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SIMULATION MODEL OF INVENTORY MANAGEMENT CEREALS

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Abstract. The grain market represents the difficult economic system consisting of organised set of managing subjects, being in certain interrelation. At system designing there are the numerous problems demanding an estimation of quantitative and qualitative laws of processes of functioning. The given problem can be solved by means of methods of imitating modelling. In given article the imitating model of storekeeping of the grain is presented, allowing to simulate full-function work of a granary.

Grain market is a complex economic system, consisting of an organized set of economic agents in a specific relationship. When designing the system, there are numerous tasks that require evaluation of quantitative and qualitative patterns of functioning processes. This problem can be solved using simulation techniques. This paper presents a simulation model of inventory control of the grain market, allowing simulating a fully functional operation of the elevator.

Topicality

Grain production is a major industry in agriculture and it plays an important role in the economy of the Republic of Kazakhstan, so the study of the functioning and development trends of grain are current issues of economic importance. To improve the efficiency of grain production, the stability of its market strategy is necessary to improve the grain market, the mechanisms of its regulation.

Lack of effective mechanisms for self-regulation in relation to grain market due to its characteristics and, above all, its dependence on soil and climatic conditions, fluctuations in grain yields in production of marketable products. In addition, the transition state of the economy the relationship between supply and demand is very unbalanced, and the deviation reaches a considerable value. Eliminate them at the expense of market mechanisms in the short term, so even without the negative social and economic consequences, it is not possible, so there is increased regulatory role of the state. The difference between supply and demand leads to a mismatch and onset of action of regulatory mechanisms, as well as the mechanisms of market self-regulation, which together eliminate this mismatch. Supply and demand are characterized by constant fluctuations in volume, sales prices, depending on the yield of grain crops, weather conditions and a number of other external factors. By virtue of this regulatory mechanism and self-regulatory mechanisms must be continuous.

1. The model of inventory management in the elevator

Inventory model - view of the model, which is used to determine the time of placing orders for resources and their number and weight of finished products in warehouses [1].

The purpose of the model of inventory management - to minimize the adverse effects of the accumulation of reserves, resulting in certain costs.

In the development of a simulation model of inventory control grain used classical inventory model [2], which is one of the simplest and most obvious examples of application of the mathematical apparatus for decision-making in the economic field. This model is practically useful for decision-making in the management of inventory and brings significant economic effect. Also, the optimum size of the order, considered in this model is widely used in various stages of production and distribution.