

MEAT SEMI-FINISHED PRODUCTS FOR A HEALTHY LIFESTYLE

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Nutrition is the most important physiological need of the human body, the satisfaction of which largely determines the state of health and quality of life. Today, there is a clear worldwide trend of increasing demand for quick-frozen meat products, including dumplings.

The nutritional value of meat of semi-finished products is due to the content of complete proteins, a wide range of minerals, saturated and polyunsaturated fatty acids, vitamins and other nutrients. In addition, the advantage of quick-frozen meat products is high preservation of organoleptic characteristics after freezing and the speed of cooking.

Freezing as a method of canning provides significant benefits in the sale and distribution of food, without which the problems of food security related to seasonal and geographical features, as well as food safety during long-term storage and transportation, would never be solved.

Modern technologies of freezing and refrigerated storage of frozen meat products have a wide arsenal of technical means and great opportunities for the implementation of various technological modes [1]. Scientists determine that the advantage of freezing in terms of energy consumption and economic efficiency compared to other methods of canning has led to intensive development of production of frozen semi-finished and ready meals in many countries.

When freezing the product, it is necessary to try to preserve its nutritional and taste properties. To do this, it is necessary to achieve maximum reversibility of the phenomena that occur during freezing.

At the current rapid stage of development of the market of quick-frozen semi-finished products, an important condition is the production of quality and competitive products.

One of the most effective ways to improve the health of consumers is to expand the range of products for healthy eating. The range of such products is constantly

expanding. An interesting thing is the use of non-traditional raw materials in recipes, so the introduction of such an ingredient, namely whey powder enriched with Mg and Mn, in the composition of meat semi-finished products, ie, dumplings is relevant. Therapeutic and prophylactic effect of whey powder enriched with Mg and Mn, due to its unique chemical composition. Whey powder enriched with Mg and Mn, which contains all essential amino acids: valine, isoleucine, leucine, lysine, threonine, phenylalanine, methionine, tryptophan, carbohydrates, lipids, organic acids, almost all minerals: calcium, phosphorus and potassium, as well as magnesium and manganese, due to additional enrichment. Vitamins A, B₁, B₂, B₆, PP, C, choline and β -carotene, enzymes increase the biological value and digestibility of the product, improve digestion. Taken into consideration the usefulness of whey powder enriched with Mg and Mn, it was chosen for use as a source of additional protein in the production of meat semi-finished products [2-3].

Therefore, the aim of the work was to develop a formulation of semi-finished products with the addition of whey powder enriched with Mg and Mn.

Hence, studies have been conducted to establish the effect of whey powder on the functional and technological properties of minced meat systems.

Studies have shown that adding whey powder to minced meat reduces the mass fraction of moisture. This is due to the fact that whey powder was added in dry form, and therefore, will lead to a slight decrease in moisture in this stuffing. The moisture-binding capacity (MBC) of the experimental samples increases, which is due to the decrease in their moisture content when serum is added. And accordingly, the increase in MBC helps to reduce the weight loss of the control samples during heat treatment. It was noticed that when dry whey is added to the model minced meat systems, the consistency of the minced meat is compacted and becomes homogeneous.

The maximum allowable amount of whey powder that can be added to the minced meat of semi-finished products was determined by the organoleptic characteristics of the finished products. For this purpose, the quality of control and experimental samples was prepared and determined, and from 0.3 to 1.5% of whey powder was added to the experimental samples.

Minced meat for samples was prepared by mixing the components of the minced meat according to the recipe. These samples are prepared by passing the meat twice through a meat grinder, adding prepared freshly chopped fresh onions, salt, melange, pepper, whey powder enriched with Mg and Mn. Semi-finished products, namely dumplings, are formed from the prepared minced meat. The dough covering is prepared as follows: pre-thawed melange, salt, water and granulated sugar are added to the sifted flour. These components are thoroughly mixed to obtain an elastic and resilient mass. Heat treatment of control and experimental samples was performed at the same temperature [4].

Based on the obtained results, it was found that it is the most rational, without practical reduction of organoleptic parameters, to add to the recipe of semi-finished products up to 0.62% (by weight of minced meat) of whey enriched with Mg and Mn. The overall score of the samples of semi-finished products - was (8.96 ± 0.3) points which corresponds to the degree of quality from "very good" to "excellent" [5].

References

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