CONSUMERS' OPINION ABOUT THE HYGIENIC RISKS OF THE MEAT OF WILD UNGULATES

OPINIA CONSUMATORILOR DESPRE RISCURILE IGIENICE ALE CARNII DE COPITATE SALBATICE

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Abstract: *In our recent survey the habits and attitudes of consumers were analyzed in context of the hygiene and safety of wild ungulates animals' meat. One of the aims was to map the consumers' fears from hygienic imperfections and the main causes of rejection of consumption. The results represent a descriptive picture on the acceptance, rejection, attitudes and preferences concerning the given product categories. Data were collected by questionnaires and personal interviews. In the recent paper we focused on the following species: red deer, fallow deer, roe deer, mouflon and wild boar. Differences were found between the answers of the asked sample population living in cities and in the rural areas. Those people who have a negative attitude to game meat are vegetarian or refuse consumption due to fear from diseases or emotional reasons.*

Key words*: game meat, hygienic rules, attitude of consumers, diseases, food safety*

INTRODUCTION

The total consumption of game meats in Hungary is less than 1kg/capita/year. Hunters and their families eat game meat frequently, but most of the people are not familiar with it. Wild ungulate meats generally have a low fat content, although with a certain variability associated with gender, hunting season, age and physiological conditions, and a favourable fatty acid composition. In general, they are darker, less tender and characterised by a more intense and peculiar flavour than meats from

domestic ruminants. However, these properties also show a great inter- and intra-specific variability (RAMANZIN et al., 2010). 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 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 foodstuff as guarantee of health or trust in high-tech based products. At the same time the risks for the consumer associated with contaminants and zoonoses are considered to be low. The risk is present almost everywhere (USDA, 1999; FLORIANCIC et al., 2006), so the consumption of meat from hunted wild ungulates is strictly associated with the issue of quality and hygiene assurance, as critical steps from shooting in the field to the final marketing are difficult to control (GOMBOS - HERÉNYI, 2005; ANONYM, 2008). To this purpose, safety requirements of game meats have been addressed recently by Regulations (EC) No. 853/2004 and No. 854/2004 (European Commission, 2004b; 2004c). In addition, the Regulation (EC) No. 178/2002 (European Commission, 2002) must be observed.

The aim of our research is to map the consumer' demands, attitudes and preferences concerning the game meat safety and consumption. The goal of the recent study was to collect data on the consumers' fears, knowledge and believes.

MATERIAL AND METHODS

In order to obtain the information a survey of questionnaire was designed and carried out. During the survey people were asked (n=250) about their game meat consumption habits and attitudes. Data were collected with random walking method from different settlement types in the South Plain Region. The data recording was carried out through face-to face interviews. The adult population had equal chances to get into the group of interviewees. Due to the relatively small size of the sample group the compositions of the data were distorted, so the survey can not be

regarded as a representative one, but the data of further study will be corrected, if it will be necessary.

The questionnaire contained 31 questions mostly closed ones, in some cases interval scale was applied. To make some answers more exhaustive free contextual answers could also be given. The questions about risks and food safety were focused on the following areas:

- the studied species are: roe deer, wild boar, mouflon, red dear and fallow deer;
- recognition of risks;
- knowledge on meat hygiene, signs of diseases, meat inspection and regulation.

Data obtained were submitted to statistical analysis by using SPSS 15.0 software package. Results were expressed as proportions and frequency distributions of the analyzed sample.

RESULTS AND DISCUSSION

During the survey slightly more women (54%) were asked than men. The age distribution shows that less elder people were asked. The places of living of the sample population are the towns (44%) and villages (56%) of the region, but the answers did not differ between the two types of settlements. The groups aggregated by the level of qualification represented 18% primary school, 46% high school and 36% college or university degree. They have physical (42%) and intellectual (58%) professions and jobs. The hunters are over represented in the survey (10 persons, 4.0%), because only 0.5% of the Hungarian inhabitants has hunting licence.

Most of the people who ate already or used to eat game animals (n=215). Almost all hunter men ate every species, but most of the people choosed only one. The distribution of game species (*fig. 1*.) was coming from the characteristic of the county, because most of the hunted species in this region are small games. Most of the consumers (72%) had fears and recognized the risk of diseases. 65 consumers (26%) had no information about hygienic problems, and only 5 persons did not concern the risk.

The main causes of rejection of consumption were the following:

- no information about meat inspection and/or regulation of food safety,
- fear from all kind of diseases (harmful and/or disgusting), e.g. the possibility of Trichinellosis in wild boar, or botflies in roe deer,
- risk of zoonoses,
- fear from bad hygienic status at hunting.

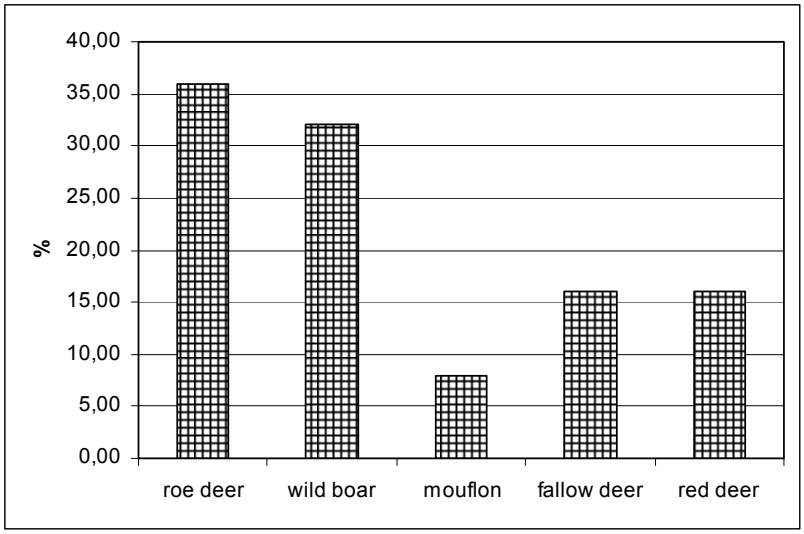


Figure 1. The distribution of consummated game species

Almost only the hunters had exact knowledge about the food safety regulations. According to these regulations, hunters and management associations, who sell game to wholesalers or game processing companies, are responsible for meat safety and traceability. Any wild game or wild game meat has to be inspected by a "trained" person before being transferred to the "approved game handling establishment". This person must be able to ascertain abnormal behaviours in the live animal and pathological changes caused by disease, environmental contamination or other factors, which may affect human health.

In Hungary, the directive 9/2002. (I. 23.) FVM regulating wild game and farmed game animals hunting, their meat inspection and trade, which has partly been modified by the 7/2005. (II.4.) FVM directive regulate the

inspection of wild game animals. This provision of law, as a general principle, prescribes for the examining veterinarian that in case of the presence of certain characteristics, he must make sure whether they risk humans' life. If there are objective obstacles that hinder the clearing of the case, he must confiscate the game. The following abnormalities must be considered:

- the hunter's report on the abnormal behaviour of the living animal or disturbances in its general status;
- the presence of tumours/swellings or abscess if they are numerous or affect internal organs or muscles;
- arthritis, orchitis, deformations in the liver or in the spleen,
- the inflammation of guts or around the navel;
- the presence of foreign bodies in the body cavities, especially in the stomach and the guts or the vesicle, in case the pleura or the peritoneum is coloured;
- the forming of significant gas in the stomach and the guts with the colouring of internal organs;
- significant abnormalities showing in the colour, substance or smell of muscle tissues or organs;
- open fractures which can not be directly related to the hunting;
- pathologic leanness and/or general, or local oedema;
- signs showing that certain organs recently cleaved to the pleura or the peritoneum;
- other obvious large deformations, like colouring or rotting.

The inspecting veterinarian must order the confiscation of all wild game meat:

- on which wounds can be seen, disregarding the fresh wounds caused by the hunting of the game, further on deformations, abnormalities or wounds that make the meat of the game unsuitable for human consumption, or mean threat for human health;
- that derive from animals which were hunted in no accordance with the national rules concerning hunting;
- which show the above mentioned characteristics during post mortem examination;
- which are stated to be infected by *Trichinella*.

The whole animal body is unsuitable for consumption in the cases that can be related directly or indirectly to various diseases (details in the law). The directives regulating wild game meat inspection precisely, in details and the authorities making sure that they are kept together guarantee the consumption of wild game meat in trade.

CONCLUSIONS

Game meat is usually described as healthy and natural food and its consumption has a good effect on human nutrition, but large number of consumers are afraid from diseases and hygienic risk.

People need better information about the safety of game meat and about the European regulation of game meat inspection and traceability. This kind of information should be emphasized in the marketing work.

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