

MAIN TRAITS OF THE WILD BOAR MEAT IN ITS MARKETING

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Abstract: *The venison consumption compared to other meats is not significant in Hungary. The wild boar meat arises in large quantity every year, it is easy accessible, but the market facilities varies year by year. The domestic consumption of wild boar meat could be increased, if the advantages and disadvantages are clarified. Its protein content similar to other venison, but contains more fat, iron and iodine than other meats. It is rich in flavours. Some consumers are afraid of the hygienic risks e.g. Trichinellosis. Those traits were discussed in the recent study which could be useful in the promotion of the wild boar meat.*

Keywords: *wild boar, meat quality, meat consumption, marketing*

INTRODUCTION

Every day millions of people make decisions on what they will buy, and how much of each item. Those decisions are tempered by how much money they have to spend, the relative prices of the goods available to them, and their individual preferences. The preferences are probably more determined by social norms and habit than we would like to admit, and do vary greatly by country. Meat demand around the world is no different than any other good. Depending on a wide variety of local conditions there are significant differences in meat diets at any point in time. When we look at total meat produced and consumed over time the spatial differences at a point in time tend not to matter. What does matter though is total income and resulting total consumer buying power. Funds available for consumer spending have driven almost all the growth in meat demand for at least decades.

The ecological capabilities of Hungary are particularly favourable for agricultural and food production. The production of special agricultural goods e.g. as the meat of game animals can be a real alternative for mass production. In our recent work the habits and attitudes of consumers were studied in context of natural, high added value, healthy and environment friendly animal products: the meat of game animals. Our aim was to map the consumer requests, the demand as well as the main objectives of the market.

MATERIAL AND METHOD

Recent study was based on the outcome and experiences of our former research results on chemical composition and technical properties of wild boar meat (BODNÁRNÉ SKOBRÁK, 2012), furthermore on the results of essays on consumption pattern. Characterization of the amount of Hungarian wild boar production, was based on data from the National Game Management Database (NGMD; www.ova.info.hu).

RESULTS AND DISCUSSION

Game meat consumption is of economical relevance. Game meat consumption in Germany (Germany is the biggest game meat importer in Europe at the moment) amounts to about 73,000 tons per year and meat supply from large wild game has approximately a dimension of 35,000 tons. The monetary worth is about 150,000,000 Euro. One half is

distributed through commercial game handling establishments, the other half is sold directly to consumers (HENSEL, 2009).

Game species are renewable natural resources and they represent complex values. Game management and hunting in Hungary is dominated by trophy hunting, and the commercial value of wild ungulates is mostly determined by the value of trophy. In addition the meat of harvested game is also utilized. The game meat is an important source of animal protein for feeding humans even nowadays. In Hungary, in the last five years 200-270 thousand wild ungulates (red deer, fallow deer, roe deer, mouflon, and wild boar) and 400-500 thousand small game (brown hare, ring-necked pheasant, and water-fowl species) had been shot annually. A part of the game meat is utilized directly by hunters, and the other part is sold. The available game meat is directly related to the number of animals shot in each year. In Hungary, the quantity of hunted game species was more than 10 thousand tons in 2012, and wild boar and red deer represented around 80% of that amount (BLEIER et al., 2013). The same proportions is expected in the future. Most of the game meat is sold to markets and the hunters' consumption ranges between 10-20%. In case of hunters, there were significant differences in consumption of wild boar meat according to sex, and age groups: wild boar piglets: 30-55% and wild boar tuskers: <10% were used by hunters (Table 1).

Table 1.

The proportion of the own use of wild boar according to sex and age.

Wild Boar	1999	2004	2009	2012
Tusker	2.3%	5.7%	8.9%	7.4%
Sow	3.2%	9.0%	12.7%	13.5%
Yearling pig	15.7%	22.8%	31.4%	30.1%
Piglet	45.4%	48.7%	46.0%	39.9%

(Source: Bleier et al. 2013.)

By the end of the 1990s the export of the large amount of wild boar meat became difficult on international markets especially that domestic markets did not exist and pricing of game meat was not adapted to the potential Hungarian consumers. However, the demand for healthy, affordable and available might be important (GFK, 2003). It may increase the revenues of game management, and it can contribute to the development of quality of life of rural populations and attractiveness of the country. Until 2011 the opportunities of the game management units to sell the game meat in small amounts on the domestic market was limited. Practically the domestic use consisted only the hunters' share. The wholesalers, the meat-processing and meat-packing companies were producing for the international markets. The more liberal rules introduced in 2011 diversified the market channels and allowed the direct connection of the game management units (producers) and the consumers. This has allowed increasing the Hungarian market and the growth of the domestic consumption of big game meat. In spite of the positive changes, the domestic market has not been assessed yet and the specific characteristics of this niche market are not known (SONKOLY et al., 2013).

Some physical/technical properties

Presently there is a growing interest in the production and marketing of wild boar meat, and to attend a differentiated consumer demand the quality attributes of this product should be well established. To characterize the quality of wild boar meat in comparison to commercial pork, *post mortem* changes in the muscles were determined by pH and temperature decline, and color measurements, water holding capacity and the exudate loss.

From a commercial and processing standpoint, wild boar meat has advantages over pork, rendered as a more intense red coloration and, specifically in females, as smaller exudate losses. These differences are related to the slower and less extensive decline in pH and to a faster decline in temperature, which can be explained by the genetic group, management and feeding of wild boars, resulting in older and less heavy animals at slaughter age. The greatest red color intensity was obtained for wild boar meat. Wild animals have darker muscles than domestic animals due to a higher concentration of myoglobin as a result of their intense physical activity (MARCHIORI and de FELICIO, 2003).

During the techno-functional examinations it can be suggested that wild meat processing units handle the meat of the various sexes and age groups separately, according to the character of the product to be made. In addition to the individual identification it is recommended to provide information on the sex and age of the wild boar both for the processing units and the consumer (BODNÁRNÉ SKOBRÁK, 2012).

Chemical properties

According to the research results, 87% of examinees consider game meat as ecologically healthy food. This is supported by researches of LUSKY et al. (1994), who confirmed that game meat was not polluted by environmental contaminants (heavy metals, pesticides, radioactive elements, etc.). Furthermore, HALDIMANN et al. (2002) found out that people (e.g. hunters) who frequently consume meat originating from game killed with lead shot, did not have any risk of blood lead increase.

Risks for the consumer associated with contaminants (heavy metals, radionuclides, organochlorine pesticides) and zoonoses are considered to be low. Generally, it can be said that wild animals meat is low in fat and carbohydrate and rich in protein, micro- and macro elements (Fe, I, Zn, Se, etc.), as well as vitamins. Therefore, game meat can and should be promoted as an excellent component of almost any healthy nutrition plan (LUGASI, 2006).

There is a tight positive correlation between the dry matter and fat levels of the meat of wild boars from confined parks, while there is a moderate negative correlation between the fat and protein content (BODNÁRNÉ SKOBRÁK, 2012). The polyunsaturated fatty acid level of the meat of the wild boars consuming the natural food sources is the lowest; therefore their meat is especially suitable for the production of good quality, cured and smoked ham longer storage.

Most consumers consider health and wholesomeness to be important food quality aspects. As a consequence, functional foods might be expected to be highly appreciated by consumers because of their health-promoting ingredients. The term “functional foods” covers food products that have been enriched with natural substances/components with specific physiological preventive and/or health-promoting effects. The difference relative to ‘normal’ foods is that consumers, without having to change their eating habits, can prevent disease or promote health. To a large extent, of course, marketing functional foods successfully depends on whether consumers are aware of the positive health effects of these products. In the previous section, we saw examples of ingredients which consumers know about and whose importance for health they are aware of, e.g. unsaturated fatty acids. In such cases, just providing information about the ingredient will be enough to enable consumers to make the inference about healthiness. However, in other cases, consumers know very little about the potential functional ingredients in food products, so that inferences about healthiness will depend on providing additional information establishing this link. Current legislation on health-related claims for food products is very restrictive, and the marketing of functional foods is thus limited to mentioning the type of enrichment, while claims about the specific advantages of this enrichment are banned. The industry has repeatedly argued that the prohibition of health claims is the major barrier to

growth of functional food products, whereas consumer associations argue that such claims can easily mislead consumers (BRUNSØ et al., 2002).

Hygienic risk Safety

Only the game meat or game organs that meet the strict veterinary and hygienic requirements can be traded with on the market. Such meat must be examined by official veterinary inspection and must be proved as appropriate for consumption (SZÉKELY, 1997). Inspection facilities and examination procedures are defined by the legal acts and by-law directives.

Since 2006, European food law regarding game has changed (HENSEL 2009). Hunters as food traders are responsible for the safety of their products. National legislation also considers aspects of responsibility and traceability. The intension is to provide as high a level of food safety as possible, therefore, measures of hygienic game meat production and handling under advantageous conditions (e.g. boning in adequate rooms, chilling as soon as possible to +7°C) are included and required. Nonetheless, increasing quality standards, human cases of infections relating to game meat occurs. Examples of zoonotic agents considered in relation with human infections after consumption of game meat are *Trichinella*, *Escherichia coli*, *Salmonella*, etc. in wild game population. Elements of safety strategies in handling game meat are efficient surveillance, (further) education of hunters, respective hygiene and zoonotic pathogens, traceability of products by means of documentation and manageable markets, and well-equipped facilities. The attachment of identification marks on each carcass is obligatory in addition to documentation on special forms when game is brought to market. It can be concluded, that direct marketing of game meat is of increasing importance even though zoonotic diseases have relevance concerning consumers safety. The level of knowledge is increasing and therefore the awareness that hygienic handling is important for the safety of game meat (cooling etc.) consolidates.

The 'new' EU food hygiene legislation prompted for an update of the Austrian legislation on the marketing of meat or meat products from wild game from the hunter directly to the consumer or local food suppliers. The Lower Austrian implementation is an integrated model ('forest-to-fork') which recognises the self-responsibility of the hunters supplying meat from wild game and which encourages this food sector to establish an own codex of good practice. Core elements are a well-established educational and training concept, templates for documentation of good manufacturing practice and an evaluation system including microbiological examination of the products (FETTINGER, 2011).

Nutrition and ingredient information on meat labels were positively related with attitude toward meat labels as well as meat consumption frequency. Prices, income, and taste and preferences are the key variables affecting meat consumption level. Apart from relative prices and income, many other factors played a key role in changing the demand for red meat. Consumer concern about cholesterol and saturated fat, inconsistent quality, and lack of convenience in preparation. Consumers' selection of different types of meat may have been affected by the information in the labels and food labels help them select food. Consumers prefer five attributes of meat labels: information on food labels in general, and importance of information regarding nutrition, ingredients used, health claims, and production process (RIMAL and FLETCHER, 2003). Consumers may value red meat labeling attributes, such as farm origin traceability and a guarantee that meat was produced without genetically modified organisms (GMO), differently after 2003.

Identifying the role of risk management in the context of health-conscious consumer behaviour – provides a modern and well founded approach for national health programmes and business health programmes (FÜREDINÉ KOVÁCS, 2009).

Generally not only the individuals' economic and socio-cultural status determines the nutritional habits, but also the other way round: food consumption could be used to predict social and economic status as well as key values and value judgements. Value judgements as reflected in nutrition are analysed at the level of the consumers' general value systems, values influencing consumption habits, and the motives for selecting particular products (HORVÁTH et al., 2005). The importance of the traditional cooking habits is decreasing step by step on weekdays, and eating became satisfaction of requirements without formalities for a part of consumers. At the same time they are looking for the traditional styles of nourishment as sources of experiences. The classification of consumers can be done by several different ways. One part of the people would like to have special meals and eating out (gourmet), while the semi-finished or ready-made products (e.g. fast-food) are preferred by others. The health-conscious groups are seeking for fresh and natural (organic) foodstuff as guarantee of health or trust in high-tech based products.

In Hungary game meat is consumed far less than meat of domestic animals. Yearly game meat consumption far below 1 kg per capita. Consumers prefer meat of domestic animals, because it is cheaper, not paying attention to specific nutritive advantages of game meat. Research on the game meat market and consumers' preferences was carried out. The majority of questioned inhabitants did consume game meat, but most of them consider game meat to be of better quality than meat of domestic animals. Significant number of examinees considers game meat as healthy food, being also convinced that game was healthier to consume if hunted in their natural environment, than if reared on specialized farms. Irrespective of quality, people think such meat is too expensive. This is the main reason why consumers have game meat only in special occasion. When asked what would stimulate the game meat consumption consumers believe this could be achieved by lowering of prices, by opening of specialty stores, and by more aggressive marketing activities.

Finally, freely moving, market-driven, prices are a major driving force behind the long term growth of global meat production and consumption. Prices are the signaling mechanism that, at a very low level in time and space, efficiently tell producers what to produce and consumers what to buy. Market prices are the mechanism through which we can approach an efficient and optimal product mix that simultaneously avoids waste, gives consumers the products they want, and allows producers to earn a profit.

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