have any monetary consequences. Also, given the low perceived availability, many judgements about costs were probably very hypothetical. If people don't know how to obtain 'animal friendly' products, they will certainly not have a clear idea about prices either and hence can't really judge, whether or not costs pose a barrier to purchases.¹²

¹¹ Only the difference between the 'information'-scale and the 'availability'-scale is slightly lower with $p = 0.01$.

¹² But it needs to be mentioned that no significant correlation between the cost and availability scales was discerned. When the individual scale statements are considered, generally very low (one 'low') negative correlation between costs and availability statements is discovered, i.e. the predicted direction of correlation between the two scales is found, but is not particularly strong.

Table 15: Statements of the 'barrier' scales

barrier-scales & variables	coding-direction	agree strongly	agree somewhat	neither agree nor disagree	disagree somewhat	disagree strongly	standard deviation	mean (median)
Influence (Cronbach's $\alpha = 0.4810$, $\alpha = 0.4866$ if binfpeo deleted) ¹³								
What I choose to buy has no effect on the welfare of farm animals (binfbuy)	1-5	16%	24%	13%	27%	21%	1,40	3,01 (3)
The amount of animal-based food I eat has no effect on the way animals are treated (binfant)	1-5	18%	27%	11%	26%	18%	1,39	3,13 (3)
By choosing products labelled with animal welfare I can influence the way animals are treated (binfaw)	5-1	42%	33%	8%	12%	6%	1,21	3,93 (4)
I believe people should eat less animal products to improve the welfare of farm animals (binfpeo)	5-1	22%	22%	14%	26%	16%	1,42	3,08 (3)
Information (Cronbach's $\alpha = 0.3975$, $\alpha = 0.4837$ if binftru deleted)								
Farmers should provide more reliable information on how animals are reared for food (binfofa)	1-5	52%	31%	8%	6%	3%	1,02	1,76 (1)
The Government provides enough reliable information on how animals are reared for food (binfogo)	5-1	5%	9%	9%	38%	40%	1,14	2,02 (2)
I am not sure whether animal welfare labels can be trusted, therefore, I am reluctant to buy such food (binftru)	1-5	23%	27%	17%	24%	9%	1,30	2,68 (2)
Food retailers provide enough reliable information on animal production (binfore)	5-1	6%	11%	9%	42%	32%	1,17	2,18 (2)
Availability (Cronbach's $\alpha = 0.6383$, $\alpha = 0.6422$ if bavalac deleted)								
Food with animal welfare labels is easily available to me (bavalab)	5-1	11%	12%	8%	42%	28%	1,30	2,36 (2)
Lack of animal welfare labelled food in the shops prevents me from buying it (bavalac)	1-5	34%	26%	14%	18%	8%	1,33	2,40 (2)
Food with animal welfare information is widely available (bavainf)	5-1	6%	10%	12%	45%	28%	1,12	2,20 (2)
You have to look hard to find foods with animal welfare labels (bavaloo)	1-5	45%	27%	9%	14%	6%	1,27	2,10 (2)
Costs (Cronbach's $\alpha = 0.7004$)								
I can afford to buy food with animal welfare labels all of the time (bcosall)	5-1	30%	29%	9%	23%	10%	1,37	3,46 (4)
The cost of food with animal welfare labels deters me from buying it (bcosdet)	1-5	6%	16%	12%	35%	31%	1,24	3,69 (4)
I am willing to pay more for products with improved animal welfare (bcoswtp)	5-1	42%	40%	8%	7%	3%	1,03	4,10 (4)
I resent having to pay more for foods produced with improved animal welfare (bcosres)	1-5	14%	12%	10%	33%	31%	1,40	3,55 (4)
Empathy (Cronbach's $\alpha = 0.5628$, $\alpha = 0.5940$ if bempacc deleted)								
I feel that the living conditions of most farm animals are acceptable (bempacc)	1-5	5%	16%	10%	42%	28%	1,17	3,72 (4)
Farm animal welfare is a major concern in my life (bempcon)	5-1	29%	30%	18%	19%	4%	1,19	3,61 (4)
When I buy animal-based food, I rarely think about how farm animals have been kept (bemprar)	1-5	11%	17%	12%	31%	30%	1,35	3,52 (4)
I often think about the way in which farm animals are treated (bemphi)	5-1	32%	37%	11%	16%	5%	1,19	3,76 (4)

¹³ Cronbach's α is a measure of scale reliability, i.e. internal scale consistency of a scale. It is related to the average correlation between scale items and may assume values between zero and one.

Gender differences for the 'cost'-scale are not significant. Women and men do not judge their willingness and ability to pay differently from men. An F-Test rejected the hypothesis that there are no differences between social classes for the cost-scale. T-tests (tests of contrasts in univariate analysis of variance) of pairs of means by social classes rejected all equality hypotheses - only the difference between the social classes AB and C2 was not found to be significant (equality hypotheses not rejected).

The '**empathy**'-scale-mean takes on a value which indicates concern about animal welfare in farming. This is a potential driving force for animal friendly purchases. Unfortunately strategic and (socially) desirable answers can't be ruled out and might lead to a certain exaggeration of the level of concern that people feel in everyday life. Compared to the animal-centred and human-centred concern scales, the empathy scale has a lower mean and a higher variance. The 'empathy'-scale is highly significantly correlated (at $p = 0.001$) with all other scales. Correlations coefficients reveal low correlation: 0.399 with the 'influence'-scale, -0.34 with the 'information'-scale, 0.295 with the 'cost'-scale and -0.227 with the 'availability'-scale. People who are more concerned about animal welfare tend to believe more that their own purchasing behaviour can make a difference to animals, demand more information, express a higher willingness to pay and judge 'availability' more often as poor.

A gender difference for the 'empathy'-scale is highly significant (t-test at $p = 0.01$) and the degree of association (between gender and values of the 'influence'-scale) is highly significant, too, with Cramer's-V = 0.267. Women tend to be more concerned about farm animal welfare than men. An F-Test did not reject the hypothesis that there are no differences between social classes with regard to values of the 'empathy'-scale, hence it can be assume that social class is not relevant here.

Table 16: Mean, variance and skewness for the 'barrier' scales

	Costs	Empathy	Influence	Availability	Information
Mean (median)	3.70 (3.75)	3.65 (3.75)	3.29 (3.25)	2.28 (2.25)	2.16 (2.00)
Variance	.864	.654	.737	.788	.503
Skewness	-.409	-.377	-.181	.562	.732

The '**influence**'-scale takes on a mean value which shows, that people believe they are between 'somewhat aware' and 'neither aware nor unaware' about the impact of their individual consumption behaviour on animals. The 'influence'-scale has a variance of 0.737 (this is a middle position compared to the other scales) and has the lowest skewness (it is slightly skewed to the larger values). Hence there are still some people for whom low awareness and denial of consequences of own consumption behaviour are a barrier. The 'influence'-scale is positively correlated with the 'empathy'-scale (0.399 at $p = 0.001$), with the 'cost'-scale (0.311 at $p = 0.001$) and slightly negatively with the 'information'-scale (-0.11 at p

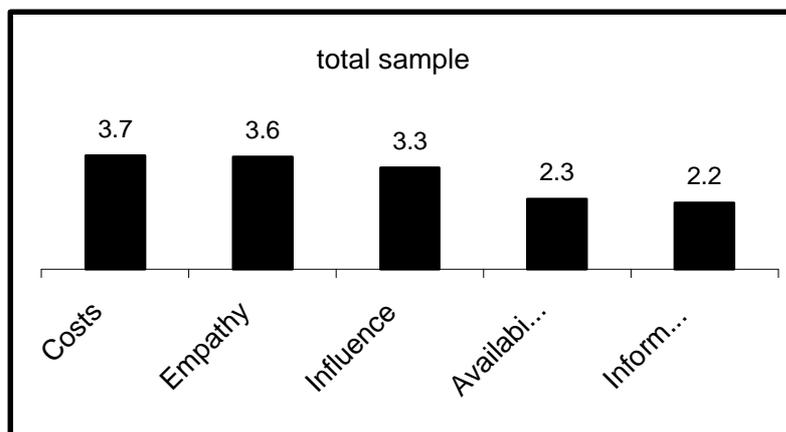
= 0.05). People who believe that their food choice affects the way animals are treated tend to be more concerned about farm animal welfare and exhibit a higher willingness to pay. They also demand slightly less information from the government, retailers and farmers. Behind the latter effect might be a tendency of these people to attribute responsibility more to themselves and less to others.

The gender difference for the 'influence'-scale is highly significant (independent sample t-test at $p = 0.001$) and the degree of association (between gender and values of the 'influence'-scale) is significant, too, with Cramer's-V = 0.283 ($p = 0.05$). Women tend to be more convinced about the impact of their personal food choice than men. An F-Test did not reject the hypothesis that there are no differences between social classes with regard to values of the 'influence'-scale, hence it can be assumed that social class is not relevant here.

When only the means of the scales are looked at, the only important barriers are '**availability**' and '**information**'. There is a perceived lack of choice of products produced with higher standards of animal welfare. Also people demand more information of the government, retailers and farmers and deplore that information is not always trustworthy. It needs to be noted that 'availability' statements were formulated more as purchasing-barriers than the information barrier statements.¹⁴

Gender differences in the mean can be assumed for the 'availability'-scale (independent sample t-test, $p = 0.05$) but not for the 'information'-scale. But on the other hand the Chi-square test and Cramer's-V are not significant. Social class differences cannot be assumed given non-significant F-tests for both the 'availability' and the 'information'-scale.

Figure 10: Barrier means



¹⁴ The exception in the information barrier statements is the statement 'I am not sure whether animal welfare labels can be trusted, therefore I am reluctant to buy such food.' In contrast to the 'availability' statements, the other information barrier statements are formulated more like 'attitudes to objects' than 'attitudes to behaviour'. The latter formulation is preferable when it comes to behavioural explanations. Therefore it is likely that the 'availability' statements will prove to be more valid barriers than the 'information' statements.

Figure 11: Mean of barrier scales by gender

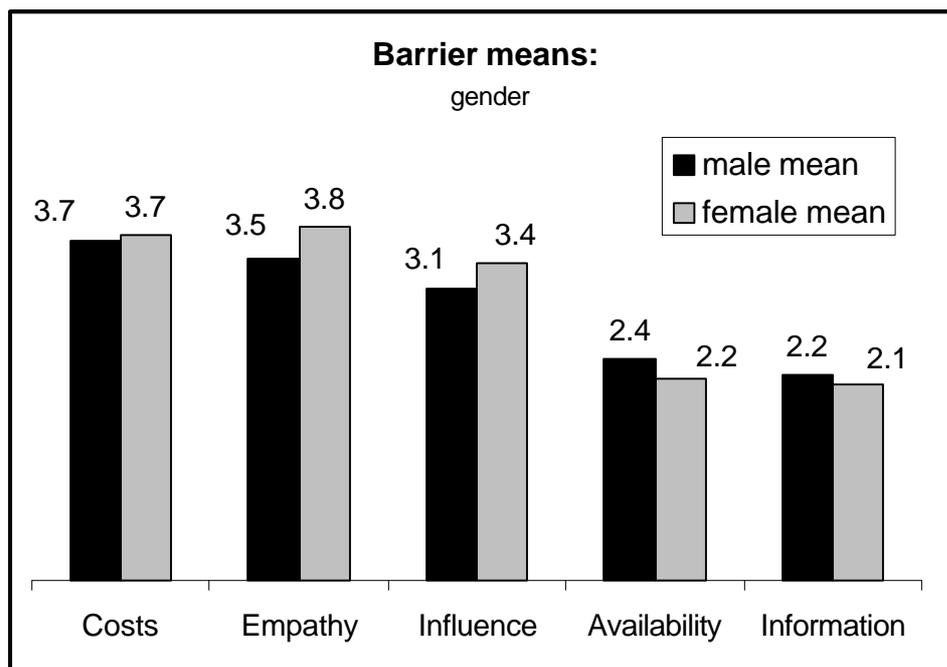
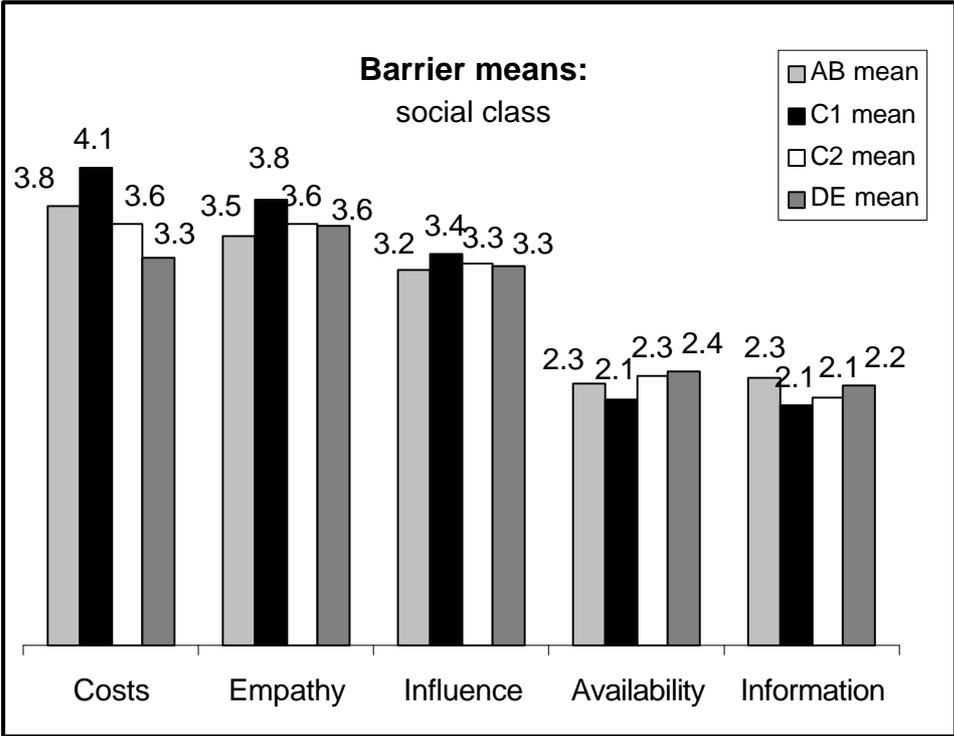


Table 17: Gender and barrier-scales - significance tests

	women: mean (median)	men: mean (median)	tests of significance
Costs t-test-sig. Cramer-V	3.72 (3.75)	3.66 (3.75)	.474 (ns) .656 (ns) (.188)
Empathy t-test-sig. Cramer-V	3.82 (4.00)	3.47 (3.50)	.000 *** .007 ** (.267)
Influence t-test-sig. Cramer-V	3.43 (3.50)	3.14 (3.00)	.000 *** .013 * (.283)
Availability t-test-sig. Cramer-V	2.19 (2.00)	2.38 (2.25)	.012 * .365 (ns) (.217)
Information t-test-sig. Cramer-V	2.11 (2.00)	2.21 (2.25)	.110 (ns) .485 (ns) (.206)
Two-sided tests of significance for all parametric and non-parametric tests.			

Figure 12: Means of barrier scales by social class



The analysis of means and interdependencies between scales suggests that the scales can be classified into two groups. 'Availability' and 'information' are on average perceived as **barriers**. 'Empathy', 'willingness to pay/costs', and 'perceived influence' are in contrast not perceived as barriers but rather as **promoters** of purchasing animal friendly products and/or promoters of distorted reports on purchases.

The availability-scale and the information-scale describe 'external' barriers, i.e. they describe reasons for 'animal unfriendly' consumption behaviour that lie outside the person and can be attributed to someone else. The promoter scales ('empathy', 'willingness to pay/costs', 'influence') describe reasons for 'animal-unfriendly' purchases that lie more within the person. Therefore one result is that people locate the reason for 'animal-unfriendly' purchases outside themselves and lay the blame on someone else. This is a well known psychological mechanism and presents a threat to the validity of barrier measurements.

The scales within both of these groups positively correlate with each other and negatively correlate (if they correlate at all) with the scales of the other group - e.g. people who score high on 'empathy' also score high on 'costs/willingness to pay' and 'influence' and low on 'availability' and 'information'. Correlations between scales of the same group (i.e. 'barrier'- vs. 'promoter'-group) tend to be higher than correlations between scales of different groups.

Table 18: Tests of equality and correlations between barrier scales

Barrier statements	empathy	costs	influence	availability	information
empathy:		.372 (ns) .000 *** (.295, 1)	.000 *** .000 *** (.399, 1)	.000 *** .000 *** (-.227, 1)	.000 *** .000 *** (-.340, 1)
costs: t-sig. Pearson-corr. sig. Pearson-corr.	.372 (ns) .000 *** (.295, 1)		.000 *** .000 *** (.311, 1)	.000 *** .524 (ns) (-.028, vl)	.000 *** .023 * (-.101, vl)
influence: t-sig. Pearson-corr. sig. Pearson-corr.	.000 *** .000 *** (.399, 1)	.000 *** .000 *** (.311, 1)		.000 *** .146 (ns) (-.065, vl)	.000 *** .013 * (-.110, vl)
availability: t-sig. Pearson-corr. sig. Pearson-corr.	.000 *** .000 *** (-.227, 1)	.000 *** .524 (ns) (-.028, vl)	.000 *** .146 (ns) (-.065, vl)		.003 ** .000 *** (.397, 1)
information: t-sig. Pearson-corr. sig. Pearson-corr.	.000 *** .000 *** (-.340, 1)	.000 *** .023 * (-.101, vl)	.000 *** .013 * (-.110, vl)	.003 ** .000 *** (.397, 1)	

Two-tailed tests of significance in all cases. vl = very low correlation, l = low correlation.

For a barrier to really become a barrier in a behavioural model, the mean of the scale will not be the decisive factor, what ultimately counts are **correlation** - and regression coefficients in relation to the (endogeneous) behavioural variables. A fully specified statistical model will not be tested in this report.

Initially the idea was that the barrier scales would explain the expected gap between expressed high concern about animal welfare and the few self-reported purchases of welfare-labeled products. However, this gap does often not exist, as both self-reported purchases of animal-friendly products (by 70% of all participants) and concern are very high. A gap that does exist is that between high reported purchases of welfare-labeled products and actual purchases or market share of the same products. However, no data on actual purchases are available from the survey and therefore the latter gap can't be explained with the various scales constructed in the survey. Due to the discrepancy between market share and self-reports of purchases of animal friendly products, a second interpretation of the five scales is that as factors which to some degree also explain exaggerated self-reports (which however can't be precisely measured here).¹⁵

How do self-perceived barriers and promoters of **animal friendly product purchases** correlate with self-reported behaviors? What consumers themselves regard as barriers, i.e. 'availability' and 'information' are not significantly correlated with self-reported choice of animal friendly products, i.e. neither a barrier- nor promoter-effect exists for these. Significant positive correlations vindicate the promoter-effect for 'empathy' (corr.-coeff. = 0.333), 'costs/willingness to pay' (corr.-coeff. = 0.266) and 'influence' (corr.-coeff. = 0.250).

¹⁵ Unfortunately, the survey questionnaire was not designed to systematically explain the issue of exaggeration and distortion in self-reported behaviour.

All scales have a significant correlation with whether or not a person reports to have **reduced consumption due to concerns about animal welfare generally**. The promoter-scales have positive coefficients: People with high concern about animal welfare (low disassociation) report reduced consumption more often (corr.-coeff. = 0.410), the same applies to people who feel their food choice makes a difference (corr.-coeff. = 0.238) and people who report higher willingness to pay (corr.-coeff. = 0.144). Compared with the 'promoter'-scales the 'barrier'-scale are oppositely correlated (highly significant) with self-reported consumption reductions: Respondents who believe animal friendly produced food is hardly available did report reduced consumption due to animal welfare concerns (corr.-coeff. = -0.196) and the same applied to respondents who demanded more information about animal welfare (corr.-coeff. = -0.122).

With regard to the impact of the barriers and promoters on reported **product specific, concern induced consumption reductions**, most correlation coefficients (same sign as the product unspecific correlation coefficients) were significant. But only 'empathy' and 'influence' were correlated with reductions of milk consumption due to animal welfare concerns (same sign as for the other products, but lower value). And the information scale correlated only with concern induced consumption reductions for pork and poultry. The promoter scales correlated positively with the specific welfare induced consumption reductions and the barrier scales negatively. Correlation coefficients for the barrier scales were generally lower than for the promoter scales.

All 'promoter'-scales ('costs', 'empathy', 'influence') and no 'barrier'-scales ('availability', 'information') were correlated with **general consumption change**. People who were willing to pay more for animal friendly produced meat reduced their total meat consumption more often (corr.-coeff. = - 0.185; no corr.-coeff. significant for specific products). More concerned respondents (corr.-coeff. = - 0.153; and significant product specific corr.-coefficients for pork, beef, veal and with opposite sign for milk) and respondents who felt their food choice to make a difference for the welfare of the animal (corr.-coeff. = - 0.146; and significant product specific corr.-coeff. for pork) reduced their consumption more often. Interesting and contrary to other correlation patterns is that the more concerned people about animal welfare tended to slightly increase their self reported milk consumption over the past five years (corr.-coeff. = 0.95). People who saw problems in the availability of animal friendly produced meat, reported on average to have slightly increased their poultry consumption (corr.-coeff. = -0.95). This is a peculiar finding, as poultry production was among the two least acceptable production methods.

Four of the five mentioned scales were significantly correlated with the **consumption frequency** of all 'meat and poultry' - the one exception is the 'cost'-scale. First the results for the 'promoter'-scales 'empathy' and 'influence': People who were concerned about animal welfare (corr.-coeff. = - 0.191; and significant same direction corr.-coeff. for pork, beef, veal; opposite direction corr.-coeff. for milk) or believed that their purchases made a difference to animal welfare (corr.-coeff. = - 0.147; and significant same direction corr.-coeff. for pork, beef and veal) consumed less meat in total. Next the results for the 'barrier'-scales 'availability' and 'information': People who believed animal friendly products were hardly available (corr.-coeff. = 0.119; and same direction product specific corr.-coeff. for pork, veal, eggs) or demanded more information about the way animals are farmed (corr.-coeff. = 0.089; and same direction product specific corr.-coeff. for beef, veal, eggs) had a lower total consumption frequency for meat.

Table 19: Correlation coefficients between scales and behavioural variables (not product-specific)

scale	Total meat consumption frequency	All meat consumption change	Reduced consumption due to animal welfare concerns?	Select animal friendly products Question 13
animal-oriented concern	-0.011 (ns)	-.115 ***	.174 ***	.183***
human-oriented concern	-0.117 **	-.125 **	.227 ***	.243***
empathy	-.191***	-.153 ***	.410 ***	.333 ***
costs / willingness to pay	-0.017 (ns)	-.185 ***	.144 ***	.266 ***
influence	-.147***	-.146***	.238 ***	.250 ***
availability	.119 **	.080 (ns)	-.196 ***	-.024 (ns)
information	.089*	.053 (ns)	-.122 **	-.068 (ns)

This leads to the following summary of the relationship between the five scales and the various variables related to behavior:

1. **Willingness to pay** for animal friendly products is higher for people who are concerned about animal welfare, who believe that their food choice makes a difference to the animals and who want more information about the way animals are farmed.
2. The '**barrier**'-scales 'availability' and 'information' are significantly, and in the same direction, correlated with total meat consumption frequency and general animal welfare motivated consumption reductions. They are uncorrelated with reported reductions in total meat consumption and rather unexpectedly¹⁶ uncorrelated with self-reported choices of products labeled as animal friendly produced. Poor 'availability' of welfare-labeled products and demands for 'information' about how animals are farmed, correlated with a) a lower meat consumption frequency and b) a reduced consumption due to animal welfare concerns.
3. The '**promoter**'-scales 'empathy', 'influence' and 'costs/willingness to pay' also all share a common correlation pattern which, however, is significant across the four behavioral variables. The higher the concern about animal welfare ('empathy'), the perceived personal influence on animal welfare ('influence') and the willingness to pay higher prices for animal friendly produced products ('costs'), the more likely is a person to report a) the choice of animal friendly produced products; b) reduced consumption due to animal welfare concerns;

¹⁶ This is unexpected, if only the average rating of the various scales is considered, as these two scales were then identified as the only two barriers among the five initial candidates (the other scales were identified as 'promoters').

and c) also reduced consumption for meat in general and d) a lower total meat consumption frequency.¹⁷

4. Concerns about animal welfare ('empathy'-scale) mostly¹⁸ correlated strongest of all scales with the various behavioral variables. And more generally, the 'promoter'-variables ('empathy', 'influence' and 'costs') were more strongly correlated with the behavioural variables than the 'barrier'-scales ('availability' and 'information'). This however means that, what looks like a 'behavioural barrier' when looking at the mean-value, turns out, not to have the strongest impact on self-reported behaviour. This is a surprise for those 'barrier' statements that were consistently worded as attitudes to behaviour¹⁹ and indicates that market barriers might not be consciously and precisely known by consumers.

Table 20: Barrier scales and consumption frequencies: correlations

	all meat	pork	poultry	beef	lamb	veal	eggs	milk
costs	-.017(vl) .709 (ns) 503	-.063(vl) .156 (ns) 505	-.073(vl) .101 (ns) 506	-.050(vl) .265 (ns) 506	.032(vl) .466 (ns) 506	-.043(vl) .334 (ns) 505	-.065(vl) .144 (ns) 506	.016(vl) .721 (ns) 506
empathy	-.191(vl) .000 *** 504	-.195(vl) .000 *** 506	.021(vl) .637 (ns) 507	-.202(l) .000 *** 507	-.071(vl) .112 (ns) 507	-.160(vl) .000 *** 506	-.052(vl) .245 (ns) 507	.120(vl) .007 ** 507
availability	.119(vl) .008 ** 500	.125(vl) .005 ** 502	.012(vl) .791 (ns) 503	.072(vl) .108 (ns) 503	-.028(vl) .524 (ns) 503	.100(vl) .025 * 502	.114(vl) .010 ** 503	-.053(vl) .238 (ns) 503
information	.089(vl) .045 * 504	.063(vl) .157 (ns) 506	.046(vl) .304 (ns) 507	.131(vl) .003 * 507	-.019(vl) .663 (ns) 507	.112(vl) .012 ** 506	.094(vl) .034 * 507	.016(vl) .726 (ns) 507
influence	-.147(vl) .001 *** 504	-.197(vl) .000 *** 506	-.030(vl) .496 (ns) 507	-.115(vl) .009 ** 507	-.031(vl) .487 (ns) 507	-.148(vl) .001 *** 506	-.064(vl) .147 (ns) 507	.082(vl) .064 (ns) 507
rows: barrier scales; columns: consumption frequencies for various animal products; first row in each main cell: Spearman rank correlation coefficient; second row in each main cell: significance level, i.e. error of first kind, i.e. the probability of erroneously assuming non-zero correlation; third row in each main cell: number of people included in the specific correlation analysis.								
Reading example: Total meat consumption is slightly negatively correlated with the empathy-scale (correlation coefficient: - 0.191): The higher the 'empathy' score, the lower is total meat consumption. This relationship is highly significant, i.e. the probability of no correlation is 0.000. 504 people are included in this statistical analysis.								

¹⁷ The only exception from this rule is that the 'promoter'-scale 'costs' is not correlated with the total meat consumption frequency.

¹⁸ The exception are (unmotivated) general consumption changes: The correlation for 'costs' is slightly higher than the correlation for 'empathy' (which is second highest among the five scales).

¹⁹ Many 'information'-scale statements were not formulated as attitudes to behaviours but as attitudes to objects - this explains to some degree the low correlation with behavioural variables. Not all statements comply with Ajzen's Fishbein's (1977) compatibility principle to the same degree.

Table 21: Barrier scales and various consumption changes: correlations

	all meat	pork	poultry	beef	lamb	veal	eggs	milk
costs	-.185(vl) .000 *** 497	-.057(vl) .201 (ns) 505	-.046(vl) -.057(ns) 506	-.036(vl) .426 (ns) 503	.001(vl) .988 (ns) 489	.004(vl) .931 (ns) 498	-.024(vl) .592 (ns) 505	.009(vl) .847 (ns) 506
empathy	-.153(vl) .001 *** 498	-.094(vl) .035 * 506	.013(vl) .769 (ns) 507	-.138(vl) .002 * 504	-.071(vl) .114 (ns) 490	-.109(vl) .015 * 499	.003(vl) .952 (ns) 506	.095(vl) .032 * 507
availability	.080(vl) .076 (ns) 494	.072(vl) .109 (ns) 502	-.095(vl) .033 * 503	.038(vl) .393 (ns) 500	.017(vl) .702 (ns) 486	.120(vl) .008 ** 495	.034(vl) .441 (ns) 502	-.055(vl) .215 (ns) 503
information	.053(vl) .235 (ns) 498	-.038(vl) .391 (ns) 506	-.024(vl) .591 (ns) 507	.093(vl) .036 * 504	.091(vl) .045 * 490	.043(vl) .338 (ns) 499	.000(vl) .997 (ns) 506	-.013(vl) .763 (ns) 507
influence	-.146(vl) .001 *** 498	-.142(vl) .001 *** 506	-.005(vl) .908 (ns) 507	-.035(vl) .430 (ns) 504	.013(vl) .777 (ns) 490	-.039(vl) .379 (ns) 499	-.041(vl) .358 (ns) 506	.051(vl) .255 (ns) 507

rows: barrier scales; **columns:** total five year consumption changes for various animal products; first row in each **main cell:** Spearman rank correlation coefficient; second row in each main cell: significance level, i.e. error of first kind, i.e. the probability of erroneously assuming non-zero correlation; third row in each main cell: number of people included in the specific correlation analysis.

Reading example: Total five year consumption change for total meat consumption is slightly negatively correlated with the empathy-scale (correlation coefficient: - 0.153): The higher the 'empathy' score, the more likely is the person to have reduced her total meat consumption over the past 5 years. This relationship is highly significant, i.e. the probability of no correlation is 0.001. 498 people are included in this statistical analysis.

Table 22: Barrier scales and behaviour induced by welfare concerns: correlation coefficients

	Over the past five years, did you reduce your consumption of any animal products due to concerns about way animals are treated? Question 11 + 12								select animal friendly products Q 13
	any products	less pork	less beef	less poultry	less lamb	less veal	less eggs	less milk	
costs	.144 (vl) .001*** 503	.105 (vl) .019 * 500	.149 (vl) .001 *** 501	.177 (vl) .000 *** 503	.102 (vl) .025 * 485	.154 (vl) .001 *** 495	.130 (vl) .004 ** 501	.048 (vl) .279 (ns) 502	.266 (l) .000 *** 492
empathy	.410 (l) .000*** 504	.359 (l) .000 *** 501	.389 (l) .000 *** 502	.318 (l) .000 *** 504	.285 (l) .000 *** 486	.347 (l) .000 *** 496	.258 (l) .000 *** 502	.144 (vl) .001 *** 503	.333 (l) .000 *** 492
avai- lability	-.196 (vl) .000*** 500	-.097(vl) .030 * 497	-.155(vl) .000 *** 498	-.146(vl) .001 *** 500	-.115(vl) .011 * 482	-.139(vl) .002 ** 492	-.142(vl) .002 ** 498	-.061(vl) .174 (ns) 499	-.024(vl) .602 (ns) 489
infor- mation	-.122 (vl) .006** 504	-.114(vl) .011 * 501	-.081(vl) .071 (ns) 502	-.118(vl) .008 ** 504	-.077(vl) .089 (ns) 486	-.079(vl) .079 (ns) 496	-.085(vl) .057 (ns) 502	-.012(vl) .786 (ns) 503	-.068(vl) .133 (ns) 492
influence	.0238 (l) .000*** 504	.262 (l) .000 *** 501	.259 (l) .000 *** 502	.283 (l) .000 *** 504	.213 (l) .000 *** 486	.267 (l) .000 *** 496	.162 (vl) .000 *** 502	.097(vl) .030 * 503	.250 (l) .000 *** 492

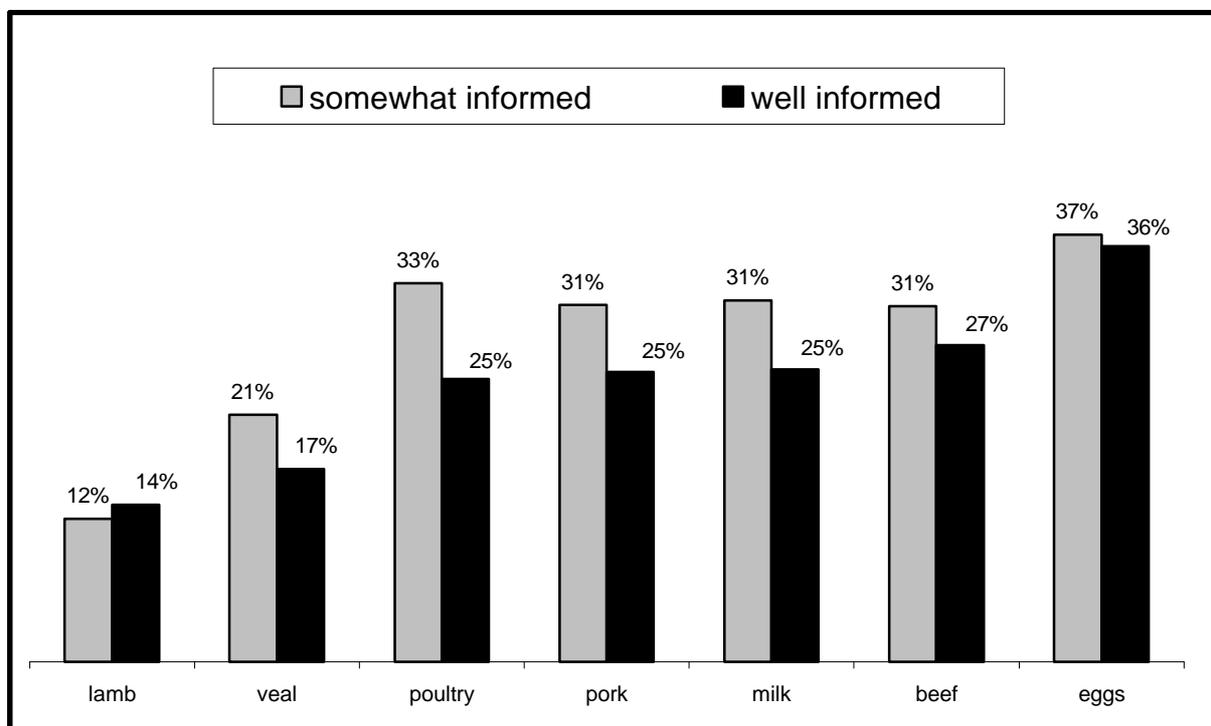
rows: barrier scales; **columns:** consumption behaviour motivated by concerns about animal welfare: consumption reduction or choice of welfare-labeled products; first row in each **main cell:** Spearman rank correlation coefficient; second row in each main cell: significance level, i.e. error of first kind, i.e. the probability of erroneously assuming non-zero correlation; third row in each main cell: number of people included in the specific correlation analysis.

Reading example 1: Consumption reductions for any product due to concerns about animal welfare (= Question 11) correlated with the empathy-scale (correlation coefficient: 0.410): The higher the 'empathy' score, the more likely is the person to have reduced the consumption of animal products over the past 5 years, due to concerns about animal welfare. This relationship is highly significant, i.e. the probability of no correlation is 0.000. 504 people are included in this statistical analysis. **Reading example 2:** The higher the empathy score the more likely is a person to choose welfare-labeled products (Spearman-rank-correlation coefficient: 0.333).

3.12 Information about animal treatment in food production (Question 19)

Most people have an opinion on this question in the sense that more people feel 'somewhat informed/uninformed' than 'neither informed nor uninformed'. Most people consider themselves informed about the way animals are reared for the production of food. Only for the rarely consumed lamb and veal do most people feel uninformed. The products can be grouped into three groups with regard to people's information status: People are most informed about eggs, second most about beef, milk, pork, poultry (within this group no significant differences of means were found with paired t-tests) and least informed about veal and lamb.

Figure 13: Information status about production conditions



All spearman correlation coefficients between products are highly significant (at $p = 0.001$) and positive. They range from low (0.283) to medium (0.625). Gender differences are significant for poultry ($p = 0.05$) and eggs ($p = 0.001$) in both cases do women rate their information status higher than men. However Cramer's V which shows the degree of association between gender and information status is only significant in the case of eggs and not poultry. The Kruskal-Wallis-Test reveals no social class differences in information-levels for any product. Also the Spearman correlation coefficients between social class and information status are not significantly different from zero.

Table 23: Information status about production conditions: Tests of equality and correlations

state of information about conditions in which animal products are produced	pork	poultry	beef	lamb	veal	eggs	mi lk
pork							
poultry: t-sig. Wilcoxon-sig. Sp.-corr.	.496 (ns) .531 (ns) .000 *** (.566, m)						
beef: t-sig. Wilcoxon-sig. Sp.-corr.	.875 (ns) .923 (ns) .000 *** (.625, m)	.809 (ns) .920 (ns) .000 *** (.492, 1)					
lamb: t-sig. Wilcoxon-sig. Sp.-corr.	.000 *** .000 *** .000 *** (.333, 1)	.000 *** .000 *** .000 *** (.288, 1)	.000 *** .000 *** .000 *** (.405, 1)				
veal: t-sig. Wilcoxon-sig. Sp.-corr.	.000 *** .000 *** .000 *** (.525, m)	.000 *** .000 *** .000 *** (.412, 1)	.000 *** .000 *** .000 *** (.612, m)	.000 *** .000 *** .000 *** (.486, 1)			
eggs: t-sig. Wilcoxon-sig. Sp.-corr.	.000 *** .000 *** .000 *** (.550, m)	.000 *** .000 *** .000 *** (.565, m)	.000 *** .000 *** .000 *** (.503, m)	.000 *** .000 *** .000 *** (.283, 1)	.000 *** .001 *** .000 *** (.380, 1)		
milk: t-sig. Wilcoxon-sig. Sp.-corr.	.574 (ns) .565 (ns) .000 *** (.620, m)	.914 (ns) .941 (ns) .000 *** (.506, m)	.943 (ns) .922 (ns) .000 *** (.547, m)	.000 *** .000 *** .000 *** (.291, 1)	.000 *** .000 *** .000 *** (.433, 1)	.000 *** .000 *** .000 *** (.529, m)	
Two-tailed tests of significance in all cases.							

Table 24: Gender and information status about rearing conditions

	women: mean (median)	men: mean (median)	tests of significance
pork t-test-sig. Mann-Whitney-U Spearman-Rho Cramer's V	3.50 (4.00)	3.37 (4.00)	.251 (ns) .260 (ns) .260 (ns) (.051, vl) .510 (ns) (.081)
poultry t-test-sig. Mann-Whitney-U Spearman-Rho Cramer's V	3.61 (4.00)	3.32 (4.00)	.010 ** .011 * .011 * (.113, vl) .119 (ns) (.121)
beef t-test-sig. Mann-Whitney-U Spearman-Rho Cramer's V	3.47 (4.00)	3.43 (4.00)	.731 (ns) .736 (ns) .737 (ns) (.015, vl) .966 (ns) (.034)
lamb t-test-sig. Mann-Whitney-U Spearman-Rho Cramer's V	2.44 (2.00)	2.56 (2.00)	.322 (ns) .273 (ns) .273 (ns) (-.051, vl) .348 (ns) (.097)
veal t-test-sig. Mann-Whitney-U Spearman-Rho Cramer's V	2.83 (2.00)	2.88 (3.00)	.672 (ns) .607 (ns) .607 (ns) (-.023, vl) .671 (ns) (.070)
eggs t-test-sig. Mann-Whitney-U Spearman-Rho Cramer's V	4.08 (4.00)	3.62 (4.00)	.000 *** .000 *** .000 *** (-.017, vl) .000 *** (.209)
milk t-test-sig. Mann-Whitney-U Spearman-Rho Cramer's V	3.47 (4.00)	3.42 (4.00)	.689 (ns) .558 (ns) .558 (ns) (.026, vl) .498 (ns) (.082)
Two-sided tests of significance for all parametric and non-parametric tests, vl = very low correlation.			

Table 25: Social class and information status about rearing conditions

	AB: mean (median)	C1: mean (median)	C2: mean (median)	DE: mean (median)	tests of significance
pork Kruskal-Wallis-Test Spearman-Rho	3.51 (4.00)	3.46 (4.00)	3.47 (4.00)	3.43 (3.00)	.979 (ns) .843 (ns) (-.009, vl)
poultry Kruskal-Wallis-Test Spearman-Rho	3.66 (4.00)	3.32 (4.00)	3.46 (4.00)	3.51 (3.50)	.441 (ns) .859 (ns) (-.008, vl)
beef Kruskal-Wallis-Test Spearman-Rho	3.63 (4.00)	3.49 (4.00)	3.42 (4.00)	3.60 (4.00)	.425 (ns) .737 (ns) (-.015, vl)
lamb Kruskal-Wallis-Test Spearman-Rho	2.66 (3.00)	2.73 (2.00)	2.47 (2.00)	2.39 (2.00)	.412 (ns) .128 (ns) (-.072, vl)
veal Kruskal-Wallis-Test Spearman-Rho	3.07 (3.00)	3.13 (3.00)	2.79 (2.00)	2.76 (2.00)	.190 (ns) .054 (ns) (-.089, vl)
eggs Kruskal-Wallis-Test Spearman-Rho	3.87 (4.00)	3.94 (4.00)	3.87 (4.00)	3.80 (4.00)	.972 (ns) .716 (ns) (-.017, vl)
milk Kruskal-Wallis-Test Spearman-Rho	3.77 (4.00)	3.42 (4.00)	3.42 (4.00)	3.41 (4.00)	.186 (ns) .155 (ns) (-.065, vl)

Two-sided tests of significance for all parametric and non-parametric tests, vl = very low correlation.

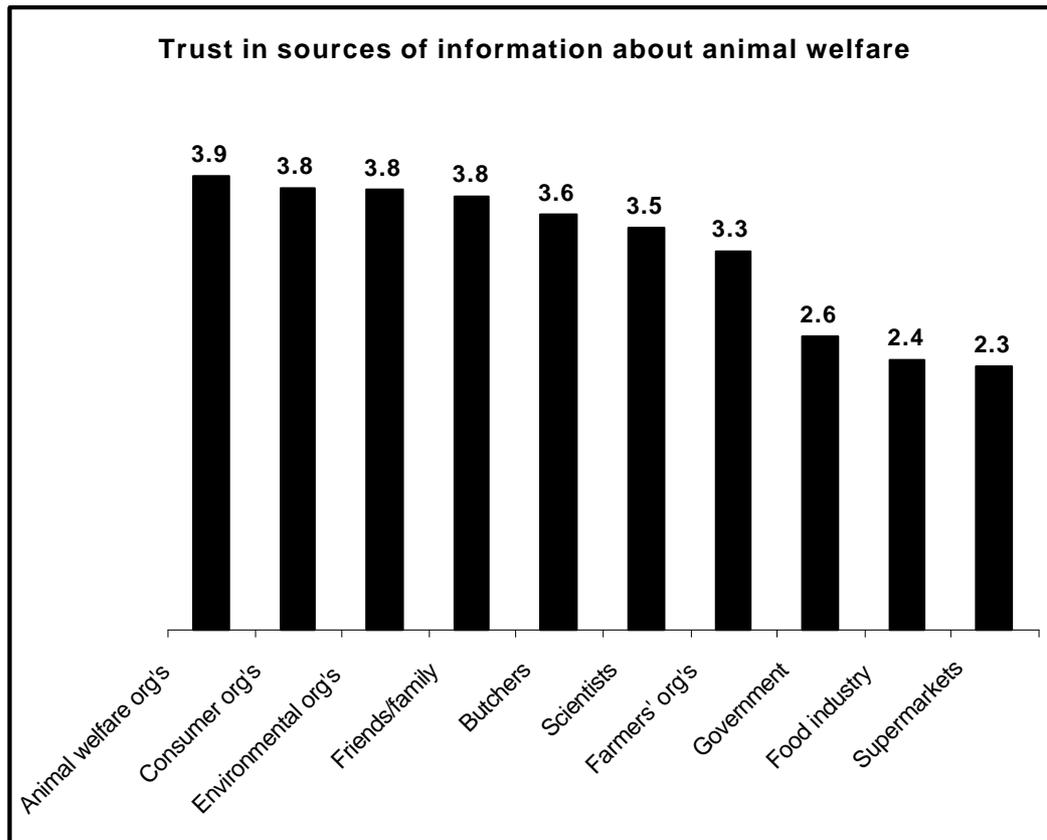
3.13 Trust in sources of information about animal welfare (Question 20)

Consumers in industrialised countries nowadays face a situation of information overload. Companies in saturated markets feel the need to communicate the benefits of their products in an attempt to differentiate themselves from competitors. Yet consumers capacity to process information has not expanded. The need for communication with the consumer has increased and yet at the same time communication with consumers is getting harder. In this situation visual and emotional communication are more likely to be recognised²⁰. A second requirement for successful communication is that the source of information should be as trustworthy as possible.

Respondents rated animal welfare organisations as most trustworthy and there is no statistically significant difference in the mean compared with consumers organisations. Consumer organisations in turn are on average trusted the same as environmental organisations and own friends and family. If a producer or retailer wanted to introduce or promote a product marketed as produced under better animal welfare conditions, it is advisable to do this in collaboration with an animal welfare organisation, consumer organisation or environmental organisation and try to stimulate word of mouth communication to friends and family members.

²⁰ The human capacity to process visual information is greater but it is not so well suited to communicate complex issues.

Figure 14: Trust in information sources



Butchers and scientists (statistically no significant difference in the mean) are also nearly 'somewhat trustworthy' on average. Also farmer's organisation's are on average still trusted more than not trusted. The item 'farmers' was not presented to consumers, but they might well be trusted more than 'farmers organisations'.

Sources of information that were on average distrusted more than trusted are the government, food industry and supermarkets (no statistically significant difference in the mean between food industry and supermarkets). Supermarkets is the least trustworthy source of information, less trustworthy than the government, farmer's organisations and butchers. This might well be a reflection of a general distrust in supermarkets and it might well pay off for supermarkets to increase consumer trust in them. The promotion of animal products produced with higher animal welfare could be used as a vehicle to increase consumer trust. It is highly advisable that supermarkets seek assistance of more credible sources of information in this attempt.

The distrust in government as a source of information about animal welfare might reflect a more generalised distrust in government and might have been aggravated through the current BSE crisis. It should be noted that a coalition between social democrats and green party is in place in Germany at the time this report is written. Last year this coalition tried to amend the constitution to better account for the interests of animals. Shortly after this survey was conducted the agricultural minister Funke had to resign from office due to the BSE crisis. It is unclear whether the expressed distrust in government qualifies government activities at the time this survey was conducted or expresses a general distrust in government and whether distrust would also carry over to government initiatives that promote higher animal welfare products.

Table 26: Trust in sources of information about animal welfare: Equality tests and correlations

Trust in various sources of information	Government	Supermarkets	Butchers	Food industry	Farmers' organisations	animal welfare organisations	consumer organisations	friends/family	Scientists	Environmental org's
Supermarkets: t-sig. Wilcoxon-sig. Sp.-corr.	.000 *** .000 *** .000 *** (.333, 1)									
Butchers: t-sig. Wilcoxon-sig. Sp.-corr.	.000 *** .000 *** .015 * (.109, vl)	.000 *** .000 *** .000 *** (.216, 1)								
Food industry: t-sig. Wilcoxon-sig. Sp.-corr.	.000 *** .000 *** .000 *** (.283, 1)	.190 (ns) .205 (ns) .000 *** (.410, 1)	.000 *** .000 *** .000 *** (.258, 1)							
Farmers' organisations: t-sig. Wilcoxon-sig. Sp.-corr.	.000 *** .000 *** .007 ** (.122, vl)	.000 *** .000 *** .000 *** (.233, 1)	.000 *** .000 *** .000 *** (.353, 1)	.000 *** .000 *** .000 *** (.338, 1)						
Animal welfare org's: t-sig. Wilcoxon-sig. Sp.-corr.	.000 *** .000 *** .842 (ns) (-.009,vl)	.000 *** .000 *** .869 (ns) (-.007,vl)	.000 *** .000 *** .001 *** (.148, vl)	.000 *** .000 *** .774 (ns) (.013, vl)	.000 *** .000 *** .000 *** (.223, 1)					
Consumer org's: t-sig. Wilcoxon-sig. Sp.-corr.	.000 *** .000 *** .005 ** (.126, vl)	.000 *** .000 *** .193 (ns) (.059, vl)	.000 *** .000 *** .028 * (.099, vl)	.000 *** .000 *** .676 (ns) (.019, vl)	.000 *** .000 *** .001 *** (.155, vl)	.068 (ns) .043 * .000 *** (.343, 1)				
Friends/family: t-sig. Wilcoxon-sig. Sp.-corr.	.000 *** .000 *** .895 (ns) (.006, vl)	.000 *** .000 *** .751 (ns) (.014, vl)	.013 * .010 ** .193 (ns) (.059, vl)	.000 *** .000 *** .972 (ns) (-.002,vl)	.000 *** .000 *** .012 * (.114, vl)	.004 ** .002 ** .208 (ns) (.057, vl)	.264 (ns) .265 (ns) .129 (ns) (.069, vl)			
Scientists: t-sig. Wilcoxon-sig. Sp.-corr.	.000 *** .000 *** .000 *** (.248, 1)	.000 *** .000 *** .010 ** (.116, vl)	.067 (ns) .068 (ns) .001 *** (.155, vl)	.000 *** .000 *** .000 *** (.200, vl)	.000 *** .000 *** .000 *** (.217, 1)	.000 *** .000 *** .001 *** (.157, vl)	.000 *** .000 *** .000 *** (.214, 1)	.000 *** .000 *** .002 ** (.139, vl)		
Environmental organisations: t-sig. Wilcoxon-sig. Sp.-corr.	.000 *** .000 *** .016 * (.108, vl)	.000 *** .000 *** .043 * (-.091,vl)	.000 *** .000 *** .194 (ns) (.058, vl)	.000 *** .000 *** .316 (ns) (-.045,vl)	.000 *** .000 *** .259 (ns) (.051, vl)	.024 * .018 * .000 *** (.472, 1)	1.00 (ns) .989 (ns) .000 *** (.306, 1)	.153 (ns) .171 (ns) .017 * (.108, vl)	.000 *** .000 *** .000 *** (.347, 1)	

two-tailed tests of significance in all three cases

There are significant gender differences for some items, in all cases do women tend to trust the source of information more than men. Significant differences in the mean were found for trust in butchers, farmers organisations, scientists, environmental organisations and animal welfare organisations (although Cramer's V = 0.122 is not significant in the latter case). There are only differences for sources of information that are on average more trusted than distrusted.

Table 27: Gender and trust in information sources about animal welfare

	women: mean (median)	men: mean (median)	tests of significance
government			
Mann-Whitney-U	2.52	2.58	.373 (ns)
Spearman-Rho	(2.00)	(3.00)	.374 (ns) (-.040, vl)
Cramer's V			.232 (ns) (.106)
supermarkets			
Mann-Whitney-U	2.29	2.28	.884 (ns)
Spearman-Rho	(2.00)	(2.00)	.885 (ns) (-.006, vl)
Cramer's V			.406 (ns) (.089)
butchers			
Mann-Whitney-U	3.74	3.49	.015 *
Spearman-Rho	(4.00)	(4.00)	.014 * (.109, vl)
Cramer's V			.024 * (.149)
food industry			
Mann-Whitney-U	2.38	2.32	.417 (ns)
Spearman-Rho	(2.00)	(2.00)	.418 (ns) (.036, vl)
Cramer's V			.252 (ns) (.103)
farmers' organisations			
Mann-Whitney-U	3.44	3.13	.001 ***
Spearman-Rho	(4.00)	(3.00)	.001 *** (.144, vl)
Cramer's V			.026 * (.150)
animal welfare org's			
Mann-Whitney-U	4.04	3.85	.015 **
Spearman-Rho	(4.00)	(4.00)	.015 * (.109, vl)
Cramer's V			.115 (ns) (.122)
consumers' organisations			
Mann-Whitney-U	3.84	3.85	.899 (ns)
Spearman-Rho	(4.00)	(4.00)	.899 (ns) (-.006, vl)
Cramer's V			.804 (ns) (.057)
friends/family			
Mann-Whitney-U	3.83	3.73	.177 (ns)
Spearman-Rho	(4.00)	(4.00)	.178 (ns) (.061, vl)
Cramer's V			.276 (ns) (.102)
scientists			
Mann-Whitney-U	3.60	3.40	.030 *
Spearman-Rho	(4.00)	(4.00)	.029 * (.098, vl)
Cramer's V			.234 (ns) (.106)
environmental org's			
Mann-Whitney-U	4.00	3.68	.000 ***
Spearman-Rho	(4.00)	(4.00)	.000 *** (.158, vl)
Cramer's V			.004 ** (.176)

two-sided tests of significance for all parametric and non-parametric tests, vl = very low

3.14 Actual and demanded responsible behaviour by institutions (Question 21/22)

Participants were asked in questions 21 and 22 to rate nine different institutions or groups of people - first in relation to how much these groups should take on responsibility for acceptable standards of farm animal welfare and second according to the actual responsibility taken on by these same groups.

Differences between the two rated questions are found to be statistically highly significant (at $p = 0.001$) between all paired comparisons of demanded and perceived responsibility for each institution (non-parametric Wilcoxon test). 'Demands' exceed ratings of the actually achieved degree of responsibility. This relationship applies to all of the nine institutions or groups investigated and is a reflection of the general feeling, that not enough is being done to ensure adequate welfare of farm animals.

The median responsibility demanded of all groups corresponds with the highest possible point on the rating scale ('very high'). Thus there is relatively little variation in the level of demands put on different groups. Quite in contrast, the median for ratings of 'actual responsibility taken on' shows more variation (from 2 and 4). This also reflects itself in the fairly narrow range for 'demands' and fairly wide range for 'perceptions' as displayed in the chart of mean ratings for each institution. Nevertheless, nearly all differences between institutions are statistically significant for both question.

There is a stronger positive correlation between the different items for the 'demanded responsibility' than for the 'perceived responsibility' question. For both questions there are relatively high correlations for between the following groups: 1. European Union, government and food industry, 2. animal welfare organisations and environmental organisations, 3. supermarkets and food industry, 4. butchers, farmers and supermarkets. In the case of 'demanded responsibility' 'consumers' have the highest correlation with animal welfare organisations, farmers and environmental organisations. In the case of 'perceived responsibility' 'consumers' have the highest correlation with supermarkets, butchers and food industry.

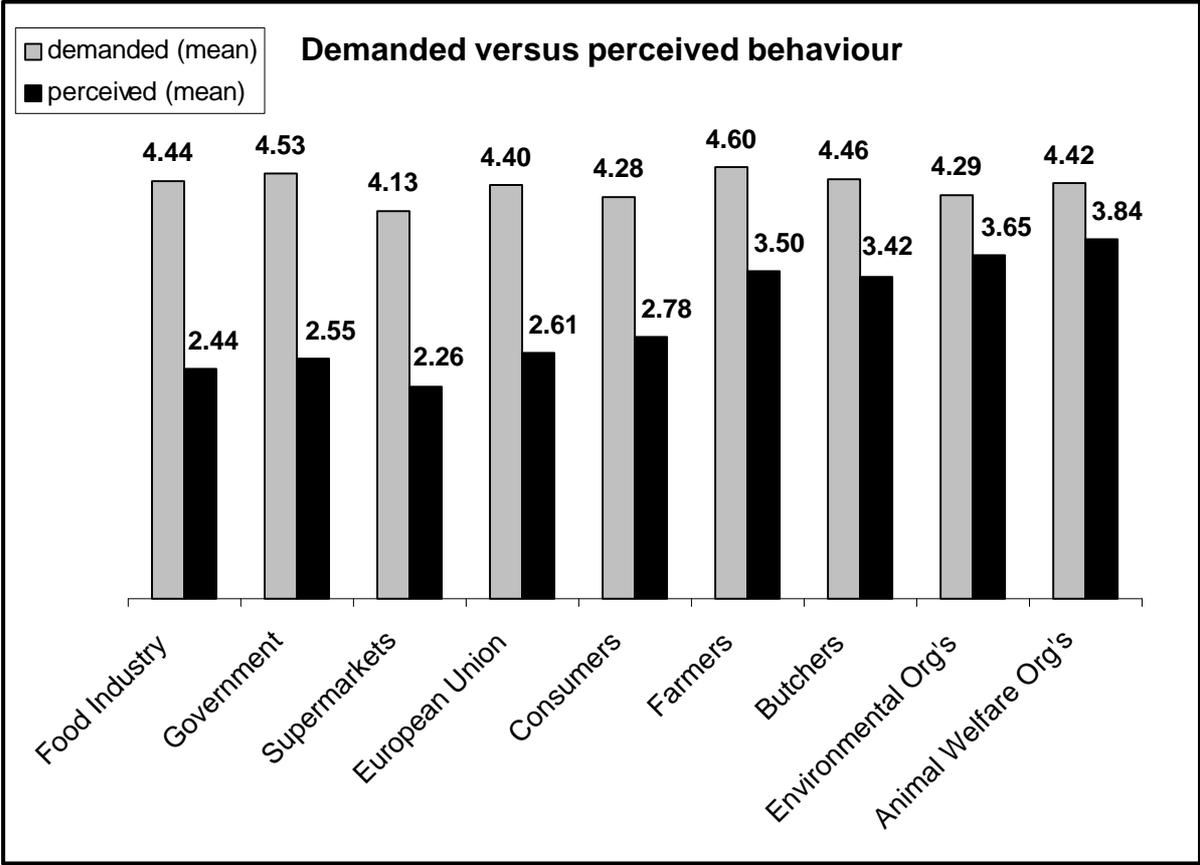
The hypothesis that consumers attribute responsibility away from themselves is confirmed in a certain way. Only supermarkets are given a lower 'demanded responsibility'-rating and consumers are given the same rating as 'environmental organisations'. However, this conclusion doesn't seem to capture the main results, as there little variation in 'demands' across the nine items. And there is some doubt, that the hypothesised attribution effect is captured in the best way, since respondents did not rate themselves but 'consumers' in general.

When a measure of perceived 'guilt' is constructed by subtracting the rating of actual behaviour from demanded responsibility, consumers fare less good and take on exactly the middle position of the nine parties included. Four groups are perceived to be less 'guilty' than consumers: Animal welfare organisation, environmental organisations, butchers and farmers. But four groups are seen to be more guilty than consumers: the European Union, supermarkets, the German government and most guilty of all, the food industry.

The 'guilt'-measure (difference between the means for 'demanded' and 'actual' responsibility for each group) corresponds with the statistically more accurate Spearmann-correlation coefficient. Low 'guilt' is reflected in the fact that 'demanded' and 'perceived' responsibility

ratings show positive and statistically significant correlation, which is (in order of increasing guilt) the case for environmental organisations, animal welfare organisations, butchers, farmers and consumers. Considered more guilty are the following organisations as no statistically significant positive correlation between ratings of the two questions could be established (in order of, statistically less clear, increasing 'guilt'): supermarkets, European Union, government, food industry. The key to the 'guilt' measure is not so much the 'demanded responsibility' (obligation) but the perception of actual behaviour.

Figure 15: Demanded versus actual responsibility



In all but one case (butchers) do women perceive the nine institutions and groups as more 'guilty'. While there are no statistically significant differences between men and women for their perceptions of actual behaviours, all items (except for 'government') show statistically significant gender differences for 'demanded responsibility'. Men show greater variation in their obligation ratings than women, both when measured by the range of means and by the statistically more accurate medians.

When the rank numbers for the mean ratings of 'demanded responsibility' are compared between men and women they are roughly similar. Women ranked the nine items as follows (order of decreasing 'demands'): 1. Farmers, 2./3. animal welfare organisations / government, 4. food industry, 5. butchers, 6. EU, 7./8. consumers / environmental organisations, 9. supermarkets. Men ranked the nine items as follows (order of decreasing 'demands'): 1. Farmers, 2. government, 3. butchers, 4. food industry, 5. animal welfare organisations, 6. EU, 7. environmental organisations, 8. consumers, 9. supermarkets. The difference between men and women in the mean rankings are: women demand a comparatively higher responsibility

from animal welfare organisations and a comparatively lower responsibility from butchers. Consumers and environmental organisations are ranked only slightly differently.

Independent of the ranks one can tell from the level of the means or medians that, in contrast to men, women demand higher responsibility levels from consumers, environmental organisations and supermarkets. The differences between means for women and men are also particularly high for animal welfare organisations, European Union and food industry. I will not explain the generally higher demands of women here, but the higher demands in the cases of consumers and supermarkets coincide with the fact, that women tend to be considerably more responsible for household shopping than men (Cramer's-V: .529 at p = 0.001). Very small, statistically significant correlation occurred between the amount of household shopping and 'demanded responsibility' for farmers, food industry, consumers, supermarkets, EU (increasing order of correlation). The amount of household shopping is uncorrelated with perception of 'actual responsibility'.

Figure 16: Demanded responsibility by gender

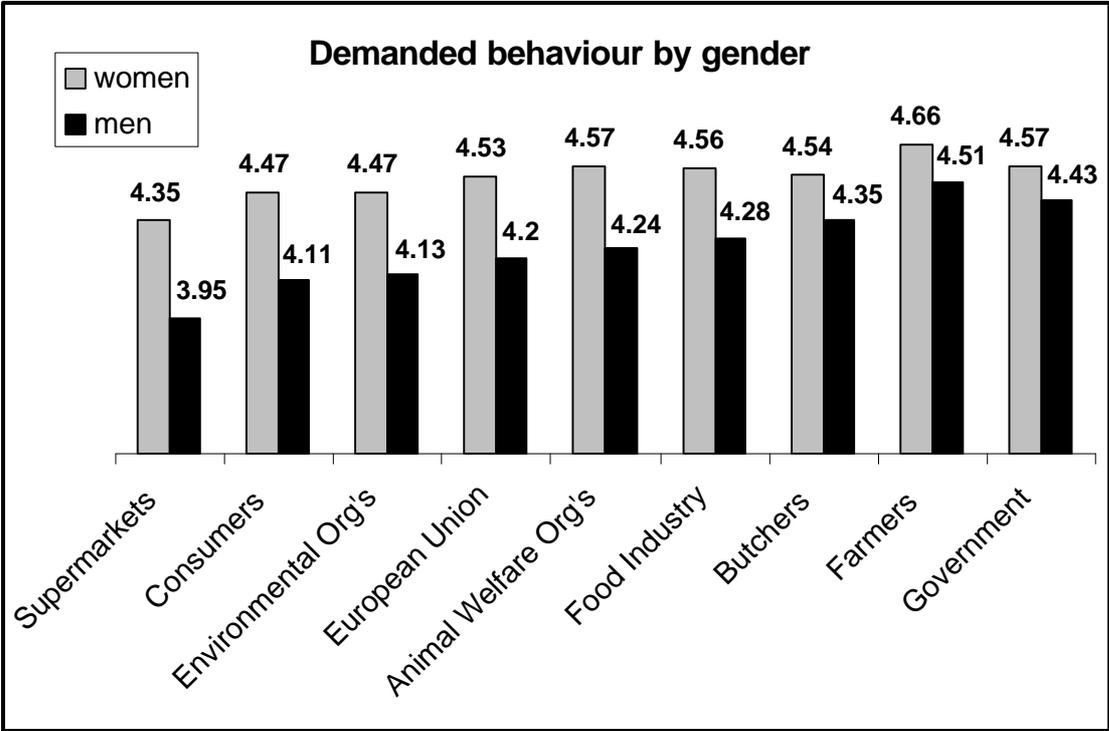


Table 28: Demanded responsibility: Equality tests and correlations

Demanded responsible behaviour of	European Union	Government	Food industry	Farmers	Consumers	Animal welfare organisations	Environmental organisations	supermarkets	butchers
European Union:									
Government: Wilcoxon-sig. Sp.-corr.	.000 *** .000 *** (.691, m)								
Food industry: Wilcoxon-sig. Sp.-corr.	.321 (ns) .000 *** (.488, l)	.068 (ns) .000 *** (.539, m)							
Farmers: Wilcoxon-sig. Sp.-corr.	.000 *** .000 *** (.445, l)	.047 * .000 *** (.441, l)	.000 *** .000 *** (.477, l)						
Consumers: Wilcoxon-sig. Sp.-corr.	.016 * .000 ** (.390, l)	.000 *** .000 *** (.345, l)	.000 *** .000 *** (.366, l)	.000 *** .000 *** (.481, l)					
Animal welfare org's: Wilcoxon-sig. Sp.-corr.	.953 (ns) .000 *** (.394, l)	.005 ** .000 *** (.376, l)	.338 (ns) .000 *** (.431, l)	.000 *** .000 *** (.382, l)	.001 *** .000 *** (.498, l)				
Environmental organisations: Wilcoxon-sig. Sp.-corr.	.027 * .000 *** (.402, l)	.000 *** .000 *** (.381, l)	.002 ** .000 *** (.381, l)	.000 *** .000 *** (.378, l)	.874 (ns) .000 *** (.471, l)	.000 *** .000 *** (.756, h)			
Supermarkets: Wilcoxon-sig. Sp.-corr.	.000 *** .000 *** (.471, l)	.000 *** .000 *** (.415, l)	.000 *** .000 *** (.571, m)	.000 *** .000 *** (.409, l)	.011 * .000 *** (.429, l)	.000 *** .000 *** (.472, l)	.003 ** .000 *** (.482, l)		
Butchers: Wilcoxon-sig. Sp.-corr.	.207 (ns) .000 *** (.414, l)	.062 (ns) .000 *** (.414, l)	.833 (ns) .000 *** (.528, m)	.000 *** .000 *** (.519, m)	.000 *** .000 *** (.440, l)	.250 (ns) .000 *** (.440, l)	.000 *** .000 *** (.432, l)	.000 *** .000 ** (.635, m)	

Table 29: Actual responsible behaviour: Equality tests and correlations

Actual responsible behaviour of	European Union	Government	Food industry	Farmers	Consumers	Animal welfare organisations	Environmental organisations	supermarkets	butchers
European Union:									
Government: Wilcoxon-sig. Sp.-corr.	.153 (ns) .000 *** (.701, h)								
Food industry: Wilcoxon-sig. Sp.-corr.	.001 *** .000 *** (.485, l)	.068 (ns) .022 * (.556, m)							
Farmers: Wilcoxon-sig. Sp.-corr.	.000 *** .000 *** (.241, l)	.047 * .000 *** (.282, l)	.000 *** .000 *** (.401, l)						
Consumers: Wilcoxon-sig. Sp.-corr.	.012 * .000 ** (.276, l)	.000 *** .000 *** (.271, l)	.000 *** .000 *** (.308, l)	.000 *** .000 *** (.265, l)					
Animal welfare org's: Wilcoxon-sig. Sp.-corr.	.000 *** .067 (ns) (.084, vl)	.000 *** .054 (ns) (.088, vl)	.000 *** .011 * (.115, l)	.000 *** .000 *** (.206, l)	.000 *** .000 *** (.187, vl)				
Environmental organisations: Wilcoxon-sig. Sp.-corr.	.000 ** .000 *** (.181, vl)	.000 *** .044 * (.092, vl)	.000 *** .018 * (.107, vl)	.009 ** .000 *** (.184, vl)	.000 *** .000 *** (.240, l)	.000 *** .000 *** (.667, m)			
Supermarkets: Wilcoxon-sig. Sp.-corr.	.000 *** .000 *** (.400, l)	.000 *** .000 *** (.454, l)	.001 *** .000 *** (.543, m)	.000 *** .000 *** (.267, l)	.000 *** .000 *** (.378, l)	.000 *** .085 (*) (.472, l)	.000 *** .012 * (.114, vl)		
Butchers: Wilcoxon-sig. Sp.-corr.	.000 *** .000 *** (.245, l)	.000 *** .000 *** (.293, l)	.000 *** .000 *** (.362, l)	.230 (ns) .000 *** (.510, m)	.000 *** .000 *** (.323, l)	.000 *** .000 *** (.159, vl)	.000 *** .000 *** (.166, vl)	.000 *** .000 ** (.396, l)	

Table 30: Gender and demanded responsible behaviour

	women: mean (median)	men: mean (median)	tests of significance
European Union Mann-Whitney-U Cramer's V	4.53 (5)	4.20 (5)	.001 *** .001 *** (.187)
Government Mann-Whitney-U Cramer's V	4.57 (5)	4.43 (5)	.145 (ns) .200 (ns) (.109)
Food industry Mann-Whitney-U Cramer's V	4.56 (5)	4.28 (5)	.002 ** .040 * (.141)
Farmers Mann-Whitney-U Cramer's V	4.66 (5)	4.51 (5)	.004 ** .003 ** (.180)
Consumers Mann-Whitney-U Cramer's V	4.47 (5)	4.11 (4)	.000 *** .000 *** (.203)
Animal welfare organisations Mann-Whitney-U Cramer's V	4.57 (5)	4.24 (5)	.000 *** .001 *** (.195)
Environmental organisations Mann-Whitney-U Cramer's V	4.47 (5)	4.13 (4)	.000 *** .001 *** (.190)
Supermarkets Mann-Whitney-U Cramer's V	4.35 (5)	3.95 (4)	.000 *** .000 *** (.222)
Butchers Mann-Whitney-U Cramer's V	4.54 (5)	4.35 (5)	.025 ** .211 (ns) (.108)

two-sided tests of significance for all parametric and non-parametric tests, vl = very low

Table 31: Equality tests and correlations for demanded vs. actual responsible institutional behaviour

Demanded vs. actual responsible behaviour	mean / (median): demanded responsible behaviour (D)	mean / (median): actual responsible behaviour (A)	difference of means (medians): (D minus A)	Wilcoxon-Test (asymptotic significance)	Spearman-correlation (nonparametric)	difference for women (D minus A)	difference for men (D minus A)
European Union:	4.40 (5)	2.61 (2)	1.79 (3)	.000 ***	.480 (ns) (-.032, vl)	1.88	1.65
Government:	4.53 (5)	2.55 (2)	1.98 (3)	.000 ***	.489 (ns) (-.031, vl)	2.06	1.88
Food industry	4.44 (5)	2.44 (2)	2.00 (3)	.000 ***	.964 (ns) (.002, vl)	2.09	1.92
Farmers	4.60 (5)	3.50 (4)	1.11 (1)	.000 ***	.006 ** (.123, vl)	1.13	1.09
Consumers	4.28 (5)	2.78 (3)	1.50 (2)	.000 ***	.013 * (.111, vl)	1.66	1.32
Animal welfare org's	4.42 (5)	3.84 (4)	0.58 (1)	.000 ***	.000 *** (.301, l)	0.67	0.46
Environmental org's	4.29 (5)	3.65 (4)	0.64 (1)	.000 ***	.000 *** (.360, l)	0.71	0.56
Supermarkets	4.13 (5)	2.26 (2)	1.86 (3)	.000 ***	.417 (ns) (.037, vl)	2.02	1.7
Butchers	4.46 (5)	3.42 (4)	1.04 (1)	.000 ***	.000 *** (.181, vl)	1.05	1.05

Table 32: Gender and actual responsible behaviour

	women: mean (median)	men: mean (median)	tests of significance
European Union Mann-Whitney-U Cramer's V	2.65 (2)	2.55 (2)	.075 (ns) .304 (ns) (.100)
Government Mann-Whitney-U Cramer's V	2.51 (2)	2.55 (2)	.995 (ns) .989 (ns) (.025)
Food industry Mann-Whitney-U Cramer's V	2.47 (2)	2.36 (2)	.113 (ns) .104 (ns) (.124)
Farmers Mann-Whitney-U Cramer's V	3.53 (4)	3.42 (4)	.495 (ns) .015 ** (.158)
Consumers Mann-Whitney-U Cramer's V	2.81 (3)	2,79 (3)	.907 (ns) .934 (ns) (.041)
Animal welfare organisations Mann-Whitney-U Cramer's V	3.90 (4)	3.78 (4)	.301 (ns) .442 (ns) (.087)
Environmental organisations Mann-Whitney-U Cramer's V	3.76 (4)	3.57 (4)	.141 (ns) .121 (ns) (.122)
Supermarkets Mann-Whitney-U Cramer's V	2.33 (2)	2.25 (2)	.674 (ns) .381 (ns) (.092)
Butchers Mann-Whitney-U Cramer's V	3.49 (4)	3.30 (4)	.097 (ns) .365 (ns) (.094)
Two-sided tests of significance for all parametric and non-parametric tests, vl = very low correlation.			

3.15 Total model questions (Questions 23-27)

Figure 17: Product specific means for healthiness

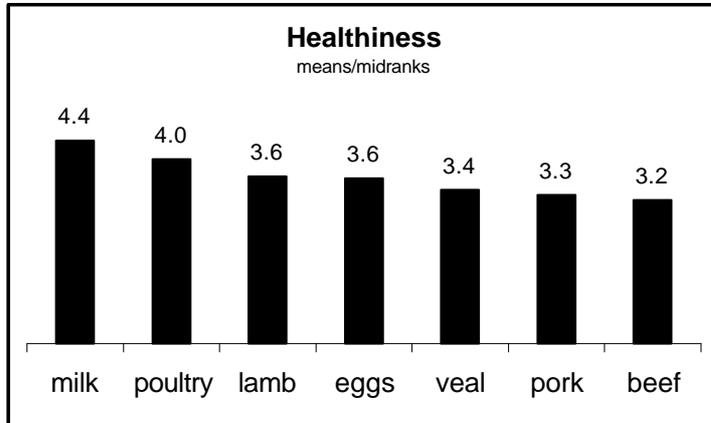


Figure 18: Product specific means for safety

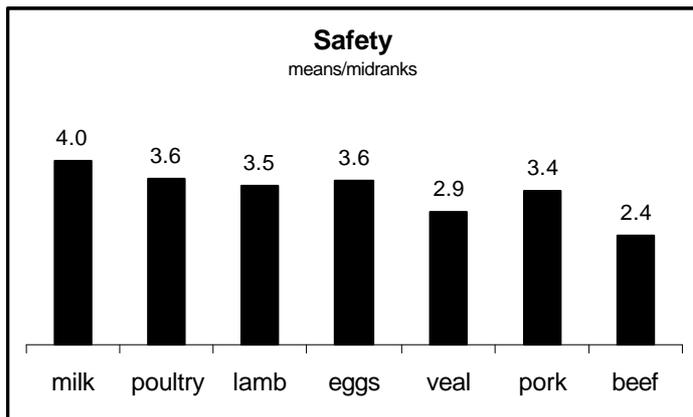


Figure 19: Product specific means for convenience

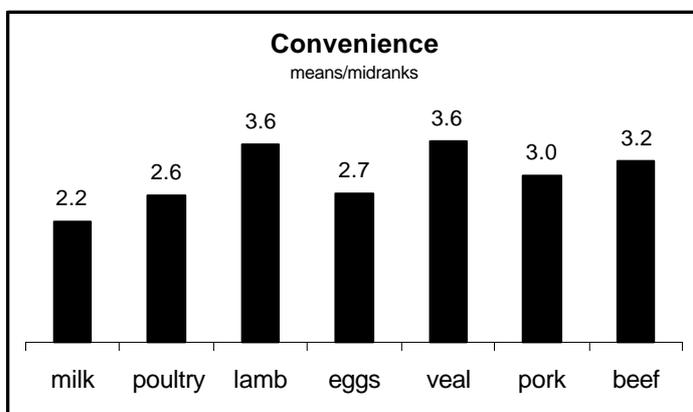


Figure 20: Product specific means for value for money

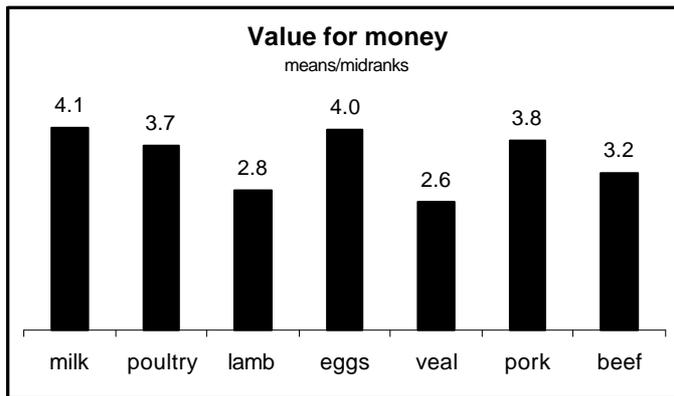


Figure 21: Product specific means for taste

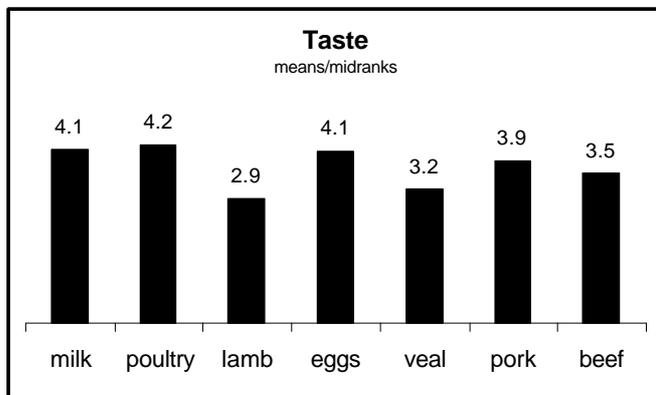


Table 33: Product ranks for product specific means

	Healthiness	Safety	Taste	Inconvenience to give up	Value for money	Consumption frequency	total 5 year consumption change (the higher the rank, the more reduced was consumption)	acceptability of methods of production	informed about way animals are
beef	7	7	5	5	5	5	7	5	3
pork	6	5	4	4	3	3	5	3	5
veal	5	6	6	7	7	6	6	4	6
eggs	4	3	3	3	2	2	3	7	1
lamb	3	4	7	6	6	7	4	2	7
poultry	2	2	1	2	4	4	1	6	2
milk	1	1	2	1	1	1	2	1	4

Questions 23 - 27: The lower the rank number the more favourable the attribute was evaluated (as measured by it's mean in relation to the means of the same attribute for the other products); rank numbers for 'total five year consumption changes' coincide best with rank numbers for the 'safety' item.

The consumption of animal-based food is not only influenced by animal-welfare related preferences, as humans have many desires, preferences and values. In order to assess the **relative importance of animal-welfare related preferences for food choice**, a number of competing preferences and values were measured in the survey. Questions were posed in the form of product specific beliefs and evaluations ('taste', 'healthiness', 'safety', 'convenience to give up consumption', 'value for money', 'acceptability of animal treatment', 'information about husbandry systems') for a list of 7 animal-based products. A problem for assessing the relative importance of the competing selfish and altruistic preferences is, that animal-welfare related concerns were mostly (not exclusively) worded as general statements, which naturally correlate more strongly with general than product-specific food choice. Quite in contrast, all competing preferences not related to animal welfare were measured as product-specific statements, which in turn correlate more strongly with product-specific (e.g. consumption frequency of pork) than more general behavioral variables (e.g. total consumption frequency for meat).

A multivariate analysis was not conducted for this survey report, but Spearman-rank-correlation-coefficients were calculated. An analysis of these will be presented next.²¹

1. Product specific factors that correlate with product specific **consumption frequencies**:

Decreased consumption over the past five years significantly correlated with lower consumption frequencies for all products. Decreased consumption due to animal welfare concerns significantly correlated with lower consumption frequencies only for the products pork, poultry and beef. The variable general 'value for money' was uncorrelated with any of the product specific consumption frequency. 'Taste', 'healthiness', 'safety' and 'convenience to give up consumption' were significantly correlated with all product specific consumption frequencies: The tastier, healthier, safer a product was perceived and the more difficult it was thought to stop consuming it and the more often it was consumed. 'Acceptability of animal treatment' was significantly and positively correlated with consumption frequencies for all products but eggs and milk; and 'information about husbandry systems' positively and significantly correlated with all products but beef and eggs.

'Taste' was the factor that was most strongly correlated with consumption frequencies of all products but 'eggs' (second strongest) and 'beef' (strongest together with safety). 'Convenience to stop consumption' was correlated second strongest with the consumption frequencies of 'pork', 'poultry', 'milk' and strongest with the consumption frequency of 'eggs'. It was relatively less strongly correlated with the less often consumed products 'lamb' (third strongest factor) and 'veal' (fourth strongest factor) and with the scandal stricken 'beef' (fourth strongest factor). 'Healthiness' and 'safety' came next in importance (after 'taste' and 'convenience') for 'pork', 'poultry', 'eggs' and were more important than 'convenience' for 'beef' and 'veal'. 'Safety' was less important for milk. Fifth and sixth strongest among the six factors were 'acceptability of animal treatment' and 'information about husbandry practices' for 'pork', 'poultry', 'beef', 'veal' (insignificant for 'eggs'). Two exceptions: good 'information about husbandry practices' for lamb was second strongest correlated with lamb consumption frequency after 'taste' and the self-rated 'information' status about milk production was more important than 'safety' for 'milk' consumption frequency.

²¹ Please remember: positive correlation between Y and X might be interpreted as an impact of X on Y, as an impact of Y on X, as both of these or as an impact of Z on X and Y.

2. Product specific factors that correlate with product specific **consumption changes**:

The variables 'value for money' and 'informed about husbandry practices' were uncorrelated with any of the product specific consumption frequencies - the one exception is beef: people who rated beef lower on 'value for money' tended to have reduced their consumption. 'Acceptability of animal treatment' was correlated with 5-year consumption changes for 'poultry', 'beef' and 'lamb'. People who thought the treatment of animals less acceptable tended to have decrease their consumption of these products. The magnitudes of the 'acceptability' coefficients compared to coefficients for the other factors had the following ranks: The correlation coefficient between 'acceptability' and poultry consumption change was the lowest from the five significant correlation coefficients, for 'beef' consumption change it was the fourth highest from six significant coefficients and for 'lamb' it was the third highest magnitude (same magnitude as the second highest) from four significant coefficients.

Correlation coefficients between consumption changes and the factors 'healthiness', 'safety', 'taste' and 'convenience to stop consumption' were significant for all products - two exceptions are insignificant coefficients for 'lamb' with 'safety' and 'veal' with 'convenience to stop consumption'. Participants who thought the specific consumption to be healthier, safer, tastier, and more difficult to give up than others, tended to have increased (or: not decreased) their consumption more than others.

'Taste' and 'convenience to stop consumption' were the two most important factors in relation to consumption changes for 'pork', 'poultry', 'milk' and 'lamb'. But in the case of 'lamb' the 'acceptability' of animal treatment was equally important as 'convenience to give up consumption'. 'Healthiness' and 'safety' followed on the next importance ranks for 'pork', 'poultry' and 'milk'. 'Safety' and 'health' were more important than 'taste' for consumption changes of veal. The most important factor in consumption changes for 'beef and 'eggs' was the 'convenience to stop its consumption' - this was followed by 'health' in the case of 'eggs' and 'safety' in the case of 'beef'.

Self-reported consumption reduction due to concerns about animal welfare were correlated with reported unmotivated consumption reductions for all products but poultry and milk - the magnitude of the correlation is typically in the same range as the correlation coefficients for the 'total model' factors 'healthiness', 'safety', 'taste' and 'convenience'.

3. Product specific factors that correlate with product specific **consumption changes due to concerns about animal welfare**:

All product specific correlation coefficients between 'acceptability' and self-reported consumption reductions due to animal welfare concerns are significant, except for the case of milk. The same applies to the coefficients for 'safety'. The 'healthiness' coefficients are significant only in the cases of 'pork', 'poultry', 'beef' and 'veal'. The 'taste' and 'convenience to stop consumption' coefficients are significant for 'pork', 'poultry' and 'beef'. In addition the 'convenience to stop consumption' coefficients are significant for 'eggs' and 'milk'. 'Information about husbandry practices' is significantly correlated with welfare motivated consumption reductions only in the case of 'poultry' and 'eggs'.

With the just mentioned applications in mind, correlation coefficients have the following direction: Respondents tend to reduce their product specific consumption due to concerns about animal welfare more often, if they do not find the treatment of the animals acceptable, if they are concerned about product safety and health, if they say not to like the taste and find it relatively easy to give up consumption of the product. The magnitude of the correlation

coefficients is generally highest for the factors 'acceptability' and 'safety' and is then generally followed by 'health', 'convenience', 'taste' and 'information'.

Table 34: correlation coefficients between product specific behavioural variables and animal-welfare related attitudes & beliefs

	consumption frequency &		increased consumption &		aw concern motivated consumption reduction &	
	acceptability (5=very acceptable, 1= very unacceptable)	information (5=well informed; 1=very uninformed)	acceptability (5=very acceptable, 1= very unacceptable)	information (5=well informed; 1=very uninformed)	acceptability (5=very acceptable, 1= very unacceptable)	information (5=well informed; 1=very uninformed)
pork	.111*	.116**	.033(ns)	.035 (ns)	-.239 ***	.077 (ns)
poultry	.146***	.118*	.103 *	.046 (ns)	-.198 ***	.142 **
beef	.262 ***	.081 (ns)	.142 **	-.017 (ns)	-.205 ***	-.012 (ns)
lamb	.142 **	.254***	.178 ***	0.82 (ns)	-.224 ***	.073 (ns)
veal	.192 ***	.102 *	.069 (ns)	.088 (ns)	-.228 ***	.046 (ns)
eggs	.042 (ns)	.062(ns)	.030 (ns)	.044 (ns)	-.127 **	.102 *
milk	-.011 (ns)	.164 ***	.011 (ns)	.073 (ns)	-.034 (ns)	.005 (vl) (ns)

*Reading example consumption frequency:*²² People who are concerned about pork welfare (= low acceptability) tend to eat slightly less pork than unconcerned people (Spearman rank correlation coefficient = 0.111, hypothesis of no correlation can be rejected with error probability smaller than $p = 0.05$).

Reading example consumption change: People who are unconcerned about lamb welfare (high acceptability) tend to have increased their lamb-consumption within the last five years more than less unconcerned people (corr.-coeff. = 0.178).

Reading example animal-welfare motivated consumption reduction: People who are concerned about pork welfare tend to report consumption reductions due to animal welfare concerns more often than unconcerned people (corr.-coeff. = -0.239).

4. Interdependencies between the various product specific beliefs

'Acceptability' of animal treatment is positively correlated with 'information' about husbandry practices only in the case of 'beef', 'lamb', 'veal' and 'milk'. 'Acceptability' is in all cases significantly and in most cases relatively strongly (corr.-coeff. between (0.094 and 0.356) correlated with 'safety' and 'healthiness'. 'Pork' and 'beef' 'acceptability' correlate with most total model factors ('safety', 'healthiness', 'taste' and 'convenience') and 'poultry' and 'egg' 'acceptability' with the least factors (only 'safety' and 'healthiness') and also have lower coefficients - i.e. 'animal welfare' is a more independent evaluative dimension for these two products as people can judge it without referring to their other product beliefs.

²² These and the other reading examples related to correlation coefficients in this report have the drawback to only emphasise one side of the correlational relationship - e.g. less consumption of concerned people may be mentioned while the possibility of more consumption of unconcerned people may not be mentioned). The reading examples must not be interpreted to mean that only the mentioned part of the correlational relationship actually is responsible for the observed correlation.

Also the total model factors independent of animal welfare are correlated: 'healthiness' is particularly strongly correlated with 'safety' and 'taste' (coefficients range from 0.309 to 0.459). 'Safety' is again always correlated with 'taste' (coefficients range from 0.221 to 0.312) and for the frequently consumed products (i.e. not for 'veal' and 'lamb') also with 'convenience to give up consumption'. 'Taste' is always relatively highly correlated with 'convenience to stop consumption' (coefficients range from -0.354 to -0.472).

Table 35: ranking of correlation strength between product-specific behavioural variables and animal-welfare related attitudes & beliefs

	consumption frequency &		consumption increases &		aw concern motivated consumption reduction &	
	acceptability	information status	acceptability	information status	acceptability	information status
Schwein	6	5	6/7	5	2	6
Geflügel	5	6	5	6	2	4
Rind	5	6	4	7	2	6
Lamm	6	2	2/3	5	1	4
Kalb	5	6	6	5	2	6
Eier	7	6	7	6	2	3
Milch	7	4	6	5	5	6

Seven product specific variables (healthiness, safety, taste, convenience to give up, value for money, acceptability of animal treatment, information about rearing conditions) were correlated on the above three behavioural variables. The highest correlation coefficient was placed on rank 1 and the lowest on rank 7.

Table 36: Product specific consumption frequencies: correlation coefficients with other product specific questions

Correlations (consumption frequency of... (Q1) and ...)	total meat consumption frequency (not product specific)	total 5 year consumption change (Q2+Q3)	Q11+Q12 consumed less .. due to animal welfare concerns	acceptability of methods of production	informed about way animals are treated	taste	healthiness	safety	convenience to give up consumption	value for money
pork Sp.-corr. sign. n	.524 (m) .000 *** 503	.319 (l) .000 *** 505	-.188(vl) .000 *** 500	.111 (vl) .015 * 478	.116 (vl) .010 ** 497	.349 (l) .000 *** 496	.181 (vl) .000 *** 490	.217 (l) .000 *** 490	-.340 (l) .000 *** 466	.024 (vl) .601 (ns) 461
poultry Sp.-corr. sign. n	.298 (l) .000 *** 503	.389 (l) .000 *** 507	-.103(vl) .020 * 504	.146 (vl) .001 *** 490	.118 (vl) .008 * 503	.361 (l) .000 *** 501	.203 (l) .000 *** 497	.184 (vl) .000 *** 496	-.311 (l) .000 *** 482	-.039(vl) .395 (ns) 476
beef Sp.-corr. sign. n	.288 (l) .000 *** 504	.253 (l) .000 *** 504	-.233 (l) .000 *** 502	.262 (l) .000 *** 483	.081 (vl) .073 (ns) 496	.407 (l) .000 *** 482	.391 (l) .000 *** 480	.407 (l) .000 *** 474	-.295 (l) .000 *** 342	.024 (vl) .610 (ns) 438
lamb Sp.-corr. sign. n	.084 (vl) .058 (ns) 504	.259 (l) .000 *** 490	-.004(vl) .933 (ns) 486	.142 (vl) .006 ** 372	.254 (l) .000 *** 469	.566 (m) .000 *** 429	.155 (vl) .002 ** 411	.180 (vl) .000 *** 415	-.191(vl) .003 *** 239	.066 (vl) .224 (ns) 340
veal Sp.-corr. sign. n	.143 (vl) .001 *** 503	.124 (vl) .006 ** 498	-.078 .084 (ns) 495	.192 (vl) .000 *** 448	.102 (vl) .024 * 485	.491 (l) .000 *** 444	.287 (l) .000 *** 442	.270 (l) .000 *** 447	-.206 (l) .001 *** 279	.039 (vl) .455 (ns) 378
eggs Sp.-corr. sign. n	.232 (l) .000 *** 504	.399 (l) .000 *** 506	-.119(vl) .007 (ns) 502	.042 (vl) .348 (ns) 492	.062 (vl) .164 (ns) 505	.283 (l) .000 *** 505	.192 (vl) .000 *** 502	.171 (vl) .000 *** 500	-.342 (l) .000 *** 497	.077 (vl) .089 (ns) 485
milk Sp.-corr. sign. n	.106 (vl) .018 * 504	.355 (l) .000 *** 507	-.059(vl) .183 (ns) 503	-.011(vl) .803 (ns) 474	.164 (vl) .000 *** 505	.449 (l) .000 *** 501	.279 (l) .000 *** 497	.093 (vl) .040 * 493	-.391 (l) .000 *** 464	.114 (vl) .012 (ns) 489
high rating numbers for high consumption frequency	3 = more 2 = same 1 = less	(product specific) 2 = yes 1 = no	high rating numbers for high acceptability	high rating number for high information status	higher rating numbers for better taste, healthiness, safety, convenience to give up and value for money of a product					

Reading example: The hypothesis that pork consumption frequency does not correlate with the acceptability of pork treatment (pork welfare concern) can be rejected with an error probability of 0.015. The correlation coefficient is very low (0.111) and has been calculated from data by 478 participants. People who are concerned about pork welfare tend to eat slightly less pork than unconcerned people.

Table 37: Total 5 year consumption change (product specific): correlation coefficients with other product specific questions

Correlations (total 5 year consumption change of... and ...)	Q11+Q12 consumed less .. due to animal welfare concerns	acceptability of methods of production	informed about way animals are treated	healthiness	safety	taste	convenience to give up consumption	value for money
pork Sp.-corr. sign. n	-.283 (I) .000 *** 500	.033 (vl) .466 (ns) 478	.035 (vl) .432 (ns) 497	.194 (vl) .000 *** 491	.211 (I) .000 *** 491	.249 (I) .000 *** 496	-.244 (I) .000 *** 466	-.033 (vl) .483 (ns) 461
poultry Sp.-corr. sign. n	-.065 (vl) .142 (ns) 504	.103 (vl) .022 * 490	.046 (vl) .307 (ns) 503	.148 (vl) .001 *** 497	.118 (vl) .008 ** 496	.268 (I) .000 *** 501	-.235 (I) .000 *** 482	.006 (vl) .901 (ns) 476
beef Sp.-corr. sign. n	-.202 (I) .000 *** 499	.142 (vl) .002 ** 480	-.017 (vl) .713 (ns) 493	.118 (vl) .010 ** 477	.263 (I) .000 *** 472	.144 (vl) .002 ** 479	-.274 (I) .000 *** 340	-.116 (vl) .015 * 435
lamb Sp.-corr. sign. n	-.191 (vl) .000 *** 472	.178 (vl) .001 *** 362	0.82 (vl) 0.81 (ns) 458	.104 (vl) .038 * 399	.072 (vl) .147(ns) 404	.290 (I) .000 *** 417	-.177 (vl) .007 ** 235	.076 (vl) .168 (ns) 332
veal Sp.-corr. sign. n	-.174 (vl) .000 *** 488	.069 (vl) .150 (ns) 442	.088 (vl) .055 (ns) 479	.165 (vl) .001 *** 435	.214 (I) .000 *** 440	.159 (vl) .001 *** 438	-.117 (vl) .052 (ns) 275	.010 (vl) .843 (ns) 371
eggs Sp.-corr. sign. n	-.147 (vl) .001 *** 501	.030 (vl) .513 (ns) 491	.044 (vl) .320 (ns) 504	.192 (vl) .000 *** 501	.151 (vl) .001 *** 499	.191 (vl) .000 *** 504	-.232 (I) .000 *** 496	.050 (vl) .268 (ns) 484
milk Sp.-corr. sign. n	-.042 (vl) .344 (ns) 503	.011 (vl) .814 (ns) 474	.073 (vl) .104 (ns) 502	.148 (vl) .001 *** 497	.109 (vl) .016 * 493	.297 (I) .000 *** 501	-.240 (I) .000 *** 464	-.007 (vl) .883 (ns) 489
3 = more 2 = same 1 = less	2 = yes 1 = no (product specific)	high rating numbers for high acceptability	high rating no. for high information status	higher rating numbers for better taste, healthiness, safety, convenience to give up and value for money of a product				
<p>Reading example: The hypothesis that total 5 year pork consumption change does not correlate with the acceptability of pork treatment (pork welfare concern) cannot be rejected as the error probability of 0.466 would be too high. The correlation coefficient is very low (0.033) and has been calculated from data by 478 participants. People who are concerned about pork welfare cannot be said to report different 5 year pork consumption changes than unconcerned people.</p> <p>Note: This table reports correlations for one product-specific question ('total five year consumption change of a product') with various other product-specific questions.</p>								

Table 38: Total meat consumption change (not product specific): correlation coefficients with product specific questions

Correlations Total meat consumption change (not product specific) and ...	consumption frequency (product specific)	total 5 year consumption change (Q2+Q3) (product specific)	Q11+Q12 consumed less .. due to animal welfare concerns	acceptability of methods of production	informed about way animals are treated	taste	healthiness	safety	convenience to give up consumption	value for money
(pork) Sp.-corr. sign. n	.178(vl) .000*** 497	.455(l) .000*** 497	-.244(l) .000*** 492	.093 (vl) .043* 470	.081(vl) .075(ns) 489	.186(vl) .000*** 491	.150(vl) .001*** 485	.174(vl) .000*** 484	-.138(vl) .003** 467	-.086(vl) .067(ns) 458
(poultry) Sp.-corr. sign. n	.107(vl) .016* 498	.229(l) .000*** 498	-.170(vl) .000*** 493	.104(vl) .023* 481	.042(vl) .350(ns) 494	.145(vl) .001*** 495	.154(vl) .001 491	.202(l) .000*** 489	-.110(vl) .016* 482	-.146(vl) .001*** 471
(beef) Sp.-corr. sign. n	.104(vl) .021* 498	.252(l) .000*** 495	-.213 (l) .000*** 495	.032(vl) .483(ns) 474	.017(vl) .713(ns) 487	-.014(vl) .766(ns) 476	.018(vl) .689(ns) 474	.098(vl) .034* 467	-.067(vl) .213(ns) 342	-.067(vl) .162(ns) 433
(lamb) Sp.-corr. sign. n	-.069(vl) .123(ns) 498	.076(vl) .097(ns) 481	-.127(vl) .005** 477	.052(vl) .322(ns) 367	-.096(vl) .040(ns) 461	.010(vl) .838(ns) 423	.024(vl) .633(ns) 405	.115(vl) .020* 408	-0.54(vl) .404(ns) 238	.035(vl) .527(ns) 337
(veal) Sp.-corr. sign. n	.077(vl) .086(ns) 497	.209(l) .000*** 490	-.204(l) .000*** 487	.131(vl) .006** 440	.059(vl) .200(ns) 478	.039(vl) .419(ns) 439	.047(vl) .323(ns) 437	.194(vl) .000*** 441	-.082(vl) .169(ns) 280	.016(vl) .754(ns) 375
(eggs) Sp.-corr. sign. n	.167(vl) .000*** 498	.278(l) .000*** 498	-.179(vl) .000*** 493	.076(vl) .096(ns) 483	-.033(vl) .463(ns) 496	.058(vl) .194(ns) 496	.152(vl) .001*** 493	.099(vl) .028* 491	-.097(vl) .032* 489	-.025(vl) .589(ns) 476
(milk) Sp.-corr. sign. n	.009(vl) .833(ns) 498	.018(vl) .694(ns) 498	-.014(vl) .750(ns) 494	.025 .591(ns) 466	.062(vl) .168(ns) 493	.011(vl) .808(ns) 492	.025(vl) .586(ns) 489	.102(vl) .025* 484	-.011(vl) .810(ns) 456	-.040(vl) .385(ns) 480
3 = more 2 = same 1 = less	high ratings for high consumption	3 =more 2 =same 1 = less	2 = yes 1 = no (product specific)	high rating numbers for high acceptability	high rating no. for high information status	higher rating numbers for better taste, healthiness, safety, convenience to give up and value for money of a product				
<p>Reading example: The hypothesis that total meat consumption change does not correlate with the acceptability of pork treatment (pork welfare concern) can be rejected with an error probability of 0.043. The correlation coefficient is very low (0.093) and has been calculated from data by 470 participants. People who are concerned about pork welfare tend have reduced their total consumption of meat and poultry over the past 5 years more often than unconcerned people.</p> <p>Note: The product names in the first column are put in brackets to show that this table reports correlations for one product-specific question ('total meat consumption change') with one product-unspecific question.</p> <p>Note: Correlation of 'consumption frequency of total amount of meat and poultry' and 'consumption change for total amount of meat and poultry': 0.110 (vl), p = 0.014*.</p>										

Table 39: Total meat consumption frequency (not product specific): correlation coefficients with product specific questions

Correlations (total consumption of meat and poultry ... and ...)	total 5 year consumption change	Q11+Q12 consumed less .. due to animal welfare concerns	acceptability of methods of production	informed about way animals are treated	healthiness	safety	taste	convenience to give up consumption	value for money
(pork) Sp.-corr. sign. n	.179 (vl) .000 *** 503	-.216 (l) .000 *** 498	.023 (vl) .613 (ns) 476	.025 (vl) .576 (ns) 495	.043 (vl) .343(ns) 489	.124 (vl) .006 ** 488	.191 (vl) .000 *** 494	-.226 (l) .000 *** 464	-.019(vl) .683 (ns) 461
(poultry) Sp.-corr. sign. n	.069 (vl) .120(ns) 504	-.203(l) .000 *** 499	-.023(vl) .613 (ns) 476	-.017(vl) .697 (ns) 500	.108 (vl) .017 * 496	.090 (vl) .046 * 494	.095 (vl) .033 * 499	-.095(vl) .037 * 480	-.018(vl) .695 (ns) 476
(beef) Sp.-corr. sign. n	.059 (l) .187(ns) 501	-.150(vl) .001 *** 501	.150 (vl) .001 *** 480	.015 (vl) .741 (ns) 493	.112 (vl) .014 * 478	.094 (vl) .042 * 472	.109 (vl) .017 * 479	-.144(vl) .008 ** 339	-.055(vl) .255 (ns) 437
(lamb) Sp.-corr. sign. n	.066 (vl) .148(ns) 487	-.216(l) .000 *** 483	-.002(vl) .974 (ns) 371	-.029(vl) .535 (ns) 466	.098 (vl) .046 * 411	.124 (vl) .012 * 415	.025 (vl) .613(ns) 428	-.046(vl) .480(ns) 239	-.045(vl) .407 (ns) 340
(veal) Sp.-corr. sign. n	.115 (vl) .010 ** 496	-.192(vl) .000 *** 493	.063 (vl) .187 (ns) 447	.010 (vl) .824 (ns) 483	.106 (vl) .026 * 443	.068 (vl) .152 (ns) 447	.050 (vl) .294(ns) 444	-.168(vl) .005 ** 279	-.101(vl) .050 * 378
(eggs) Sp.-corr. sign. n	.034 (vl) .450(ns) 503	-.102(vl) .023 * 499	-.022(vl) .625 (ns) 489	-.101(vl) .024 * 502	.094 (vl) .036 * 500	.047 (vl) .301 (ns) 497	.005 (vl) .903(ns) 502	-.094(vl) .038 * 494	.050 (vl) .276 (ns) 483
(milk) Sp.-corr. sign. n	.000 (vl) .991(ns) 504	-.101(vl) .023 * 500	-.014(vl) .768 (ns) 471	-.010(vl) .823 (ns) 499	.055 (vl) .233(ns) 496	.134 (vl) .003 ** 491	-.065(vl) .150(ns) 499	-.029(vl) .541(ns) 462	.077 (vl) .089 (ns) 488
high ratings for high consumption	3 = more 2 = same 1 = less	2 = yes 1 = no (product specific)	high rating numbers for high acceptability	high rating no. for high information status	higher rating numbers for better taste, healthiness, safety, convenience to give up and value for money of a product				

Reading example: The hypothesis that total meat consumption frequency does not correlate with the acceptability of pork treatment (pork welfare concern) cannot be rejected as the error probability of 0.613 would be too high. The correlation coefficient is very low (0.023) and has been calculated from data by 476 participants. People who are concerned about pork welfare cannot be said to have a different 'total meat and poultry consumption frequency' than unconcerned people.

Note: The product names in the first column are put in brackets to show that this table reports correlations for one product-specific question ('total meat and poultry consumption frequency') with one product-unspecific question.

Table 40: Total 5 year consumption change due to welfare concerns (product specific): correlation coefficients with other product specific questions

Correlations (Q11+12: consumed less ... due to animal welfare and ...)	acceptability of methods of production	informed about way animals are treated	healthiness	safety	taste	convenience to give up consumption	value for money
pork Sp.-corr. sign. n	-.239 (I) .000 *** 476	.077 (vl) .087 (ns) 493	-.223 (I) .000 *** 486	-.230 (I) .000 *** 486	-.247 (I) .000 *** 493	.185 (vl) .000 *** 463	.061 (vl) .192 (ns) 458
poultry Sp.-corr. sign. n	-.198 (vl) .000 *** 487	.142 (vl) .002 ** 500	-.106 (vl) .019 * 494	-.201 (I) .000 *** 493	-.173 (vl) .000 *** 498	.139 (vl) .002 ** 479	.014 (vl) .757 (ns) 473
beef Sp.-corr. sign. n	-.205 (I) .000 *** 480	-.012 (vl) .799 (ns) 492	-.200 (I) .000 *** 477	-.222 (I) .000 *** 471	-.142 (vl) .002 ** 479	.178 (vl) .001 *** 339	.000 (vl) .995 (ns) 435
lamb Sp.-corr. sign. n	-.224 (I) .000 *** 362	.073 (vl) .118 (ns) 455	-.065 (vl) .195 (ns) 398	-.172 (vl) .001 *** 404	-.081 (vl) .098 (ns) 420	.024 (vl) .713 (ns) 236	-.026 (vl) .636 (ns) 333
veal Sp.-corr. sign. n	-.228 (I) .000 *** 440	.046 (vl) .320 (ns) 476	-.126 (vl) .008 ** 438	-.248 (I) .000 *** 441	-.090 (vl) .060 (ns) 439	.092 (vl) .126 (ns) 278	-.008 (vl) .882 (ns) 374
eggs Sp.-corr. sign. n	-.127 (vl) .005 ** 487	.102 (vl) .023 * 487	-0.31 (vl) .495 (ns) 497	-.089 (vl) .048 * 495	-0.50 (vl) .268 (ns) 500	.179 (vl) .000 *** 492	-.066 (vl) .149 (ns) 480
milk Sp.-corr. sign. n	-.034 (vl) .463 (ns) 471	.005 (vl) .906 (ns) 498	.002 (vl) .964 (ns) 494	-.076 (vl) .093 (ns) 490	-.041 (vl) .359 (ns) 498	.102 (vl) .029 * 461	-.066 (vl) .144 (ns) 485
2 = yes 1 = no (product specific)	high rating numbers for high acceptability	high rating no. for high information status	higher rating numbers for better taste, healthiness, safety, convenience to give up and value for money of a product				
Reading example: The hypothesis that 5 year pork consumption change motivated by concerns about pork welfare does not correlate with the acceptability of pork treatment (pork welfare concern) can be rejected with an error probability of 0.000. The correlation coefficient is low (-0.239) and has been calculated from data by 476 participants. Concerned in contrast to unconcerned people about pork welfare are more likely to report reduced pork consumption due to these concerns about pork welfare.							
Note: This table reports correlations for one product-specific question ('total five year consumption change of a product due to concerns about animal treatment of the respective animal') with various other product-specific questions.							

Table 41: Acceptability of animal treatment: correlations with other product specific questions

Correlations (acceptability of production of ... and ...)	informed about animals treated	way are	health-ness	safety	taste	convenience to give up consumption	value for money
pork Sp.-corr. sign. n	-.003(vl) .946 (ns) 474		.240 (I) .000 *** 466	.228 (I) .000 *** 466	.239 (I) .000 *** 472	-.160(vl) .001 *** 444	-.023(vl) .626 (ns) 441
poultry Sp.-corr. sign. n	-.070(vl) .123 (ns) 486		.193 (vl) .000 *** 482	.193 (vl) .000 *** 479	.084 (vl) .064 (ns) 484	-.030(vl) .511 (ns) 466	.018 (vl) .701 (ns) 462
beef Sp.-corr. sign. n	.128 (vl) .005 ** 474		.285 (I) .000 *** 462	.282 (I) .000 *** 455	.158 (vl) .001 *** 463	-.156(vl) .005 ** 328	.036 (vl) .458 (ns) 421
lamb Sp.-corr. sign. n	.217 (I) .000 *** 359		.198 (vl) .000 *** 319	.330 (I) .000 *** 321	.213 (I) .000 *** 328	-.077(vl) .283 (ns) 198	.034 (vl) .571 (ns) 281
veal Sp.-corr. sign. n	.095 (vl) .049 * 434		.246 (I) .000 *** 403	.356 (I) .000 *** 401	.267 (I) .000 *** 404	-.053(vl) .396 (ns) 256	.028 (vl) .607 (ns) 349
eggs Sp.-corr. sign. n	-.035(vl) .443 (ns) 490		.144 (vl) .001 *** 489	.094 (vl) .039 * 485	.059 (vl) .193 (ns) 490	-.027(vl) .551 (ns) 482	.004 (vl) .925 (ns) 474
milk Sp.-corr. sign. n	.212 (I) .000 *** 471		.148 (vl) .001 *** 466	.183 (vl) .000 *** 462	.130 (vl) .005 ** 469	-.043(vl) .369 (ns) 435	.099 (vl) .035 (ns) 459
high rating numbers for high acceptability	high rating number. for high information status	higher rating numbers for better taste, healthiness, safety, convenience to give up and value for money of a product					

Reading example: The hypothesis that the acceptability of pork treatment (pork welfare) does not correlate with the taste of pork can be rejected with an error probability of 0.000. The correlation coefficient is low (0.239) and has been calculated from data by 472 participants. The better pork welfare (acceptability of pork treatment) is perceived, the tastier is pork to a person.
Note: This table reports correlations for one product-specific question ('acceptability of animal treatment', i.e. animal welfare concerns) with various other product-specific questions.

Table 42: Perceived product healthiness: correlations with other product specific questions

Correlations (healthiness of ... and ...)	informed about way animals are treated	safety	taste	convenience to give up consumption	value for money
pork Sp.-corr. sign. n	.096 (vl) .035 * 483	.403 (I) .000 *** 485	.397 (I) .000 *** 489	-.194(vl) .000 *** 463	.105 (vl) .025 * 456
poultry Sp.-corr. sign. n	.095 (vl) .035 * 493	.403 (I) .000 *** 492	.404 (I) .000 *** 496	-.262 (I) .000 *** 478	.127 (vl) .006 ** 474
beef Sp.-corr. sign. n	.139 (vl) .002 ** 473	.459 (I) .000 *** 468	.449 (I) .000 *** 474	-.208 (I) .000 *** 340	.130 (vl) .007 ** 432
lamb Sp.-corr. sign. n	.163 (vl) .001 *** 394	.439 (I) .000 *** 392	.319 (I) .000 *** 387	-.054(vl) .416 (ns) 233	-.007 .896 (ns) 317
veal Sp.-corr. sign. n	.044 (vl) .359 (ns) 430	.456 (I) .000 *** 429	.427 (I) .000 *** 419	-.127(vl) .035 (ns) 274	-.013(vl) .807 (ns) 360
eggs Sp.-corr. sign. n	.031 (vl) .496 (ns) 500	.372 (I) .000 *** 496	.309 (I) .000 *** 502	-.224 (I) .000 *** 494	.048 (vl) .296 (ns) 483
milk Sp.-corr. sign. n	.165 (vl) .000 *** 492	.377 (I) .000 *** 488	.419 (I) .000 *** 494	-.298 (I) .000 *** 461	.092 (vl) .043 (ns) 484
high rating numbers for high perceived healthiness of a product	high rating number. for high information status	higher rating numbers for better taste, safety, convenience to give up and value for money of a product			

Reading example: The hypothesis that the perception of healthiness of pork does not correlate with the information status about pig production can be rejected with an error probability of 0.035. The Spearman rank correlation coefficient is very low (0.096) and has been calculated from data by 483 participants. People who feel better informed about pig production will tend to regard the healthiness of pork as slightly better than uninformed people.

Note: This table reports correlations for one product-specific question ('perceived healthiness of a product') with various other product-specific questions.

Table 43: Perceived product safety and taste: correlations with other product specific questions

Correlations (safety of ... and ...)	informed about way animals are treated	taste	convenience to give up consumption	value for money	Correlations (taste of ... and ...)	informed about way animals are treated	convenience to give up consumption	value for money
pork Sp.-corr. sign. n	.113 (vl) .013 * 483	.312 (I) .000*** 487	-.231 (I) .000 *** 459	.021 (vl) .659 (ns) 454	pork Sp.-corr. sign. n	.066 (vl) .145 (ns) 490	-.415 (I) .000 *** 466	.128 (vl) .006 ** 461
poultry Sp.-corr. sign. n	.045 (vl) .321 (ns) 492	.310 (I) .000 *** 494	-.232 (I) .000 *** 476	.049 (vl) .294 (ns) 471	poultry Sp.-corr. sign. n	.103 (vl) .021 * 497	-.442 (I) .000 *** 482	.079 (vl) .084 (ns) 475
beef Sp.-corr. sign. n	.092 (vl) .048 * 467	.284 (I) .000 *** 466	-.259 (I) .000 *** 335	.057 (vl) .239 (ns) 427	beef Sp.-corr. sign. n	.113 (vl) .014 * 473	-.472 (I) .000 *** 342	.109 (vl) .025 (ns) 429
lamb Sp.-corr. sign. n	.111 (vl) .027 * 400	.260 (I) .000 *** 393	-.102(vl) .121 (ns) 232	-.010(vl) .859 (ns) 236	lamb Sp.-corr. sign. n	.257 (I) .000 *** 407	-.375 (I) .000 *** 238	.064 (vl) .249 (ns) 325
veal Sp.-corr. sign. n	.028 (vl) .565 (ns) 437	.299 (I) .000 *** 424	-.044(vl) .469 (ns) 272	.033 (vl) .535 (ns) 363	veal Sp.-corr. sign. n	.231 (I) .000 *** 428	-.368 (I) .000 *** 274	.090 (vl) .088 (ns) 358
eggs Sp.-corr. sign. n	.154 (vl) .001 *** 498	.231 (I) .000 *** 499	-.216(I) .000 *** 492	.028 (vl) .536 (ns) 479	eggs Sp.-corr. sign. n	.139 (vl) .002 ** 503	-.354 (I) .000 *** 497	.044 (vl) .329 (ns) 484
milk Sp.-corr. sign. n	.182 (vl) .000 *** 489	.221 (I) .000 *** 491	-.241 (I) .000 *** 456	.153 (vl) .001 (ns) 479	milk Sp.-corr. sign. n	.201 (I) .000 *** 496	-.446 (I) .000 *** 464	.104 (vl) .022 (ns) 484
high ratings for high perceived safety of a product	higher rating number. for higher information status	high ratings for high perceived safety of a product			higher rating number. for better taste	higher rating number. for higher information status	higher ratings for better convenience to give up consumption and value for money of a product	
<p>Reading example 1: The hypothesis that the perceived safety of pork does not correlate with the information status about pig production can be rejected with an error probability of 0.013. The Spearman rank correlation coefficient is very low (0.113) and has been calculated from data by 483 participants. People who feel better informed about pig production will tend to regard the safety of pork as slightly better than uninformed people.</p> <p>Reading example 2: The hypothesis that tastiness of pork does not correlate with the information status about pig production cannot be rejected as the error probability of 0.145 would be too large. The Spearman rank correlation coefficient is very low (0.066) and has been calculated from data by 490 participants.</p> <p>Note: This table reports correlations for one product-specific question ('perceived safety of a product' and 'taste') with various other product-specific questions.</p>								

Table 44: Perceived convenience to stop consumption and information about animal treatment: correlations with other product specific questions

Correlations (between convenience of giving up ... and ...)	informed about animals treated way are	value for money	Correlations (between informed about animal treatment ... and ...)	value for money
pork Sp.-corr. sign. n	-.042(vl) .370 (ns) 460	-.024 (vl) .622 (ns) 440	pork Sp.-corr. sign. n	.183 (vl) .000 *** 456
poultry Sp.-corr. sign. n	-.095(vl) .038 (ns) 478	-.111(vl) .017 * 464	poultry Sp.-corr. sign. n	.042 (vl) .366 (ns) 472
beef Sp.-corr. sign. n	-.138(vl) .011 * 338	.001 (vl) .986 (ns) 318	beef Sp.-corr. sign. n	.129 (vl) .007 ** 433
lamb Sp.-corr. sign. n	-.181(vl) .005 ** 235	.021 (vl) .760 (ns) 211	lamb Sp.-corr. sign. n	.130 (vl) .019 * 329
veal Sp.-corr. sign. n	-.132(vl) .030 * 272	-.015(vl) .813 (ns) 246	veal Sp.-corr. sign. n	.051 (vl) .324 (ns) 369
eggs Sp.-corr. sign. n	-.073(vl) .105 (ns) 495	-.075(vl) .104 (ns) 477	eggs Sp.-corr. sign. n	.038 (vl) .403 (ns) 483
milk Sp.-corr. sign. n	-.055(vl) .238 (ns) 459	-.145(vl) .002 ** 453	milk Sp.-corr. sign. n	.166 (vl) .000 *** 484
higher ratings for higher convenience to give up consumption of a product	higher rating numbers. for higher information status	higher ratings for higher value for money of a product	higher rating numbers for higher information status	higher ratings for higher value for money of a product
Compare previous tables for instructions how to read this table. Note: This table reports correlations for one product-specific question ('convenience to give up consumption of a product' and 'information about animal treatment') with a few other product-specific questions that were not already covered in the preceding tables..				

4 Appendices

4.1 Questionnaire (German language)

TIERSCHUTZBEDENKEN VON VERBRAUCHERN UND DEREN EINFLUSS AUF DIE NAHRUNGSMITTELWAHL

Großbritannien.....	1	Italien.....	4
Irland.....	2	Deutschland.....	5
Frankreich.....	3		

country

Guten Morgen/Tag/Abend. Mein Name ist _____ und ich führe eine Befragung für die Universität Kiel durch. Es ist eine europaweite Befragung zum Thema Nahrungsmittel und deren Einkauf. Haben Sie ein paar Minuten Zeit für einige Fragen? Ich versichere Ihnen, daß die Angaben, die Sie machen, streng vertraulich behandelt werden. Es gibt keine richtigen oder falschen Antworten.

Essen Sie mindestens **zwei** der folgenden Produkte? (LISTE VORLESEN)

JA [] WEITERFRAGEN NEIN [] BEDANKEN UND ABBRECHEN. NICHT ZÄHLEN.

LESE IM FOLGENDEN NICHT DIE ANTWORTKATEGORIEN 'KEINE AHNUNG', 'NICHT ANWENDBAR' ODER 'VERWEIGERT' VOR, BENUTZE SIE NUR, WENN NÖTIG.

Nummer der/des Befragten:

			NORESP
--	--	--	--------

1. Wie oft verzehren Sie zu Hause oder andernorts die folgenden Nahrungsmittel - sei es in Reinform oder in Produkten?

DIE BEFRAGTEN ANTWORTEN FREI. FALLS DIE ANTWORT 'NIE' LAUTET, FAHRE FÜR DIESES PRODUKT MIT FRAGE ZWEI FORT - SOBALD FRAGE 1 VOLLSTÄNDIG BEANTWORTET IST - ANDERNFALLS FAHRE MIT FRAGE 3 FORT.

	5 bis 7 Mal pro Woche	2 bis 4 Mal pro Woche	Einmal pro Woche	Alle zwei Wochen	Einmal im Monat oder weniger	Nie (GEHE N SIE ZU F2)	Keine Ahnun g	
Schwein	6	5	4	3	2	1	-9	FCPORK
Geflügel	6	5	4	3	2	1	-9	FCPOULT
Rind	6	5	4	3	2	1	-9	FCBEEF
Lamm	6	5	4	3	2	1	-9	FCLAMB
Kalb	6	5	4	3	2	1	-9	FCVEAL
Eier	6	5	4	3	2	1	-9	FCEGGS
Milch	6	5	4	3	2	1	-9	FCMILK
Fleisch- und Geflügel produkte insgesamt	6	5	4	3	2	1	-9	FCTOTAL

2. Haben Sie den Verzehr von <Produkt nennen> in den letzten 5 Jahren aufgegeben?

PRODUKT	JA	NEIN	Keine Ahnung	
Schwein	2	1	-9	SCPORK
Geflügel	2	1	-9	SCPOULT
Rind	2	1	-9	SCBEEF
Lamm	2	1	-9	SCLAMB
Kalb	2	1	-9	SCVEAL
Eier	2	1	-9	SCEGGS
Milch	2	1	-9	SCMILK

3. Wenn Sie an die folgenden von Ihnen verzehrten Nahrungsmittel denken, würden Sie sagen, daß Sie diese im Vergleich zu vor 5 Jahren mehr, weniger oder etwa genausoviel essen?

	Mehr	Etwa gleich	Weniger	Keine Ahnung	nicht anwendbar	
Schwein	3	2	1	-9	-8	CCPORK
Geflügel	3	2	1	-9	-8	CCPOULT
Rind	3	2	1	-9	-8	CCBEEF
Lamm	3	2	1	-9	-8	CCLAMB
Kalb	3	2	1	-9	-8	CCVEAL
Eier	3	2	1	-9	-8	CCEGGS
Milch	3	2	1	-9	-8	CCMILK
Fleisch- und Geflügelprodukte insgesamt	3	2	1	-9	-8	CCTOTAL

WENN ES EINE ÄNDERUNG GAB (MEHR ODER WENIGER) STELLE DIE FOLGENDE FRAGE, WENN ES KEINE ÄNDERUNG GAB, FAHRE MIT FRAGE 5 FORT.

4. Was ist der Hauptgrund für die Änderung Ihrer Verzehrgeohnheiten bei tierischen Nahrungsmitteln?

AUF DEN ERSTEN GRUND BESCHRÄNKEN UND WÖRTLICH AUFSCHREIBEN

[REASON]

Nicht anwendbar.....-8

5. Welchen Anteil der Lebensmitteleinkäufe für Ihren Haushalt übernehmen Sie im Allgemeinen?

Sämtliche Einkäufe	Über die Hälfte der Einkäufe	Etwa die Hälfte der Einkäufe	Weniger als die Hälfte der Einkäufe	Keine	Keine Ahnung	
5	4	3	2	1	-9	RESSHOP

6. Ich werde Ihnen nun einiges vorlesen, was Leute darüber gesagt haben, wie Nahrungsmittel produziert werden. Bitte sagen Sie mir, wie stark sie jeder Aussage zustimmen oder nicht zustimmen.

	Stimme stark zu	Stimme eher zu	Stimme weder zu noch nicht zu	Stimme eher nicht zu	Stimme überhaupt nicht zu	Keine Ahnung	
Nahrungsmittel von Tieren ohne Zugang zum Tageslicht schmecken schlechter	5	4	3	2	1	-9	TSLI GHT
Nutztiere haben selbst in gedrängten Verhältnissen eine akzeptable Lebensqualität	1	2	3	4	5	-9	ACR OWD
Intensive Tierhaltung beeinträchtigt die Lebensqualität des Tieres.	5	4	3	2	1	-9	AIN T ENS
Wenn Nutztiere nur drinnen gehalten werden beeinträchtigt das den Gesundheitswert von Nahrungsmitteln.	5	4	3	2	1	-9	HLTH IND
Nutztiere haben auch dann eine gute Lebensqualität, wenn sie nur drinnen gehalten werden.	1	2	3	4	5	-9	AACO UT

Die Gesundheit von Nutztieren hat Einfluß auf die gesundheitliche Unbedenklichkeit unserer Nahrungsmittel.	5	4	3	2	1	-9	SFHE ALT
Intensive Tierproduktion sorgt für gesundheitlich unbedenkliche Nahrungsmittel	1	2	3	4	5	-9	SFINT EN
Wenn Nutztiere zu dicht gedrängt gehalten werden, wirkt sich das negativ auf den Nährwert von Nahrungsmitteln aus	5	4	3	2	1	-9	NTOV RC
Schlechte Transportbedingungen beeinträchtigen das Wohlergehen von Nutztieren	5	4	3	2	1	-9	ATRA NS
Nutztiere, die nur drinnen gehalten werden, haben eine gute Lebensqualität.	1	2	3	4	5	-9	AIND OOR
Ich bin besorgt darüber, daß die Art, wie mit Nutztieren umgegangen wird, die Qualität tierischer Nahrungsmittel beeinträchtigt	5	4	3	2	1	-9	CONF QL
Tiere, die intensiv gehalten werden, haben eine schlechte Lebensqualität	5	4	3	2	1	-9	ACON DS
Nahrungsmittel von Tieren, die keinen Auslauf nach draußen haben, sind gesund.	1	2	3	4	5	-9	HLTO UT
Ich mache mir Sorgen darum, daß die Art, wie mit Tieren umgegangen wird, deren Lebensqualität beeinträchtigt.	5	4	3	2	1	-9	CONA W

7. Für wie wichtig halten Sie Tierschutzstandards für die Lebensqualität von Nutztieren?

sehr wichtig	relativ wichtig	weder wichtig noch unwichtig	relativ unwichtig	sehr unwichtig	Keine Ahnung	
5	4	3	2	1	-9	DTAW

8. Für wie wichtig halten Sie Tierschutzstandards beim Verzehr von tierischen Nahrungsmitteln?

sehr wichtig	relativ wichtig	weder wichtig noch unwichtig	relativ unwichtig	sehr unwichtig	Keine Ahnung	
5	4	3	2	1	-9	DTFQ

9. Wenn Sie nun an die allgemein üblichen Produktionsmethoden denken, bitte sagen Sie mir, ob Sie den Umgang mit Tieren bei den folgenden Produkte für akzeptabel halten.

	Sehr akzeptabel	eher akzeptabel	Weder akzeptabel noch unakzeptabel	eher unakzeptabel	Überhaupt nicht akzeptabel	Keine Ahnung	
Schweinefleisch	5	4	3	2	1	-9	ACPORK
Geflügelfleisch	5	4	3	2	1	-9	ACPOULT
Rindfleisch	5	4	3	2	1	-9	ACBEEF
Lammfleisch	5	4	3	2	1	-9	ACLAMB
Kalbfleisch	5	4	3	2	1	-9	ACVEAL
Eier	5	4	3	2	1	-9	ACEGGS
Milch	5	4	3	2	1	-9	ACMILK

10. Wenn Sie nun an das Wohlergehen der für die Nahrungsmittelproduktion gehaltenen Tiere denken, wie wichtig sind für Sie die folgenden Aspekte?

	Sehr wichtig	Ziemlich wichtig	Weder wichtig noch unwichtig	relativ unwichtig	Völlig unwichtig	Keine Ahnung	
Platz, der dem Tier zum Leben zur Verfügung steht	5	4	3	2	1	-9	ATSPACE
Qualität des Tierfutters	5	4	3	2	1	-9	ATFEED
Möglichkeit des Tieres zum Auslauf	5	4	3	2	1	-9	ATOUTSI
Bedingungen bei Lebendtiertransporten	5	4	3	2	1	-9	ATTRANS
Bedingungen der Tier-schlachtung	5	4	3	2	1	-9	ATSLAUG
Möglichkeit des Tieres, sich natürlich zu verhalten	5	4	3	2	1	-9	ATNORM

11. Haben Sie in den letzten fünf Jahren Ihren Verzehr irgendwelcher Nahrungsmittel eingeschränkt, weil Sie Bedenken über das Wohlergehen der Tiere hatten?

Ja	Nein	Keine Ahnung	
2	1	-9	RCONAW
Fahre fort mit Frage 12	Fahre fort mit Frage 13	Fahre fort mit Frage 13	

12. Bei welchen Nahrungsmitteln haben Sie in den letzten fünf Jahren Ihren Verzehr aufgrund von Bedenken über das Wohlergehen der Tiere eingeschränkt? GENANNT PRODUKTE EINKREISEN

PRODUKT	Ja	Nein	Keine Ahnung	
Schwein	2	1	-9	RCPORK
Rind	2	1	-9	RCBEEF
Geflügel	2	1	-9	RCPOULT
Lamm	2	1	-9	RCLAMB
Kalb	2	1	-9	RCVEAL
Eier	2	1	-9	RCEGGS
Milch	2	1	-9	RCMILK

13. Wählen Sie tendenziell Nahrungsmittel, die ausgezeichnet werden als Produkte, bei denen ein höheres Wohlergehen der Tiere gewährleistet ist?

Ja	Nein	Keine Ahnung	
2	1	-9	AWFOOD
Fahre fort mit Frage 14	Fahre fort mit Frage 16	Fahre fort mit Frage 16	

14. Welche dieser Produkte wählen Sie am häufigsten?

AUF DIE ERSTEN DREI GENANNTEN PRODUKTE BESCHRÄNKEN. PRODUKTE HIER WÖRTLICH AUFSCHREIBEN UND UNTER 'PRODUKTE' IN FRAGE 14 EINTRAGEN

1. _____ **[PROD1]**
Nicht anwendbar -8
2. _____ **[PROD2]**
Nicht anwendbar -8
3. _____ **[PROD3]**
Nicht anwendbar -8

15. Wie oft wählen Sie <bestimmtes Produkt einfügen>, wenn Sie <allgemeines Produkt einfügen> kaufen?

[z.B. Wie oft wählen Sie <Freiland Eier>, wenn Sie <Eier> kaufen?]

PRODUKT	IMMER	MEISTENS	GELEGENTLICH	SELTEN	Keine Ahnung	
	4	3	2	1	-9	FCAW1
	4	3	2	1	-9	FCAW2
	4	3	2	1	-9	FCAW3

16. Kennen Sie irgendwelche Nahrungsmittel mit tierschutzbezogener Kennzeichnung, die Sie nicht kaufen?

Ja	Nein	
2	1	KNOWAW

17. Wie wichtig ist jeder der folgenden Punkte für den Kauf von Produkten, die laut Kennzeichnung nach besonderen Tierschutzstandards aufgezogen wurden?

	sehr wichtig	relativ wichtig	weder wichtig noch unwichtig	eher unwichtig	sehr unwichtig	Keine Ahnung	nicht anwendbar	
Informationen, die Sie über Tierschutzstandards haben	5	4	3	2	1	-9	-8	DBINFO
Die Erhältlichkeit dieser Produkte	5	4	3	2	1	-9	-8	DBAVAI
Der Preis dieser Produkte	5	4	3	2	1	-9	-8	DBCOST
Gedanken hinsichtlich des Umgangs mit den Tieren bei der Aufzucht	1	2	3	4	5	-9	-8	DBEMPH
Einfluß der ausgewählten Nahrungsmittel auf das Wohlergehen der Nutztieren	5	4	3	2	1	-9	-8	DBINFL

18. Ich werde Ihnen nun noch ein paar Aussagen vorlesen, die Leute über Nahrungsmittel geäußert haben. Bitte sagen Sie mir, inwieweit Sie jeder zustimmen oder nicht zustimmen.

	Stimme stark zu	Stimme eher zu	Stimme weder zu noch nicht zu	Stimme eher nicht zu	Stimme überhaupt nicht zu	Keine Ahnung	
Die Menge der von mir verzehrten tierischen Nahrungsmittel hat keinen Einfluß darauf, wie mit Tieren umgegangen wird	1	2	3	4	5	-9	BINFAMT
Bauern sollten verlässlichere Informationen über die Haltung der zum Verzehr bestimmten Tiere zur Verfügung stellen	1	2	3	4	5	-9	BINFOFA
Nahrungsmittel mit Angaben über das Wohlergehen von Tieren sind für mich leicht erhältlich	5	4	3	2	1	-9	BAVALAB
Meine Produktwahl hat keine Auswirkungen auf das Wohlergehen von Nutztieren	1	2	3	4	5	-9	BINFBUY
Ich kann es mir leisten, ausschließlich Nahrungsmittel mit tierschutzbezogener Etikettierung zu kaufen	5	4	3	2	1	-9	BCOSALL
In den Geschäften gibt es zu wenig Nahrungsmittel mit tierschutzbezogenen Angaben. Das hält mich davon ab, sie zu kaufen	1	2	3	4	5	-9	BAVALAC
Lebensmittelhändler stellen genügend verlässliche Informationen über die Tierhaltung zur Verfügung	5	4	3	2	1	-9	BINFORE
Meine Besorgnis über das Wohlergehen von Nutztieren nimmt in meinem Leben einen wichtigen Platz ein	5	4	3	2	1	-9	BEMPCON
Der Preis hält mich davon ab, Nahrungsmitteln mit Angaben zum Wohlergehen der Tiere zu kaufen	1	2	3	4	5	-9	BCOSDET

Ich denke, die Lebensbedingungen der meisten Nutztiere sind akzeptabel	1	2	3	4	5	-9	BEMPACC
Der Staat stellt genügend verlässliche Informationen darüber zur Verfügung, wie Tiere für Nahrungsmittel gehalten werden	5	4	3	2	1	-9	BINFOGO
Ich bin bereit, mehr für Produkte mit verbessertem Tierschutz zu zahlen	5	4	3	2	1	-9	BCOSWTP
Indem ich Produkte mit Informationen zum Wohlbefinden von Tieren kaufe, beeinflusse ich, wie mit Tieren umgegangen wird	5	4	3	2	1	-9	BINFAW
Wenn ich tierische Nahrungsmittel kaufe, denke ich kaum über die Tierhaltung nach	1	2	3	4	5	-9	BEMPRAR
Nahrungsmittel mit Informationen zum Tierwohl sind leicht erhältlich	5	4	3	2	1	-9	BAVAINF
Ich bin mir nicht sicher, ob man tierschutzbezogener Etikettierung trauen kann. Daher kaufe ich solche Produkte nur ungern.	1	2	3	4	5	-9	BINFTRU
Ich mache mir oft Gedanken darüber, wie mit Tieren in der Landwirtschaft umgegangen wird	5	4	3	2	1	-9	BEMPTHI
Mich ärgert es, mehr für Produkte mit höherem Wohlbefinden der Tiere zahlen zu müssen.	1	2	3	4	5	-9	BCOSRES
Man muss schon ganz schön suchen, um Nahrungsmittel mit tierschutzbezogener Etikettierung zu finden.	1	2	3	4	5	-9	BAVALOO
Ich meine, Menschen sollten weniger tierische Produkte essen, um das Wohlergehen der Tiere zu verbessern	5	4	3	2	1	-9	BINFPEO

19. Was glauben Sie, wie informiert sind Sie über die Formen der Tierhaltung für folgende Produkte...? EINZELN AUFZÄHLEN

	Gut informiert	Eher informiert	Weder informiert noch uninformiert	eher nicht informiert	Überhaupt nicht informiert	Keine Ahnung	
Schwein	5	4	3	2	1	-9	INFPORK
Geflügel	5	4	3	2	1	-9	INFPOUL
Rind	5	4	3	2	1	-9	INFBEEF
Lamm	5	4	3	2	1	-9	INFLAMB
Kalb	5	4	3	2	1	-9	INFVEAL
Eier	5	4	3	2	1	-9	INFEGGS
Milch	5	4	3	2	1	-9	INFMILK

20. Für wie glaubwürdig würden Sie die folgenden Informationsquellen halten, wenn Sie Informationen über das Wohlergehen von Tieren suchen? 'KEINE AHNUNG' NICHT VORLESEN

	sehr glaubwürdig	eher glaubwürdig	weder glaubwürdig noch unglaubwürdig	eher unglaubwürdig	sehr unglaubwürdig	Keine Ahnung	
Staat	5	4	3	2	1	-9	TRSTGOV
Supermärkte	5	4	3	2	1	-9	TRSTSUP
Metzger	5	4	3	2	1	-9	TRSTBUT
Lebensmittelindustrie	5	4	3	2	1	-9	TRSTIND
Landwirtschaftsorganisationen	5	4	3	2	1	-9	TRSTFAR
Tierschutzorganisationen	5	4	3	2	1	-9	TRSTAWO
Verbraucherverbände	5	4	3	2	1	-9	TRSTCON
Freunde/Familie	5	4	3	2	1	-9	TRSTFAM
Wissenschaftler	5	4	3	2	1	-9	TRSTSCI
Umweltschutzorganisationen	5	4	3	2	1	-9	TRSTENV

21. Bitte stufen Sie die folgenden Gruppen danach ein, inwieweit sie heutzutage Verantwortung für akzeptable Tierschutzstandards übernehmen sollten: 'KEINE AHNUNG' NICHT VORLESEN

	Sehr viel	Eher viel	Weder viel noch wenig	Eher wenig	Sehr wenig	Keine Ahnung	
Europäische Union	5	4	3	2	1	-9	STRESEU
Staat	5	4	3	2	1	-9	STREGOV
Lebensmittel-industrie	5	4	3	2	1	-9	STREIND
Bauern	5	4	3	2	1	-9	STREFAR
Verbraucher	5	4	3	2	1	-9	STRECON
Tierschutz-organisationen	5	4	3	2	1	-9	STREAWO
Umweltschutz-organisationen	5	4	3	2	1	-9	STREENV
Supermärkte	5	4	3	2	1	-9	STRESUP
Metzger	5	4	3	2	1	-9	STREBUT

22. Bitte stufen Sie die folgenden Gruppen danach ein, inwieweit sie heutzutage tatsächlich Verantwortung für akzeptable Tierschutzstandard übernehmen: 'KEINE AHNUNG' NICHT VORLESEN

	Sehr viel	eher viel	Weder viel noch wenig	eher wenig	Sehr wenig	Keine Ahnung	
Europäische Union	5	4	3	2	1	-9	ATRESEU
Staat	5	4	3	2	1	-9	ATREGOV
Bauern	5	4	3	2	1	-9	ATREFAR
Lebensmittel-industrie	5	4	3	2	1	-9	ATREIND
Verbraucher	5	4	3	2	1	-9	ATRECON
Tierschutzorgani-sationen	5	4	3	2	1	-9	ATREAWO
Umweltschutz-organisationen	5	4	3	2	1	-9	ATREENV
Supermärkte	5	4	3	2	1	-9	ATRESUP
Metzger	5	4	3	2	1	-9	ATREBUT

23. Wie gerne mögen Sie den Geschmack der folgenden Nahrungsmittel?

	Sehr gern	relativ gern	Weder gern noch ungerne	eher ungerne	ganz und gar nicht gern	Keine Ahnung	Nicht anwendbar	
Schwein	5	4	3	2	1	-9	-8	TSTPORK
Geflügel	5	4	3	2	1	-9	-8	TSTPOUL
Rind	5	4	3	2	1	-9	-8	TSTBEEF
Lamm	5	4	3	2	1	-9	-8	TSTLAMB
Kalb	5	4	3	2	1	-9	-8	TSTVEAL
Eier	5	4	3	2	1	-9	-8	TSTEGGS
Milch	5	4	3	2	1	-9	-8	TSTMILK

24. Wie gesund, denken Sie, ist jedes der folgenden Nahrungsmittel für Sie?

	Sehr gesund	einigermaßen gesund	Weder gesund noch ungesund	eher ungesund	Völlig ungesund	Keine Ahnung	Nicht anwendbar	
Schwein	5	4	3	2	1	-9	-8	HTHPORK
Geflügel	5	4	3	2	1	-9	-8	HTHPOUL
Rind	5	4	3	2	1	-9	-8	HTHBEEF
Lamm	5	4	3	2	1	-9	-8	HTHLAMB
Kalb	5	4	3	2	1	-9	-8	HTHVEAL
Eier	5	4	3	2	1	-9	-8	HTHEGGS
Milch	5	4	3	2	1	-9	-8	HTHMILK

25. Wie unbedenklich und sicher, denken Sie, können Sie jedes der folgenden Nahrungsmittel essen?

	völlig unbedenklich	Ziemlich unbedenklich	Weder unbedenklich noch bedenklich	eher bedenklich	sehr bedenklich	Keine Ahnung	Nicht anwendbar	
Schwein	5	4	3	2	1	-9	-8	SFEPORK
Geflügel	5	4	3	2	1	-9	-8	SFEPOUL
Rind	5	4	3	2	1	-9	-8	SFEBEEF
Lamm	5	4	3	2	1	-9	-8	SFELAMB
Kalb	5	4	3	2	1	-9	-8	SFEVEAL
Eier	5	4	3	2	1	-9	-8	SFEEGGS
Milch	5	4	3	2	1	-9	-8	SFEMILK

26. Wie leicht oder schwer würde es Ihnen fallen, den Verzehr der einzelnen folgenden Nahrungsmittels dauerhaft aufzugeben?

	Sehr leicht	eher leicht	Weder leicht noch schwer	eher schwer	Sehr schwer	Keine Ahnung	Nicht anwendbar	
Schwein	5	4	3	2	1	-9	-8	CNV PORK
Geflügel	5	4	3	2	1	-9	-8	CNV POUL
Rind	5	4	3	2	1	-9	-8	CNV BEEF
Lamm	5	4	3	2	1	-9	-8	CNV LAMB
Kalb	5	4	3	2	1	-9	-8	CNV VEAL
Eier	5	4	3	2	1	-9	-8	CNV EGGS
Milch	5	4	3	2	1	-9	-8	CNV MILK

27. Als wie preiswert würden Sie jedes der folgenden Produkte einstufen?

	Sehr preiswert	eher preiswert	Weder preiswert noch nicht preiswert	eher nicht preiswert	ganz und gar nicht preiswert	Keine Ahnung	Nicht anwendbar	
Schwein	5	4	3	2	1	-9	-8	VFMPORK
Geflügel	5	4	3	2	1	-9	-8	VFMPOUL
Rind	5	4	3	2	1	-9	-8	VFMBEEF
Lamm	5	4	3	2	1	-9	-8	VFMLAMB
Kalb	5	4	3	2	1	-9	-8	VFMVEAL
Eier	5	4	3	2	1	-9	-8	VFMEGGS
Milch	5	4	3	2	1	-9	-8	VFMMILK

28. GESCHLECHT: [GENDER]

männlich	weiblich	verweigert
1	2	-7

29. WIE LAUTET IHR GEBURTSDATUM?: [DOB]

Tag	Tag	Monat	Monat	Jahr	Jahr	verweigert
						-7

SCHREIB ALS: TT.MM.JJ

30. IN WELCHER GEGEND WOHNEN SIE?

städtisch	vorstädtisch	ländlich	
1	2	3	REGION

31. ANZAHL DER ERWACHSENEN IN IHREM HAUSHALT (18 Jahre und darüber): [NOADULT]

--	--

32. ANZAHL DER KINDER IN IHREM HAUSHALT (unter 18): [NOCHILD]

--	--

33. ALTER DER NOCH ZU HAUSE LEBENDEN KINDER:

	Ja	Nein	
Unter 5 Jahren	2	1	CHILD1
5-10 Jahre	2	1	CHILD2
11-15 Jahre	2	1	CHILD3
16-17 Jahre	2	1	CHILD4

34. ANZAHL VEGETARISCH/VEGAN LEBENDER ERWACHSENER IM HAUSHALT: [NOVGTNS]

--	--

35. SIND SIE VEGETARIER? [RESPVEG]

JA F... 2

NEIN F F... 1

VERWEIGERTF... -7

36. SIND SIE JEMALS VEGETARIER/VEGANER GEWESEN? [EVERVEG]

JA F... 2

NEIN F F... 1

VERWEIGERTF... -7

37. GEHÖREN SIE EINEM TIERSCHUTZVEREIN AN? [AWORG]

JA	F...	2
NEIN	F	F... 1
VERWEIGERTE...		-7

38. WELCHEN HÖCHSTEN BILDUNGSABSCHLUSS HABEN SIE? [EDUQUAL]

39. BERUF DES BEFRAGTEN: [SOCCLAS]

AB.....	1
C1.....	.2
C2.....	3
DE.....	4
VERWEIGERT	-7

40. BERUF DES HAUPTVERDIENERS: [OCCIE]

41. ARBEITSSTATUS DES BEFRAGTEN: [WRKSTAT]

Vollzeit.....	1
Teilzeit.....	2
Nicht arbeitend.....	3
Vollzeitstudent.....	4
Pensioniert5
Arbeitslos.....	..6

42. WELCHES UNGEFÄHRE MONATSEINKOMMEN HAT IHR HAUSHALT NACH STEUERN? [INCOME]

unter 3000 DM	1
3000 - 4000 DM	2
4000 - 5000 DM	3
5000 - 7000 DM	4
7000 - 10000 DM	5
über 10000 DM	6
VERWEIGERT.....	-7

DAUER DES INTERVIEWS: _____ **Minuten** [ILENGTH]

VIELEN DANK UND ENDE

4.2 Additional tables and charts

4.2.1 Question 1:

Figure 22: Consumption frequency: total amount of meat and poultry

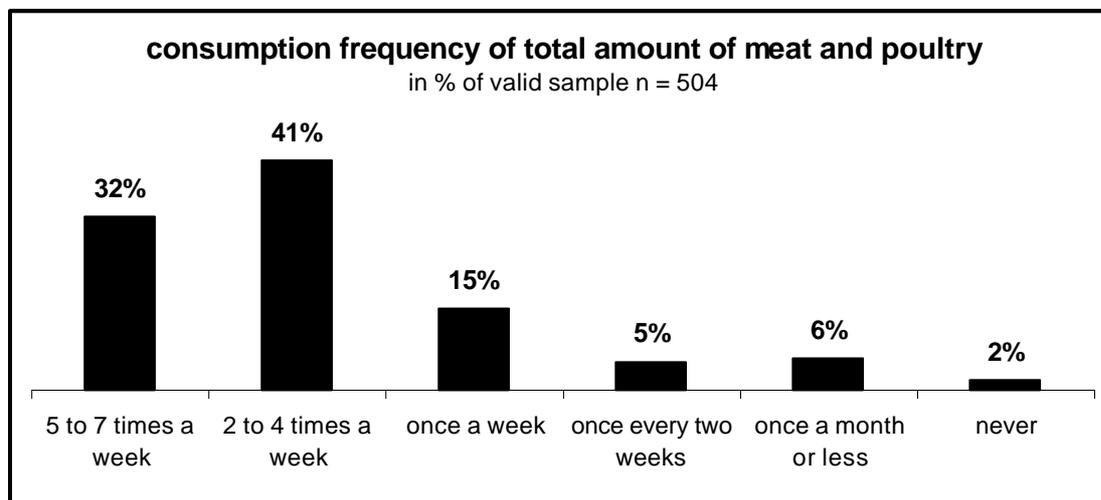


Figure 23: Consumption frequency of pork

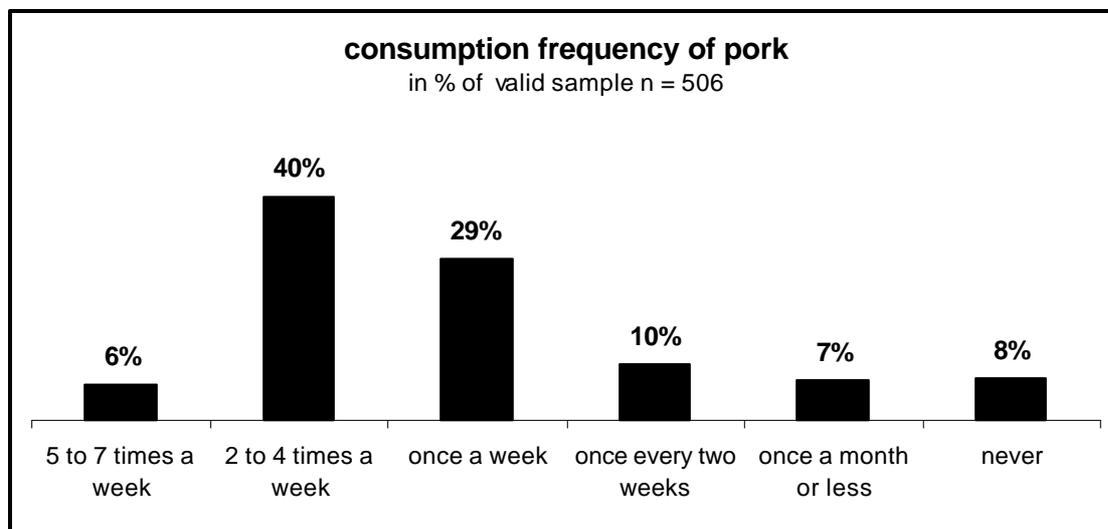


Figure 24: Consumption frequency of beef

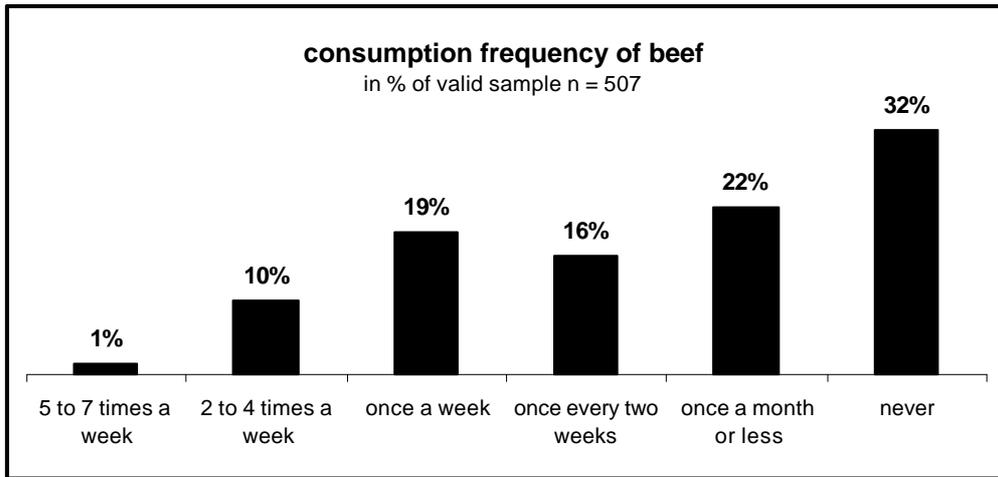


Figure 25: Consumption frequency of poultry

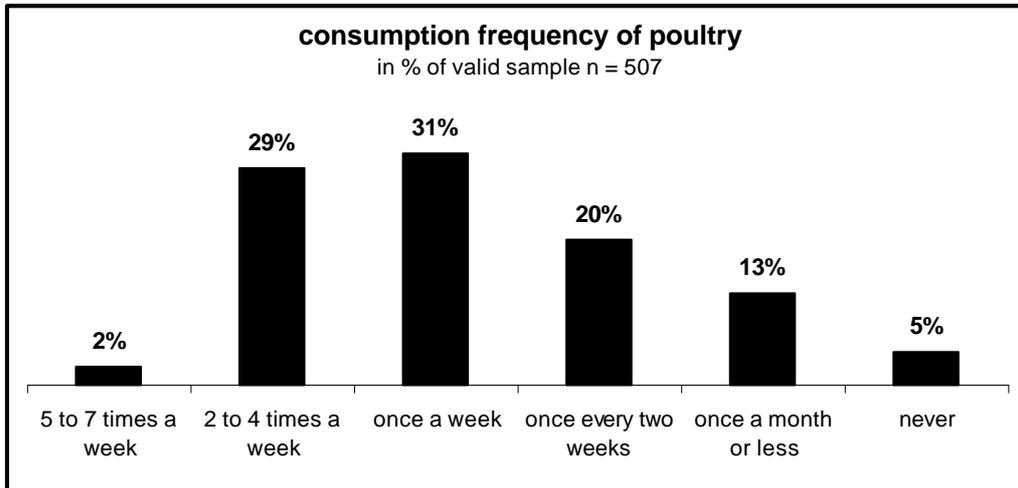


Figure 26: Consumption frequency of veal

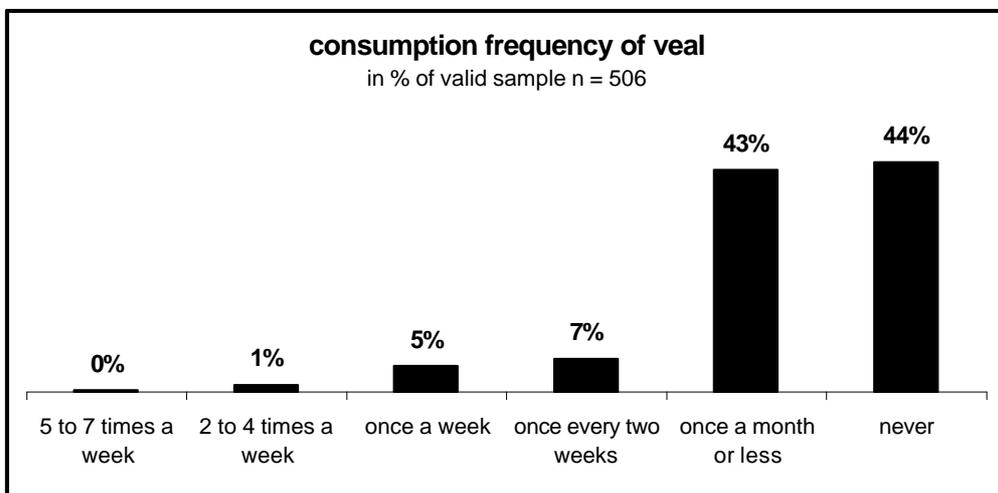


Figure 27: Consumption frequency of milk

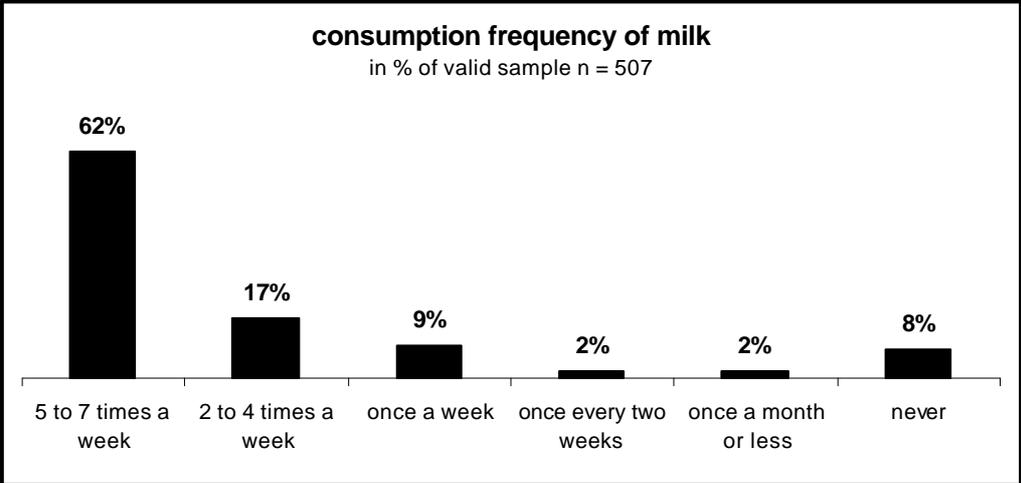


Figure 28: Consumption frequency of lamb

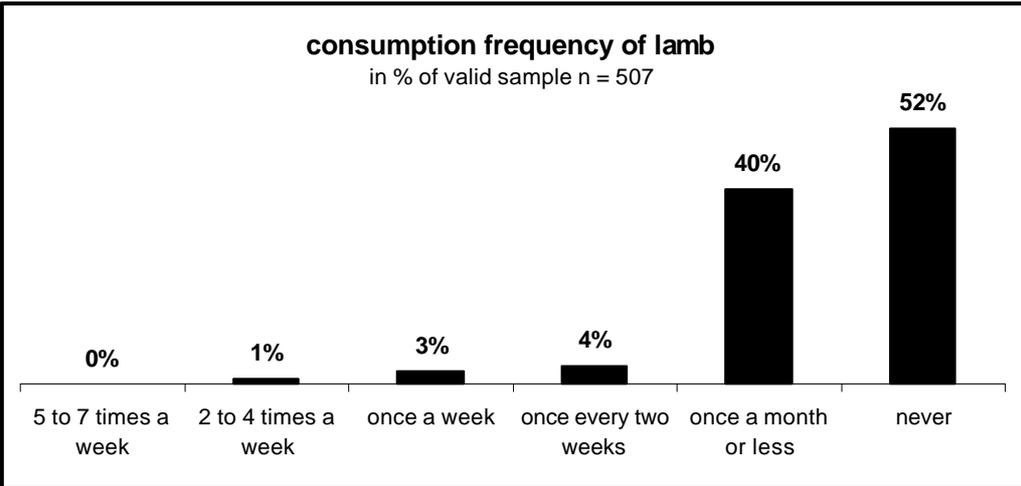
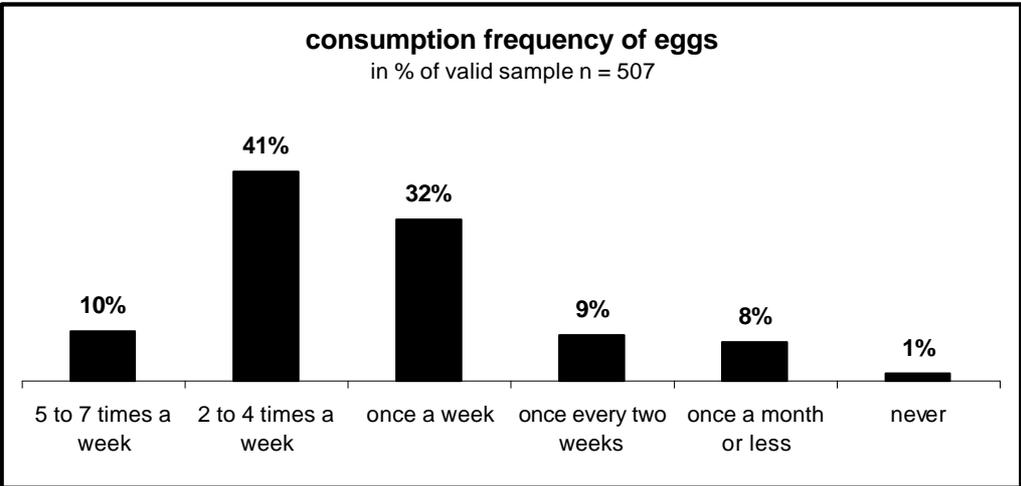


Figure 29: Consumption frequency of eggs



4.2.2 Question 2 + 3:

Figure 30: 5 year consumption changes for currently consumed products without completely stopped consumption

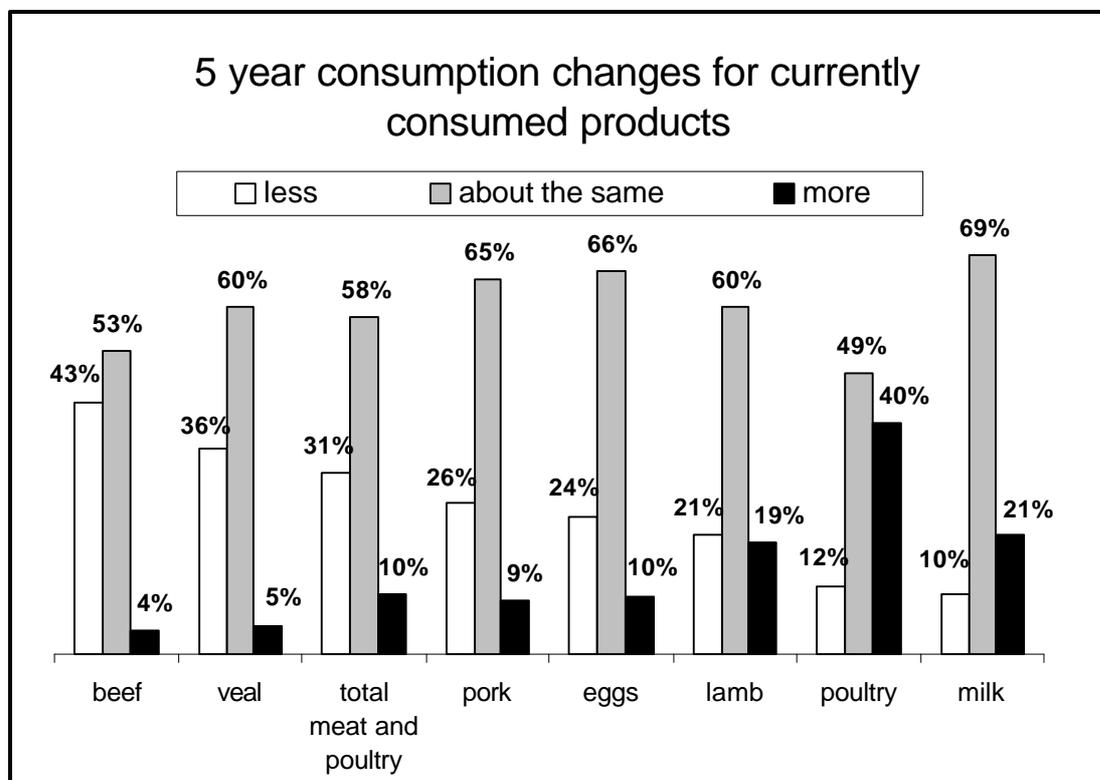


Table 45: Social class and consumption change

			Social class of respondent			
			AB	C1	C2	DE
Change in consumption of poul in the last 5 years	Less	Anzahl	3	9	33	8
		Spalten%	5.1%	13.6%	12.0%	11.6%
	About the same	Anzahl	30	29	136	34
		Spalten%	50.8%	43.9%	49.5%	49.3%
	More	Anzahl	26	28	106	27
		Spalten%	44.1%	42.4%	38.5%	39.1%
Change in consumption of milk in the last 5 years	Less	Anzahl	5	9	22	12
		Spalten%	8.6%	13.6%	8.3%	18.5%
	About the same	Anzahl	40	46	195	32
		Spalten%	69.0%	69.7%	73.9%	49.2%
	More	Anzahl	13	11	47	21
		Spalten%	22.4%	16.7%	17.8%	32.3%
Change in consumption of eggs in the last 5 years	Less	Anzahl	20	16	57	21
		Spalten%	32.8%	22.9%	20.2%	30.0%
	About the same	Anzahl	38	48	191	45
		Spalten%	62.3%	68.6%	67.7%	64.3%
	More	Anzahl	3	6	34	4
		Spalten%	4.9%	8.6%	12.1%	5.7%
Change in consumption of veal in the last 5 years	Less	Anzahl	9	17	53	16
		Spalten%	29.0%	44.7%	32.3%	43.2%
	About the same	Anzahl	20	19	104	19
		Spalten%	64.5%	50.0%	63.4%	51.4%
	More	Anzahl	2	2	7	2
		Spalten%	6.5%	5.3%	4.3%	5.4%
Change in consumption of lamb in the last 5 years	Less	Anzahl	4	10	27	6
		Spalten%	10.8%	27.0%	21.6%	17.6%
	About the same	Anzahl	22	18	78	22
		Spalten%	59.5%	48.6%	62.4%	64.7%
	More	Anzahl	11	9	20	6
		Spalten%	29.7%	24.3%	16.0%	17.6%
Change in consumption of beef in the last 5 years	Less	Anzahl	17	16	88	23
		Spalten%	36.2%	42.1%	46.3%	42.6%
	About the same	Anzahl	26	21	98	29
		Spalten%	55.3%	55.3%	51.6%	53.7%
	More	Anzahl	4	1	4	2
		Spalten%	8.5%	2.6%	2.1%	3.7%
Change in consumption of pork in the last 5 years	Less	Anzahl	15	21	65	17
		Spalten%	25.9%	33.9%	24.3%	26.2%
	About the same	Anzahl	39	36	177	42
		Spalten%	67.2%	58.1%	66.0%	64.6%
	More	Anzahl	4	5	26	6
		Spalten%	6.9%	8.1%	9.7%	9.2%
Change in consumption of total meat and poultry in the last 5 years	Less	Anzahl	20	27	86	18
		Spalten%	32.8%	39.1%	30.5%	25.7%
	About the same	Anzahl	36	36	165	45
		Spalten%	59.0%	52.2%	58.5%	64.3%
	More	Anzahl	5	6	31	7
		Spalten%	8.2%	8.7%	11.0%	10.0%

percentages apply relative to the total number of people in a social class

Table 46: Gender and consumption change for currently consumed products

			Gender of respondent	
			Male	Female
Change in consumption of poultry in the last 5 years	Less	Anzahl	25	31
		Spalten%	10.5%	12.6%
	About the same	Anzahl	130	105
		Spalten%	54.9%	42.5%
	More	Anzahl	82	111
		Spalten%	34.6%	44.9%
Change in consumption of milk in the last 5 years	Less	Anzahl	28	20
		Spalten%	12.5%	8.3%
	About the same	Anzahl	157	165
		Spalten%	70.1%	68.2%
	More	Anzahl	39	57
		Spalten%	17.4%	23.6%
Change in consumption of eggs in the last 5 years	Less	Anzahl	60	59
		Spalten%	24.7%	23.0%
	About the same	Anzahl	156	174
		Spalten%	64.2%	68.0%
	More	Anzahl	27	23
		Spalten%	11.1%	9.0%
Change in consumption of veal in the last 5 years	Less	Anzahl	46	53
		Spalten%	29.9%	42.4%
	About the same	Anzahl	99	68
		Spalten%	64.3%	54.4%
	More	Anzahl	9	4
		Spalten%	5.8%	3.2%
Change in consumption of lamb in the last 5 years	Less	Anzahl	26	23
		Spalten%	18.2%	24.5%
	About the same	Anzahl	87	55
		Spalten%	60.8%	58.5%
	More	Anzahl	30	16
		Spalten%	21.0%	17.0%
Change in consumption of beef in the last 5 years	Less	Anzahl	64	84
		Spalten%	35.0%	53.2%
	About the same	Anzahl	108	71
		Spalten%	59.0%	44.9%
	More	Anzahl	11	3
		Spalten%	6.0%	1.9%
Change in consumption of pork in the last 5 years	Less	Anzahl	47	75
		Spalten%	20.6%	31.3%
	About the same	Anzahl	158	145
		Spalten%	69.3%	60.4%
	More	Anzahl	23	20
		Spalten%	10.1%	8.3%
Change in consumption of total meat and poultry in the last 5 years	Less	Anzahl	68	88
		Spalten%	27.8%	34.8%
	About the same	Anzahl	151	139
		Spalten%	61.6%	54.9%
	More	Anzahl	26	26
		Spalten%	10.6%	10.3%

percentages apply relative to the total number of women or men respectively

4.2.3 Question 12

Table 47: 5 year changed consumption due to concerns about animal welfare concerns

		No	Yes
Consumed less pork because of concern about the way animals are treated	Anzahl	85	104
	%	45.0%	55.0%
Consumed less beef because of concern about the way animals are treated	Anzahl	39	151
	%	20.5%	79.5%
Consumed less poultry because of concern about the way animals are treated	Anzahl	87	105
	%	45.3%	54.7%
Consumed less lamb because of concern about the way animals are treated	Anzahl	102	72
	%	58.6%	41.4%
Consumed less veal because of concern about the way animals are treated	Anzahl	67	117
	%	36.4%	63.6%
Consumed less eggs because of concern about the way animals are treated	Anzahl	113	77
	%	59.5%	40.5%
Consumed less milk because of concern about the way animals are treated	Anzahl	166	25
	%	86.9%	13.1%

Table 48: 5 year changed consumption due to concerns about animal welfare concerns and social class

			Social class of respondent			
			AB	C1	C2	DE
Consumed less pork because of concern about the way animals are treated	No	Anzahl	5	19	46	11
		Zeilen%	31.3%	50.0%	43.4%	50.0%
		Spalten%	6.2%	23.5%	56.8%	13.6%
	Yes	Anzahl	11	19	60	11
		Zeilen%	68.8%	50.0%	56.6%	50.0%
		Spalten%	10.9%	18.8%	59.4%	10.9%
Consumed less beef because of concern about the way animals are treated	No	Anzahl	5	9	18	5
		Zeilen%	31.3%	23.1%	17.0%	22.7%
		Spalten%	13.5%	24.3%	48.6%	13.5%
	Yes	Anzahl	11	30	88	17
		Zeilen%	68.8%	76.9%	83.0%	77.3%
		Spalten%	7.5%	20.5%	60.3%	11.6%
Consumed less poultry because of concern about the way animals are treated	No	Anzahl	6	19	45	14
		Zeilen%	37.5%	48.7%	41.7%	63.6%
		Spalten%	7.1%	22.6%	53.6%	16.7%
	Yes	Anzahl	10	20	63	8
		Zeilen%	62.5%	51.3%	58.3%	36.4%
		Spalten%	9.9%	19.8%	62.4%	7.9%
Consumed less lamb because of concern about the way animals are treated	No	Anzahl	6	23	58	13
		Zeilen%	42.9%	67.6%	59.2%	61.9%
		Spalten%	6.0%	23.0%	58.0%	13.0%
	Yes	Anzahl	8	11	40	8
		Zeilen%	57.1%	32.4%	40.8%	38.1%
		Spalten%	11.9%	16.4%	59.7%	11.9%
Consumed less veal because of concern about the way animals are treated	No	Anzahl	4	14	38	9
		Zeilen%	28.6%	37.8%	36.2%	40.9%
		Spalten%	6.2%	21.5%	58.5%	13.8%
	Yes	Anzahl	10	23	67	13
		Zeilen%	71.4%	62.2%	63.8%	59.1%
		Spalten%	8.8%	20.4%	59.3%	11.5%
Consumed less eggs because of concern about the way animals are treated	No	Anzahl	8	25	63	13
		Zeilen%	50.0%	64.1%	58.3%	61.9%
		Spalten%	7.3%	22.9%	57.8%	11.9%
	Yes	Anzahl	8	14	45	8
		Zeilen%	50.0%	35.9%	41.7%	38.1%
		Spalten%	10.7%	18.7%	60.0%	10.7%
Consumed less milk because of concern about the way animals are treated	No	Anzahl	13	34	93	20
		Zeilen%	81.3%	89.5%	86.1%	90.9%
		Spalten%	8.1%	21.3%	58.1%	12.5%
	Yes	Anzahl	3	4	15	2
		Zeilen%	18.8%	10.5%	13.9%	9.1%
		Spalten%	12.5%	16.7%	62.5%	8.3%

Table 49: Reduced consumption due to animal welfare concerns and gender

			Gender of respondent	
			Male	Female
Consumed less pork because of concern about the way animals are treated	No	Anzahl	34	51
		Zeilen%	47.9%	43.2%
		Spalten%	40.0%	60.0%
	Yes	Anzahl	37	67
		Zeilen%	52.1%	56.8%
		Spalten%	35.6%	64.4%
Consumed less beef because of concern about the way animals are treated	No	Anzahl	16	23
		Zeilen%	22.5%	19.3%
		Spalten%	41.0%	59.0%
	Yes	Anzahl	55	96
		Zeilen%	77.5%	80.7%
		Spalten%	36.4%	63.6%
Consumed less poultry because of concern about the way animals are treated	No	Anzahl	34	53
		Zeilen%	47.9%	43.8%
		Spalten%	39.1%	60.9%
	Yes	Anzahl	37	68
		Zeilen%	52.1%	56.2%
		Spalten%	35.2%	64.8%
Consumed less lamb because of concern about the way animals are treated	No	Anzahl	41	61
		Zeilen%	61.2%	57.0%
		Spalten%	40.2%	59.8%
	Yes	Anzahl	26	46
		Zeilen%	38.8%	43.0%
		Spalten%	36.1%	63.9%
Consumed less veal because of concern about the way animals are treated	No	Anzahl	27	40
		Zeilen%	38.0%	35.4%
		Spalten%	40.3%	59.7%
	Yes	Anzahl	44	73
		Zeilen%	62.0%	64.6%
		Spalten%	37.6%	62.4%
Consumed less eggs because of concern about the way animals are treated	No	Anzahl	45	68
		Zeilen%	63.4%	57.1%
		Spalten%	39.8%	60.2%
	Yes	Anzahl	26	51
		Zeilen%	36.6%	42.9%
		Spalten%	33.8%	66.2%
Consumed less milk because of concern about the way animals are treated	No	Anzahl	66	100
		Zeilen%	93.0%	83.3%
		Spalten%	39.8%	60.2%
	Yes	Anzahl	5	20
		Zeilen%	7.0%	16.7%
		Spalten%	20.0%	80.0%

4.2.4 Question 19

Figure 31: Perceived information status about pork production

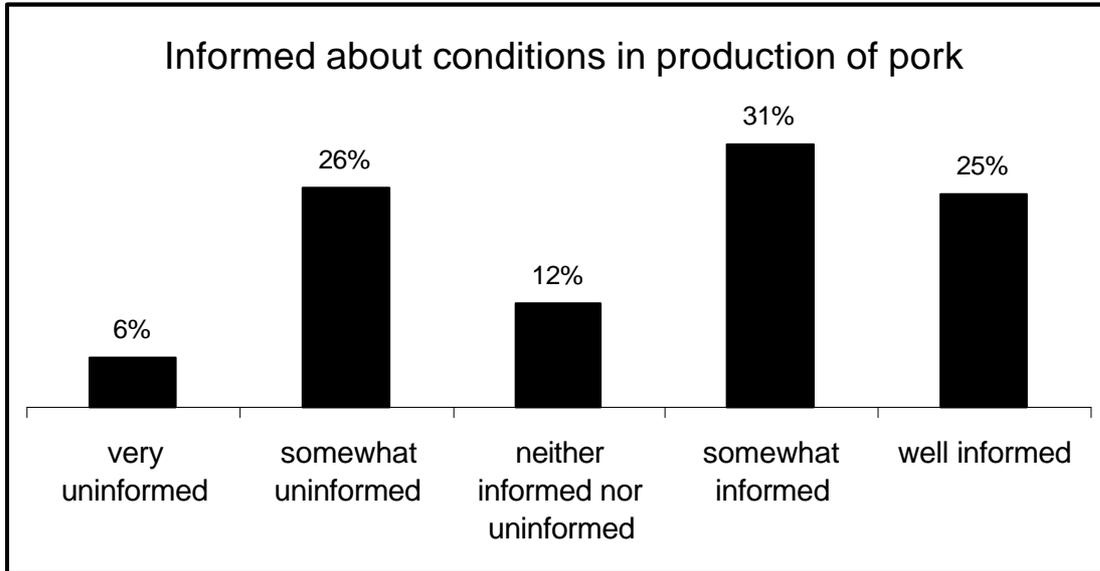


Figure 32: Perceived information status about beef production

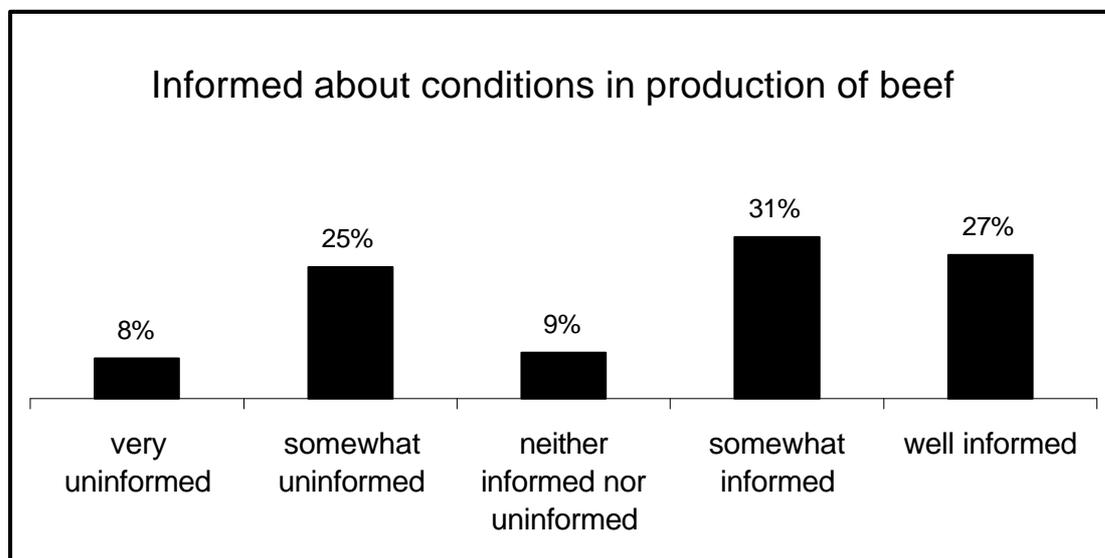


Figure 33: Perceived information status about egg production

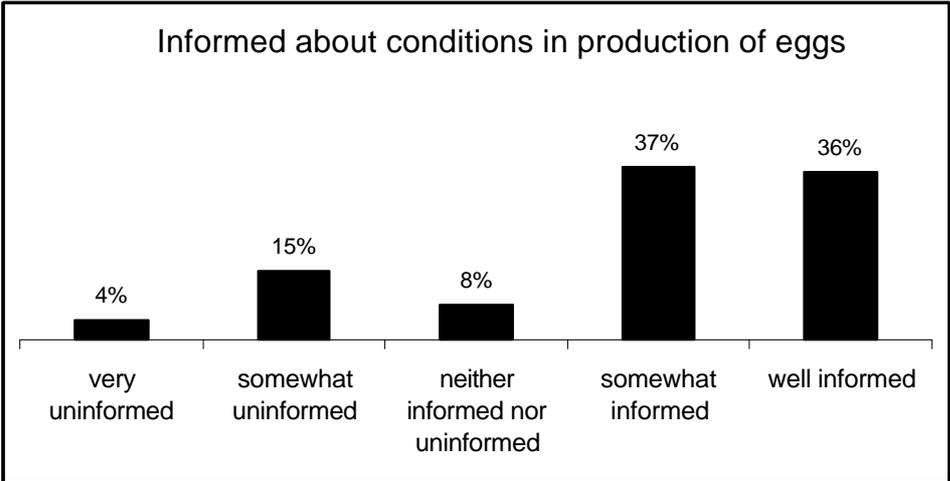


Figure 34: Perceived information status about milk production

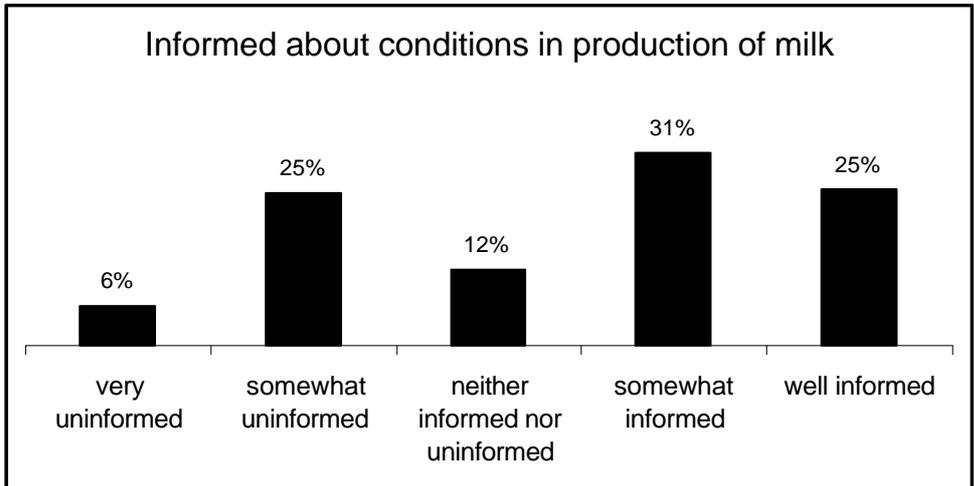


Figure 35: Perceived information status about poultry production

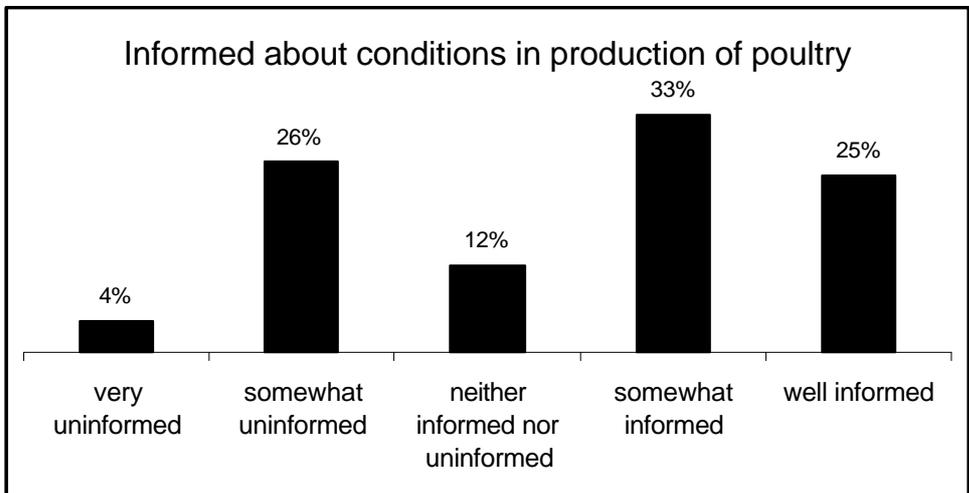


Figure 36: Perceived information status about veal production

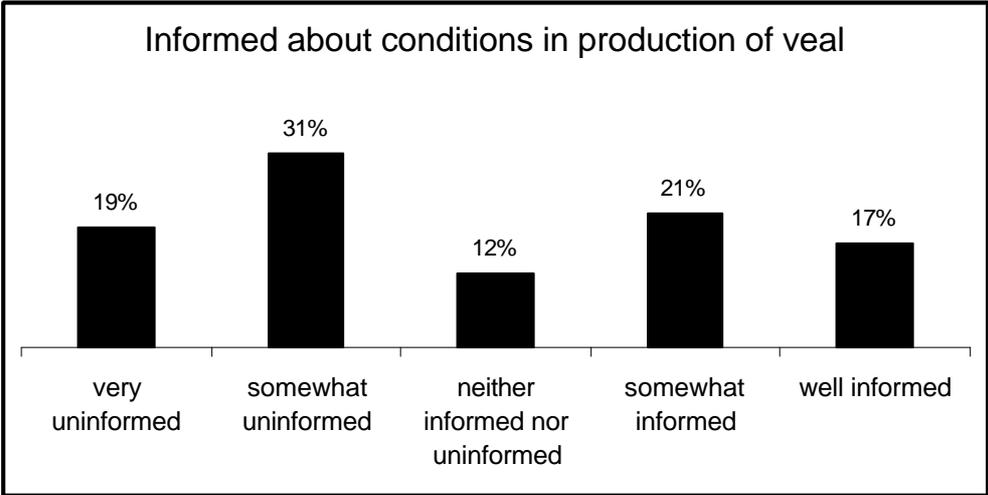


Figure 37: Perceived information status about lamb production

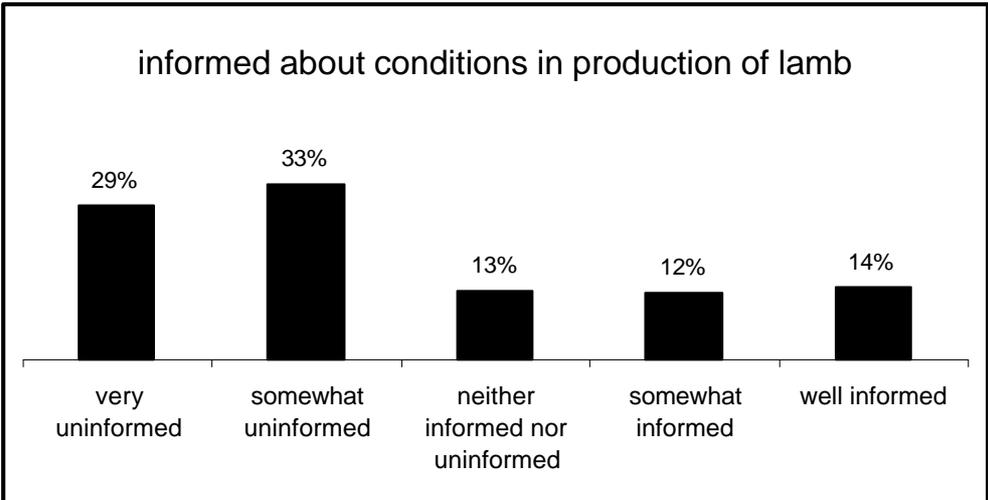


Table 50: Perceived information status about production conditions and gender

		Gender of respondent					
		Male			Female		
		Anzahl	Zeilen%	Spalten%	Anzahl	Zeilen%	Spalten%
Informed about the ways in which animals are reared for the production of pork	Very uninformed	18	62.1%	7.4%	11	37.9%	4.3%
	Somewhat uninformed	62	48.1%	25.4%	67	51.9%	26.4%
	Neither informed nor uninformed	33	54.1%	13.5%	28	45.9%	11.0%
	Somewhat informed	74	48.1%	30.3%	80	51.9%	31.5%
Informed about the ways in which animals are reared for the production of poultry	Well informed	57	45.6%	23.4%	68	54.4%	26.8%
	Very uninformed	14	63.6%	5.7%	8	36.4%	3.1%
	Somewhat uninformed	75	56.4%	30.4%	58	43.6%	22.7%
	Neither informed nor uninformed	28	46.7%	11.3%	32	53.3%	12.5%
Informed about the ways in which animals are reared for the production of beef	Somewhat informed	78	47.3%	31.6%	87	52.7%	34.0%
	Well informed	52	42.3%	21.1%	71	57.7%	27.7%
	Very uninformed	20	52.6%	8.1%	18	47.4%	7.2%
	Somewhat uninformed	63	50.4%	25.6%	62	49.6%	24.8%
Informed about the ways in which animals are reared for the production of lamb	Neither informed nor uninformed	20	45.5%	8.1%	24	54.5%	9.6%
	Somewhat informed	77	50.3%	31.3%	76	49.7%	30.4%
	Well informed	66	48.5%	26.8%	70	51.5%	28.0%
	Very uninformed	64	47.8%	27.2%	70	52.2%	29.9%
Informed about the ways in which animals are reared for the production of veal	Somewhat uninformed	71	46.4%	30.2%	82	53.6%	35.0%
	Neither informed nor uninformed	37	61.7%	15.7%	23	38.3%	9.8%
	Somewhat informed	30	51.7%	12.8%	28	48.3%	12.0%
	Well informed	33	51.6%	14.0%	31	48.4%	13.2%
Informed about the ways in which animals are reared for the production of eggs	Very uninformed	42	45.2%	17.3%	51	54.8%	21.0%
	Somewhat uninformed	78	51.7%	32.1%	73	48.3%	30.0%
	Neither informed nor uninformed	32	56.1%	13.2%	25	43.9%	10.3%
	Somewhat informed	49	47.1%	20.2%	55	52.9%	22.6%
Informed about the ways in which animals are reared for the production of milk	Well informed	42	51.9%	17.3%	39	48.1%	16.0%
	Very uninformed	14	63.6%	5.7%	8	36.4%	3.1%
	Somewhat uninformed	48	63.2%	19.4%	28	36.8%	10.9%
	Neither informed nor uninformed	25	65.8%	10.1%	13	34.2%	5.0%
Informed about the ways in which animals are reared for the production of milk	Somewhat informed	92	49.2%	37.2%	95	50.8%	36.8%
	Well informed	68	37.4%	27.5%	114	62.6%	44.2%
	Very uninformed	14	43.8%	5.7%	18	56.3%	7.1%
	Somewhat uninformed	61	49.2%	24.7%	63	50.8%	24.7%
Informed about the ways in which animals are reared for the production of milk	Neither informed nor uninformed	35	56.5%	14.2%	27	43.5%	10.6%
	Somewhat informed	81	51.6%	32.8%	76	48.4%	29.8%
	Well informed	56	44.1%	22.7%	71	55.9%	27.8%

Table 51: Perceived information status about production conditions and social class

		Social class of respondent							
		AB		C1		C2		DE	
		Zeilen%	Spalten%	Zeilen%	Spalten%	Zeilen%	Spalten%	Zeilen%	Spalten%
Informed about the ways in which animals are reared for the production of pork	Very uninformed	16.0%	6.6%	12.0%	4.3%	52.0%	4.6%	20.0%	7.2%
	Somewhat uninformed	13.0%	26.2%	13.8%	24.6%	58.5%	25.5%	14.6%	26.1%
	Neither informed nor uninformed	8.6%	8.2%	13.8%	11.6%	60.3%	12.4%	17.2%	14.5%
	Somewhat informed	11.2%	27.9%	17.8%	39.1%	61.8%	33.3%	9.2%	20.3%
	Well informed	15.4%	31.1%	11.4%	20.3%	55.3%	24.1%	17.9%	31.9%
Informed about the ways in which animals are reared for the production of poultry	Very uninformed	10.0%	3.2%	30.0%	8.5%	55.0%	3.9%	5.0%	1.4%
	Somewhat uninformed	10.9%	22.6%	15.6%	28.2%	57.8%	26.1%	15.6%	28.6%
	Neither informed nor uninformed	12.1%	11.3%	6.9%	5.6%	58.6%	12.0%	22.4%	18.6%
	Somewhat informed	11.8%	30.6%	16.8%	38.0%	62.7%	35.7%	8.7%	20.0%
Informed about the ways in which animals are reared for the production of beef	Well informed	16.8%	32.3%	11.8%	19.7%	52.9%	22.3%	18.5%	31.4%
	Very uninformed	14.7%	8.1%	17.6%	8.5%	55.9%	6.8%	11.8%	6.0%
	Somewhat uninformed	10.0%	19.4%	14.2%	23.9%	62.5%	26.9%	13.3%	23.9%
	Neither informed nor uninformed	16.7%	11.3%	9.5%	5.6%	57.1%	8.6%	16.7%	10.4%
Informed about the ways in which animals are reared for the production of lamb	Somewhat informed	10.1%	24.2%	16.2%	33.8%	62.8%	33.3%	10.8%	23.9%
	Well informed	17.0%	37.1%	14.8%	28.2%	50.4%	24.4%	17.8%	35.8%
	Very uninformed	11.9%	25.9%	13.5%	25.4%	59.5%	28.8%	15.1%	28.4%
	Somewhat uninformed	12.2%	31.0%	10.9%	23.9%	59.2%	33.5%	17.7%	38.8%
Informed about the ways in which animals are reared for the production of veal	Neither informed nor uninformed	11.7%	12.1%	21.7%	19.4%	51.7%	11.9%	15.0%	13.4%
	Somewhat informed	14.3%	13.8%	17.9%	14.9%	62.5%	13.5%	5.4%	4.5%
	Well informed	15.9%	17.2%	17.5%	16.4%	50.8%	12.3%	15.9%	14.9%
	Very uninformed	12.6%	18.3%	10.3%	12.7%	60.9%	19.4%	16.1%	21.2%
Informed about the ways in which animals are reared for the production of eggs	Somewhat uninformed	9.0%	21.7%	14.5%	29.6%	61.4%	32.6%	15.2%	33.3%
	Neither informed nor uninformed	14.0%	13.3%	14.0%	11.3%	56.1%	11.7%	15.8%	13.6%
	Somewhat informed	16.7%	28.3%	17.6%	25.4%	57.8%	21.6%	7.8%	12.1%
	Well informed	13.9%	18.3%	19.0%	21.1%	50.6%	14.7%	16.5%	19.7%
Informed about the ways in which animals are reared for the production of milk	Very uninformed	15.8%	4.8%	5.3%	1.4%	68.4%	4.6%	10.5%	2.8%
	Somewhat uninformed	12.3%	14.5%	13.7%	14.1%	58.9%	15.1%	15.1%	15.5%
	Neither informed nor uninformed	13.5%	8.1%	5.4%	2.8%	45.9%	6.0%	35.1%	18.3%
	Somewhat informed	11.5%	33.9%	20.2%	52.1%	58.5%	37.7%	9.8%	25.4%
Informed about the ways in which animals are reared for the production of milk	Well informed	13.6%	38.7%	11.9%	29.6%	59.1%	36.6%	15.3%	38.0%
	Very uninformed	7.1%	3.3%	14.3%	5.6%	64.3%	6.4%	14.3%	5.6%
	Somewhat uninformed	10.7%	21.3%	14.9%	25.4%	60.3%	25.8%	14.0%	23.9%
	Neither informed nor uninformed	10.3%	9.8%	12.1%	9.9%	55.2%	11.3%	22.4%	18.3%
Informed about the ways in which animals are reared for the production of milk	Somewhat informed	10.3%	26.2%	17.9%	39.4%	59.0%	32.5%	12.8%	28.2%
	Well informed	19.5%	39.3%	11.4%	19.7%	55.3%	24.0%	13.8%	23.9%