

ANIMAL WELFARE AS ONE OF THE CRITERION DETERMINING POLISH CONSUMERS' DECISIONS REGARDING THEIR PURCHASE OF MEAT

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ABSTRACT

The aim of this study was to determine factors influencing consumer decisions on the purchase of meat and find out how important in making the decisions is the criterion of animal welfare. The study was based on reports and other publications of the European Commission, literature review, as well as field research carried out among consumers, using an interview questionnaire (the PAPI method). The purpose of the research was to analyse diversity of customer buying habits, depending on such variables as their age, education, place of residence (urban or rural area) and the level of income. The results of the χ^2 test prove that there are correlations between the education, place of residence and income of the respondents and their decisions to purchase meat from farms maintaining animal welfare. No correlations were found between the age of the respondents and their decisions to purchase meat from farms maintaining animal welfare. The findings also prove that less than 50% of the society of Poland has encountered the concept of animal welfare. The key criteria for decisions on the purchase of meat and meat products were the price and easy preparation.

Key words: animal welfare, consumer, meat

INTRODUCTION

Animal production plays a very important role in Polish agriculture. However, it is characterized by a somewhat difficult, specific nature, as it has to take into account the needs of farmers, as their source of income, and expectations of consumers as recipients of food products. In the recent years, consumer expectations have been changing, as societies of developed countries, under the influence of information campaigns of environment-friendly organisations and movements for animal rights protection, have become increasingly interested in the conditions of living of farm animals. For instance,

studies conducted in Norway have shown that Norwegian consumers would like to get more opportunities to purchase products from animals kept under “friendly” conditions, at the same time indicating certain gaps in information campaigns dedicated to these products, underlining the need for simple information, such as “a simple welfare warranty sign” [Kjorstad 2006]. As it has been noted by Bougherara and Combris [2009], use of a similar sign for environment-friendly products had been increasing for a decade, achieving a global scale. Ongoing consumer pressure has led to introduction of numerous legal solutions, protecting animals against excessive exploitation.

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According to the Food and Agriculture Organization of the United Nations [FAO 2009], in year 2050, global agriculture will have to produce 50% more food in comparison with the recent years. At the same time, as a result of changing attitudes towards animals, consumer expectations will shape animal production by pressing it to meet the increasing demands with regard to animal welfare [Krupiński et al. 2011]. This translates directly to production conditions, which the farmers have to take into account when calculating profitability of their activity. With reference to the above, Krupiński et al. [2011] have proposed five directions of research development in the field of animal breeding and production for the coming decades. This includes one, considered to be particularly important in terms of animal production: “the possibility of quality shaping of resources and animal products with regard to consumer expectations”. The global trend of increase in interest in animal welfare, as well as the increasingly restrictive standards of animal maintenance, have forced farmers (and this trend can be expected to intensify) to adapt their farms to the new standards, for instance, by investing in modernization of hen houses, construction of exercise areas, which is associated with additional costs. Farmers are able to gain some advantages thanks to improvement of quality of life of animals at their farms by selling products that are labelled as coming from farms that maintain a high level of animal welfare (such as eggs from free-range systems or meat produced using environment-friendly methods).

According to Kokocińska and Kaleta [2016], efforts are made to maximize production while maintaining animal welfare. In many cases, however, difficulties are encountered due to the conflict between economy and animal comfort and needs.

MATERIAL AND METHODS

Accurate determination of the level of animal welfare is difficult to evaluate, as such assessment is highly subjective. Nevertheless, certain measures have been developed, indicating the consequences of animal welfare or its insufficiency. These include animal health and physiological parameters, behaviour and production performance. Therefore, a very important

role is played by scientific research aimed at determination of welfare level, indicating the direction for improvement of animal comfort. If animals are bred under the conditions of high level of welfare, this results, on the one hand, in lower costs – for instance, of veterinary care or breeding replacements – and, on the other hand, in better meat quality. The aim of the study is to determine factors that differentiate consumer decisions with regard to purchase of meat from farm animals maintained under conditions of welfare.

The study has been based on materials and reports of the European Commission, as well as a consumer survey conducted. The survey was performed using the PAPI method on a sample of 744 respondents, who purchased animal products. Sample selection was based on the criterion of animal product consumption (consumers, who do not eat – and thus do not purchase – animal products, were eliminated). The study was aimed at determination of changes in consumer choices, taking into account animal welfare, depending on age, place of residence, education and income level of respondents. As for income, due to the problematic nature of the question, income ranges were applied. These were (taking into account the average level of earnings in Poland) up to EUR 1,000, 1,001–2,000, 2,001–3,000, 3,001–5,000 and above 5,000. Two categories of place of residence were applied: urban and rural areas. Cities were classified according to number of inhabitants: up to 10,000, 10,000–100,000, 100,000–500,000 and above 500,000. Research was conducted using an interview questionnaire, containing closed questions (scaled questions). Respondents evaluated every issue in terms of significance of a given feature. The study focused mainly on consumer assessment of their willingness to purchase animal products from farms caring for animal welfare during production. The researchers focused on willingness to pay for meat from production in a system that ensures animal welfare. Knowledge of the term “animal welfare” among consumers was assessed, depending on their income level, education and place of residence. Attention was paid to the product selection criteria. The results were processed using the chi square independence test and C-Pearson’s contingency coefficient.

RESULTS AND DISCUSSION

Productions methods, which are compliant with the welfare principles, differ from the generally applicable methods by focusing strongly on welfare of animals in their environment. In Europe, there is a developed legislative system dealing with the mode of treatment of farm animals. Transnational law regulates maintenance of animals in all Member States of the European Union [Blandford et al. 2002]. At present, the EU policy and legislation concerning animal welfare is exerting positive influence on the world, the image of the EU, as well as the issue of helping animals [European Parliament 2017].

Nevertheless, it cannot be stated that the problem is entirely unknown on other continents. Studies and analyses have been conducted in many other parts of the world, including China [You et al. 2014], North America [Ventura et al. 2016], Australia [Erian and Phillips 2017], where social knowledge on maintenance of welfare in poultry production has been studied, as well as in Chile [Schnettler et al. 2008], Canada [Spooner et al. 2014], as well as the USA [Brown and Hollingsworth 2005]. According to You et al. [2014], in China, the concept of welfare of breeding animals is still at an early stage of development, and further efforts are necessary to improve the public concept of animal welfare in the process of establishment of standards and legal provisions. The results obtained by Ventura et al. [2016] suggest that education and animal breeding presentations may solve some problems; however, the necessity to apply new practices is in conflict with the deeply rooted values of animal care. Research conducted by Spooner et al. [2014] in Canada, concerning animal welfare assessment, were conducted among inhabitants of rural and urban areas, not involved in animal production. Brown and Hollingsworth presented the process of cooperation, used by retail sellers and producers in the USA to enhance animal care and welfare in commercial food production.

Development of interest in animal welfare in agricultural production has been observed in the world since the mid-20th century [Budzyńska 2015]. In 1996, Bennet and Larson found that interest in animal welfare and conditions of animal maintenance in farming had increased over the period of 15–20 years. They

also noted that greater interest was visible in wealthier and more developed countries [Bennett and Larson 1996]. To be more precise, farm animal welfare is a concept, which gained attention as late as in the 1960s as a result of a publication by R. Harisson *Animal Machines* [Van de Weerd and Sandilands 2008], which initiated the debate on grave conditions of living of animals, associated with intensive breeding of poultry and farm animals. This social debate gave rise to introduction of the European Convention for the Protection of Animals kept for Farming purposes.

In the recent years, research in the field has been intensified. Examples include the works of Dawkins [2008] on animal suffering, a study by Grandin [2012] on audits in the field of welfare maintenance, as well as research conducted by Hansson and Lagerkvist [2014], who dealt with identification of farmers' attitudes towards welfare of farm animals. Interesting observations can be found in the study by Dawkins. Among other things, the author asks whether animals are healthy and whether they get what they want, thus suggesting that most people understand these two categories as welfare. She also indicates that “suffering” is not an elusive, non-scientific term, but it can be used both to define and to assess animal welfare in practice.

Many definitions of welfare have been developed. Broom [1988] defines animal welfare as a state, in which an animal is able to cope with pressure of a given living environment. Hughes and Duncan [1988] have defined it as the state of complete health of an animal, which lives in harmony with its surroundings. Welfare has its determinants, which were presented by Brambell [1965]. Later on, these were included in the Farm Animal Welfare Code in 1979, developed by the Farm Animal Welfare Council. The basic indicators are the “five freedoms of animals” [Manteca et al. 2012]:

- freedom from hunger and thirst – by ready access to fresh water and a diet to maintain full health and vigour;
- freedom from discomfort – by providing an appropriate environment including shelter and a comfortable resting area;
- freedom from pain, injury and disease – by prevention or rapid diagnosis and treatment;

- freedom from fear and distress – by ensuring conditions and treatment which avoid mental suffering;
- freedom to express normal behavior – by providing sufficient space, proper facilities and company of the animal's own kind.

A review of the meaning of animal welfare has been conducted by Lawrence et al. [2018], who assessed what has been referred to as positive animal welfare. Welfare fits into the concept of transformation of natural resources. This has been indicated by Gębska and Gołębiowska [2016], who state that farming is beginning to focus not only on production levels, but also its conditions, impact on the natural environment, on animals, as well as social perception. The most significant factor is the human being, directly involved in animal breeding, whose obligation based on ethical norms is to protect animals and care for them. Humans have overexploited wild animals, living in their natural environment, and they have ruthlessly abused and mistreated farm animals [Mroczek 2013].

The report of the European Commission shows how this phenomenon is perceived by the societies of EU Member States. According to research results, almost one half of all Europeans (46%) understand animal welfare with reference to the obligation to respect all animal rights, while a little less (40%) declare it is associated with the mode of treatment of farm animals to ensure a better quality of their life. The percentage of citizens, who understand animal welfare as going beyond animal protection (18%) is very similar to the percentage of those believing it to be equivalent to animal protection (17%). Also a similar percentage of respondents has declared that animal welfare enhances the quality of products of animal origin. In most EU Member States, a small percentage of respondents declare that protection of farm animals is not an important issue. Poland, unfortunately, has found itself among the “small percentage” (8%). We also have one of the lowest shares of responses recognizing the significance of welfare. In Poland, only 33% respondents declare that maintenance of welfare is very important, while the EU average is 57%. According to the majority of Polish respondents, these issues are “somewhat important”. Poland has also occupied one of the last places in terms of assessment of informational campaigns as a good method of influencing attitudes of

young people towards animals. A decisive majority of Europeans (17 states) agreed that such campaigns were (“certainly”) a good method. In Poland, this percentage amounted to 28%, while the EU average was 48% [European Commission 2016].

Consumer interest in welfare issues is diversified depending on the country of residence. According to Malak-Rawlikowska et al. [2010], interest in this problem in Poland, Spain and Italy is very low. On the other hand, in Sweden, the Netherlands, Germany and Great Britain, there is a high level of activity of non-governmental organisations, which provide counselling and promote selection of products characterised by improved level of animal welfare standards. Gębska et al. [2013] underline that increased interest of consumers in the quality and mode of production of foods, particularly of animal origin, has resulted in introduction of provisions on the conditions of animal maintenance and welfare in the EU legislation.

As it has been indicated by Ozimek and Żakowska-Biomas [2011], Polish consumers pay increasing attention to food quality and are deeply concerned about its great diversity – in particular, in terms of sensory characteristics, health and safety. According to European Commission's document COM(2012)06, consumers are also concerned about the way of treatment of animals. However, their ability to respond and to demand introduction of higher standards in terms of farm animal welfare is limited.

Interesting research has been conducted by Bell et al. [2017]. The authors have found that sometimes, consumers tend to ignore information concerning production systems and animal maintenance to avoid a sense of guilt. Research was conducted in the state of Oklahoma, and it was found that about one third of all respondents admitted to ignore the meat production method willingly.

Results obtained by Cornish et al. [2016] indicate that the level of overall concern for animal welfare is associated with various demographic and individual characteristics of the society, such as age, gender, religion, place of residence, eating meat and knowledge in the field of animal welfare. This issue has been analysed in this study for various consumer groups in Poland.

Research conducted in Poland indicates that the concept of animal welfare has not become very popu-

lar so far. Only 45% of all respondents declared they knew and understood the term. The criteria taken into account by consumers purchasing meat included, in the first place, the price and Polish origin of the product (the figure).

The criterion of the habit was important for 46% of respondents, while 40% declared that the price and ease of preparation were also of significance. Calorific value of the product was either averagely important or not important at all, as well as the mode of production, taking into account animal welfare. This indicates that most respondents do not care about the production methods being environment-friendly in terms of animal welfare (and thus healthy for humans).

Results of the study showed that among 744 respondents 28.2% (210 persons) declared, that they buy a meat from animals reared at farms where are good animal welfare conditions. The percentage varied depending on socio-demographic factors (Table 1).

The higher the education level, the greater was the number of persons declaring purchase of products from animals maintained under welfare conditions. Increase in the income level also influenced consumer decisions. The results were more diversified in terms of age of the respondents. The greatest share of con-

sumers purchasing meat from production under conditions of welfare animal was found in the youngest group (19–29 years of age). In Poland, the results are somewhat different from the EU average. The socio-demographic analysis according to the Special Eurobarometer Report [European Commission 2016] shows that respondents aged 40–54 pay more attention to animal welfare information (56%) in comparison with the younger group (15–24 years of age – 46%) and 50% of older respondents, aged above 55.

Interestingly enough, high diversity in positive responses was observed among groups according to place of residence. Most respondents caring about animal welfare when purchasing meat came from the rural areas (above 50%). In cities, the results ranged between 9–16%.

In order to determine whether a correlation existed between consumer decisions (depending on characteristics of consumers) with regard to purchase of meat from production systems compliant with animal welfare principles, the chi square independence test (χ^2) was applied. The characteristics examined included age, education, place of residence and income level (Table 2). A hypothesis was made that these variables were mutually independent.

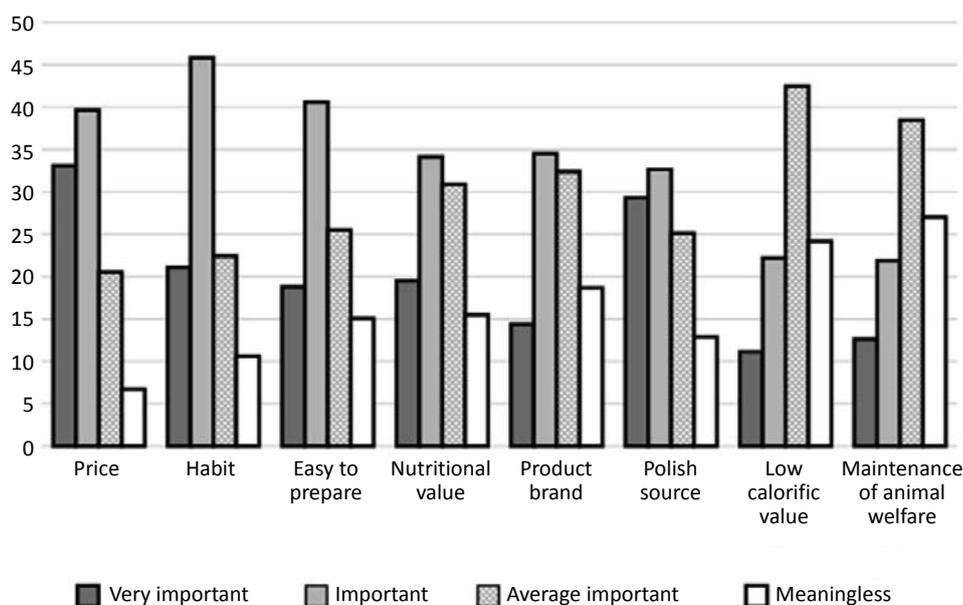


Fig. The criteria applied by respondents when purchasing meat (%)

Source: Own study.

Table 1. Percentage of consumers buying meat coming from animals rearing under good animal welfare conditions depending on socio-demographic factors

Specification		Numbers of responses	Share (%)
Total		210	100
Gender	female	136	64.8
	male	74	35.2
Age (years)	19–29	64	30.5
	30–39	43	20.5
	40–49	41	19.5
	50–59	31	14.8
	>59	31	14.8
Education	primary	10	4.8
	secondary	65	31.0
	higher	63	30.0
	vocational	72	34.3
Monthly income in the household (EUR)	≥ 1 000	8	3.8
	1 001–2 000	44	21.0
	2 001–3 000	58	27.6
	3 001–5 000	45	21.4
	> 5 000	55	26.2
Place of residence	city of up to 10 000 inhabitants	36	17.1
	city of 10 000–100 000 inhabitants	13	6.2
	city of 100 000–500 000 inhabitants	17	8.1
	city of more than 500 000 inhabitants	61	29.0
	village	83	39.5

Source: Own study.

Table 2. Results of independence tests for assessment of consumer decisions

Characteristics of respondents	Results of statistical analysis				Correlation assessment
	χ^2	<i>p</i> -value	χ 0.05	<i>df</i>	
Age	1.37	0.8499	9.49	4	none
Education	23.07	0.0000	7.81	3	exists
Place of residence	152.6	0.0000	9.49	4	exists
Income	49.57	0.0000	9.49	4	exists

Source: Own study.

It could be expected that age would be the variable determining the existence of significant correlations. Nevertheless, the χ^2 test conducted confirmed the hypothesis of independence of consumer age and purchase of animal products from systems ensuring animal welfare. Another interesting issue was verification of correlations in this regard between the place of residence and preferences of respondents. The independence test indicated a correlation between the place of residence and purchase of products from breeding systems compliant with animal welfare conditions. The C-Pearson's contingency coefficient was also determined. It assumes values from 0 to 1. The closer its value is to 1, the stronger the correlation. In the analysed case, it amounted to 0.5234 (corrected C).

Higher education level usually indicates a higher level of knowledge and awareness of the need to act on behalf of environmental protection, health protection or ethical issues. It was thus interesting to find whether a correlation existed between education level of the respondents and their choices in terms of purchase of meat of animals kept under welfare conditions. Verification of this assumption led to conclusion that a statistically significant correlation existed between the level of education of respondents and their decisions to purchase products of animal origin coming from farms caring about animal welfare, and the C-Pearson's contingency coefficient (C corrected) was 0.2246.

The hypothesis assuming lack of correlation between purchase of slaughter livestock from farms of animals kept under welfare conditions and the level of income of respondents also had to be rejected. The compatibility test (χ^2) indicated a correlation between variables. The C-Pearson contingency coefficient is 0.3220.

CONCLUSIONS

Research conducted in Poland among consumers of various kinds of meat (beef, poultry, pork, mutton) indicates that less than 50% of the society was familiar with the concept of animal welfare. Therefore, perhaps, this was not a significant criterion for choice of products obtained from animals kept under welfare conditions. The most significant criteria included the price, habits and

ease of preparation of dishes made of these products. Thus, the results were consistent with those obtained by Mejdell [2006], who found that the price played the key role in consumer choices. In Poland, only about 12% of all respondents indicated that environment-friendly production methods (including compliance of breeders with animal welfare principles) was a significant criterion for product choice. Thus, it can be concluded that the issue requires action in terms of popularisation of knowledge and information. Analyses concerning factors, that determine consumer choices, on the basis of the research results obtained have led to the conclusion that age of the respondents is of no significance for selection of products from breeding farms that comply with animal welfare requirements. On the other hand, a correlation has been identified between purchase of meat from such farms and education, which is justified. Persons with higher education levels have more extensive general knowledge. A correlation has also been found to exist with regard to the place of residence of respondents. Like in other research projects, consumer choices in terms of animal welfare and income of respondents have turned out to be correlated.

According to the view prevailing in the EU Member States, animal welfare is an important issue. However, the level of knowledge in this regard is very diversified, as are definitions of animal welfare. Most members of the EU societies indicate that higher prices are justified for products from animals kept under welfare conditions, and most people are willing to pay more for products originating from animal-friendly production systems.

At present, more than a half of all Europeans believe that the range of products offered by stores and supermarkets, which would be produced in systems compliant with animal welfare requirements, is insufficient. In addition, a majority of members of the European society expect more information and product labels indicating that animals were kept under welfare conditions.

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DOBROSTAN ZWIERZĄT JAKO KRYTERIUM KSZTAŁTUJĄCE DECYZJE POLSKICH KONSUMENTÓW W ZAKRESIE ZAKUPU MIĘSA

STRESZCZENIE

Celem opracowania jest określenie czynników różnicujących decyzje konsumentów w zakresie zakupów mięsa pochodzącego od zwierząt utrzymywanych w warunkach dobrostanu. Źródłem materiałów do analiz były opracowania oraz raporty Komisji Europejskiej, literatura przedmiotu. Badania własne zrealizowano wśród konsumentów, wykorzystując kwestionariusz wywiadu (metoda PAPI). Badania dotyczyły różnicowania decyzji respondentów w zależności od takich ich cech, jak: wiek, wykształcenie, miejsce zamieszkania (miasto, wieś) oraz poziom uzyskiwanego dochodu. Na podstawie testu χ^2 uzyskano wynik wskazujący na występowanie zależności między wykształceniem, miejscem zamieszkania oraz dochodami konsumentów a ich decyzjami dotyczącymi zakupu mięsa zwierząt utrzymywanych w warunkach dobrostanu. Przeprowadzona analiza pozwoliła także na stwierdzenie, iż mniej niż 50% społeczeństwa w Polsce zetknęło się z pojęciem dobrostanu zwierząt. Najważniejszymi kryteriami wyboru kupowanych produktów były cena i łatwość przyrządzenia.

Słowa kluczowe: dobrostan zwierząt, konsument, mięso