COMPLEX STUDIES OF FISH MEAL ON THE SUBJECT OF ITS FALSIFYING

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The article presents the results of the research of fish meal by different test methods: organoleptic, microscopic identification of components of fish and animal origin (bones, scales, muscle fibers, vegetable, mineral components, etc.) with the corresponding photo and video software system, as well as the method capillary electrophoresis using the capillary electrophoresis "Capel-105M" system, which is equipped with special software. As a result of the performed work it was established that with the help of an integrated approach to the investigation of fish flour for the purpose of falsification with the use of different test methods, it is possible to effectively identify undeclared and undesirable components in the composition of fish meal.

During the organoleptic analysis, it was found that the specimens studied were brown to dark brown with a reddish tinge depending on the components made, leaky, the smell is fuzzy, the mixture of meat-bone and fish meal. Consequently, according to organoleptic indicators, it is possible to establish suspicion of falsification of fish meal by other components.

In the process of microscopic studies, the samples were treated with tetrachlorethylene, separated by sedimentation on a precipitate and a float, and volume reagents and coloring reagents were used: glycerol, cystine reagent, alizarin red and potassium iodide solution. Prepared micropreparations were considered in transmitted and polarized light for different ranges of biological microscope magnification with a photo-video image system.

Using the volumetric glycerin reagent in the siege of the investigated sample of fish meal, bird and fish bones were found. In the study of float using cystine reagent, the presence of fragments of the pen and blood was detected.

The highest content of amino acids, other than methionine, is in the mixture of fish, feathers and blood flour. However, as is known, the protein of feathers flour is poorly absorbed by the body, therefore, part of the amino acids from which this protein is formed, too, does not absorb. A mixture of fish and meat-and-bone meal

from poultry on the content of amino acids is also inferior to natural fish meal, a set of essential amino acids which is more complete, especially in the content of lysine, methionine and threonine.

After analyzing and comparing the obtained results it can be concluded that the method of capillary electrophoresis with the help of the device "Capel-105M" allows to identify and quantify the content of amino acids in samples of fish meal and can be used, both in complex studies, and separately for the determination of the amino acid composition of the samples under study. .

Complex studies of natural fish meal and prepared samples of mixtures have been found that, according to organoleptic parameters, they have the color and specific odor of a mixture of meat-bone and fish meal, of varying degrees of expression. In their composition, microscopic studies revealed bone fragments of poultry, feathers and blood, and according to their amino acid composition, these samples differed, especially on the content of essential amino acids.

Keywords: FISH MEAL, COMPONENTS OF ANIMAL ORIGIN, ANALYTICAL METHOD OF MICROSCOPIC IDENTIFICATION, CAPILLARY ELECTROPHORESIS METHOD, AMINO ACIDS.