

# ECONOMIC MANAGEMENT MECHANISM TECHNOLOGICAL PROCESSES OF PRODUCTION AND APPLICATIONS OF ORGANIC FERTILIZERS IN THE AGRICULTURAL SECTOR OF UZBEKISTAN

**Shakhnoza Khamrayeva**

*Tashkent Institute of Irrigation and Agricultural Mechanization Engineers (TIAME)*

*National Research University (100000, Uzbekistan, Tashkent, Kari Niyaziy str., 39)*

*Orcid: 0000-0003-0590-5119*

## ABSTRACT

*The purpose of the study is to generalize and develop theoretical and methodological regulations, development practical recommendations for the management of technological processes of production and application of organic fertilizers based on waste from livestock industries and shadow growing in agricultural sector economy.*

**KEYWORDS.** *Innovation, development, regional agro-industrial complex, bioeconomy*

## INTRODUCTION

The modern agricultural policy of the Republic of Uzbekistan is aimed at ensuring food security and defines new requirements for the development of crop production and animal husbandry as a basis calling industries agro-industrial complex.

The revealed disparity in prices for agricultural and industrial products can be reduced by intensifying the use of organic fertilizers rhenium with their simultaneous replacement of a part of mineral fertilizers. Increased increase in the use of organic fertilizers while reducing the amount mineral fertilizers contributes to the rational use of limited resource base in the form of organic waste, cost reduction production of the agricultural sector, as well as the reproduction of soil rhodium, what provides promotion productivity agricultural cultures.

AT the present time level and efficiency applications organic fertilizers are insufficient to solve the set strategic tasks of development of the agro-industrial complex of Uzbekistan . One of the key issues in this area is lack of clear organizational foundations for managing and improving economic efficiency of technological processes of production and application of organic fertilizers. Needs same crop production in parts maintaining soil fertility concentrated on use high quality organic fertilizers, as well as cost-effective and environmentally more safe cultivation of agricultural crops with the joint introduction of research institutes organic and mineral fertilizers.

Development animal husbandry related With promotion productivity farm animals, which entails a reduction in the production of organic waste of the industry, that is, the volume of manure and litter that serve as raw materials for processing in order to meet the needs of agricultural producers in organic fertilizers. It should be noted that the costs of processing organic animal waste and applying fertilizers for agricultural crops during their cultivation significantly affect the economic efficiency and profitability of the functioning of the branches of the agricultural sector. However, at the present stage, more degree, only the cost part is determined transportation, unloading and storage organic waste livestock and poultry enterprises. Consequently, enterprises needed scientifically based methods and tools for the rational use of low-cost and resource-saving technologies for processing manure and manure into high-quality, responsible everyone requirements, organic fertilizers.

In the context of these tasks, priority is given to the development of an apparatus for managing and substantiating the economic efficiency of technological processes for the production and use of organic

fertilizers, based on the use of low-cost resource-saving technologies and designed to increase the economic efficiency of basic industries. agricultural sectors.

Organizational and economic aspects of management technological processes production and applications organic fertilizer necessary consider How formation scientific basics implementation resource saving, namely, the production and use of final products with minimal costs at all stages of the life cycle, which determines the relevance of this research.

Despite the available research in this area, both in Uzbekistan and abroad, still remain unresolved or require further development theoretical, methodological issues of management and justification of the economic efficiency of technological processes for the production of high-quality organic fertilizers based on animal and crop waste, taking into account the technical means for their implementation and the availability of local reserves in conditions resource-saving agricultural politicians.

In this regard, the search for optimal techniques and methods for managing technological processes for the production and use of organic fertilizers, the development of methods and tools for assessing the economic efficiency of low-cost resource-saving technologies for the production and use of organic fertilizers is an urgent and important national economic problem, the solution of which is designed to ensure a stable and balanced development of the agricultural sectors economy.

## **MATERIALS AND METHODS**

Research topics covers circle questions related With management technological processes for the production and use of organic fertilizers and justification them economic efficiency With taking into account requirements contemporary economy. Theoretical issues of improving the efficiency of the agricultural sector of the economics and the development of a set of indicators for its assessment are considered in works , in the development of issues of theory and practice of managing technological processes of various industries, a significant contribution was made by research refugees authors I. Ansoff, E. Deming, M. Mescon, M. Porter, M. Robson, AND. Smith F. Taylor, M. Hammer, J. Harrington, J. Champi and others. The works of these and other authors form the fundamental basis of the research dovaniya. At the same time, a number of theoretical, methodological and practical issues management technological processes them economic estimates require further elaboration, taking into account the fullest use of our own resources and a high level of environmental safety of manufactured products tions. The most important issues requiring further study are Xia: clarification of the theoretical aspects of the organizational and economic management of technological processes in the agricultural sector; development of a system of criteria and indicators efficiency management technological processes production and use of fertilizers; use of a systematic approach in following the interaction of the livestock and crop industries, where the connecting element is the management of the production and use of organic fertilizers; search for the most effective economic and organizational tools management technological processes production and the use of organic fertilizers that help increase the level of profitability in agriculture, create conditions for the efficient use of agricultural land and conduct environmentally regulated agricultural production. The foregoing determined the choice of the topic of this study, its structure and logic, to a certain extent, search character, and also made it possible to formulate goal and solvable tasks.

The general methodological basis of the study was the dialectical method method of studying economic phenomena and processes, the most important attributes of which are horny are systemic an approach and systemic analysis.

To solve particular problems, depending on their nature, were used various tricks, ways and methods economic research:

- Monographic (when developing a system of conceptual apparatus of economic of the scientific aspects of technological process management in the agricultural sector economy);
- Systemic (when clarifying the theoretical provisions of economic aspects management technological processes in agricultural sector);
- Abstract-Logical (when developing criteria and indicators of efficiency the activity of managing technological processes of production and application fertilizers);
- Settlement And constructive (when analyzing technological processes, production and applications organic fertilizers, identifying priority directions their use);
- Correlation and regression analysis (with the improvement of the methodology forecasting and development of predictive scenarios for the development of technological sky processes production

- and applications organic fertilizers);
- Cluster Analysis method (when developing a hierarchical system of re- resource-product models for optimizing the production and transportation of organic fertilizer With management accommodation points processing raw materials);
- Economic and mathematical modeling (at developing economic mechanism and hierarchical system of resource-product models of optimization production and transportation of organic fertilizers with control placement of raw material processing points, a multi-criteria model of a system consistency of technological processes of production and use of fertilizers, as well as in the formation of a planning model for additional body income from applications fertilizers);
- Method of predictive scenarios (with scientific substantiation of development scenarios of technological processes for the production and use of organic fertilizers rhenium on basis resource and product models in agricultural sector economy).

## RESULTS AND DISCUSSION

Modern agrarian policy is based on the principles of resource savings in the context of the need to ensure food security capacity, taking into account the fullest use of own reserves. Wherein lack of consistency in the conceptual apparatus of economic aspects of management technological processes, designed to ensure harmonious integration grace of science into practice, necessitates clarification and development row key theoretical provisions in this direction.

In particular, with regard to the agricultural sector, in a dissertation based on systemic consideration of the essence of resource saving is substantiated by the following schaya his interpretation. *resource saving in agricultural sector — totality economic, organizational, technological and technical measures, real-for the purpose of rational use of raw materials, material resources owls, waste products of agricultural animals, production and consumption of agricultural products with the use of accomplished economic mechanisms, efficient forms organizations, progressive \_ technologies and technical funds for them implementation.*

Research given areas knowledge showed what resource-saving agrarian policy is a new concept for the realities of the domestic agrarian eco- nomics. Recycling of waste and secondary resources was carried out before, but these reserves are not considered as alternative sources of resource saving. fall. In this regard, the author's position on the systematization of the conceptual of the resource-saving apparatus and technological processes, taking into account modern nyh requirements.

Resource saving agricultural policy, on our opinion must basics- be based on fundamentally new approaches in technological processes, which called ensure maximization arrived With taking into account conservation or improvements quality land resources.

In this regard, it is determined that the *technological process in crop production is yourself totality elementary operations and action, direction-for the cultivation of agricultural crops, based on the principle resource-saving principles, in order to obtain the maximum increase in yield -news and conservation or recovery soil fertility.*

*Technological processes in animal husbandry considered How owl- a set of technological operations designed to ensure the vital activity of performance of farm animals in the implementation of resource-saving technologies With equipment them technical means and others items labor.* Based on this, in the author's interpretation, *resource-saving technology* is formulated as a *complex of knowledge presented in the form of sequentially the feasibility of the implementation of technological operations with an indication of rationally selected technical means, labor resources with the required level of qualification lification, the minimum consumption of objects of labor in order to transform matter, energy, information into the finished product and obtain it when it is real-tions maximum income.*

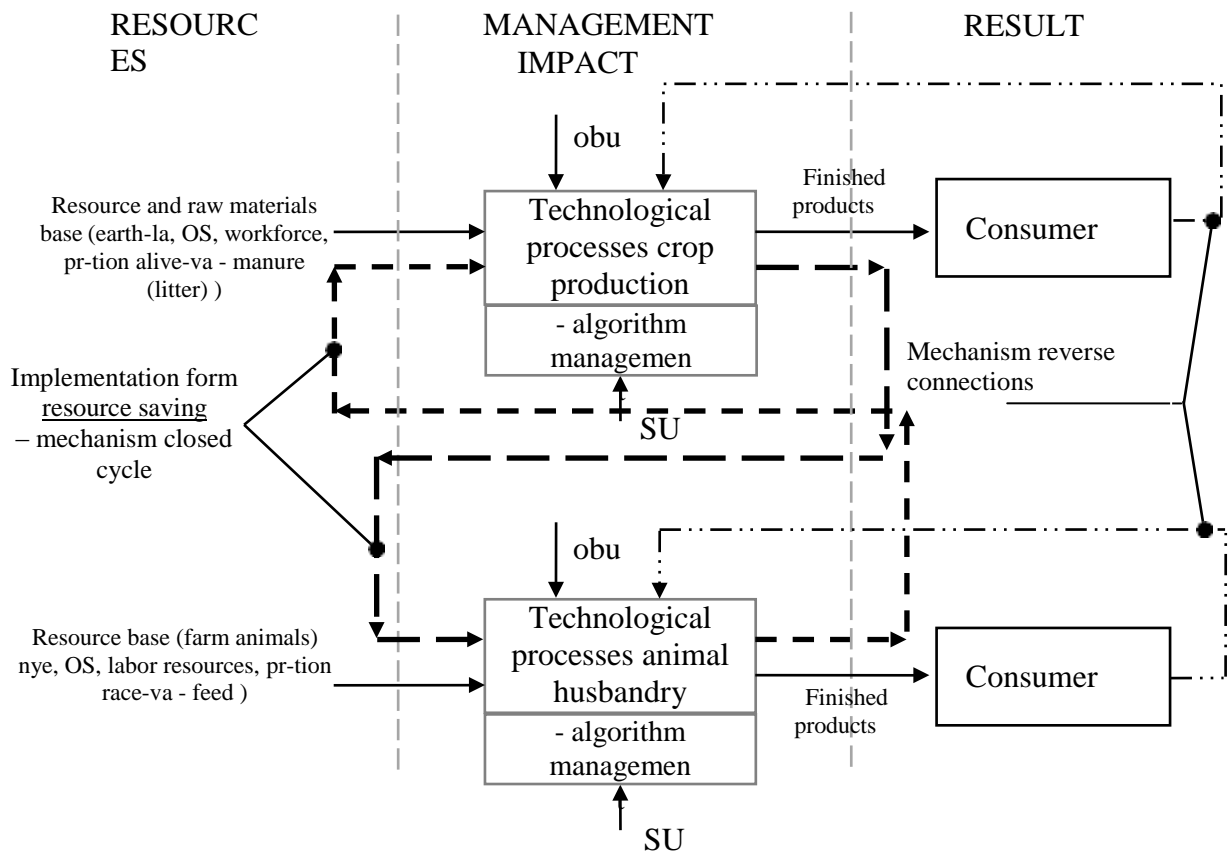
AT work is defined, what one from major directions resource saving in the agricultural sector of the economy is the use of a closed production cycle when waste, secondary resources of one industry serve as raw materials for another. In relation to the problem under study, a model of interaction between technical technological processes of crop production and animal husbandry, reflecting their synergy dark addiction, where key components highlighted "resources", "management impact" and "result", which have an established sequence

**International Journal of Global Economic Light (JGEL)**  
 Volume: 9 | Issue: 2 | February 2023

validity and relevance.

AT basis resource saving lies application low-waste or waste-free technological processes performed using modern technologies and technical funds, what allows complex produce re-botku raw materials (manure, litter, straw) With receiving high quality finishedproduct (organic fertilizers), while increasing the profitability of the industry crop production and much lowering harmful impact on surrounding Wednesday, improving the ecological situation in the places of basing livestock enterprises acceptance.

In this complex of technologies, it is necessary to identify two main groups of processes: production and application of fertilizers. *Under technological processes for the production of organic fertilizers should be understood as a set ness of technological operations for the processing of organic waste as alternative source resource saving With goal receiving quality-but a new product - organic fertilizers, sold within the framework of a single technologies With using technical funds, labor and other resources.*



**Figure 1 - Model of interaction of technological processes of crop production and animal husbandry**

*Under the technological processes of applying organic fertilizers understood orderly totality operations on preparation, transe- porting and making organic fertilizer in soil for raising it fertility and increase productivity agricultural cultures, a also actions for the sale of organic fertilizers for agricultural agricultural organization additional income.*

**Exploring control technological processes in terms of resource savings and defining one of the key aspects of the economic mechanism management of resource-saving technological processes, formulated wana is the next definition. The economic mechanism for managing resource controlling technological processes of production and use of organic fertilizers is a set of interrelated organic nizational, economic and managerial elements impact on technological processes With goal raise efficiency applications and enhancing the savings of material and technical resources, the introduction of resource conserving technology, a same production agricultural products with a minimum cost of all resources in monetary and natural ral expression.**

The system approach and the system analysis based on it within the framework of economic scientific aspects of managing resource-saving technological processes agricultural production allow comprehensively explore the technological processes of animal husbandry, crop production and integrate as a binder element between them, technological processes of production and application of organic fertilizers.

The declared interaction of technological processes of crop production and animal husbandry speaks form implementation resource saving:

- livestock enterprises and enterprises of mixed specialization in the implementation of technological processes for the production of organic fertilizers by decide problem With recycling manure;
- Plant-growing enterprises and enterprises of mixed specialization at application organic fertilizers, With one hand, reduce expenses for the purchase and application of mineral fertilizers, on the other hand, improve and restore soil fertility, increasing agricultural productivity agricultural crops and, as a result, increasing the profitability of their cultivation and variety.

Established, what for analytical and design activities developed criteria for the effectiveness of the management of technological processes of production and applications fertilizer in agricultural sector economy should classify proceeding from conditions modern resource-saving agricultural politicians. We believe that resource-saving indicators that determine the properties of the finished products, depending on the level of resources spent on its creation and use use, it is necessary to divide into subgroups of technologization and resource consumption.

**Table 1 - System of criteria and indicators of management efficiency technological processes production and applications fertilizer in agricultural sector economy**

Criteria	Groups indicators	Management performance indicator technological processes	
		Existing	Proposed
security resources	Efficiency technical management nological processes production organic fertilizer	<b>Natural Indicators:</b>	
		fertilizer Effect	organic capacity
		material consumption	degree conversions org-nic substances production quality index stva organic fertilizerny (OU)
		change volume production	index time prepared ki OU
Optimal combination costs		cost indicators:	
		capital intensity	capital savings index hoist investments
		cost price	
Optimality technological decisions	Efficiency technical management nological processes applications mineral and organic fertilizer	for mineral fertilizers:	
			level mineral hepatic (UMO)
			effective coefficient th applications (KE <sub>MU</sub> )
		for organic fertilizers:	
	Effect after effects	level organo-agricultural area (woah) effective coefficient th applications OU (KE <sub>OU</sub> )	
Economic efficiency			the effectiveness of the last actions (profitability applications OU)
		for mineral and organic fertilizers:	
		gross collection crops	
		growth productivity crops	
		income from implementation additional harvest	
		profitability production	
term payback additional costs			

A source: developed author



As integral indicators of the effectiveness of the management of technology logical processes use fertilizer offered relative estimates (coefficients) effective applications mineral and organic fertilizers, and the efficiency of production of organic fertilizers - the index of eco- nominations capital investments. At the third stage of the implementation of the matrix-competency approach, based on the formed groups of research objects and the value of the level of organizational but security, a priority direction and resource-saving technological processes production organic.

## CONCLUSION

Resource-saving agricultural policy determines the effectiveness of development development and implementation of technological processes in the agricultural sector. The form of reality the principles of resource conservation in this area, based on the system approach, the integration of technological processes of production and changes organic fertilizer With technological processes in livestock breeder agriculture and crop production, as well as their integrated management using closed cycle production.

A system of criteria and indicators for the effectiveness of technology management organic processes for the production of organic fertilizers, as well as the use organic and mineral fertilizers must be aggregated according to the principle tsipu ownership of technological processes. As part of the recommend-it is possible to apply the developed resource-saving and integral indicators efficiency of management of technological processes of production and application opinions fertilizers.

As the main resource-saving indicator characterizing the effectiveness of process control of the application of organic fertilizers, it is recommended to use the level of orga- ganosupply of agricultural areas. A direct pro- portion dependence of the profitability of cultivation of agricultural cultures from the level organ supply agricultural areas.

## REFERENCES

1. UP-5308 2018 Decree of the President of the Republic of Uzbekistan No. UP-5308 "On the State Program on Implementing the Action Strategy for Five Priority Areas of Development of the Republic of Uzbekistan in 2017- 2021 during the "Year of Supporting Active Entrepreneurship, Innovative Ideas and Technologies", dated 22 January 2018 [http://www.ombudsm an.uz/ru/press\\_center](http://www.ombudsm an.uz/ru/press_center).
2. Speech of the President of Uzbekistan Sh. Mirziyoyev on January 14, 2017 at an expanded meeting of the Cabinet of Ministers dedicated to a comprehensive analysis of the results of the country's socio-economic development in 2016 and the identification of the most important priority areas of the economic program for 2017 (January 19 , 2017), *Narodnoe slovo* .
3. Decree of the President of the Republic of Uzbekistan Sh. Mirziyoyev "On the Strategy for the Further Development of the Republic of Uzbekistan" (January 23, 2017) .
4. UzDaily.com 2018 Minister of Foreign Trade speaks about export potential of fruits and vegetables of Uzbekistan <https://www.uzdaily.com/articles-id-43325.htm>.
5. World Bank 2018 Farmers and Agribusinesses in Uzbekistan to Benefit from Additional Support to Horticulture Sector [https://www.worldbank.org/en/news/press-release/2018/01/30/additional-support-to-horticulture-sector-in Uzbekistan](https://www.worldbank.org/en/news/press-release/2018/01/30/additional-support-to-horticulture-sector-in-Uzbekistan).
6. Akmal Durmanov et al ., *IOP Conf. Ser.: Earth Environ. sci.* 1043 , 012022 ( 2022 ) .
7. Rashid Khakimov et al ., *IOP Conf. Ser.: Earth Environ. sci.* 1043 , 012043 ( 2022 ) .
8. Ravshan Nurimbetov et al ., *IOP Conf. Ser.: Earth Environ. sci.* , 1043 , 012006 ( 2022 ) .
9. Umarov S . R. \_ , Durmanov A . S. Innovative potential aci as an object management (in the example of hydroponics). *EPRA International Journal of Agriculture and Rural Economic Research (ARER)*, 10 (5) 2022, pp. 19-24
10. Yakhyaev M. Issues of optimal use of karakulchik clusters ib the development of pasture livestock // *EPRA Internatsional Journal of Agriculture and rural economic research* . - 2022. No. 3. - B. 10-13. ((14) ResearchBib IF- 3.476; (23) Scientific Journal Impact Factor -7.604)
11. Yakhyaev M. Areas of state support for the development of pasture livestock // *EPRA Internatsional Journal of Climate and resource economic review* . - 2022. No. 9 . B. 7 -1 1 . ((23) Scientific Journal Impact Factor -7,254)
12. Mamasadikov Abror Anvarovich. Theoretical basics management of the innovative potential of the aic region. *EPRA International Journal of Agriculture and Rural Economic Research (ARER)*, 10 (5) 2022, pp. 12-18
13. Durmanov A . (2022) Essence and significance of organizational and Economic mechanisms in improving the activity of Greenhouse farms . *International Journal of Southern Economic Light (JSEL)* 10(5) , pp. 29-35
14. Durmanov A . (2022) Production efficiency of vegetables Grown in greenhouses . *International Journal of Climate and Resource Economic Review* 10( 7 ) , pp. 8
15. Durmanov A . (2022) Theoretical foundations of the Development of the market of vegetables Grown in greenhouses . *International Journal of Global Economic Light (JGEL)* 8 ( 4 ) , pp. 10
16. Kholmuratova G . M. \_ (2022) Foreign experience of digitalization at agro-industrial complex enterprises. *International Journal of Economic and Business Review*. 10 (4) 2022, pp. 16-22

**International Journal of Global Economic Light (JGEL)****Volume: 9 | Issue: 2 | February 2023**

17. Berdimurodov A . A. \_ (2022) *Directions of increasing effectiveness of innovative activities in agriculture in t he conditions of digital economy . International Journal of Global Economic Light (JGEL) 8 ( 3 ) 2022, pp. 10*
18. Alimov U. \_ Z. (2022) *“Reforms in the melon growing sector: results and trends”, International Journal of Agriculture and Rural Economic Research (ARER), Volume: 10 Issue: 9 September 2022, 15 bet.*
19. Khamrayeva Sh . (2022) *Control innovative the development of the bioeconomic branches of the republic of Uzbekistan . International Journal of Agriculture and Rural Economic Research (ARER) ( 10 ) 6 , June 2022 pp. 8-13*