

**FEATURES OF VETERINARY–SANITARY EXAMINATION AND
IDENTIFICATION PRODUCTS OF SLAUGHTER OF NUTRIAS**

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Annotation. The represents the results of the veterinary and sanitary assessment of nutrias` meat. Determining of the species belonging of meat is one of the most important tasks of veterinary and sanitary control, the purpose of which is to exclude the falsification of meat raw materials. It has been established that nutrias carcasses

are rounded, thick; muscles in the area of the shoulder and pelvic belt are well developed. Muscle tissue is pale pink colour. It is proved, the peculiarities of identification of slaughter products of nutria are established by the presence of fat deposits, rounded form lipoma and the structure of internal organs while post-slaughter veterinary and sanitary control of nutrias' carcasses.

Keywords: nutria meat, veterinary-sanitary control, features, structure

Introduction. One of the main field of the meat industry is to create meat products with high qualitative, functional and flavor characteristics, with a high level of protein in the product balanced by the amino acid composition, which will ensure competitiveness among the existing assortment. In this regard, the urgent task is to attract additional sources of meat raw materials, such as nutrias, which has high protein content and extraordinary flavor characteristics [1, p. 41].

Nutria refers to herbivorous animals, characterized by high rates of growth, which allow to receive not only valuable skins but also dietary meat in a short time. Despite the fact that only in Ukraine more than a hundred thousand head nutrias are slaughtered annually, the issues of veterinary and sanitary control of their meat and offal are not sufficiently sacrificed and require careful study.

Unlike other types of meat, nutria's meat in color are somewhat darker. This might be explained by the fact that it contains a significant amount of muscle hemoglobin (800-1000 mg%, and rabbits' meat – 150-200 mg %). According to organoleptic parameters it is highly competitive with rabbits' meat. It has a sweet taste, no specific flavors and odors [2, p. 1; 3, p. 137; 4, p. 195]. It is thin- filaments – the thickness of nutrias' meat filaments is 37-40 microns (for comparison, turkeys – 50-51 microns), delicate and characterized by good juiciness.

The ratio of muscle and connective tissue, fat, bone and cartilage tissues in the nutrias' carcasses is at the level of beef and composes, respectively,%: (69-72): (13-14): (15-17) [5, p. 362; 6, p. 3728].

The aim of research is to establish the features of identification of products of slaughter of nutria while post-slaughter veterinary–sanitary control.

Materials and methods of research

The experimental part of the work was carried out on the basis of the Department of Infectology, Quality and Safety of Agricultural Products of the Luhansk NAU and in the conditions of the meat processing enterprise in the Lugansk oblast (Ukraine) The objects of the study were Nutrias of black breed of private farming of business owner Kuznetsov V. I. (Kharkiv). Nutrias are contained in open-air cages with a covered walking area. The area of open-air cage makes 8 m², and area of with a covered walking area is 3 m². In every cage contained for 10 individuals (1 male and 9 females). Area for walking is equipped with a pool, the area of which is 0.8m. Replacement of water in the pool during the warm period of year (April-October) comes true every day. The walls of the enclosures were built of brick, and the walking areas were fenced with an iron fence. For the construction of floors, a metal mesh was laid on the ground, and crushed stone was poured on top. The farm uses a combined (concentrate-root-herbal) type of feeding. When compiling the diet, it is taken into account that each individual of young nutria must eat 20 g of roughage per day, and an adult beast – 40 g per day.

There were made slaughter of nutrias at the age 9 months to carry out research. The weight of females was $4,7 \pm 0,3$ kg, males $5,1 \pm 0,7$ kg, and the fatness index was 0,077 and 0,082, respectively.

The slaughter and the veterinary and sanitary control of carcasses nutrias were carried out in accordance with the “Rules of pre-slaughter veterinary inspection of animals and veterinary and sanitary examination of meat and meat products” (2002) [7]. Weighing of carcasses and internal organs was carried out on electronic platform scales of the brand CERTUS Balance CBA-600 and CERTUS Balance CBA-6000 (Japan).

A comparative characteristic of indices of nutrias` meat was carried out against to rabbits` meat [2, p. 1].

Results and their discussion. At the first stage of the researches, while the post-mortem veterinary-sanitary examination, we have studied the features of the structure of carcasses and internal organs of nutrias with the aim to establish the species

belonging. Determining of the species belonging of meat is one of the most important tasks of veterinary and sanitary control, the purpose of which is to exclude the falsification of meat raw materials.

It has been established that nutrias' carcasses are rounded, thick; muscles in the area of the shoulder and pelvic belt are well developed. Muscle tissue is pale pink colour. Subcutaneous fat is detected in the area of the collar, knee fold, elbow joint, shoulder blade, dewlap and tail base. Cover and internal fatty tissues are painted in yellowish-white tones. The anatomical feature of nutria has to be considered by the presence of lipoma, located between the shoulder blades above the spine processes of 5-8 thoracic vertebrates, which is rounded form and lobulation structure. Its average size is $(2,87 \pm 0,07) \times (4,12 \pm 0,14) \times (0,59 \pm 0,08)$ cm. It should be noted that there is no such fat cells (lipoma) in rabbits and cats.

The spleen is brownish-red, lanceolate, elongated, with rounded edges. The color of the spleen pulp in norm is red and cherry. Trabeculae points are clearly visible on the section cut, the whitish-greyish. Parenchyma does not go out the edge of the capsule. A small amount of pulp removes with the back side of the knife when scraping off the surface of the section cut.

Heart is dark – red colour, oval shaped with dull top. On the right and slightly ahead of the aorta is located the right heart appendage, and on the left there is the left heart appendage, which look as blindly ending edges of the atrial (right and left, respectively). The heart is enclosed in a pericardial bag. Outside is covered with an epicardium. The weight of the nutrias' heart in female species is in average $9,54 \pm 0,28$ grams, and in male $9,65 \pm 0,21$ grams respectively.

Nutrias' lungs consist of seven lobes: three lobes are well defined on the left lung - apical, cardiac and diaphragmatic, on the right four wells are expressed - vertebral, cardiac, diaphragmatic and supplementary. Six percent of lobes of the right and left nutria lungs (vertebral, cardiac, diaphragmatic) are approximately the same size. There are deep interlobar cuts that reach the bronchi. Right and left bronchi are free from pulmonary tissue at 1,0-1,5 cm from the bifurcation site. The weight of lungs of

female species is $20,85 \pm 1,19$ grams, and in male ones of the same age is $21,63 \pm 1,38$ grams. respectively.

Nutrias' liver is well developed, consists of five independent lobes and an additional one. The four parts – the right and left medial and lateral – are large, approximately equal in size, the fifth part is smaller in size, it has square shape resembling a plate, it is located between the right and left medial lobes, perpendicularly to their surface. The additional lobe of the liver resembles an outgrowth in diameter up to 1,5 cm. The color of the liver from dark brown to brownish-red. The weight of the liver in nutria females is $149,3 \pm 4,34$ grams, while in males in the age of 6 months is $140,3 \pm 0,63$, in the age of 12 months $153,71 \pm 2,88$ grams. The adrenals are round, $1,4 \pm 0,2$ cm in length, located in the lumbar area near the front of each kidney. It should be noted that in a rabbit's and a cat's liver, unlike nutria's liver, there is a mastoid process.

Specific is also the shape of the kidney: the right kidney is a bean-shaped form, and the left is triangular. A rabbit's and cat's kidneys are of the bean-shaped form.

The mammary glands in females are located not on the abdomen, as in other animal species, but high on the sides along the back. Teats 8 – 10, 4 – 5 on each side, and they are located apart at a distance of 6-7 cm.

The spinal column in nutria consists of 56-57 vertebrae, 7 of them are cervical, 13 are thoracic, 6 are lumbar, 4 are grown together sacral and 26-27 are tail. The spine ends at the 8th tail vertebra. Nutrias have 15 pairs of ribs, including 8 – real and 5 - false. The clavicle is connected with a shoulder blade and a first rib.

During the post-slaughter examination of nutrias' carcasses and internal organs, visible mortal anatomical changes were not detected, the degree of dehydration was good, and carcasses had a typical pinkish-red color.

Conclusions

During realization of specific authentication of carcasses of nutrias it is necessary to pay attention to next anatomic features: form and structure of buds, presence of lipoma of the rounded form, developed depot fats in area of withers.

Today in Ukraine and other countries of the world there is no standard DSTU (GOST) "Nutria meat. Technical conditions." This is a huge obstacle to the use of

nutria on an industrial scale. This standard will reveal for the meat processing industry the requirements for nutria meat, as a high-grade raw material for the manufacture of sausages.

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