

## STUDYING THE CHEMICAL COMPOSITION OF NUTRIA MEAT (*MYOCASTOR COYPUS M.*)

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### Abstract

*Breeding nutrias is becoming increasingly important as a branch of animal husbandry. Many countries around the world breed nutrias to satisfy their domestic demand for fur and meat. Nutria meat is food of high nutritional value. Nutria meat is used for food and health improvement; it is dietetic, easy to digest, it does not cause any allergies and is quite caloric. Physicochemical analyzes of nutria meat in the studied animals had an average moisture content of 73.96% of water/100 g of meat, dry basis - 26.03%/100 g of meat, fats - 5.77%/100 g of meat, proteins - 18.45%/100 g of meat, minerals - 1.80%/100 g of meat and collagen - 2.05%/100 g of meat. In nutria meat the ratio of water/dry basis is 2.84/1; water/proteins - 4.00/1; water/fats - 12.81/1; proteins/lipids - 3.19/1; dry basis/mineral substances - 14.46/1.*

**Key words:** chemical composition, dietetic, nutria, nutria meat

### INTRODUCTION

Meat (soft tissue) is composed of water and dry basis. The dry basis includes all the elements of nutritional value; thus, meat quality is, first of all, defined by the ratio of water and dry basis. This ratio should not be more than 3/1 in the meat of good quality. The main meat components of nutritional value are proteins, carbohydrates, lipids and minerals.

Meat also includes some proteins that are specific to the connective tissue; collagen is the only protein consumed by humans after prolonged boiling.

Nutria meat is food of high nutritional value. Nutria meat is used for food and health improvement; it is dietetic, easy to digest, it does not cause any allergies and is quite caloric [1].

According to [2], nutria meat has been known for its nutritional value for a long time. Wild nutrias had been hunted for their meat. Today, nutria meat is considered to be a delicacy in many countries of the world, being consumed as such or in recipes of different dishes.

Nutria meat has a special taste; according to [3], nutria fat resembles the taste of pork fat. All meat products are an important source of proteins with a high biological value and contain all essential amino acids in an optimum ratio.

### MATERIAL AND METHODS

The studied nutrias had the same breeding conditions in the same period of the year. Each meat sample (300 g), taken from 10 nutrias of various ages, was finely chopped and homogenized.

The chemical analysis of meat was performed by means of a German device, Near-Infrared-Analyser "scanlabNIT".

There has been identified the protein content, including collagen, lipids, ash (mineral salts), dry basis (DB) and water (moisture) in order to determine the chemical composition of nutria meat.

We have calculated water/protein, water/lipids, proteins/lipids ratios based on the received data.

There have been performed per 3 measurements with each sample. The data were processed using the method of statistical variations and Microsoft Excel computer programs.

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Fig. 1 A nutria carcass

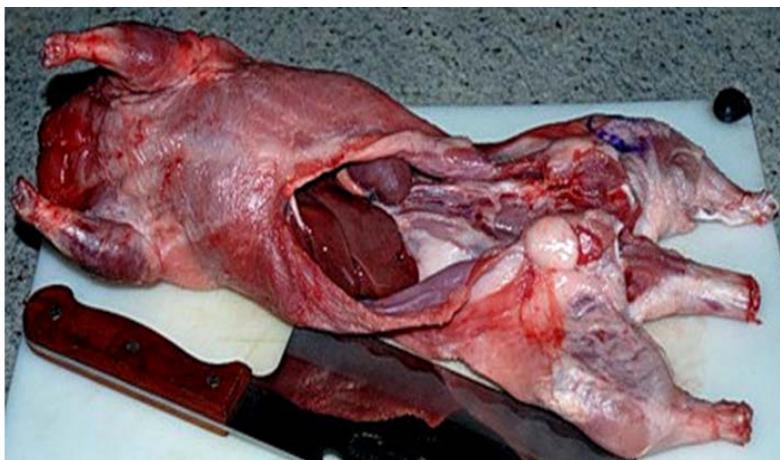


Fig. 2 Inside a nutria carcass

## RESULTS AND DISCUSSION

The chemical composition ranges nutria meat among the varieties recommended from the dietary point of view. Nutria meat is food of a high nutritional value.

Table 1 illustrates the data of the physicochemical analysis of the studied nutria meat.

Table 1 Chemical composition of nutria meat, %, n = 10

Studied indices	$\bar{X} \pm S_x$	V, %	$\delta$	min.-max.
Water	73.96±0.902	4.724	3.941	69.63-79.32
Dry basis	26.03±0.902	13.419	3.494	20.68-30.37
Fats	5.77±0.479	32.170	1.857	2.96-8.11
Proteins	18.45±0.302	6.343	1.171	16.46-20.07
Mineral basis	1.80±0.192	41.180	0.745	0.33-3.13
Collagen	2.05±0.113	21.205	0.437	1.48-2.62

The main meat component is water, nutria meat is rich in water and its average percentage equals 73.96%, varying from 69.63 to 79.32%; dry basis makes up 26.03%, ranging from 20.68 to 30.37%; fat content ranged from 2.96 to 8.11%, the average being of 5.77%. Nutria meat is rich enough in proteins and contains on average 18.45% of proteins, varying from 16.46 to 20.07%, ash ranges from 0.33 to 3.13%, the average value of the mineral basis is 1.80%.

Collagen is a protein found in abundance in meat and it is its major protein; collagen shrinks at 60°C and pushes outside meat juices, making it tough and, obviously, difficult to eat, especially in the case of beef, which is less fat than pork. At 80°C or more collagen begins to melt and meat becomes tender. The amount of collagen in nutria meat ranged from 1.48 to 2.62%.

Meat is composed of water and dry basis. The dry basis includes all the elements of nutritional value; thus, meat quality is, first of all, defined by the water/dry basis ratio. This ratio should not be more than 3/1 in the meat of good quality. The ratio of water and

dry basis in nutria meat is 2.84/1, variations are determined by age. The best quality of nutria meat is at the age of 4.5 months, when the ratio of water and dry basis is 3.1/1.

Variations in fat content do not influence the ratio of water and proteins, which is from 4.6/1 to 3.6/1 in nutria meat.

The ratio of protein and fat in nutria meat is 3.19/1, the ratio of water and fat is 12.81/1, and the ratio of dry and mineral basis is 14.46/1.

## CONCLUSIONS

We have studied and, therefore, present the chemical composition of nutria meat to increase its consumption and include it in the group of foods for human consumption.

## REFERENCES

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