Expanding the range of flour confectionery

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Flour confectionery products in the degree of production are second in the confectionery industry. Especially cupcakes occupy a majority in the production of flour confectionery products. Despite the high nutritional value of these products made in accordance with traditional technologies, confectionery consumption cannot be considered a balanced food for a certain category of people.

When entering the diet of flour confectionery products, it should be borne in mind that children need high-calorie products rich in vitamins, since they need energy for growth. In the diet of the elderly - flour products with bran and ballast substances. Other consumers living in complex environmental conditions require a product with therapeutic, in particular diabetic properties. Therefore, it is necessary to regulate the chemical composition of products as a result of the use of traditional raw materials for baking and implement biologically active additives that allow you to obtain ready-made products with functional properties and are intended for therapeutic and prophylactic nutrition. Adjusting the chemical composition of flour products is carried out to create products with high nutritional value.

In recent years, scientists and specialists of many countries have a lot of attention to the rational use of vegetable raw materials - the source of plant proteins, food fibers and other biologically active substances.

There is a problem of limiting sugar and fat consumption not only in its pure form, but also in bakery and confectionery products.

Thus, the use of non-traditional raw materials in the production of flour confectionery products and various additives is relevant both from the point of view of reducing calorie content and increase biological value.

The object of the study is the technology of flour confectionery using vegetable biologically active additives.

The subject of the study is the «Metropolitan» cupcake, made in accordance with the collection of recipes in the BKV; Cupcake «Metropolitan» with vegetable raw materials based on puree (with a replacement of 5, 10, 15, 20% of additives (puree) to the mass of flour); Ready cupcakes baked for traditional and improved recipe.

An important vegetable food for everyday food consumption is a pumpkin. It should be noted that the particular importance of this vegetable is largely the content of vitamins, minerals, microelements, dietary fibers, free organic acids. Food fibers (cellulose, hemicellulose, lignin and pectin substances) are involved in the construction of plant cells, have a positive effect on the exchange of water. At the same time, they interfere with the absorption of the toxic substances of the intestine. Pectin substances contribute to a defect in the intestinal mucosa associated with the excess of cholesterol and thereby contribute to its active removal. As for organic acids, they also take an active part in the process, which is called the wellness or

intestinal retention, which is directly related to the active prevention of premature aging. Also, pumpkin contains a significant number of carotene, B1, B2, PP, C, mineral salts (potassium, calcium, magnesium, phosphorus, iron), which are very important, especially for the children's body.

At the first stage of the study, the optimal ratio of plant additive in the formulation of Cupcake «Metropolitan» was determined. 5, 10, 15, 20% of the additions in the form of a vegetable puree pumpkin for the mass of flour at the stage of kneading the test. As a control, a sample was used, made in accordance with the traditional recipe and technology.

With the introduction of a 20% pumpkin puree, the organoleptic parameters of the finished product are improved, the finished cupcake has a gold or yellowish-brown color, a pleasant taste and aroma, and the pronounced vegetable taste in the finished cooled products is not felt. According to physicochemical indicators, cupcakes comply with standards, baking cracks were not observed.

The study found that with an increase in the amount of plant additive, the sugar content and acidity in the Cupcake made in accordance with the latest technologies decreases. This primarily depends on the chemical composition of the pumpkin. As for humidity, it is certainly increasing due to the introduction of vegetable puree from pumpkin in the cupcake product. To achieve the desired result, pumpkin baking helped. When baking, there is an intensive evaporation of moisture in a pumpkin with minor losses of soluble substances and preserving dry substances. Therefore, the value of the vegetable puree was not decreased, and in the recipe of cupcakes, it allows you to introduce up to 20% of the phyto of raw materials.

With the introduction of a 25% puree from the pumpkin, the moisture content in the finished product increases significantly, cracks appear in products that do not meet the requirements for cupcakes.

The optimal amount of vegetable additive in the dough recipe for cupcakes is determined by the introduction of a composition of a 20% puree of baked pumpkin. In this case, the highest general quality indicator is achieved, improved organoleptic properties, an attractive appearance and an increased biological value.

In the second stage, research was made by the possibility of replacing the part of sugar and fat in the recipe of Cupcake «Metropolitan» with vegetable enrichment.

Samples with a replacement of sugar and fat were determined by the best for organoleptic indicators. Further decrease in the amount of sugar and fat in the cake formulation leads to a violation of the structure of the product, worsens its taste and appearance.

Consequently, new products have a rather low energy-energy value and can increase the value of nutrition due to vitamins, mineral and nitrogen substances. Also, a new designed formulation can be used in children's and medical and preventive nutrition.

References:

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