

BIOLOGICAL ACTIVE ADDITIVE FOR MEAT PRODUCTS

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Abstract - The authors of the article developed the formulation of biological additives for sausages, based on the cake of wheat germ, pumpkin, linseed and sesame seeds. The production of biological additives from the cake of wheat germ, pumpkin, linseed and sesame seeds makes it possible to obtain products with increased biological value. Each oilcake type of wheat germ, pumpkin, linseed and sesame seeds has its own peculiarities of chemical composition.

Keywords - Fatty acid composition, biological active additive, cake of wheat germ, pumpkin, linseed and sesame seeds.

I. INTRODUCTION.

Nowadays, food products serve not only to meet human needs in proteins, fats, carbohydrates, micro and macro elements, but also to increase immunity, improve the functioning of the intestine, heart, reduce or increase body weight, regulate numerous functions and human responses. In general, it contributes to the preservation and strengthening of public health [1].

Potential raw materials for the production of products riched by nutritional and biological value may be oil cakes and meals that are formed during the processing of oil seeds [2].

The cake of wheat germ, pumpkin, linseed and sesame seeds, obtained after extraction by the cold pressing method of oil, completely preserves the biologically active substances of the initial products. The digestibility of these substances in the body is much higher than in the initial germ, because as a result of shear deformation at high pressures in grain, these active and biologically valuable products are in a more accessible form [3,4].

Thus oilcakes are characterized by a sufficiently high-grade product in terms of the quantity and quality of protein containing fats, minerals and dietary fiber, what makes using them to expand the raw material base of the food industry.

II. MATERIALS AND METHODS

The authors of the article developed a formula for the biological additive for sausages, based on the cake of wheat germs, pumpkin, linseed and sesame seeds [5]. The production of biological additives from the cake of wheat germ, pumpkin, linseed and sesame seeds makes it possible to obtain products increased by biological value. Each type of oilcake of wheat germ, pumpkin, linseed and sesame seeds has its own peculiarities in chemical composition.

Determination of the amino acid, fatty acid, vitamin and mineral composition of the meat mass spectrometer ion cyclotron resonance Fourier transform (Germany) and Gas Chromatograph Shimadzu GC-Series 2010 and Series liquid chromatograph Shimadzu LC-2010 (Japan).

III. RESULTS AND DISCUSSION

The formulation of the biological additive was prepared from wheat seed meal, linseed, sesame and pumpkin seeds (Table 1).

Table 1 Formulation of the biological additive from the wheat germ meal, linseed, sesame and pumpkin seeds

Product name	Formulation, g
Wheat germ cake	5
Linseed cake	5
Sesame cake	10
Pumpkin seeds cake	10
Water	70
Total	100

The qualitative indices (amino acid and vitamin composition) of the biological additive from the secondary plant material (wheat germ seed meal, linseed, sesame and pumpkin seeds) were studied.

Research was conducted in the "Expert-test" Ltd testing laboratory.

Analysis of the conducted studies of the amino acid composition showed that the content of the biological additive is greater than valine, isoleucine and leucine. The content of vitamins in the dietary additive is more than vitamin E - 260.16, vitamin B1 - 0.673, B6 - 0.393, PP - 2.743 mg / 100 g.

The qualitative indices (fatty acid and mineral) of the biological additive from secondary plant raw materials (cake of sesame seeds, pumpkin seeds, flaxseeds) have been studied (figure 3,4,5,6).

An analysis of the studies of fatty acid composition showed that the content of the biological additive have more than polyunsaturated fatty acids - 49,187 and monounsaturated fatty acids - 33,0,34 and there are also necessary micro and macro elements - zinc - 0,961, iron - 2,09 and copper 0,113.

IV. CONCLUSION

Thus, the production of the biological additive from the cake of linen, pumpkin, wheat germ and sesame with a residual content of 4.5% obtained by cold pressing does not contain impurities, is a natural product, has a unique chemical composition and high value for the organism. That allows developing the assortment of products with wide therapeutic properties, to create diets containing ω -6 and ω -3 acids, essential components - vitamins of group B, iron, zinc, copper.

Analysis of the experimental data showed that the use of oilcake sesame seeds, pumpkin seeds and linen seeds in the production of functional food products is promising and allows to adjust the technological and nutritional properties of the final products.

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