MODERN ASPECTS OF BAKERY PRODUCTS TECHNOLOGY IMPROVING VIA ADDITION OF SPIRULINA

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Biotechnology of bakery production is based on metabolic reactions that occur during the vital activity of yeast cells, lactobacillus and other microorganisms under anaerobic conditions.

Improving structure of the range of products for a healthy diet is possible through usage of additional prescription components -- alternative sources of biologically active substances, sources of vitamins, macro- and microelements. Significant prospects in this direction are associated with the use of seaweed (in particular, spirulina). Their usage would not only increase the nutritional value of products, would intensify technological production processes, but also significantly expand the raw material base for baking industry [1].

Spirulina is a multicellular, spiral, filamentous microalgae that appears under a microscope as blue-green filaments consisting of cylindrical cells arranged in unbranched filaments.

Based on results of the study, a high efficiency of spirulina usage was established, which can be prepared in various ways: in suspension form and by adding to the dough during kneading in the form of a powder with prescription components, powdered milk and dry wheat gluten. Rational is the dosage of spirulina 0.5-1% by weight of flour in the preparation of bakery products [2].

Chemical composition of spirulina microalgae, characterized by a high amount of protein (up to 65%), balanced in amino acid composition; characterized by the presence of phycocyanin, carotenoids, vitamins of B group, vitamin E, micro- and macroelements, essential γ-linolenic acid and other substances; proven pharmacological properties, data on the safety and efficacy of spirulina components that exhibit an adaptogenic effect on human body, are the rationale for enriching bakery products for prevention of cardiovascular system diseases, oncological diseases, as well as for people leading an active lifestyle. Thus, spirulina usage in preparation of bakery products is effective, economically justified and has social significance.

References:

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