

BEEF CONSUMPTION IN HUNGARY (short review)

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Abstract: *The importance of beef worldwide stands out among red meats. The work examines the situation of beef production and consumption, changes in consumer habits and attitudes, as well as factors influencing Hungarian consumption. The perception of the meat of Hungarian gray cattle in Hungarian consumption is also affected. Nowadays, meat from beef cattle breeds is hardly available in domestic stores, the dominance of the Holstein-Friesian breed is typical. However, consumption, which was not too high before, fell significantly in the last two years as a result of inflationary price increases.*

Keywords: *beef consumption, meat quality, consumers' demand, meat production*

INTRODUCTION

The nutrients of meat are essential for our vital functions, they are very important sources of protein, fat, vitamins and minerals. The composition and quality of the meat are greatly influenced by the rearing conditions. The meat of farm animals reared in natural conditions means better quality and greater food safety for the consumer. Game meats deserve more attention: their fat ratio is more favorable, they contain more polyunsaturated fatty acids, and are rich in aromatic substances [15].

Meat is one of our most important sources of protein. During the evolution of humans, body sizes also developed differently depending on the level of protein intake [12]. The complete protein content of meats is between 15-22 g/100 g. In case of protein deficiency, resistance to diseases weakens and the function of the immune system decreases. The leaner the meat, the higher its protein content. The meat parts of young animals (regardless of the animal) are easier to digest. Its proteins rarely cause allergic reactions.

Among the types of meat, it dealt with the consumption of beef and the factors affecting it. The work serves to prepare a research project.

MATERIALS AND METHODS

The present work is based on research results presented in the Hungarian and international scientific journals. The examination of the previous data of the researchers of the topic serves the preparation of a research project that is about to start.

RESEARCH RESULTS

Meat quality

The consumption of meat has a dual assessment from a nutritional and physiological point of view. To a different degree depending on the type of meat, excessive consumption can have harmful consequences, and their complete exclusion (especially at a young age) can lead to deficiency symptoms.

Beef is rich in protein, its average protein content is between 19-22%. From a biological nutritional point of view, the amino acid composition is important, because the essential amino acids (tryptophan, lysine, methionine, phenylalanine, threonine, valine, leucine, isoleucine) are essential for cell renewal. Adequate amino acid intake is essential for the synthesis of muscle proteins. In addition to free amino acids, the proportion of antioxidant peptides in beef is significant [19]. Three amino acids, glutamic acid, aspartic acid and lysine, make up about one-third of the amino acids in beef. The amino acid

composition of beef is relatively constant, but their proportion can be affected by the fat content of the muscle, the breed, and the age.

Meat contains large amounts of vitamins B₁, B₂, B₆, B₁₂, A and D. Vitamin B₁₂ should be emphasized: without eating meat, our daily needs cannot be covered by our diet [8]. In case of insufficient intake, severe anemia develops. Vitamin B₁₂ is found in large quantities in beef, pork and offal. Like all foods of animal origin, meat also contains cholesterol in varying amounts. The leaner the meat means the lower cholesterol content.

In a French survey [7], one of the main comments about beef was the fat content of the meat. According to European tastes, a minimum fat content of 3-4% is necessary for the meat to be properly tasty and juicy. Fat also plays a key role in the crumbliness of meat. However, unlike other species, it is easy to remove the intermuscular and subcutaneous fat during the preparation of certain parts (e.g. ribs) (Figure 1). This method can significantly reduce the fat content of a piece of meat. In reality, beef accounts for only about 5% of people's dietary fat intake in France. It would be an exaggeration to consider such beef as having a high fat content, since the consumption of cuts of beef thoroughly "stripped" (heavily freed from intermuscular fat) represents the minimum source of daily fat intake in the entire diet. A daily intake of 300 mg of cholesterol does not yet cause harmful effects. The cholesterol content of most types of meat is no more than this (for example, lean pork: 68 mg/100 g; lean beef: 75 mg/100 g; poultry: 38 mg/100 g). The cholesterol content of game meats is typically between 58-80 mg/100 g. Cholesterol is an extremely important component of membranes, some hormones and neurons. A low cholesterol level causes aggressiveness, increased tendency to accidents, deteriorating cognitive abilities (memory, reaction time, etc.) and depression [8].



Figure 1. Boneless and almost fat-free beef from a French butcher

Source: Karoly Bodnar [4]

To satisfy the mineral needs of the human body, the consumption of red meat is recommended, because red meat contains essential mineral elements (iron, zinc, selenium) with better bioavailability than those from plant sources. Most of the iron in beef is in heme form, which is much better absorbed and usable by the body than non-heme iron [10].

The results of a study on beef consumption during pregnancy indicate that beef consumption in the context of a healthy diet may be beneficial in reducing the risk of maternal anemia and can be recommended as a healthy food during pregnancy. It has also

been shown that beef consumption during pregnancy is positively associated with increased macro- and micronutrient requirements and intake. Therefore, insufficient intake or complete exclusion of beef from a healthy diet may not be recommended. The results of this work challenge the negative opinions often expressed about the consumption of beef and highlight the importance of considering and encouraging beef as part of a healthy prenatal diet [5].

Dry aging is a process during which beef with a distinctive taste, texture and added value can be produced. However, this method of maturation is an expensive endeavour. This process requires higher quality, marbled beef. However, there is a niche market for discerning consumers who are willing to pay for this premium product. On the other hand, there is not much available information on the interaction between aging parameters and microbiological status on dry-aged beef quality and, consequently, beef flavour [1].

Beef consumption

Various socio-demographic characteristics, values and the individual's lifestyle can also affect food consumption. Several studies confirm that food consumption habits can be determined on the basis of socio-demographic factors, on the basis of which there is a significant difference in food consumption according to gender, age and occupation. It is important to take into account that food consumption can be influenced differently by different criteria in different cultures and countries. Based on the results, among others (Figure 2) seven socioeconomic factors were identified that may influence food consumption: age, social class (defined by income and employment), education, gender, and place of residence, ethnicity, and an individual's lifestyle. In the case of meat, religious affiliation can also be decisive [18].

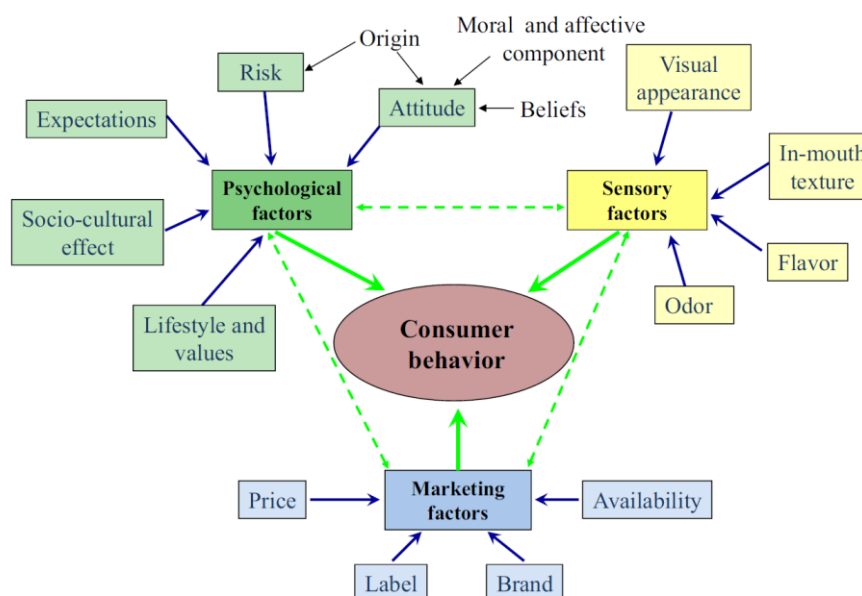


Figure 2. Multidisciplinary model of the main factors affecting consumer behavior in a food domain [9]

The world's per capita consumption of beef and veal was 6.5 kg in 2016, and no change in per capita beef consumption is expected during the period under review, but the total consumption will rise in parallel with population growth. There is a wide spread in per capita consumption (1-44 kg/person), the most beef and veal are consumed in Latin American countries (Uruguay, Argentina and Brazil), the USA and Australia, the least in

sub-Saharan Africa and Asia countries (India, Bangladesh, Thailand, China, etc.) are consumed per capita [14]. By 2050, global meat consumption will rise from 317 million tons in 2016 to 470 million tons, i.e. by 50%, i.e. we can expect an increase in meat consumption per capita of about 10 kg with at least 1.5 billion additional consumers. Per capita meat consumption will increase from the current 34.1 kg to 34.6 kg per year, while 1.5 billion new consumers will enter the market.

In South American countries, consumers like and positively evaluate the sensory properties of beef and know its nutritional value. The consumption of beef is deeply rooted in their culture, and its consumption is part of the identity of the region, the everyday gastronomic experience. At the same time, they recognized the animal welfare and environmental effects of beef production, which could even lead to a decrease in beef consumption in the future [3].

Hungary has centuries-old traditions in beef production due to its ecological characteristics, despite this, the consumption of beef has never been significant. Traditional Hungarian cuisine favors pork and poultry. The social roots of this particular structure of meat consumption can be traced back to the farmers' own consumption in small-scale farming conditions, primarily to home slaughtering of poultry and pigs. In 2016, the consumption of meat products was 64 kg per person, of which beef consumption per person was 2.8 kg. On the other hand, the average annual consumption per capita in the EU is around 11 kg. The low level of domestic consumption is explained not only by consumption habits, but also by the export-oriented sale of beef and live animals [14].

According to Dietz et al. (1996) [6], men generally consume more meat, and specifically more beef, than women. The survey confirms the social presence of the health paradox. Despite the fact that the importance of health-conscious nutrition among young adults - based on their own admission - is emphasized, the number of overweight and obese people has increased. The price of the products is a significant factor during purchases, however, it did not show any correlation with the consumer perception of meat products and meat dishes. Examining by gender, the results can be stated. that among the factors affecting the purchase, the healthiness, freshness, fat content and origin of the product are significantly more important for women. It is worth noting that in a previous survey, price and "marketing" (dispensing, packaging and advertising) played a more decisive role for women [13].

Moderate meat eaters prefer white meat, including poultry. People who eat meat every day like both red and white meat. In the case of affective attitude, those who reject meat and rarely consume meat have a negative opinion of meat, while moderate meat consumers have a more favorable opinion of it. For meat consumers, meat is definitely good, it can be considered pleasant, they are in favor of it, they consider it favorable and overall their opinion is positive [11]. The affective attitude towards red meat is much more negative, while they think positively about white and poultry meat. A significant part of those who currently consume meat have not recently changed their consumption habits, while a fifth of the moderate ones consume less, and there is also a higher proportion of those who have never or very rarely consumed meat. Previously, Szakály et al. (2014) [16] also found that the eating habits of Hungarian consumers follow traditionalism and that half of the consumers do not want to change it.

According to the results of a survey among Hungarian respondents, poultry and pork are still the most popular meats. This is followed by fish and beef. Most people believe that eating meat is necessary for a balanced diet. This may be related to the fact that they contain all the essential amino acids required for the proper functioning of our body. The enjoyment value is also considerable, and many people eat meat because of our traditional dishes due to Hungarian gastronomy. When buying meat and meat products, visuality and appearance

emerged as the most important aspect. Almost 60% of the respondents also consider the price, so it is clear that they are price sensitive [17].

Today, beef is one of the most expensive types of meat in Hungary, so, like in Slovakia, only people with an above-average income can afford it. It is questionable how to harmonize the interests of producers, environmentalists, politicians and, last but not least, consumers [2].

CONCLUSIONS

According to the majority of sources, the consumption of beef has many positive effects on the consumer. By consuming beef in moderation, but regularly, we can get valuable nutrients from natural sources. In Hungary, unfortunately, the gastronomic culture also neglects it somewhat, and the decrease in the ability of consumers to pay in recent years has also significantly reduced demand.

On the other hand more and more authors have suggested reducing red meat/beef consumption for sustainability reasons as follows:

- development of artificial meat and making it available;
- influencing consumers' habits towards a vegetarian lifestyle;
- reorganization of agricultural subsidies in terms of animal husbandry and crop cultivation;
- new protein sources must be promoted to consumers.

These ideas are currently quite utopian. Many proposals are controversial and unworkable. Globally, consumers are not giving up their culture and eating habits overnight. In most countries, the spread of alternative solutions is not a nutritional issue, but rather an economic and political issue.

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