ple incisions, of these three sets of lymph nodes, as required under current meat inspection legislation would reduce the detection rate of tuberculosis in bovines. This is in accordance with the conclusion reached by the EFSA/BIOHAZ panel stating that adoption of palpation only, instead of palpation and incision, for inspecting lymph nodes and organs, (e.g. lungs), for evidence of tuberculosis would lead to a lower detection rate of such lesions. Presently, although it is unknown whether omission of these incisions would increase the risk to public health due to M. bovis infection, it is clear that it could reduce the detection rate of infected animals, and therefore negatively affect animal disease control.

The traditional physical post mortem inspection has a low sensitivity to detect Taenia saginata cysticercosis. Therefore, alternative systems based on farm controls as well as on the use of alternative diagnostic tests would increase the detection rate and thus benefit public health. However, the diagnostic tests available at the moment have yet to be validated in the EU. Consequently, the incisions prescribed by the current law need to remain as an “interim” measure until validation of T. saginata cysticercosis diagnostic tests is completed. Among these, those based on T. saginata antigen detection in blood samples appear particularly promising as an alternative to muscle incisions.

The EC Regulation N.854/2004 of the European Parliament and of the Council of 29th April 2004 that lays down specific rules for the organization of official controls of products of animal origin destined for human consumption, represents an example of simplification and partial redrafting of the existing laws on the basis of the opinions expressed by the EFSA.

REFERENCES

* The paper was presented on the scientific meeting Hygiena alimentorum XXVI, May 25 -27 2005, Štrbske Pleso - Vysoké Tatry. Slovakia

LEGISLATION RELATED TO GAME AND GAME MEAT IN THE SLOVAK REPUBLIC

Nagy*, J., P. Lazar*, P. Popelka*, J. Cehlár*, J. Čurlík*

SUMMARY
Basic legislative frame of breeding of game as farm animals is included in the Veterinary care law No. 488/2002 Z.z. with amendments, Food act No. 152/1995 Z.z. with amendments. Veterinary care law (488/2002 Z.z.) establishes veterinary requirements for live animals and also for products of animal origin, including animal products in relation to the public health protection. Government regulations were added to the Veterinary care law in the process of implementation of EU Directives into national legislation. Food act 152/1995 Z.z. establishes conditions of production of food and other animal products, their handling and placing on the market to support and protect consumers and their health, and the roles and organisation of food supervision and keeping of rules.

Requirements for health safety, hygiene, composition and quality of food, ingredients, technological processes used in food production, packaging, marking, storage, transportation, handling and distribution, and also rules for sampling and sample analysis procedures are estab-

1 The Department of Food Hygiene and Technology, The University of Veterinary Medicine, Komenského 73, 041 81 Košice, The Slovak Republic
Legislation related to game and game meat in the Slovak republic

FOOD CODE OF THE SLOVAK REPUBLIC,
3rd part, and second chapter related to game.
This chapter prescribes the conditions of the game derivation, processing, import, handling and distribution.

QUALITY REQUIREMENTS

The game must be in accordance with health safety requirements, must be identified and the place of origin must be known (Announcement No.229/2001).

Immediately after hunting of game, the game meat intended for placing on the market must be cooled.

The game used for processing, production of meat products intended for sale on the market must comply with the following requirements:

a) Carcasses of wild red deer, deer, daniels and wild boars with skin must be veterinary examined, without internal organs from thoracic, abdominal and pelvic cavity, without pharynx and larynx, and thoracic and abdominal cavities must be cleaned and sufficiently open to be cooled and dried as fast as possible, and pelvic bone must be removed. In summer period, thigh and shoulder muscles must be cut to allow cooling; in trophy female wild boars the muzzle can be removed behind the 4th premolars or they can be distributed without head.

b) Adult above mentioned game must weigh at least (with exception of young animals up to 1 year, when lower weight is accepted):

- 45 kg, red deer,
- 10 kg, deer,
- 30 kg, daniel,
- 20 kg, mouflon,
- 40 kg, wild boar

c) Brown hare must be at least 3 kg; in skin and compact, cleaned, dry on the surface, cooled and urinary bladder must be emptied,

d) Pheasants, partridges and wild ducks must be with feathers, compact, clean, dry on the surface, correctly cooled, and may be also eviscerated. The weight of these animals must be at least:

- 1.0 kg, male pheasant and 0.7 kg, female pheasant,
- 0.2 kg, partridge,
- 0.6 kg, wild duck.

Venison can be processed and distributed only if the origin of deer is identified and if it meets the health safety and hygiene requirements. Before distribution, skin of game must be removed in an authorised game-processing house.

The game with skin or with feathers after hunting cannot be frozen before the veterinary inspection is completed, in case of freezing of game; it cannot be used for production of frozen meat and meat products. If game after hunting is frozen and then thawed off before distribution, such information should be pointed out for consumers.

Cleaning and flushing of game, immediately after hunting and prior to completed inspection, in order to mask possible changes or deviations, is strictly forbidden with the exception of cleaning of the thoracic and abdominal cavity. During treatment and processing of carcasses, dirty and changed parts of meat must be cut off.

REQUIREMENTS FOR OBTAINING OF MEAT FROM GAME ANIMALS

After hunting, preliminary visual inspection of game is focused on the determination of signs of infectious or other diseases or of the hunter-induced injuries, which can affect game meat. In case these signs or changes are suspect, it is not allowed to remove offal, and also cutting and further treatment of carcasses shall be forbidden, and a hunter’s trophy must not be taken apart. Responsible person must notify results of preliminary inspection in the game origin records. This record of origin accompanies the game carcass to the processing facility. Record and game carcass must bear the same mark during the entire time of transportation to the game collection centre (with indication of region, district, village, date of hunting and number of mark).

Big game - wild ungulates and boars, which are intended for placing on the market and for food production must be eviscerated within 45 minutes after the finding of a killed animal (except when suspect for infectious diseases, other diseases or injuries, which can affect their meat).

After hunting, the urinary bladder of small game
must be emptied, and feathered game must be eviscerated after completed veterinary inspection. User of the hunting ground represented by a hunting administrator is responsible for marking of carcasses and organs of game before transportation to the collection centre or directly to the game processing plant.

**REQUIREMENTS FOR GAME MEAT HANDLING**

The game meat intended for placing on the market must be transported after hunting to the collection centre or directly to the game-processing house in the following way:
- Transport vehicles must be sufficiently ventilated, easy to clean and after transport must be always cleaned and disinfected,
- Game must be loaded, transported and unloaded from a transport vehicle in a way to avoid contamination,
- After transportation, game must be protected to avoid any change of their organoleptic properties or other parameters of hygiene quality, and also a possible contamination with chemical or other harmful substances must be strictly avoided,
- Fresh and cooled carcasses of big game and bears should be transported only hanged on racks with hooks,
- Small game and game birds must be transported under cooling conditions and in hanging position.

A collection centre must be equipped with a cooling room and adequate cooling equipment for storage of cooled game after hunting and a predetermined temperature must be maintained.

**PREPARATION AND HANDLING OF GAME MEAT**

Preparation and handling of game meat is carried out according to requirements for processing, dividing and cutting of similar species of husbandry animals (3rd part, first chapter of the Food code of SR – meat of slaughtered animals).

**STORAGE OF VENISON**

Cooled and frozen game meat must be stored according to requirements for assurance of health safety (Government regulation SR No. 311/2003 Z.z.).

**TRANSPORTATION OF GAME MEAT**

Transportation of cooled and frozen game meat must be carried out according to the following rules:
- Transportation and distribution must be performed in a way to ensure that the internal temperatures will not be exceeded and in accordance with good storage and distribution practices,
- Carcasses, half carcasses or smaller cuts, except hygienically packed frozen game meat, must be transported in hanging position, and other parts of cut and unpacked game meat also in hanging position or in suitable transportation boxes; returnable containers can be used only after previous cleaning and disinfection.

**PLACING ON THE MARKET**

At the time of placing of game meat on the market the following requirements must be fulfilled:
- During handling and exhibition of game, internal temperatures must comply with requirements for assurance of health safety and hygiene conditions of meat products (Government Regulation SR No. 311/2003 Z.z.),
- During the sale of small animals with skin or with feathers, buildings and equipment must be adapted to ensure maintenance of special conditions. Suitable exhibition of game meat in store and sufficient distance from other food must be provided,
- If frozen game meat is placed on the market after defrosting, this must be clearly indicated,
- In public catering facilities only game meat originating from the authorised game meat processing plants can be used for preparation of food and meals; if the abovementioned facilities are not equipped with special devices for removal of skin and evisceration and if hygiene conditions are incompliant, these operations cannot be performed there.

Game, except an integrated delivery of frozen or chilled small animals with skin or with feathers from one place of origin, especially approved by the official veterinary authority, cannot be sold in marketplaces from tables, holders or vehicles. Game cannot be placed on the market in a form of booth selling, mobile selling or other form of ambulant selling. Mail order selling is also not allowed.
Dividing and storage of game meat in retail market and public catering facilities where these operations are carried out explicitly for purposes of supplying consumers in the same place, must be performed in accordance with general hygiene conditions or conditions related to hygiene of food stores.

Small quantity of game meat (1 piece of big game or maximum 5 pieces of small game), which are not subject to special conditions according to special regulation (Government Regulation SR No. 311/2003 Z.z.), before placing on the market should compulsory be examined according to special regulation (Government Regulation SR No. 285/2003 Z.z.), in case of animals susceptible to trichinae.

REGULATION OF THE MINISTRY OF AGRICULTURE SR NO.229/2001 relative to the control of hunted game

According to the Regulation of the Ministry of agriculture SR No.229 relative to the control of hunted game, each piece of red deer, fallow deer, mouflon, boar, chamois (further on only ungulates) for the purposes of control of ungulates and identification of origin must be marked in way to eliminate multiple usages. All found ungulates, possibly with heads, must be marked. Mark includes designation of series, registration number, designation of district and region and record of days and months. User of a hunting ground supplies marks at his/her own expense. Hunter or its guard marks ungulates immediately after their finding, before evisceration and before further manipulation. Marking of ungulates is based on the insertion of a mark in incision between the calf bone and Achilles’ tendon on the left hind leg of ungulates (Figure No. 1). Mark must be closed to avoid its opening without destruction. Before marking of ungulates a hunter or its guard removes from the mark construction the specification of day and month of hunting of ungulates.

Leader of hunting is responsible for marking of boars hunted in a common hunt after their evisceration at the site of game bagging. Date of hunting or finding of ungulates and the number of mark used for marking of ungulates is recorded immediately into the hunting license. Hoofed game are presented for examination to a hunting administrator or to a person delegated by him within 12 hours from the tracking or finding. Handling with hunted ungulates is carried out according to their directions.

Ungulates can be moved to the hunting ground, where they were bagged, only with a mark. For transportation of hoofed game to the customer, the hunting administrator or a person delegated by him issues a ticket about the origin of hoofed game. The ticket about origin of hoofed game is issued in duplicate. Original is given to the customer in the game collection centre; user of the hunting ground keeps a copy.

The mark remains on the hunted ungulate until the time of its delivery to a buyer in the collection centre. The buyer submits the mark, together with certificate of animal origin, for the control of origin of hunted game. In case of ungulates intended for self-need, the mark remains on the ungulate until it is delivered to the hunting administrator or his delegate. After completed cutting, the purchaser keeps the mark till the next control of animal origin.

The following proofs the origin of hunted game:
• Mark in the hunting ground where hoofed game was bagged and at transportation of hoofed game to the hunting administrator or to his delegate,
• During transportation of ungulates to the collection centre and in the collection centre with mark and licence of origin of ungulates,
• In facilities of public catering and facilities offering catering with the delivery document from the collection centre.

Person, who is not able to mark found ungulates, cannot move and transport them or lay hands on these animals.

The hunting administrator covers the expenses and registration costs of delivered and used marks for users of hunting grounds. The hunting administrator supplies marks together with a hunting licence. Mark number, date of delivery, name, address and signature of the person given the mark are recorded in the delivered mark register. The mark register contains data of the date of hunting, ungulates, name of hunter, and number of used marks.

All unused marks should be returned to the hunting administrator for the purpose of terminating the validity of licence for hunting of ungulates. The mark user is responsible for manipulation with the same.
The hunting administrator must be immediately notified if the mark is lost. The hunting administrator should notify the competent official authority about the lost mark within 3 days at the latest.

**GOVERNMENT REGULATION SR NO. 311/2003 Z.z. of 9 July 2003 relative to the requirements for protection of animal health for the purpose of human health protection during killing of wild animals and sale of game meat**


**DEFINITIONS**
- Game – wild land mammals, which are hunted (including wild mammals living within an enclosed area under conditions of freedom similar to those enjoyed by game) and game birds, which are not covered by the Government regulation SR No. 300/2003 Z.z.
  - Big game – wild ungulates.
  - Small game – wild mammals of the Leporidae family and game birds intended for human consumption.
- Game meat – all parts of game suitable for human consumption
- Game processing facility – an establishment approved in accordance with the Government regulation SR No. 311/2003 Z.z. in which wild game is processed and game meat is obtained and inspected in accordance with the hygiene rules laid down in this Directive.
  - Collection centre - any place where killed game is kept in accordance with the hygiene rules prior to being transported to a processing house.
  - Placing on the market - holding or displaying for sale, offering for sale, selling, delivering or any other form of placing on the market of game meat for human consumption

**PROVISIONS APPLICABLE TO PRODUCTION, PLACING ON THE MARKET AND TRADE OF GAME MEAT**

Game meat must be obtained from wild animals hunted in an official shoot (Regulation 23/1962 Z.z. about hunting with amendments), it should not originate from region under health restrictions (Government Regulation SR No. 283/2003 Z.z. on health problems affected the trade of fresh meat of cattle, pigs, sheep, goats, and solipeds; Council Directive 72/461/EEC, 12 December 1972) or from shoot, which is under any restriction (diseases transmitted to humans or animals, presence of residues exceeding the permissible maximum residue levels).

Game meat must be obtained from wild animals dressed and transported within 12 hours after hunting to the game meat-processing facility or collection centre. In collection centre meat must be cooled and within 12 hours transported to the game meat processing facility. In case the processing facility is at a great distance and the climate conditions are compliant with the corresponding requirements of the European Community and State veterinary and food administration, prior to transportation an official veterinary inspector must perform post mortem examination of hunted animals to confirm adequacy of conditions.

Meat of wild boars and other animals susceptible to trichinellosis must be examined by digestive
- Masseters,
- Muscular part of diaphragm,
- Muscles of ante brachium,
- Intercostal muscles,
- Tongue muscles.

Large animals without removed skin can be placed on the market with the exception of the retail market, and can be subject to trade with member countries. However, offal must be examined after hunting in the game meat-processing facility. Meat is accompanying by health certificate. Internal temperature of meat ranges from – 1°C to + 7°C and it should be maintained also during transportation to the meat-processing facility. Game meat can be stored under these conditions for maximum 7 days after the post mortem examination. In case of temperature ranging from – 1°C to + 1°C during transportation, game meat can be stored for maximum 15 days after the post mortem examination.

HYGIENIC MEASURES FOR THE GAME MEAT PROCESSING, CUTTING AND HANDLING

Immediately after hunting, game must be opened and eviscerated (offal from the thoracic cavity separated from carcass), liver and spleen must accompany carcass, and their identification must be ensured to enable performance of the post mortem examination by the official veterinary inspector. Other offal from the abdominal cavity must be removed and examined on the hunting site. Head can be removed as a trophy.

Small game must be completely or partially eviscerated on the hunting site or in the game meat processing facility, if the meat is transported under the cooling conditions, not above 4°C, within 12 hours after hunting.

Immediately after evisceration and transporta-

tion to the meat processing facility, game should be cooled to the internal temperature of + 7°C or lower in case of large animals, + 4°C or lower in case of small animals, respectively.

Big game must be transported to the meat processing facility as soon as possible after evisceration under adequate hygiene conditions to avoid their accumulating in layers during transportation. When transported to the game meat-processing facility, carcasses must be accompanying by health certificate issued by the official veterinary inspector. Health certificate confirms that meat is suitable for human consumption and states the approximate time of killing.

POST MORTEM INSPECTION

All parts of game must be inspected within 18 hours of admission to the processing facility, for the purpose of establishing whether the game meat is suitable for human consumption; in particular, the body cavity must be opened to permit visual inspection. If required by the official veterinarian, the spinal column and head must be split lengthwise.

The post-mortem inspection performed by the official veterinarian should include:
- Visual inspection of both the game and their organs. If the visual inspection results do not enable an assessment to be made, a more extensive inspection must be carried out in a laboratory. Such more extensive inspection may be limited to a number of samples sufficient to assess all the game killed during a hunt,
- Investigation of deviations in consistency, colour and odour,
- Palpation of organs, if required,
- An analysis of residues by sampling, particularly, when considered indispensable.

When a more extensive inspection is carried out on the basis of such serious grounds, the veterinarian must wait till completion of inspection before proceeding with the assessment of all the game killed during a specific hunt, or parts of the game, which are suspect, owing to the circumstances, to have the same defects,
- Detection of characteristics suggesting possible health risk. This applies particularly to the following
cases:
(1) Abnormal behaviour or disorders in the general condition of a live animal reported by the hunter;
(2) Presence of tumours or abscesses if numerous or if present in different internal organs or muscles;
(3) Arthritis, orchitis, changes in the liver or spleen, inflammation of the intestines or umbilical region,
(4) Presence of foreign bodies in the body cavities, especially in the stomach and intestines or in the urine, with discolouration of the pleura or peritoneum,
(5) Formation of a significant amount of gas in the gastrointestinal tract with discolouration of the internal organs,
(6) Considerable deviations in the colour, consistency or odour of muscle tissues or organs;
(7) Open fractures, if they are not directly hunting-related,
(8) Emaciation and/or general or localised oedema,
(9) Signs indicating recent adherence of organs to the pleura and peritoneum,
(10) Other obvious extensive changes, such as discolouration and putrefaction.

The official veterinary inspector must order confiscation of any game meat:
- Presenting lesions, apart from recent lesions caused by killing, and localised malformations or anomalies, if such lesions, malformations or anomalies render the game meat inadequate for human consumption or present risk to human health,
  - Originating from animals which have not been killed in accordance with national rules on hunting,
  - If the above mentioned signs have been discovered during the post mortem inspection,
  - Originating from small game and evaluated as not suitable for human consumption on the basis of the post mortem finding,
  - In case of confirmed infection with trichinae.

HEALTH MARKING
Pentagonal mark bearing, in perfectly legible characters, the following information:
1. In the upper part, full name or initial letter or letters of the country of dispatch in capitals: for the Community, the following letters: B, D, DK, EL, ESP, F, IRL, I, L, NL, P, UK, RSM, AT, FI, SE, in case of the Slovak Republic – SK,
2. In the centre, the veterinary approval number of the game processing facility or, where appropriate, the cutting premises,
3. In the lower part, one of the following sets of initials: CEE, EOEF, EWG, EOK, EEC, EEG, CE-RSM, ETY, in case of countries included in the European Community, or initials identifying the third country of origin of game, in case of the Slovak Republic, initials SK.

Specific health mark, which must be used for marking of the game meat intended only for local Slovakian market consists of a circle with tightly drawn square containing the following information:
- In the upper part, initials of the region in which the approved game processing plant is located,
Legislation related to game and game meat in the Slovak republic

- In the centre, the veterinary approval number of the game processing plant,
- In the lower part, text „Slovak Republic”,
- Initials 0.8 cm high and numbers 1.1 cm high.

STORAGE

After the post mortem inspection, the game meat must be cooled or chilled and kept at the temperature which at any time should not exceed 4°C in case of small game and 7°C in case of big game if cooled, or -12°C if frozen.

GOVERNMENT REGULATION OF THE SLOVAK REPUBLIC NO. 300/2003 Z.z. relative to the animal health requirements and the requirements for public health protection in the production and sale of meat of rabbits and game grown on farms


GOVERNMENT REGULATION OF THE SLOVAK REPUBLIC NO. 285/2003 Z.z. concerning the examination of fresh meat for trichinae

- Council Regulation 83/91/EC (Official journal, L 59, 5.3.1983, p. 34),

SAŽETAK

ZAKONODAVSTVO REPUBLIKE SLOVAČKE VEZANO UZ DIVLJAČ I MESO DIVLJAČI

Osnovni zakonski okvir za uzgoj divljači na farmama uključen je u Zakon o veterinarskoj skrbi br. 488/2002 Z.z. sa izmjenama, Zakon o hrani br. 152/1995 Z.z. sa izmjenama. Zakon o veterinarskoj skrbi (488/2002 Z.z.) određuje veterinarske zahtjeve za žive životinje kao i za namirnice životinjskog porijekla, uključivši životinjske proizvode, a koji se odnose na zaštitu ljudskog zdravlja. U Zakon o veterinarskoj skrbi dodani su državni propisi u procesu primjene EU propisa u nacionalno zakonodavstvo. Zakon o hrani br. 152/1995 Z.z. određuje uvjete proizvodnje hrane i drugih životinjskih proizvoda, rukovanje s istim te stavljanje namirnica životinjskog porijekla na tržište u cilju potpore i zaštite potrošača i njihovog zdravlja, kao i

\[ \text{Table 1 Hunted game (pieces) in the Slovak republic during hunting season 2003/04} \]

<table>
<thead>
<tr>
<th>Game</th>
<th>Pieces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red deer</td>
<td>11 899</td>
</tr>
<tr>
<td>Daniel</td>
<td>1 811</td>
</tr>
<tr>
<td>Mouflon</td>
<td>2 094</td>
</tr>
<tr>
<td>Deer</td>
<td>17 995</td>
</tr>
<tr>
<td>Wild boar</td>
<td>20 539</td>
</tr>
<tr>
<td>Chamois</td>
<td>7</td>
</tr>
<tr>
<td>Bear</td>
<td>11</td>
</tr>
<tr>
<td>Badger</td>
<td>929</td>
</tr>
<tr>
<td>Brown hare</td>
<td>15 319</td>
</tr>
<tr>
<td>Rabbit</td>
<td>17</td>
</tr>
<tr>
<td>Pheasant</td>
<td>92 717</td>
</tr>
<tr>
<td>Grouse</td>
<td>36</td>
</tr>
<tr>
<td>Turkey</td>
<td>74</td>
</tr>
<tr>
<td>Duck</td>
<td>15 856</td>
</tr>
<tr>
<td>Goose</td>
<td>987</td>
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<tr>
<td>Coot</td>
<td>518</td>
</tr>
<tr>
<td>Woodcock</td>
<td>2 342</td>
</tr>
<tr>
<td>Pigeon</td>
<td>1 548</td>
</tr>
<tr>
<td>Turtle-dove</td>
<td>2 821</td>
</tr>
</tbody>
</table>
KADA HACCP-SUSTAV MOŽE ZATAJITI

Bystrický, P.

SAŽETAK

HACCP-sustav je sustav upravljanja sigurnošću hrane. Njegova je primjena obvezna u mnogim zemljama EU. U ovom radu ukazano je na neke od mogućih razloga zatajenja HACCP sustava do kojeg može doći usprkos dobrim namjerama da se sustav ispravno razvije i postavi.

Ključne riječi: sigurnost namirnica, HACCP

UVOD

HACCP je dobro poznati sustav upravljanja sigurnošću hrane. Njegova je primjena obvezna u zemljama EU pa su proizvođači hrane upoznati s HACCP-sustavom. Teoretski, na tržištu bi se trebala nalaziti samo sigurna, zdravstveno ispravna hrana. Međutim, u stvarnosti smo suočeni s prijetnjom bolesti koje se prenose hranom (Izvor: Internet 1), a kako tzv. “civilizacijske” bolesti također skraćuju životni vijek ljudi, očito još uvijek postoje rizici u prehrambenom lancu. Naravno, proizvođači tvrde da su nevini jer njihovi HACCP-sustavi rade i vjeruju da mogu dokazati njegovu funkcionalnost. Mogu li to doista?

HACCP je prisutan već dugo vremena i postoji mnogo priručnika, savjeta i prijedloga za sve vrste namirnica (Izvor: Internet 2; Anonimus, 2000; Bystrický et al., 2000; Popelka et al., 2004). Oni su obično popraćeni popisom uobičajenih pogrešaka i savjetima kako ih izbjeći. Usprkos tome, u stvarnom proizvodnom okruženju, još uvijek nailazimo na neke nedostatke koji mogu biti uzrokom prijenosa rizika iz proizvodnje u namirnice.


KADA HACCP SUSTAV MOŽE ZATAJITI

1) Slaba motiviranost uprave

- Sustav može zatajiti ako kompanija nije motivira-