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Development of the Recipe of Bread Fortified with Protein Products

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The effect of animal protein on rheological and organoleptic characteristics of semi-finished dough and finished bakery products was studied. Whey protein concentrates and isolates were used as fortifiers.

Abstract. The enrichment of food with protein components is one of the current trends in the development of functional food products. Fortified products may be effective at preventing protein deficiency in the human diet. The most effective way is the enrichment of such mass-consumption product as bread. Bakery products made from wheat flour belong to the category of food products with a high glycemic load. The intake of such products leads to a fast increase in the level of glucose in the human blood, which is a risk factor for people with type II diabetes and cardiovascular diseases. In this regard, protein enrichment of bread is one of the ways to optimize the biological and nutritional values of the product. It is possible to provide a full amino acid composition of products by high-protein components addition into the bread recipe. In this research the influence of whey protein concentrates and isolates on the quality indicators of semi-finished dough and finished bakery products was studied. Protein products were added to bakery products in various concentrations – 6%, 9%, 12%. The type of protein and the optimal concentration has been selected. In the future, it is planned to develop the bread improver based on the chosen protein fortifier of animal origin.

Results. Whey protein concentrates and isolates improve organoleptic and rheological indicators of the finished brad. They also intensify fermentation. The enriched product may solve the protein deficiency in the human nutrition problem, as well as reduce the total amount of consumed carbohydrates and, as a result, the glycemic load they exert.