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DEER FARMING IN EUROPEAN UNION AND SERBIA: VETERINARY LEGISLATION PERSPECTIVE

Urošević I.M.¹, Deutz A.², Petrović J.³, Ristić A.Z.⁴, Mirčeta J.⁵

“Deer farming” means husbanding of deer populations for the purpose of production of deer meat and its by-products - including hides, velvet, antlers and musk, - on a commercial basis. It is a new enterprise in Europe which during recent years has been increasingly accepted as an economically promising industry. Although, until now, we have had no registered deer farm in Serbia, we should prepare for it as part of the EU accession process. Thus, it is necessary to harmonize specific rules on breeding, health status, transport and animal health with those of the European Union.

This was a reason to conduct an analysis of the existing legislation in the European Union and compare it with Serbian laws in this field. Among others, there are following EU pieces of legislation: Notes about the movement of non domestic ungulates under the Balai Directive (Council Directive 92/65/EC) in EU countries; Regulation on the hygiene of foodstuffs (EC - No 852/2004), but also EFSA (European Food Safety Authority) scientific opinion on the public health hazards to be covered by inspection of meat from farmed game – Panel on Biological Hazards. It was also shown the importance of health control of deer animals, in order to determine the presence of health and economic significant diseases like: foot and mouth disease, tuberculosis, brucellosis, bluetongue and Chronic wasting disease (CWD).

Red deer production may be a good option for some small or part-time farming operations. But, potential producers should understand that they will need to be very active in animal health programs and be aware of the special handling requirements involved with deer (Anonymous, 2016).

Keywords: hunting, veterinary, education, European Union, health control, regulation, wild ungulates

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Introduction

The groups of animal species covered by “deer farming” are farmed deer and farmed reindeer (*Rangifer tarandus*). In the context of this opinion, farmed deer refers to all species of deer that are farmed. These are mainly red deer (*Cervus elaphus*) and fallow deer (*Dama dama*), but other species, such as roe deer (*Capreolus capreolus*), sika deer (*Cervus nippon*) and wapiti deer (*Cervus canadensis*) may also be included (EFSA, 2013).

Increased awareness by a more health-conscious public of “alternative” foods has led to significant markets for formed venison being developed. With its low fat and high iron content (compared with traditional meats), venison is now available everywhere from farm shops to major supermarket chains (BDFPA, 2016). Deer may be farmed following the conventional agricultural practices, including organic, grazing is rotated, some or all stock may be housed in the winter (not all year round) (Kotrba, 2010).

Production and consumption data for farmed game in the EU are scarce. An exception could be the report of EFSA (European Food Safety Authority), which provided useful data. According to information provided during the technical hearing on meat inspection of farmed game in the EFSA report from the year 2012., approximately 280,000 deer, predominantly red deer and fallow deer, are farmed in Europe, but less than half of these are slaughtered annually (EFSA, 2013).

Developing of deer farming globally

It was nearly 40 years ago that the first commercial farms were established in these two countries and more recently in other parts of the world. In the UK there are now approximately 35,000 farmed deer, while in New Zealand this figure is closer to 1,5 million (BDFPA, 2016).

The organization of deer farming is Austria is also interesting. About thirty years ago some farmers who were seeking a new way of utilizing grassland for meat production started farming Fallow deer. In order to support these pioneers, regional associations of deer farmers were founded. Ac. Mr Jurgen Laban, President of Austrian deer farmers association, there are 838 in the Association with 15,084 hinds (incl. fallow deer). Otherwise, there are estimated number of farms in Austria: 1623 with 28,800 hinds. But, it should be emphasis that the average farm size is relatively small: 6 Hectares’. In accordance with that the average number of animals per farm is 18 hinds (FEDFA, 2016).

Import of deer into the EU

When it comes to requirements for import of live deer in European Union countries (incl. EU movements), there are strict and detailed describe in “Balai Directive” (EU regulation, 1992). To be traded under this Directive the deer must meet the following conditions: they must be identified in accordance with the requirements of Council Directive 92/65/EEC (EU regulation, 1992) and be registered in such a way that the holding of origin can be traced; they must not be intended for slaughter due to a disease outbreak in the country of origin; they must not have been vaccinated against foot and mouth disease; they must not come into contact with ungulates other than those of a similar health status; they must come...
from a holding that is not subject to any restrictions for animal health reasons; they must have been kept on the holding of origin since birth, or for at least 30 days, before dispatch;

**Health certificate**

The consignment should be accompanied by the certificate signed by an official veterinary surgeon of the country of origin. For all ruminants, they must come from an officially tuberculosis-free/officially brucellosis-free herd/holding or from a holding where it/them was/were subjected with negative results to the tests laid down in Council Directive 92/65/EEC (EU regulation, 1992). For bluetongue susceptible ruminants which do not originate in a country/region officially free of bluetongue, they must meet another special requirement.

**Post import controls of deer animals**

Blood samples may be required to be taken within a few days of the animals being imported as part of post import checks. Animals which fail any post import checks and tests may be required to be slaughtered without compensation to the importer or re-exported at the owner’s expense. The animals should be isolated for 30 days (EU regulation, 1992).

**Inspection of meat from farmed game**

The slaughter process for deer and reindeer is similar to that for conventional livestock, such as cattle and sheep, but there can be significant differences. These arise principally when the animals are slaughtered, i.e. stunned, killed and bled, on-farm, and whether the slaughter procedure is dry or wet (EFSA, 2013).

On the EFSA Panel on Biological Hazards, there were made certain conclusions, which have practical importance. On the first place, it should be continue with inspection of meat from farmed game because of potential public health hazards. Based on EFSA Scientific Opinion, the highest priority for meat inspection in farmed deer has *Toxoplasma gondii*. It was found that *Yersinia enterocolitica* and *Yersinia pseudotuberculosis* has not big importance as infectious agents in farmed deer. It is well known, that at the present time tuberculosis belong to the list of reemerging infectious diseases. In this content, it exist the certain risk from the farmed deer, as tuberculosis reservoirs. For this reason it is not recommended to reduce the existing plan of carcass investigation regarding post-mortem inspection procedures on tuberculosis. Because, in that way it can be endanger human health in contact with infected meat. It was also concluded, that slaughterhouse surveillance for the detection of tuberculosis in farmed deer has much more importance than when we use only the clinical examination. On the other hand, the ante-mortem inspection of farmed game animals should not be left out, because it allows the traceability in animal identification, and helps in the detection of observable abnormalities. (EFSA, 2013).

**Current legislation in Austria**

For the keeping of farmed game are prescribed the minimum requirements (such as minimum size of the gate, stocking density, design of the fence, feed and water supply, documentation of input and outflow of animals, documentation of examination results and
drug use) and those who are subject to the regulations of animal welfare and under pharmaceutical law (Bogner, 1999; Deutz, 2005). Since 01.01.2005, the minimum requirements for the keeping of red deer, sika deer, fallow deer, Pere David's deer (*Elaphurus davidianus*) are established in “The first Animal keeping ordinance 2004” in Austria (Austrian regulation, 2004a; Austrian regulation, 2004b). It is shown in Table 1.

Table 1. Minimum requirement for the keeping of deer at the farms

<table>
<thead>
<tr>
<th>Species</th>
<th>Minimum pen size</th>
<th>Maximum stocking density</th>
<th>Minimum area of weather protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red deer</td>
<td>2.0 ha</td>
<td>10</td>
<td>4.0 m²/one adult animal¹</td>
</tr>
<tr>
<td>Pere David's deer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fallow deer, sika deer</td>
<td>1.0 ha</td>
<td>20</td>
<td>2.0 m²/one adult animal¹</td>
</tr>
<tr>
<td>Pere David's deer</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| ¹ Two animals up to 18 months old correspond to one adult animal
| ² Three animals up to 12 months old correspond to one adult animal
| ³ Newbies up to 6 months old are not to be considered in the stocking density; Animals from 6 to 12 months old are equivalent to one adult animal

Basic requirements of deer park

Keeping of deer must be in their paddocks. A breeding group must consist of at least the one male breeding animal (stag) and three breeding hinds. Deer pen arrangement: if the pen surface not covered at least 5% with shrubs or trees, or shielded, an additional weather protection must be available. This weather protection must be at least two side walls with a roof, and provide all animals simultaneously shelter. Facilities for stock feeding (i.e. hay racks) must be also roofed. About input and outflow of animals, treatments, findings, deaths and other incidents records shall be maintained in a pen book (Austrian regulation, 2004b).

Animal welfare requirements

Wild animals which – possibly with respect to climate, nourishment, need for free movement or social behavior – pose particular requirements for their keeping, may only be kept in compliance with the prerequisites imposed on the basis of a report on the keeping of a wild animal to be made to the authority within two weeks. Such report shall contain the name and address of the keeper, the number and maximum number of animals kept, the place where kept and further information enabling the authority to judge the matter. The fence of the pen must be such that the animals can not injure, also skipping or breaking through the fence could be not possible. The fence guide may not have corners with acute angles or form the funnel (Austrian regulation, 2004a). The fence and the gates must be checked daily (fallen on the fence trees, fence willful damage, etc.).

Alone keeping animals of one sex: under conditions of prolonged alone keeping of animals of one sex in the deer pen, it will be disturbed the function cycles of reproduction but also social and sexual behavior.

As notifiable animal diseases at Deer Farm in Austria could occur Foot-and-mouth disease, Tuberculosis and less likely Chronic Wasting Disease (CWD). On suspicion of a notifiable disease, animal holder must report the official veterinarian about this (Deutz, 2005).
Overview of legislation in Serbia relating to wildlife management

In the animal husbandry Law definition (Austrian regulation, 2016b) farm of wildlife is an enclosed or indoor facility in which there is bred by special technology one wildlife species in order to trade the products of animal origin and further reproduction. Breeder who deals with farm breeding game must meet the requirements in terms of facilities for breeding animals, the proper equipment for the breeding of certain types of wildlife and skilled staff. Breeder may enter the wild animals on the wildlife farm if he has a certificate about its state of health, in accordance with regulations governing veterinary Directorate. Breeder also must keep records on the production of individual production stages. The Minister of Agriculture shall prescribe the requirements in terms of facilities, appropriate equipment and skilled personnel to be met provided the farm or breeder.

The present program of measures for health protection for animals (Austrian regulation, 2016a) states the following: in order to monitor and control health status and determine the presence of infectious and parasitic diseases in wildlife in the intensive, or farm breeding system are carried out diagnostic tests, or immunoprophylactic measures depending on the species and the epidemiological situation, according to the program of the Ministry of agriculture, on a proposal the competent veterinary institute. It can be perform diagnostic tests of wild animals to bluetongue, foot-and-mouth disease, brucellosis, tuberculosis, Q-fever, tularemia, echinococcosis and fascioloidiasis according to the plan of the Ministry. The diagnostic test under the program of relevant scientific or specialist institute shall be make in intensive breeding of wild animals and wildlife breeding centers/farms. Funding for diagnostic tests referred in the aforementioned subsection are provided in the budget of the Republic of Serbia. Anyway it is noted, that for all infectious diseases which are not explicitly mentioned, it will apply a risk assessment on a case-by-case basis (Urosevic and Ristic, 2014).

As can be seen from the above legislation in European Union (in the case of Austria) that deer farming is regulated in detail. This refers to the aspect of health, ways of keeping (area, buildings, equipment) and the protection and welfare of animals. Until now, the precise regulations like this does not exist in our country. Because of that, we can only recommend that above mentioned list of requirements’ could be a good starting point for drawing up our own legislation. Naturally, we cannot just rewrite certain provisions, but we should adapt it to the conditions of the specific situation in Serbian agriculture. Bearing especially in mind that there are no deer farms currently in our country, as opposed to the situation in the EU.

It should be make also the expert analysis and different feasibility studies for the future deer farming in Serbia. After that it is necessary to make a specific strategy for developing of these types of agribusiness. An example of this can be a United kingdom. As markets have developed, so have the skills necessary to farm deer, assisted by the work on a number of government funded research farms in United Kingdom (BDFPA, 2016). Following the example from Austria, after the start of the first deer farm, it should be establish the regional associations of deer farmers. In relation the size of the farm (area in hectares) as well as a number of heads, most similar to us may be the experience from Austria.

On the other hand, it could be a good opportunity for applying of our state institutions (i.e. scientific), farmers, breeder associations and others for EU-IPARD funds, in order to adapt
our rules but also start-up of this business. Because, deer farming belongs to EU - accession negotiations for Serbia's membership in the EU, in the chapters of veterinary regulations as well as rural development.

Conclusion

Deer, which have grown up to expect winter housing, regular handling and rotational grazing, behave no differently than cattle and sheep, sometimes better, and as a result, with appropriate care and facilities, can be transported and even slaughtered with minimum stress. The low labor regime for deer farming means that it can easily compliment other livestock and arable enterprises (BDFPA, 2016). Dairy farms, with existing buildings, are ideally suited for conversion to deer, also in Serbia. When it comes to challenges in the future, it would be on the first place the building up specific marketing structures for bigger deer farms. It should also take into account, that nutritional and mineral supplements should be provide when necessary to maintain the deer’s health, but injuries and health problems must receive prompt veterinary attention.

According the experiences in European Union countries with developed deer farming (i.e. Austria, Germany, United Kingdom), we can make some presumptions in terms of market trends in the future. Because of bigger present demand of game meat on the markets in whole Europe, deer farming production will increase in this part of world. Not only according venison, red deer farming will be more interesting because of big requests for trophy, on the first place from Chinese companies (People Republic of China). Also, the private owners - farmers from Russia show interests for import of breeding hinds and stags from European Union, on the first place from Germany, Poland, Latvia, Hungary etc. It is question of time, when will be establish first deer farm in Serbia, although we haven’t all regulations about this, but this paper had the goal the help this process. Especially from the veterinary topic, but we need future publications about the other area of deer farming: breeding, housing, feeding, reproduction of animals and slaughter house incl. game meat inspection regulations.

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