

Characterization of Recipe Composition of Fondants

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Introduction. Sweet dishes are one of the big groups of high-calorie foodstuffs that have a high demand among the adults and children. All receptions of food end by taking sweet dishes. Together with them, people can fill up your daily diet in proteins, fats, carbohydrates, vitamins and minerals that are not received together with the first and second courses.

Among the assortment of desserts, a special place can be attributed to chocolate desserts.

Materials and methods. Research of literary sources has shown that making of fondants (Chocolate fondant - sweet, chocolate dessert), located at its initial level, is more popular dessert abroad, but every year it becomes more popular in restaurant establishments of Ukraine.

A significant segment of products presented as hot desserts, are in high demand and popularity among different age groups. This leads to the further development of improvement the technological process production of recipe compositions using mathematical modeling.

According to classic technology cooking chocolate fondant combines the stuffing - chocolate cream ganache, which is freezing, then it is added to form inside the biscuit dough and baked for five minutes. For the preparation of product one uses the following ingredients: dark chocolate (28-30%), cream butter (13-14%), wheat flour (20%), eggs (22-25%), white sugar (13-14%).

Results. During the research it was decided to develop a recipe of white fondant consisting of rice flour, cocoa butter and condensed milk. The implementation to replace wheat flour with rice flour allows to use this type of confectionery products for patients with celiac disease, due to the fact that protein of rice flour does not contain gluten - protein that causes a toxic reaction in patients with celiac enteropathy. As for the place of biological value protein (7-10%) and high starch content (66-70%), rice flour ranks the first among other cereal flours. Rice flour is a good thickener, has a high ability of swelling, is the source of a wide range of natural trace elements, vitamins and minerals such as sodium, potassium, zinc, magnesium, phosphorus; vitamins B₁, B₂, PP; amylopectin, a significant amount of starch, easily digestible by a human body; a small amount of fiber (1%); mono- and disaccharides (0.4%). In rice flour there is silicon, which promotes metabolic processes in the human body. In addition, it contains a large number of biotin, which has important medical and biological significance. Rice flour is used in the treatment of chronic enterocolitis and cardiovascular diseases.

Despite the granular structure, breads, cookies and muffins are certain to be cooked tasty and crispy. Cocoa butter in composition is rich in minerals, vegetable protein, carbohydrates, fats, fiber, starch, sugars, amino acids (oleic, stearic and linoleic acid), vitamins (β-carotene, B, A, PP, E), folic acid, minerals (fluorine, manganese, molybdenum, copper, zinc, iron, sulfur, chlorine, phosphorus, potassium, sodium, magnesium, calcium) as well as antioxidants and organic active compounds of natural origin, and has a positive effect on the human body. Condensed milk in composition is rich in minerals (sodium, potassium, calcium, phosphorus), proteins, fats and carbohydrates.

Conclusions. Thus, diversification of raw materials for fondant will improve or modify the organoleptic quality indicators of the dessert, such as taste, flavour, color, appearance and perfect the nutritional and biological value of dessert. Therefore, it is reasonable to the conducting the experimental research and development of the technical documentation for new types of fondant desserts with alternative raw materials.

References:

1. Patent № 105109. Chocolate fondan / V. Dotsenko, A. Gavrysh, H. Kulikova; applicant - National University of Food Technologies. - № a201301767; applications. 02/03/2013; publ. 10/04/2014; Bull. Number 7.
2. Dorohovych, V. Gluten-free flour confectionery / Dorohovych V., N. Lazorenko // Equipment and technology of food production. - 2013. - Vol. 30. - P. 341-347.