



POSSIBILITIES FOR GAME MEAT PROCESSING IN HUNGARY

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ABSTRACT

Game meat has been an important food for mankind since ancient times. The territory of Hungary offers an excellent hunting opportunity, so we must also place special emphasis on the processing of shot animals. Currently, relatively small amounts of game meat are processed in Hungary. In our research we would like to present what possibilities there are in the processing of game meat. We would like to present the current situation based on international and Hungarian literature sources, and we would like to give a comprehensive picture of the future possibilities.

Keywords: game animals, meat market, Hungary

INTRODUCTION

Game meat is one of the main products of hunting. Any wild animal hunted for animal products, for recreation, or for trophies is considered game. The species of animals hunted as game varies in different areas of the world and by different local jurisdictions, but mammals and birds are the most common. Non-commercially captured fish are also referred to as game fish.

The meat of wild animals that live in the wild has characteristics that are different from the meat of the farm animals (*Biró 2002*). Because of their natural lifestyle, the eating habits and food quality of the game species are significantly different from farm animals and can therefore be considered as "organic product", as the "product" is created without the use of antibiotics or hormone preparations. Game meat has the highest protein content of all the meats. Game meat is fat-free, with fat levels ranging from 1% to 6% depending on the animal's age, gender, and nutritional state. It is rich in B vitamins (B1, B2, B6, B12) as well as in vitamin A and vitamin D and in minerals. Because of the higher myoglobin and blood content, it has a characteristic dark red color. It is solid, with a tough structure and it is high in polyunsaturated fatty acids. It has many taste enhancing materials, which provide a typical, pleasing flavor to the meat (*Gombos et al. 2012*). The pH ranges from 4.8 to 5.6 in the acidic zone. The presence of antibacterial inhibitors extends shelf life, resulting in slower deterioration of meat, and softening during the ripening stage, which increases its consumption value. It is commonly known that contains a higher number of germs, which is mainly the result of post-shooting therapy (*Biró 2002*).

The ecological capabilities of Hungary are particularly favorable 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 the last years the position of Hungarian meats decreased on the national market due to several reasons e.g. free movement of products in EU market and the actions for propagating healthy alimentation often present the consumption of meat in negative meaning (*GFK 2007*). This review article basically focuses on current situation based on international and Hungarian literature sources, and we would like to give a comprehensive picture of the future possibilities.

GAME MEAT CONSUMPTION

The consumption of game meats in Hungary is a smaller amount than 1kg/capita/year. Hunters and their families eat game meat oftentimes, however, the majority are not familiar with it (*GFK 2003*). The importance of the traditional culinary habits is decreasing step by step on weekdays and eating became satisfaction of requirements without formalities for a part of consumers. At identical times, they are trying to find the traditional styles of

nourishment as sources of experiences. The classification of consumers can be done in many other ways. One part of the population prefers special meals and eating out (gourmet), while others prefer semi-finished or ready-made products (e.g., fast-food). The health-conscious groups are seeking fresh and natural foodstuff as a guarantee of health or trust in high-tech-based products (*Horváth et al. 2005*).

The habits of consumers can be influenced by marketing as it was in the case of fish consumption in the last ten years. Unfortunately, nowadays people choose food, not on the nutritional value, but the price and the value of delight (color, taste, etc.) have the greatest effect (*Nagy et al. 2008*). The ingredients of several game meats were established and their importance in alimentation was confirmed by *Lugasi* (2006). Market analysis of the rabbit meat, beef and game meats are comparable in that they are products of special niche markets, and through their health conditioning features their marketing can be placed on a common strategic basis.

Game meat can be sold by hunters to companies buying, selling, and processing food or directly to the final consumer. The latter option is referred to as a "small volume of sales", subject to the following statutory provisions: "Those hunting entities, for which the number of big games intended for harvest in a hunting year does not exceed 100 big game a year, can sell up to 100% of the big game hunting on the hunting ground, up to a maximum of 100 big game. Those hunting entities, for which the number of big game intended for harvest in a hunting year exceeds 100 animals a year, can sell 100 big game animals hunted on the hunting area during the hunting season, and 40% of the big game shot above this number. In the case of a small game, the quantitative limit is 5000 animals.

In the game processing plant, the carcasses are initially placed in the receiving pre-cooler. From the receiving pre-cooler, carcasses can be move in two ways: to the processor, or to the storage place. Pre-cooled carcasses are frozen at -30°C until they are -12°C then they are stored in storage chambers (*Bíró 2002*). The initial phase of processing is melting under regulated circumstances, as it is the critical point of production. Inadequate procedures may involve a high degree of micro-proliferation (*Bíró 2002*). Melted carcasses are placed in the skinning chamber and after the hair is taken, they get on the processing path where the cutting process begins. There is one point where small game processing essentially differs from poultry processing. A significant part of game birds comes from farms. Killing is not done by cutting, it happens by striking, choking or clubbed. The purpose of this procedure is to avoid excessive bleeding,

thus preserving the "wild nature" of the meat. The next steps (skinning, plucking, eviscerating) are the same as those of poultry processors (*Biró 2002*). If the food hygiene rules of wild game management and sale are observed, then the raw meat and the products made from the meat of Hungarian game species will remain a much sought-after commodity on European markets (*Kóhalmi et al. 1996*). Unfortunately, Hungarian game meat consumption is currently 0.4 kg/person per year (0.7-1 kg/year in the European Union), which cannot be relied on long-term commercial levels. With this value, considering other countries, we are among the last in Europe. The positive qualities of wild game-meat are recognized, however, due to the established habits and sometimes the very high consumer prices, domestic sales are 10% in Hungary, while export sales are 90% .

The product range, i.e. the finished product, moves on the widest possible scale according to the customers' needs and current market demands. The meat may be completely boned or remain treated as a bony product, in a pre-cooled or fresh state. These processes naturally affect production costs and influence output. "Due to the method and the circumstances of the killing, and a smaller proportion of recoverable bodyparts of the output of the deer is 55-70%, while that of the boar is 30-50%". (*Balsay 2013*).

The sale of shot wild animals has increased since the mid-1990s. The potential of sales has been clearly in the export market, and still there is today. In 1996, the volume of sales was 2500 tons, and by 2002 it almost reached 7000 tons. From 2002 to 2005 (10-15% per year) the amount of game-meat on the market was continuously reduced. The cheap game meat from overseas farms appeared. The decreasing demand clearly led to a decrease in prices, which, of course, influenced purchase prices as well. Berger and Csányi, based on the data from the National Wildlife Management Database, investigating the period from 2005 to 2014, found that the game sales and the resulting income increased from 16% to 26% over a decade, and are slowly reaching the income deriving from fee hunting. (*Berger et al. 2015*).

Among our export markets, there is Germany, Austria, Italy, the Benelux countries (mainly the Netherlands), Scandinavia, Switzerland, and France. 65-70% of Hungarian game meat is sold to German markets. A significant part of customers belongs to wholesale networks.

CONCLUSION

The excellent quality of Hungarian game meat is recognized all over the world, this value must be appreciated, and the production of premium quality products must be increased. The wild animal, as a renewable source of energy, can be a widely utilized Hungarian product, which is a profitable product in the long term. Hungarian game has a lot of competition abroad but still has remained competitive due to their reliability, packaging, and high-quality parameters. The competitive advantage and the main value of Hungarian game meat are in the conditions of keeping. In Hungarian forests, wild animals grow naturally, and therefore they can be considered organic. Unfortunately, however, the previous parameters becoming less and less enforceable in prices. People need better information about game meat and about the ways of processing (recipes) and the increase of domestic consumption seems to be accessible.

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