

## STUDYING BIOAVAILABILITY OF PROTEIN FILLING FOR EXTRUDED CEREAL CROPS

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### Abstract

Currently, the main category of people who use extruded products in their diets are active people with a lack of free time to prepare traditional dishes. It also highlights the category of population groups leading a healthy way of nutrition, strictly following components nutritional value of their daily diet, as extruded products have a low calorie content. At the same time, the improvement of extrusion technologies allowed producing combined products, i.e. products consisting of a base - grain shell, inside which there are various combinations of fillings. In this regard, in our work a protein filling was developed for starting extruded cereal products. The aim of this research was to study the amino acid composition of protein filling for production of extruded cereal products.

The sample preparation method used in this study was based on the AOAC official method 994.12.(25). Studied the amino acid composition of protein filling.

According to the research results, a high content of essential amino acids in protein filling was observed. In proteins of protein filling, the content of such essential amino acids as: valine, isoleucine, leucine, threonine, and phenylalanine + tyrosine exceeded that recommended by FAO/WHO for humans respectively by: 1.078; 1.0; 3.66 and 4.38. The total content of non-essential amino acids was -60.267 mg/g, and essential - 38.749 mg/g. The total amino acid content is 99.016 mg/g. According to research data, essential amino acids make up more than 1/3 of all amino acids, and this means high quality protein of protein filling.

Based on laboratory studies, the protein filling contains a rich amino acid composition, and allows to get extruded cereal products with a long shelf life.

**Key words:** *Amino acids, Protein filling, Daily need, Bioavailability, Extruded cereal products, Extruded products.*