

Consumers' Attitudes towards Farm Animal Welfare and their Influence on Meat Consumption

Marija CERJAK ^(✉)

Danijel KAROLYI

Željka MESIĆ

Summary

The aim of this paper was to examine Croatian consumers' attitudes towards meat producing farm animal welfare (AW). The survey conducted with 102 meat consumers in Zagreb revealed that consumers believe in importance of AW but most of them do not consider it when buying meat. Three segments, differing in their attitudes towards AW, were identified by using cluster analysis: the most numerous (44%) are mostly concerned about AW and they eat meat less often than others; the second group (37%) considers AW as an important issue, but they believe that modern food production not following high AW standards is necessary. The smallest segment (19%) is rather indifferent towards AW compared to others, and they consider taste of meat as more important than the way of its production.

Key words

Croatia, animal welfare, consumers' attitudes, segmentation

University of Zagreb, Faculty of Agriculture, Svetosimunska 25, 10000 Zagreb, Croatia
✉ e-mail: mcerjak@agr.hr

Received: May 30, 2011 | Accepted: July 10, 2011

Aim

The most widely used definition of animal welfare (AW) is one that encompassing the five freedoms (freedom from hunger and thirst, freedom from discomfort, freedom from pain, injury and disease, freedom to express normal behaviour, freedom from fear and distress) established by the Farm Animal Welfare Council (FAWC, 1979). Over the last few decades, both in individual countries and across Europe via the Council of Europe and the EU, a sizeable number of conventions to protect domestic animals during transport, farming and slaughter were established. Following such trends, the “Law on animal protection” (NN, 135/06) and “Regulations on protection of animals in slaughter and killing” (NN, 39/08) have been approved by Croatia as a legal basis for AW ensuring. It is known that AW has a considerable impact on the food chain (see review of Blokhuis et al., 2008), in which an important part are consumers concerned about the welfare quality of the products they buy. Recent surveys (Blokhuis et al., 2008; Napolitano et al., 2010) show that AW is an issue of considerable significance for European consumers and that European citizens show a strong commitment to AW. However, whilst most of today’s consumers would probably agree that AW is important, individuals may differ considerably in what they regard to be the most appropriate level of welfare for farm animals. The aim of this paper was to examine Croatian consumers’ attitudes towards AW of farm animals and their influence on meat consumption.

Material and methods

A face-to-face survey with randomly selected 102 meat consumers was conducted at the fair “Products of the Croatian Village” held in Zagreb in April 2011. The fair presented different products of Croatian villages such as: wine, cheese, traditional meat products, honey, grappa, wooden artefacts (craftsmanship), and some village customs. Visitors of the fair had the opportunity to get to know and to buy the family farm products from different Croatian regions. The questionnaire consisted of 13 closed ended questions regarding frequency of meat consumption, attitudes towards AM, importance of several AW features, opinion about AW situation in Croatia, willingness to pay for AW and respondents’ demographics. Consumers’ attitudes towards AW were measured by means of an item pool consisting of 10 statements. Statements, selected from the literature (Tawse, 2010, Heleski et al., 2004; Köhler and Wildner, 1998; Frewer et al., 2005) and adapted to this research were used to divide consumers into different segments. Respondents’ task was to rate them on a Likert-type scale from 1 to 5, where 1 meant full disagreement and 5 meant full agreement with a particular statement. Six positively weighted statement and five negatively weighted statement ere used alternately in order to combat order effect, acquiescence and pattern answering as much as possible (Tawse, 2010). The data obtained from the survey were analysed in SPSS v.15 using basic statistics. Factor and Cluster Analysis were used to divide consumers into different segments according to their attitudes towards AW. Out of 102 participants in the sample, the data of 99 were valid for factor analysis. The principal component method was applied on the evaluated statements. An eigenvalue greater than one was selected as the criteria for determining the number of factors to be extracted. Factor loadings higher than

0.4 were used in order to place original variables into a specific factor. The varimax rotation procedure was also performed to ease the interpretation of each factor. The cluster analysis was based on the computed factor scores of the attitude variables. The cluster analysis was conducted in two steps. In the first step, Single Linkage (nearest neighbour) method was used to find outliers (see Backhaus et al., 1996). Based on these results, seven respondents were eliminated from further analysis. In second step, Ward procedure was used to create groups, as Backhaus et al. (1996) reports that it yields better grouping than other algorithms. The Euclid distance was used and the Elbow criterion applied to determine the number of clusters. For a detailed description of clusters, variables of respondents’ characteristics and the importance they place on different AW characteristics were used. The differences between segments were tested with Chi-square test and ANOVA.

Results and discussion

Sample description

The basic socio-demographic characteristics of the sample are presented in Table 1.

The same share of the respondents (42%) consume meat and meat products either everyday or three to five times a week, while 11% of respondents consume meat and meat products one to two times a week. Only 5% of the respondents consume meat and meat products less than once a week. The majority of the respondents (63%) consider themselves as considerable meat lovers, further 30% as moderate meat lovers and only 7% do not consider themselves as meat lovers. Very high share of respondents (90%) believe that AW is an important issue. However, only 40% of respondents stated to think about AW when purchasing meat or meat products similar to other European consumers (Eurobarometar report, 2005). Almost all respondents (93%) in this study stated to be willing to pay an extra price for animal welfare friendly meat products. About one fourth of them would pay up to 50% more for such products, and three fourths of respondents would pay up to 20% additional price. Socio-demographic characteristics of the respondents do not influence their attitudes towards AW as well as their willingness to pay an extra price for animal friendly products. Less than shown in the

Table 1. Socio-demographic characteristics of the sample

Sex	Male	45.5 %
	Female	54.5 %
Age (y)	18-35	20.8 %
	36-55	55.4 %
	55+	23.8 %
Education level	Elementary school	1.0 %
	High school	45.5 %
	University degree	53.5 %
Family income groups	Low income	7.9 %
	Middle income	12.9 %
	Higher income	73.3 %
	High income	5.9 %
Grow up place	City	38.6 %
	Countryside	61.4 %

Table 2 Statements used in cluster analyses and their values for each segment

Statement	Indifferent consumers	Empathetic consumers	Contradictory consumers	Overall mean	p
		Average evaluation*			
It is important that the meat I eat comes from animals that lived happy lives	3.78 ^a	4.49 ^b	4.65 ^b	4.33	0.002
The taste of meat is more important than the way the animal was raised.	3.44 ^a	2.20 ^b	3.12 ^a	2.80	0.000
The welfare of animals on farms does not matter.	2.00	1.41	1.82	1.75	0.086
Animals are creatures that can suffer or be happy, too. I therefore support "appropriate husbandry".	2.78 ^a	3.56 ^a	4.65 ^b	3.74	0.000
I believe that intensive animal husbandry is important to supply world population.	3.61 ^a	1.56 ^b	4.00 ^a	2.91	0.000
Animal suffering should be everybody's concern.	3.33 ^a	4.46 ^b	4.79 ^b	4.24	0.000
It does not matter how animals are reared as they do not know any better.	2.33 ^a	1.27 ^b	1.24 ^b	1.59	0.000
Animals should be able to express natural behaviours on farms.	3.83 ^a	4.85 ^b	4.85 ^b	4.56	0.000
Pet animals deserve better treatment than farm animals.	2.72 ^a	1.24 ^b	2.21 ^a	1.93	0.000
I would like consumers to be consulted more about animal welfare issues	4.11 ^a	4.95 ^b	4.88 ^b	4.65	0.000

* 1 - fully disagree; 5 - fully agree

Table 3 Differences between consumers' segments regarding respondents' characteristics and the importance they place on different AW characteristics

		Indifferent consumers	Empathetic consumers	Contradictory consumers	All respondents	p
		% of respondents				
Frequency of meat consumption	Every day	55.6	26.8	47.1	42.2	0.068 [*]
	3-5 times a week	38.9	46.3	44.1	42.2	
	Less often	5.6	26.8	8.8	15.7	
Meat lover	no	0	17.1	0	6.9	0.012 [*]
	moderate	16.7	34.1	35.3	30.4	
	yes	83.3	48.8	64.7	62.8	
Willingness to pay extra price for AW	no	11.1	0.0	0.0	6.0	0.015 [*]
	yes	88.9	100.0	100.0	94.0	
		Average evaluation***				
Farm animals should have room to move around freely		4.44	4.71	4.85	4.71	0.053 ^{**}
Farm animals should receive ample food and water		4.59	4.93	4.88	4.85	0.035 ^{**}
Skilled persons should be present at slaughter		4.22	4.71	4.65	4.59	0.071 ^{**}
Farm animals should be allowed to exercise outdoors		4.47	4.85	4.85	4.78	0.004 ^{**}
Farm animals should be allowed to exhibit normal behaviours		3.94	4.66	4.68	4.53	0.000 ^{**}
Farm animals should be exposed to natural light		4.61	4.88	4.88	4.83	0.040 ^{**}
Farm animals should be free of mutilation		3.94	4.27	4.71	4.37	0.016 ^{**}

*Chi-square; **ANOVA; *** 1 - fully disagree; 5 fully agree

Eurobarometar report (2007) for Croatian consumers, only about one third of the respondents (31%) in this research believe that farm animal welfare protection in Croatia has been improved over the last decade. Further 44% of them believe that welfare protection has been worsen, while others think that AW conditions have remained the same in the last ten years.

Consumer segments

Ten statements regarding consumers' attitudes towards AW (Table 2) were grouped into three independent factors by means of factor analysis. The extracted factors together explain 57.46% of the total variance, with first factor explaining 34.1%. After a closer examination of the loading on each factor in rotated component matrix, three extracted factors were named as follow: 1. Importance of AW for consumers; 2. Disinterest in AW; 3. Empathy towards animals. Factor scores of the attitude variables were used as input variables in cluster analyses. As a result, three clusters, e.g. consumer segments were extracted. The three identified market segments were named and characterised as:

Indifferent consumers (19% of all respondents) - Compared to other two segments, consumers from this segment are not very sensitive to AW. They are less concerned about different AW features; especially they agree much less that farm animals should be allowed to exhibit normal behaviours compared to other consumers. Indifferent consumers believe, more than others, that pets deserve better treatment than farm animals. These consumers consider themselves as meat lovers and they eat meat more often than others. Indifferent consumers are not so concerned that meat they eat comes from animals that lived happy lives and consider a taste of meat as more important than a way of its production. Less than others they think that consumers should be better informed about AW.

Empathetic consumers (44% of all respondents) - Consumers in this segment are concerned about AW more than others and they believe that farm animals deserve adequate treatment, the same as pets. They do not agree that a taste is more important of a way of meat production. These consumers completely disa-

gree that present intensive meat production is necessary to feed the world population. Several respondents from this segment do not consider themselves as meat lovers at all, while there are no such consumers in other two segments. The share of consumers considering themselves as meat lovers is the lowest among empathetic consumers and they eat meat less often than other consumers. Almost all consumers in this segment consider all AW features as important or very important.

Contradictory consumers (37% of all respondents) – Similar to empathetic consumers, contradictory consumers consider AW as an important issue, and they evaluated all examined AW features as rather important. More than others, they believe that animals can suffer and be unhappy if mistreated. However, compared to empathetic consumers, more of them consider a taste of meat as more important than the way of animal breeding, and higher share of them think that pets deserve better treatment than farm animals. Opposite to other two segments, contradictory consumers believe that “intensive animal husbandry” is necessary to feed the world; nevertheless all of them expressed willingness to pay an extra price for meat coming from animals that were well treated. Almost half of contradictory consumers eat meat every day and further 44% of them eat meat at least 5 times a week. About two thirds of consumers from this segment consider themselves as meat lovers.

Socio-demographic and economic characteristics of consumers (sex, age, education, place of growing up and economic status of their family) did not differ between three segments.

The differences between consumer segments revealed in this research show the importance of education about AW for indifferent and especially for contradictory consumers. The need for such education of Croatian consumers has been pointed out recently by Mikuš and Petak (2010) in order to create strong citizen initiatives for the control of the Croatian market.

Conclusions

This preliminary research gave an insight into Croatian consumers' attitudes about AW. Similarly to other consumers in Europe, the vast majority of all respondents in this research stated relatively high concern about AW; nonetheless most of them do not consider it when buying meat. Most of the respondents stated a willingness to pay an additional price for animal friendly meat. A high share of respondents not just believes that AW conditions in Croatia reminded unchanged in the last decade, but they believe these conditions have been even worse. Even though the majority of respondents gave socially acceptable answers regarding their attitudes towards AW, three consumers

segments were identified. As named, indifferent consumers are rather indifferent towards AW compared to other consumers, and they consider taste of meat as more important than the way of its production. Empathetic consumers, as the most numerous group, are mostly concerned about AW and they eat meat less often than others. Second biggest segment of contradictory consumers showed considerable interest in AW and they believe it is as an important issue. However, they think that intensive animal husbandry is necessary. The results of this research confirm the importance of better consumers' education in Croatia regarding AW. There are several limitations in this research. The sampling procedure and the size of the sample do not allow bearing general conclusions about Croatian meat consumers. Further, due to the fact that majority of respondents gave socially acceptable answers, it is recommended that the next research includes decomposition methods of data gathering, such as conjoint analyses.

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