

PECULIARITIES AND OPTIMIZATION OF LOGISTICS ENTERPRISES IN AGRICULTURAL INDUSTRY

Statement of the problem. Overcoming the crisis and long-term output of agriculture of Ukraine (APC) on the rails of sustainable development - one of the priorities of economic development. At that accumulated over the last decade problems in agriculture requires a systematic and comprehensive approach to their solution, which involves the development of new tools for managing the national economy. More and more questions in agriculture becomes logistics - a powerful tool for improving the efficiency of the agricultural sector of Ukraine in the capable hands as to optimize the chain movement of agricultural produce from the field to the consumer. The main objective of agricultural logistics - to provide shipping and storage right product in the right quantity and appropriate quality in a particular place and at the right time with optimum cost. Thus, the development of logistics in agriculture becomes essential factor for the realization of agricultural production, increase farmers' incomes, reducing the cost of the commodity, in general, sustainable development of agriculture. In this way the urgency is the research methodology Logistics farms, identification of system characteristics, performance criteria construction logistics systems agrarian sector.

Analysis of recent research and publications. Theory, the current state and trends of logistics, including economic content of logistics, paid great attention of many researchers, among which include: Varchenko, A.C. Danilenko [1] E.V. Krykavskoho [2], M.A. Oklander [3] V.V. Pisarenko [4], S.A. Paley [5] T. Tereshkinu [7] L.V. Frolov [6] N. Chukhray [7], D.D. Koila, R.K. Naydzhemana, D. Boversoksa, T. Levitt, Sadler et al. Formulated in their writings of scientific approaches to the formation of the concept of logistics regulations conclusions and recommendations has an important place in the modern theory of logistics and allow you to understand the complexity of solving logistical problems in the enterprise. At the same time the process of formation mechanism of economic operation of logistics systems, its effect on the business enterprises require further thorough investigation.

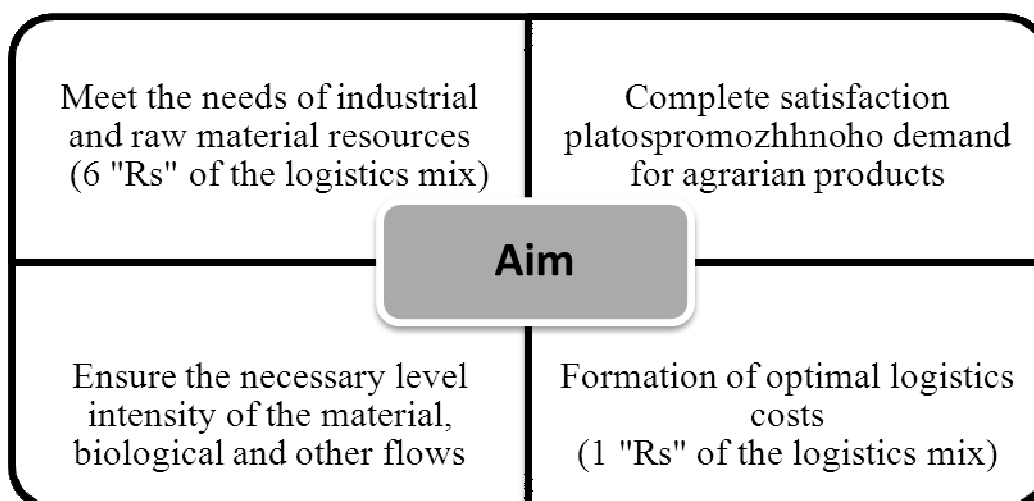
Problem. Provide a definition of the "agrologistic systems" formulate the problem agrologistic systems. Explore theoretical - methodological and substantiate scientific - practical bases functioning of the economic mechanism of logistics systems of agricultural enterprises.

The main material of research. One of the main challenges of agricultural logistics is the formation of an integrated system of effective regulation and control of the material and information flows farms that will provide high quality supply of products.

Given the specificity of agricultural production agrologistic - a source of additional revenue by cutting costs on a complex of logistic activities.

Agrologistic systems - a special kind of logistics systems, the functioning of which is associated with production of products from of agricultural raw materials, storage, processing and making available to the consumer. The aim of the functioning is agrologistic systems to meet the needs of consumers and lower costs on production and processing of agricultural products. Effectiveness functioning logistics system depends on the of perfection of the economic mechanism functioning of the latter. Under the economic mechanism of logistics systems of agricultural enterprises understand the complex and specific forms of leverage interaction ensures the operation of logistics systems and performance management that subsequently will lead enterprise to a higher level of development and consolidate its position in the market. The need for the formation mechanism of logistics enterprise system stems from the fact that it allows you to respond quickly to the changes internal and external environment by taking into account large number of factors and the availability of the required number of necessary information.

Logistic management of agricultural enterprises is at an early stage of development. Therefore, the task of improving the formation control system based on logistics becomes important and needs further research and practical aspects of agriculture, establishment of appropriate methodological and organizational management tools. With this preparation in management decisions more often carried out by means models that represent the features of internal logistics systems. The uses of appropriate models usually require significant amount baseline information and developing specific algorithms for the evaluation and optimal choice among existing alternatives. A simulation of logistics management solutions allows the description of processes and simulates the behavior of an object by changing internal and external conditions. Support is making agrologistic systems also through the simulation for a certain optimality criterion. The composition of the main objectives of the operation agrologistic systems should be built on the logistics mix (7 "Rs" - product, quantity, quality, place, time, consumer spending) and some peculiarities of the flow agribusiness. With this logistics costs proposed to allocate separately because they are a major factor affecting the logistics management (Fig. 1). While the purpose of logistic management should not minimize, namely optimization of logistics costs that maximizing profit per unit of limited resource.



Rice.1. Main objectives of functioning agrolistic systems

Source: worked out based on [4]

Key indicators for evaluating the effectiveness of enterprise logistics system, in our view, should be:

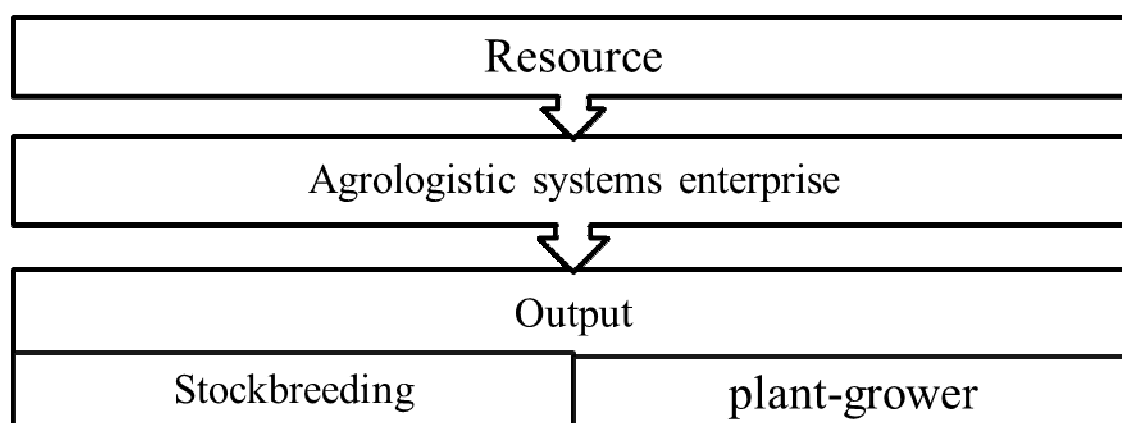
- monitoring indicators describing the dynamics of the business logistics system - level of service, the elements of cost structure;
- benchmarks that show the effectiveness of the system on which the activity is carried out adjustments in case of deviations from standards;
- operational management indicators characterizing the level of motivation.

The indicators characterizing the logistics system include performance evaluation of logistics assets (fixed assets, working capital).

- speed of rotation of inventories, the payback period of investment, storage area, their capacity, bandwidth, the amount of finished products and so on. The indicators reflect activity systems are performance, performance, reliability and flexibility of the logistics system.

Effective logistics management is an important factor of the competitive potential of the modern enterprise. Theoretical, methodological and practical achievements of enterprise logistics actively implemented at the operational and strategic activities of organizations in many industries.

Feature agrolistic systems enterprise system is that at the entrance of the main resource is the feed, seed, fuel, etc. (which the cost structure of enterprise occupying more than 70%), and the output of livestock and crop production (Fig. 2).



Rice.2. Scheme "inputs" and "outputs" of enterprise logistics system

Source: worked out based on [4]

Often, the main criterion for such efficiency considers minimizing logistics costs. In our opinion, an important part of increasing the economic efficiency of the logistics system is the definition and implementation of reserve savings and / or cost optimization of resources. It should be noted that the formation calls for consideration of costs, their savings and / or optimization at all stages of the material and its attendant financial, information, energy and personnel flows (Table 1).

Table 1

Destinations cost saving of resources in the logistics system

Types of flows	Stages of the threads in the logistics cycle			
	Supply	Production	storage	distribution
Material flows	Material costs savings through the use of feed manufacturing.		The cost savings by optimizing the storage costs	
	Economies of optimal procurement resources.	Saving by reducing idle equipment, improving processes.		
	The cost savings by reducing the loss of resources, reduction of inventories.			
Information flows	The cost savings while reducing the time for processing orders:			
	Due to the timely receipt and provide your suppliers.	Due to the optimal organization of the production process.	By reducing the cost of servicing the warehouse processes.	By reducing transaction costs.
Energy flows	Save energy costs by: 1. Rationalization of energy use in the production and sales of the company; 2. Direct reduction of energy consumption; 3. Ensure target levels of process characteristics, process technology; 4. The effective use of technical and logistical components of the enterprise; 5. Reduce the energy intensity of the transport process.			
	– Cost savings through: 1. Use of balanced feed rations for energy; 2. Optimizing power consumption of fattening considering power consumption of main and by-products.		Save energy costs by stabilizing the output energy flows.	
Personnel flows	1. Savings due to: 1. Reduce revenue losses due to inefficient use of staff; 2. Optimize the costs of recruitment, training, placement, retraining, vocational qualification growth rate, payment, and encouraging staff.			
Financial flows	Save resources by: 1. Reduce the costs associated with a decrease in stocks; 2. Reduction in the value of working capital in accelerating the velocity of money.			

Source: worked out based on [5]

2. Methodological approaches to assess the efficiency of enterprise logistics system are given in Table.

Table 2

Methodological approaches to assess the efficiency of the logistics system

Index	Formula for calculating	Notation conventions
Confidence Indicator efficiency of enterprise logistics system	$A_{\log} = \frac{P}{B \log}$	A.log– Confidence Indicator efficiency of enterprise logistics system P – Income from the sale of finished goods businesses, ua. B.log – total logistics costs, ua.

Total logistics costs	$B \log = B_s + B_p + B_d$	Blog – costs of movement of material resources, ua. Bs – storage costs of material resources, ua. Bd – loss of income due to unrealized opportunities that due to the existence of inventory, ua.
The cost of storage of feed	$B_{з\delta ep.} = \sum_{i=1}^m M_i \times B_{zi} + \sum_{j=1}^n M_j$	Mi – average size production supplies; Bzi – storage costs per 1 ua; Mj – average size of inventories of work in Bzj – cost of storage
The economic effect of enterprise logistics system.	$P^* = P + \Delta P + \Delta BI$	P*– economic impact in the logistics system, ua.; P – Income from the sale obtained by the basic conditions, ua.; ΔP – profit growth of implementation, the resulting increase in revenue resulting from the sale of finished products through the use of methods of logistics, ua. ΔBI – reduce logistics costs in the system, ua.

The basic methodological principle to determine the effectiveness of the logistics system should be a systematic approach, since it allows determining the effectiveness of all structural parts logistics system during the passage of material and attendant of flows from the supplier to the consumer of finished goods based on economic interests of participants and costs.

The value of logistics in agriculture is enhanced due to the fact that the final results of the agro-industrial production depend not only on the level of agricultural development, but also of its service areas.

It should be noted that in the logistics costs consider the costs associated with the movement and storage of inventory from the primary source to the end user. The structure of logistics expenses, in addition to the actual costs include the loss of income from the immobilization of working capital (inventories, work in progress, finished goods), the losses of the company as a disproportionate level of resources and finished products at all stages of the logistics chain - from supply and finishing products distribution company.

A prerequisite in determining the performance of the logistics enterprise system is the incorporation of social impact that is to eliminate routine operations of creative and less psychologically intense interaction between participants of the logistics system, providing high culture of customer service and more.

Improving the management of the logistics of enterprises requires the calculation of indices that characterize its performance. Logistical tool allows reducing costs, increasing productivity, improving customer service, and thus gaining a competitive advantage. So important is the development of proposals for the evaluation of efficiency of material flows in logistics systems.

Conclusions and further research. To form a systemic vision of the definition «Logistics farm» presents the author's views on the nature of the concept, which is based on the principles of agricultural logistics. The economic mechanism of management of an agricultural enterprise logistics system includes a set of scientific methods and tools that affect the logistics processes (direct the business of logistics systems , monitor and adjust actions allow you to detect and respond to changes in the internal and external environment). An effective mechanism to control logistics enterprise system pursues the goal to optimize and improve the existing logistics system both in term of its operation, and in real time. Only a thorough investigation of the functional areas of logistics system, a clear formulation of the tasks assigned to established company in the logistics system and an understanding of its goals before it will allow developers to create an efficient logistics system and an effective mechanism for management. Results of the study of current trends logistical systems farms prove the presence of a positive relationship between effective logistics and success in business. Application of logistic help to define optimal technology promotion of crops and livestock on both domestic and foreign markets.

Optimization of resources can be done at different levels in the hierarchy of the logistics system, for example within the functional areas of the subsystem, separate logistic function. However, it should be made the principle of global optimization, local optimization criteria and decisions made based on them, should not contradict the global optimum logistics system as a whole. Thus, it was considered the principal factors and

indicators for assessing the efficiency of logical systems, and identifies the key problems of optimization of the logistics of the company.

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Kolodka Ya.V. PECULIARITIES AND OPTIMIZATION OF LOGISTICS ENTERPRISES IN AGRICULTURAL INDUSTRY

Purpose. Explore theoretical - methodological and justify scientific - practical foundations of economic mechanism of logistics systems of agricultural enterprises.

Methodology of research. To achieve the goal and the decision of tasks in the study used the following methods: scientific knowledge, including dialectical and inductive approaches, techniques of logical analysis and synthesis. For the treatment of accumulated data used methods of information processing (selection, grouping, comparison, and generalization, tabular and graphical methods).

Findings. Summarizes the main tasks functioning agrologistic systems. The ways of applying logistic approaches in the management of material resources and the performance of agribusiness. Concluded that the formation of the logistics system in the enterprise must consider many factors and constantly collect relevant information. In order to reduce logistics and production costs, reduced inventory and the number of their movements, the general increase in business profits and increase production.

Originality. Formed the author's view on the essence of the concept of "logistics of agricultural enterprises," which is based on the principles of agricultural logistics.

Practical value. The obtained results of the study provide an opportunity to form the basic provisions for the establishment and implementation of effective management logistics system in an agricultural enterprise

Key words: logistics, agriculture, agro logistic, agro logistic systems, resource support