

IMPROVEMENT OF BIOTECHNOLOGY OF FERMENTED DAIRY PRODUCTS USING NON-TRADITIONAL RAW MATERIALS

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The production of fermented milk products remains relevant due to the growing awareness of consumers about the importance of healthy eating and maintaining a balanced diet. Technological progress allows manufacturers of fermented milk products to develop new and improved formulas that meet modern consumer needs. New opportunities are emerging in the markets for plant-based alternatives, such as fermented milk products based on soy, nuts, coconut and other plant sources. This opens up new consumer segments and expands the market potential [1].

The main component of fermented milk products is milk, and in particular its complex fractions, such as proteins, fats and lactose. The content of the fat component is important, as it can affect the taste, consistency and nutritional value of the product. Replacing milk fat with vegetable fats or combining them in fermented milk products can have several possibilities and advantages. At the same time, replacing milk fat with vegetable fats can affect the texture, taste and nutritional value of the product. In addition, not all vegetable fats are suitable for all types of fermented milk products, and their selection may require research and control to ensure the quality and taste of the product.

An important aspect of fermented milk products technology improvement is the possibility to use in biotechnologically transesterified fats that correspond to the optimal ratio of fatty acids in natural fat, have a low content of trans fats and the presence of the necessary solid triglycerides. This determines the possibility of choosing biotechnologically transesterified fat [2] as an alternative to milk fat in yogurt, kefir, cottage cheese, sour cream and other dairy products.

Thus, it will be relevant to improve and research biotechnologies of fermented milk products with the content of non-traditional raw materials, namely vegetable fatty raw materials (palm stearin, coconut and sunflower, or soybean, or corn, or sesame oil) with various low-melting components in mixtures after biotechnological transesterification.

References:

1. Industrial biotechnology: Products and processes / Ed. by C. Wittmann, J.C. Liao. Wiley. Weinheim: VCH Verlag GmbH & Co. KGaA, 2017. 624 p.
2. Development of biotechnologically transesterified three-component fat systems stable to oxidation / Belinska, A., Bliznjuk, O., Masalitina and other. Eastern-European Jour. of Enterp. Technologies. 2023. 5(6 (125)). P. 21–28.