Veterinary and Sanitary Assessment and Safety Indicators for Waterfowl Meat

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Abstract

Wild duck meat is a valuable food product and has a high taste. At the same time, the rules for veterinary and sanitary examination and the definition of product safety have their own characteristics. A study of wild ducks shot in hunting farms of the Samarkand region was carried out. It has been established that the meat of wild ducks can be recommended as a product with a high nutritional value and can be eaten without restrictions.

Keywords: Wild ducks; Mallard; Veterinary and sanitary examination; Product safety; Helminthological autopsy

Introduction

Proper and nutritious nutrition is one of the most important factors determining the health of the population. Among food products, poultry meat occupies a special place as a source of complete protein and good-quality fat. One of the promising poultry species, characterized by the most valuable qualities of meat, is waterfowl. The meat of wild ducks has a high nutritional value and provides the body’s need for proteins, lipids, minerals and vitamins [1]. The rules of veterinary and sanitary examination and determination of the safety of this type of product have their own characteristics. The type of game slaughter, the degree of exsanguination, possible zoonanthropic diseases [2].

Objective of the Study

To give a veterinary and sanitary assessment and determine the safety of wild duck meat for the consumer. The study involved 25 carcasses of wild ducks of 2 species: mallard (Anas platyrhinchos) 20 specimens and teal-whistle (Anas cressa)-5 specimens, shot in hunting farms of the Samarkand region. The shooting of ducks on the fly was carried out within the approved hunting periods. Checks for compliance with the requirements of the Law of the President of the Republic of Uzbekistan No. 483-1 of 30.08.1997 “On the quality and safety of food products” of Article 8. Supervision and control over the quality of food safety “and Post-mortem veterinary and sanitary examination were carried out in accordance with the requirements of OZ DSt 3308: 2018. Chicken meat (carcasses of chickens, chickens, broiler chickens and their parts) Organoleptic, physicochemical, microbiological studies, the chemical composition of meat were carried out in accordance with GOST [3-8].

The veterinary and sanitary examination of meat was carried out after complete removal of the feather cover and evisceration. The site of the lumbago was examined, the edges of the wound and the nature of bleeding were assessed. The presence of hemorrhages, tumors, pathological changes was established. [9].

Duck carcasses were subjected to complete helminthological dissection according to the method of K.I. Skryabin. The systematic affiliation of helminths was determined using reference literature. The study for sarcocystosis was carried out by compressor microscopy of muscles [10,11].

Sanitary Assessment

During the veterinary and sanitary examination of the carcasses, no visible pathological changes were found. The degree of exsanguination is good. The results of organoleptic studies are presented in (Table 1).

<table>
<thead>
<tr>
<th>Indicator name</th>
<th>Characteristic</th>
</tr>
</thead>
<tbody>
<tr>
<td>carcass color</td>
<td>dark yellow with a pink tinge</td>
</tr>
<tr>
<td>subcutaneous tissue</td>
<td>of Pale yellow or yellow</td>
</tr>
<tr>
<td>serous membrane</td>
<td>moist, shiny, free of dirt, slime and mold</td>
</tr>
<tr>
<td>muscles on the incision</td>
<td>slightly damp, do not leave a wet sticky spot on the filter paper; red color</td>
</tr>
<tr>
<td>Consistency</td>
<td>the muscles are dense, elastic, the pit formed when pressed with a spatula quickly leveled up</td>
</tr>
<tr>
<td>Smell</td>
<td>specific, specific to this poultry meat</td>
</tr>
<tr>
<td>transparency and aroma of broth</td>
<td>transparent, fragrant</td>
</tr>
</tbody>
</table>

Table 1: Organoleptic characteristics of wild duck carcasses

From the data given in the table, it follows that all the main organoleptic indicators of meat freshness correspond to the characteristics of good-quality fresh meat of waterfowl. The
During bacterioscopy of smears, the mass fraction of moisture decreases depending on age, except for waterfowl meat, which is superior to domestic duck in all respects. The fat content is inversely proportional to the age of the bird. As can be seen from the data in the table, the freshness and quality of the product are maintained within the physiological range established by GOST, and the chemical composition of waterfowl meat exceeds that of domestic duck, except for the percentage of moisture, which decreases as the age of the bird increases.

**Table 2: Physicochemical parameters of wild duck meat.**

As can be seen from the data in the table, the physicochemical indicators of waterfowl meat are within the normal range, which characterizes it as a fresh, good-quality product. The chemical composition of duck meat depends on the species, age, and body condition of the bird. The content of intramuscular fat is determined by the age of the bird, the older it is, the more fat, and the moisture content is inversely proportional (Table 3).

**Table 3: The chemical composition of wild duck meat (in comparison with homemade).**

As can be seen from the table, the chemical composition of waterfowl meat in all respects is superior to domestic duck, except for the percentage of moisture, since in waterfowl the mass fraction of moisture decreases depending on age, therefore, the studied wild bird was older than domestic duck. During bacterioscopy of smears-prints prepared from the deep layers of the femoral and pectoral muscles, in 1 p.zr. Were found single coccol and rod-shaped microorganisms, or their absence. There are no traces of muscle tissue decay.

**Discussion**

At helminthological autopsy, the infection of ducks with helminths was 40%. 5 types of helminths have been identified, of which: trematodes-2 species (Tracheophyllum sisovi, Hyptiasmus laevigatus); cestodes Hymenolepis setigera; nematodes-2 species (Syngamus trachea, Echinuria uncina). Mallard ducks have been observed.

Large, dense, tumor-like nodes at the site of the transition of the glandular stomach into the muscular characteristic of the parasitism of the nematodes Echinuria uncina. A study for sarcocystosis was negative.

The identified parasites do not affect the presentation and nutritional value, do not pose a threat to human infection and are widespread components of the parasite fauna of wild anseriformes, in particular, ducks.

**Conclusion**

As a result of the studies carried out, organoleptic, physicochemical and microbiological indicators are within the normal range established by GOST, and the chemical composition of waterfowl meat exceeded that of domestic duck, except for the percentage of moisture (which indicates an older age of the mallard).

The discovered 5 types of helminths do not pose a danger to humans, since completely removed when gutting a bird. Thus, the safety of these products is confirmed, and the meat can be sent for free sale.

**References**

8. Uzbekistan Government (2018) Post-mortem veterinary and sanitary examination were carried out in accordance with the requirements of O’Z DSt 3308

