عنوان مقاله:

Mathematical methods of data processing in the formation and evaluation of sectoral structure in agricultural enterprises

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خلاصه مقاله:

The sectoral structure of most agricultural enterprises is unbalanced and uncoordinated, which underlies the need in deepened research of its improvement. This paper is dedicated to the formation and evaluation of the sectoral structure with the use of mathematical methods of data processing. Mathematical economic modeling based on optimization and simulation models has been applied for the formation and evaluation of sectoral structure in agricultural enterprises. The approbation of the aforementioned models has been carried out in a certain agricultural enterprise. The simulation modeling has been used to develop a production model by the types of products that enterprise does not produce (milk, fish products and honey). The optimization model has been developed taking into account the rational use of the enterprise's land with the prospect of livestock sector development. Obtaining the maximum net income (proceeds) from products sales has been chosen as the optimality criterion. According to calculations, the maintenance of cows is unprofitable; the production of fish and honey is profitable. Due to the diversification of the sectoral structure, the enterprise's profitability level will increase from 16.6 to 45.8 percent. The implementation of optimization and simulation models allows to assess the existing level of sectoral structure in agricultural enterprise and to form its optimal sectoral structure with ensuring the rational use of resources and obtaining profit.

کلمات کلیدی:

Agriculture, enterprise, model, Profitability, structure

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