

PREFERENCES OF CONSUMERS FOR CHOOSING POULTRY MEAT

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A b s t r a c t

Poultry meat, with regard to lower fat content than the one in other animal species, is considered by consumers as dietetic. It also constitutes a source of complete protein, iron and minerals. It is also cheaper than red meat. In recent years, national poultry meat market has been developing very dynamically, and Poland with poultry meat production at the level of 2,420,000 tons belongs to significant EU producers. With such a large production and unlimited access to fresh poultry meat as well as a growing care of health, consumer searches for raw materials which are distinguished by a very good quality. The aim of the study was analysis of consumer knowledge on the subject of poultry meat quality, and of criteria which consumers use while purchasing it, based on surveys carried out on 100 respondents. From the research it follows that most of the surveyed people consume poultry meat usually two or three times a week, mostly in the form of a breast fillet and quarter, or wings. Consumers prefer meat derived from broiler chickens (84%), while least frequently they buy goose meat (1%). Consumers first of all are guided by meat freshness and then by its price. For more than half of the surveyed, it does not matter if meat comes from a conventional or organic production. Only 26% of consumers prefer meat produced in a guaranteed quality system, QAFP. When buying poultry meat of high quality, consumers first of all expect a higher health safety, higher nutritional value and better palatability. When buying poultry meat, the surveyed are mostly concerned about antibiotics and genetically modified plants used in poultry nutrition.

PREFERENCJE KONSUMENTÓW PRZY WYBORZE MIĘSA DROBIOWEGO

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Słowa kluczowe: drób, mięso, jakość, konsument, preferencje.

Abstrakt

Mięso drobiowe, ze względu na mniejszą zawartość tłuszczu niż mięso innych gatunków zwierząt, uważane jest przez konsumentów za dietetyczne. Stanowi także źródło pełnowartościowego białka oraz żelaza i składników mineralnych. Jest tańsze od mięsa czerwonego. Krajowy rynek mięsa drobiowego w ostatnich latach rozwija się bardzo dynamicznie, a Polska z produkcją mięsa drobiowego na poziomie 2 420 000 ton należy do znaczących producentów UE. Przy tak dużej produkcji i nieograniczonym dostępie do świeżego mięsa drobiowego oraz coraz większej dbałości o zdrowie konsumenci poszukują surowców, które wyróżnia bardzo dobra jakość. Celem badań była analiza rozeznania konsumentów na temat jakości mięsa drobiowego oraz kryteriów, którymi kierują się przy jego zakupie. Materiał stanowiły wyniki badań ankietowych przeprowadzonych na 100 respondentach. Z badań wynika, że większość ankietowanych spożywa mięso drobiowe, zwykle dwa lub trzy razy w tygodniu, najczęściej w postaci filetu z piersi i ćwiartki czy skrzydeł. Konsumenci preferują mięso pochodzące od kurcząt brojlerów (84%), a najmniej kupują gęsiny (1%). Kierują się w pierwszej kolejności świeżością mięsa, a w drugiej jego ceną. Dla ponad połowy respondentów nie ma znaczenia czy mięso pochodzi z produkcji konwencjonalnej czy ekologicznej. Jedynie 26% konsumentów preferuje mięso wyprodukowane w gwarantowanym systemie jakości QAFP. Kupując mięso drobiowe wysokiej jakości, przede wszystkim oczekują większego bezpieczeństwa zdrowotnego, większej wartości żywieniowej i lepszej smakowitości. Podczas zakupu mięsa drobiowego ankietowani najbardziej obawiają się stosowania w żywieniu ptaków antybiotyków oraz pasz z wykorzystaniem roślin genetycznie modyfikowanych.

Introduction

Poultry production is one of the best developing sectors of animal production. Polish poultry market is influenced not only by preferences of Polish consumers, but also by foreign trade, prices and markets of other types of meat. Poland is a significant producer of poultry meat in the European Union. Currently, the total poultry meat production in Poland is 2,420,000 tons. Taking into consideration only meat from broiler chickens, Poland takes the first position in the European Union. The most important recipients of poultry meat in the European Union include Germany, the Czech Republic, Great Britain and France. Polish chicken meat is also exported to Benin, Hong Kong, China and African countries (ADAMSKI and WENCEK 2012).

Currently, in Poland meat consumption per person annually equals 27.0 kg, which is a value similar to the mean in the European Union. An increase in poultry meat consumption is affected by an increasing care among modern consumers of their own health. White meat may be consumed even several times a week. It is cheaper than red meat, contains less fat, thus it is dietetic, and additionally it is a very good source of protein, iron and minerals. It is also often chosen as it is easily separated, and easily and quickly prepared for consumption. Besides, it is distinguished by a high coefficient of protein digestion, a very favorable conversion of feed protein into animal protein, used in the production of various delicatessen food products and high taste qualities.

It is also important for consumers that poultry fats contain a lot of mono- and polyenoic fatty acids, triglycerides and phospholipids. Hence, the percentage of undesirable saturated fatty acids in poultry meat is lower than in the fat of pork, mutton or beef (ADAMSKI 2010, ADAMSKI and WENCEK 2012, NOWAK and TRZISZKA 2010).

Consumers evaluate meat first of all based on visual and smell impressions. One of such traits is meat fattiness, if it is too high it causes discouragement in the consumer to purchase it, as poultry meat is considered as a dietetic product. From among the traits which are visually evaluated, which a consumer pays attention to, the color of meat and carcass is of great importance. Consumers first of all prefer meat of red color, as well as carcasses of a natural yellow color, which they connect with meat origin from rearing with unconventional methods and proper animal nutrition. The important sensory traits which may be evaluated after thermal treatment and meat consumption include palatability, which includes taste and smell of the meat, as well as succulence that is dryness or moisture and meat tenderness, which is one of the meat texture parameters (CASTELLINI et al. 2008, DOKTOR 2007, GRABOWSKI and KIJOWSKI 2004, POŁOM and BARYŁKO-PIKIELNA 2004, ZDANOWSKA-SĄSIADK et al. 2013).

Poultry meat consumers are more and more interested in the conditions of birds' housing and production system from which the birds come, as well as in the animal welfare and quality and safety of the raw materials and products offered on the market (ADAMSKI 2010, ARAL et al. 2013, DOKTOR 2007). In Europe, as well as in Poland, obtaining poultry meat in accordance with the certified principles of organic rearing becomes more and more popular, although it is more expensive than with conventional methods, if only because of a longer period of bird rearing or higher utilization of feed per growth of 1 kg of body weight, and also because of other principles of organic rearing which are more or less restrictive (CASTELLINI et al. 2002, CASTELLINI 2005, HERBUT and KORELESKI 2004, MIKULSKI et al. 2011, ELEROĞLU et al. 2013, PIETRZAK et al. 2013).

An increase in the poultry meat production through its intensification, as a response to an increase in the demand for this type of meat, caused that consumers attach more and more importance to the quality of raw materials and products being on the market. Growing requirements of Polish and foreign consumers relate not only to the good quality of poultry, but also to a higher health safety, that is raw materials free of pathogenic microorganisms, substances and physical contaminations. With regard to such preferences on the consumer market in mid-2010, an initiative was undertaken to introduce the generally understood guaranteed quality, whose example is the elaborated, introduced and coordinated by the National Poultry Council – Chamber

of Commerce in Warsaw, QAFP system (Quality Assurance for Food Products). The main goal of the QAFP system is distinguishing production which would introduce higher quality products into the market, and maximization of their health safety through continuous veterinary and production supervision (ADAMSKI and WENCEK 2012, BRZOZOWSKI 2012).

With such a high production scale and unlimited access to fresh poultry meat as well as with an increasing care of health, consumer market searches for raw materials, which are distinguished by a very high quality. Thus, conducting surveys on consumer preferences for choosing poultry products and raw materials seems to be a really up-to-date and significant issue. The aim of the study was an analysis of consumer knowledge on the quality of poultry meat, and criteria which consumers use when purchasing it.

Material and Methods

The present research was carried out based on a survey. The answers of respondents were obtained through direct filling of questionnaires, but also through posting the survey on a website, which enabled carrying out research in various regions of Poland. The survey included 16 questions, five of which concerned general information about consumers such as sex, age, education, place of residence, range of monthly salary, 11 questions concerned consumer's preferences for choosing poultry meat. From the total number of 100 respondents, 54 people filled questionnaires posted on the website, while 46 people took part in a direct survey.

Results and Discussion

Data concerning characteristics of the studied group of respondents (Table 1) shows that among the surveyed, women constituted 64%, while men 36%. The lowest percentage (6%) among respondents constituted young people below 18, whereas the most numerous group surveyed (63%) was represented by people between 19 and 30. The percentage of the surveyed within the age group from 31 to 50 and above 50, was 18% and 13%, respectively. The surveyed included 63% of people living in a town and 37% of people living in a village. Based on an analysis of the financial status of the surveyed, it may be concluded that the two most numerous groups are people whose monthly salary range per person was from 1001 to 1500 PLN, and from 1501 to 2000 PLN. The percentage of these groups was 28% and 23%, respectively. The smallest group among the respondents, constituting 13%, were consumers, whose

monthly income per person was up to 1000 PLN gross. The most numerous surveyed group (33%) turned out to be people with undergraduate education. The percentage of respondents with graduate education and with secondary education was similar (27% and 28%, respectively). The lowest percentage of those who filled the survey were people with primary education (7%) and vocational training, being 5%.

Table 1
Characteristics of the surveyed group of consumers

Specification	Responses	Share [%]
Sex	woman	64
	man	36
Age	under 18	63
	19 to 30	18
	31 to 50	13
	over 50	
Place of residence	town	63
	village	37
Range of monthly income PLN, gross	up to 1000	13
	1001 to 1500	28
	1501 to 2000	23
	2001 to 3000	15
	over 3000	21
Education	primary	7
	vocational training	5
	secondary	28
	undergraduate	33
	graduate	27

Table 2
Consumption of meat and preferred type

Specification	Responses	Share [%]
Declaration of meat consumption	yes	94
	no	6
Frequency of meat consumption	almost every day	5
	two, three times a week	46
	once a week	35
	once every two weeks	10
	less than once a month	4
Preferred type of meat	chicken	84
	turkey	5
	duck	10
	goose	1
	other species	0

Consumption of poultry meat was declared by 94% of the surveyed (Table 2). Polish consumers definitely preferred meat of broiler chickens, as was reported by 84% of the respondents. Duck meat was chosen by 10% of those surveyed, while turkey and goose meat by only 5% and 1% of consumers, respectively. Majority of the people consumed poultry meat two or three times per week, most preferably in the form of breast fillet and quarter, or wings (Table 3). Taking into consideration poultry species, preferences of Polish consumers for purchasing meat of broiler chickens were similar as in foreign studies (KWADZO et al. 2013, SALAWU et al. 2014), from which it follows that up to 94.7% of respondents decided to purchase this type of meat.

Table 3

Choice of culinary elements*

Responses	Share [%]
Whole carcass	11
Brest fillet	86
Quarter	39
Leg	7
Second thigh	14
Thigh	21
Wings	22
Neck	1
Carcass remainder for broth	14
Giblets	5

* The total of responses exceeds 100%, as respondents picked maximum three culinary elements

From the surveys carried out by NOWAK and TRZISZKA (2010) concerning habits of Polish consumers on the poultry market it follows that slightly more people declared consuming poultry meat than in our studies, approximately 97%. However, similarly to our studies, the most numerous group of the surveyed were those who consumed poultry meat twice a week (approx. 41%), and most often in the form of a chicken breast fillet (42.3%). Similar results concerning frequency of poultry meat consumption were obtained by KOSICKA-GĘBSKA and GĘBSKI (2014), who analyzed Polish statistical data from 2012. The authors indicated that the most numerous group among the surveyed constituted those who consumed poultry meat several times a week (39.9%), while the smallest group several times a year (5.3%).

From an analysis of responses to questions concerning place of purchase and criteria deciding about choosing the meat (Table 4) it follows that more than half of the surveyed (56%) purchased poultry meat in butcher shops, while the second place was a supermarket (23% of the respondents). The smallest group chose hypermarkets when purchasing poultry meat (6%), or

local shops only 4%. Most of the surveyed first of all took meat freshness as their criteria (77%), and then its price (49%). According to consumers such criteria as expiration date (29%) and dietary values (25%) also have their significance when purchasing poultry meat. Promotion in the media, other people’s opinion, country of origin and producer’s information for most of the surveyed were not a significant criterion when buying meat. Percentage of the respondents taking into consideration these latter criteria was within the range from 1 to 4%.

Place of purchase and factors determining meat type

Table 4

Specification	Responses	Share [%]
Place of meat purchase	butcher shop	56
	local shop	4
	marketplace	11
	supermarket	23
	hypermarket	6
Criterion for choosing meat*	price	49
	cleanness	22
	freshness	77
	dietary value	25
	number of pieces per package	5
	expiry date	29
	color	17
	smell	23
	brand/producer	7
	easiness of preparation	8
	country of origin	3
	promotion in the media	1
	information from the producer	1
others' opinion	4	
Purchase of poultry meat from:	conventional production (farm)	25
	organic production	19
	I don't pay attention to the production system	56

* The total of responses exceeds 100%, as respondents picked maximum three factors for choosing meat

The studies carried out by NOWAK and TRZISZKA (2010) partly confirm the results of our research, as the mentioned authors also indicated that Polish consumers mostly buy poultry meat in butcher shops (31.0% of the surveyed), and less frequently in local shops (21.3%). From these studies, however, it follows that for most consumers (71%) the main criterion when choosing poultry meat was its taste, while the price was given by only 28.3% of the surveyed, which is less than in our studies. 33.3% of the surveyed, which is less than in our studies, thought that freshness is an important quality trait of poultry meat. On the other hand, similarly as in our studies, purchasing

meat of a particular brand (producer) was not that significant. The studies on Polish statistical data analyzed by KOSICKA-GEBSKA and GEBSKI (2014) indicated that most, 62.2%, of Polish consumers made their decision to buy poultry meat based on its general appearance, and then based on its color (50.1% of the surveyed), and its effect on health. The least significant for consumers was meat smell, as was reported by approx. 13% of the respondents.

When asked about preferences for buying meat from production with conventional (farm) or organic methods, over half of the respondents (56%) answered that it has no significant meaning for them (Table 4). A higher percentage among other surveyed, 25%, constituted those who prefer meat produced with conventional rather than organic methods. Low percentage of consumers (19%) buying meat from organic rearing may be affected by the higher price of the product. First of all this results from a longer period of birds; rearing and a significantly higher feed intake per 1 kg of increase in body weight, with lower effectiveness, that is lower body weight at the end of rearing (HERBUT and KORELESKI 2004, ELEROĞLU et al. 2013, PIETRZAK et al. 2013).

The results of the surveys concerning the form of purchased meat and its quality (Table 5) show that a vast majority of the surveyed (93%) chose fresh poultry meat. Frozen products were bought by merely 7%, while processed meat was not purchased by respondents taking part in the study. When asked if they prefer poultry meat produced in the system of guaranteed quality, QAFP, consumers answered in 66% that it has no significant meaning for them, and only 26% preferred this type of meat. This may indicate lack of knowledge among the surveyed on the subject of food produced in the guaranteed quality system, QAFP, in which health safety of meat is being maximized through continuous veterinary and production supervision (ADAMSKI and WENCEK 2012). When choosing meat of high quality, almost half of the surveyed (48%) appreciate its higher health safety. Approximately of the surveyed appreciated higher nutritional value of the product, while higher palatability was expected by 20% of the respondents. Longer shelf life was significant for merely 9% of the surveyed.

From Table 5 it also follows that the greatest concerns among consumers when purchasing meat were related to suspicions about the use of substances such as antibiotics (64% of respondents) or genetically modified plants used in poultry nutrition (43% responses). Meat origin from a production farm caused concerns in 14% of the surveyed, while only 14% of the respondents had no concerns at all. Respondents asked about meat defects, most often mentioned hemorrhages, 56% of responses, while 28% of the surveyed thought that meat is 'sinewy'. Dry and tough meat was the rarest defect mentioned by consumers.

After an analysis of the data presented in Table 4, concerning meat purchase from a particular rearing system and after comparing it with the data

Table 5

Form and quality of meat

Specification	Responses	Share [%]
Preferences in meat form	fresh	93
	frozen	7
	processed	0
Preferences for meat produced in QAFP system	yes	26
	no	8
	It doesn't matter to me	66
Expectations about high quality meat	better health safety	48
	higer nutritional value	23
	higher palatability	20
	Longer expiry date	9
Concerns connected with meat purchase*	concerns about the use of antibiotics in bird nutrition	64
	concerns about the use of GMO in bird nutrition	43
	type of production used	14
	other	1
	I have no concerns	14
Most frequent meat defects**	dry	17
	sinewy	28
	watery	22
	tough	10
	hemorrhages	56
	I didn't encounter any	11

* The total of all responses exceeds 100%, as respondents picked maximum three factors

** The total of responses exceeds 100%, as respondents picked maximum two meat defects

from Table 5, about consumer concerns it may be concluded that those surveyed are not fully aware of the conditions in an organic rearing of poultry. Since there oblige, among other things, bans on using antibiotics or genetically modified organisms in poultry nutrition (HERBUT and KORELESKI 2004), constituting main concerns when buying poultry meat, only 19% of the surveyed decided to buy meat produced with organic methods. However, more than half of the respondents do not pay attention to the origin of the meat when buying it (Table 4).

Conclusions

1. Majority of the surveyed (46%) declare consumption of poultry meat two or three times a week, and most frequently in the form of a breast fillet and quarter, or wings. Consumers prefer meat from broiler chickens (84%), while they buy goose meat least frequently, 1% of the respondents. Most of the

consumers take meat freshness as the most important criterion, and only then its price.

2. For more than half of the respondents (56%) it does not matter if the meat comes from a conventional (farm) or organic production. A higher percentage among other surveyed, 25%, were those who prefer meat produced with conventional rather than organic methods (19%).

3. Only 26% of the consumers prefer meat produced under guaranteed quality system, QAFP. When buying poultry meat of high quality, consumers first of all expect higher health safety, higher nutritional value of products, as well as their higher palatability. When purchasing poultry meat, the surveyed are mostly concerned about the use of antibiotics and genetically modified feeds in bird nutrition.

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