عنوان مقاله:

Justification of the mathematical model for describing the cross-cutting processes of functional food production with their enrichment

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خلاصه مقاله:

Cross-cutting technological processes that reflect the relationship between the technological operations of raw materials production, stock formation, their transportation, processing of raw materials and the production of final products are typical for several industries. Of particular importance is the optimization of cross-cutting technological processes in agriculture and food industry to improve food security in the Northern territories of Russia. In this regard, this paper forms a model and structure of initial data for obtaining a tool for justifying the optimal location of enterprises for the production of functional food products and their optimal number for Russia's conditions. The authors in this study developed an original approach to the formation of a mathematical model to description of the production logistics of cross-cutting technology, which includes optimization of the transportation costs of functional food products with regard to their enrichment, which is a justification of economic efficiency of cross-cutting technology of procurement, transportation and production of functional foods. The authors of this study also defined the change in the cost of final products with an increase in the number of processing enterprises. It was found that the rational number of processing points - enterprises producing functional food products - is in the range of ۷-۱۲, while the optimal number is ۷-۹.

کلمات کلیدی:

Logistics, Agricultural food, Raw materials, Cross-cutting technological process, Transportation, Functional food products