



Chemical and Mineral Composition of Bone Flour

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Abstract *This article describes the chemical and mineral composition of bone flour, the importance of bone meal for livestock, the rules for adding it to the diet, the rules for adding it to minced meat as a mineral preparation on a scientific basis.*

.Keywords: *Bone meal, product, mineral substance, minced meat, beef, sheep, amino acid.*

Introduction:

Ensuring food safety is one of the most important and urgent problems in the world today. Therefore, in order to positively solve this problem, the development of animal husbandry and all its branches is an important issue on today's agenda.

Animal husbandry is the most necessary branch of agriculture, and this branch produces milk, meat, eggs, oil, honey and similar products for human consumption. For the industry, it supplies wool, leather, fur, feathers, cocoon, tweed and other raw materials. In addition, a number of farm animals (donkeys, bulls, horses, donkeys) are used for transport and agricultural work.

In recent years, a number of systematic measures have been implemented in order to further improve the sustainable supply of the population with cheap and high-quality livestock products.

Bone is extracted from the meat obtained from the slaughter of farm animals. The meat from livestock is separated from the bones depending on the purposes for which it is used. For example, to prepare mincemeat products. The extracted bone is used by humans for several purposes. The most important of these is the preparation of bone flour. Bone flour - after the animals are slaughtered, the bones are separated from the muscles, they are degreased, and they are prepared by steam deglutization. Bone flour is a mineral feed for farm animals, cattle, sheep, goats, pigs, fish and poultry. In addition, today, a number of scientific and research works are being carried out on adding mineral preparations made from bone flour to mincemeat products.

Bone flour is rich in natural mineral substances, especially calcium (245 g per 1 kg) and phosphorus (118 g). Bone is mainly added to animal fodder, silage, concentrate feed and mixed with crushed roots. Bone flour can be fed to fish as well as to fur animals. It is recommended to give 60-200 g to lactating cows, 15-40 g to young bulls, 35 g to sheep, 3-10 g to poultry (chickens, turkeys, ducks, geese) in one night. Bone flour is added to the mixed feed in the amount of 1 percent of the feed mass.

Information on the chemical and mineral composition of bone meal is presented in Table 1 below.

Table 1

Chemical and mineral composition of bone flour

| Indicators | Amount |
|--|------------|
| Water content, % | 3,14±0,37 |
| Protein | 16,09±0,51 |
| Fat | 6,32±0,21 |
| Mineral substances | 74,45±0,90 |
| In exchange, which cannot be amount of amino acids, 100 g in protein/g | |
| Isolation | 0,90±0,08 |
| Leucine | 2,80±0,14 |
| Phenylalanine+tyrosine | 5,90±0,36 |
| Lysine | 0,90±0,07 |
| Methionine+cystine | 4,80±0,31 |
| Tryptophan | - |
| Threonine | 2,60±0,14 |
| Valin | 3,70±0,21 |

As can be seen from the data of Table 1, the total amount of protein in the mineral preparation obtained from bone is 16.09%, water - 3.14%, fat - 6.32%, and the total part of minerals is up to 74.5%. came to mind.

The protein substance in the mineral preparation belongs to the group of simple proteins. Amino acids contained in this ossein protein are low compared to meat protein. Analyzing the amino acids of ossein protein, it can be seen from the table that the absence of tryptophan from the essential amino acids and the lack of methionine, cystine, isoleucine and high levels of oxproline indicate its low nutritional value.

The low content of water and fat in the mineral preparation increases the durability of the preparation. The high content of these substances in products is a very good environment for the development of microorganisms, as a result of which it quickly deteriorates.

The amount of mineral substances in the composition of the mineral preparation made from bone is high, it is about 75%. Its composition consists of complex macro and microelements, especially the content of calcium and phosphorus is very high. The high level of these elements makes it possible to add it to food.

When the macro and microelements of the mineral preparation are examined, they contain sodium, potassium, chlorine and sulfur, in addition to calcium and phosphorus from the macroelements. Zinc, iron, manganese, and copper are microelements.

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