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**MAINTAINANCE OF THE EFFECTIVE FUNCTIONING OF THE
AGRICULTURAL ORGANIZATIONS PRODUCTION POTENTIAL**

**Abstract of the Dissertation
for the degree of Candidate of Economic Sciences
5.2.3. "Regional and Sectoral Economy"
3. Economics of the Agro-Industrial Complex (AIC)**

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Urgency of the research. Current trends in the development of the domestic and global economy challenge agricultural organizations to find opportunities for sustainable development in the face of constant changes in external and internal environmental factors, legal regulations, and the transformation of production relations in the business environment. Domestic agrarian enterprises operate under resource constraints, necessitating more efficient use of their existing production potential. State policy in food security aims to create conditions for sustainable growth in the agricultural production. Thus, one of the key activities of the National Project "Technological Support for Food Security," begun in 2025, is ensuring technical and technological independence of agriculture, and its main target indicator is achieving 66.7% of technological independence in food security by 2030. In this regard, the tasks of scientific and technological development in the agriculture, ensuring food security and increasing efficiency of agricultural enterprises' production activities, are becoming a priority, requiring immediate solutions and determining the need for scientific research on improving the efficiency of agricultural production potential and the application of the obtained results in the practical activities of agricultural business entities.

Under present-day conditions, ensuring the effective functioning of agricultural organizations' production potential is based on scientific research aimed at developing evaluative monitoring of the availability and use of the resource base, identifying opportunities for better use of the available finance, material resources, land, biological, technological, labor, information, and digital resources to increase agricultural production volumes and improve the efficiency of production potential, including certain regions of the Russian Federation.

The degree of scientific development of the problem. Many domestic and foreign scientists have studied the problems of formation and development of production potential in agriculture, among them are Adukov V.V., Alakoz R.Kh., Altukhov A.I., Andryushchenko S.A., Vinnichuk L.B., Zhilyakov D.I., Zinchenko A.P., Kibirov A.Ya., Kolesnikov A.V., Kosolapova M.V., Minakov I.A., Nikolaeva M.Yu., Polunin G.A., Pronyaeva L.I., Rodionova O.A., Svobodin V.A.,

Semenov A.V., Semenova E.I., Smagin B.I., Charykova O.G., Ushachev I.G., Guseynov S.E., Alain F., Janssen F., Hong J., Mardanov M.J. and others.

The works of Gurnovich T.G., Ilyina I.V., Kiyani T.V., Leshchilovsky P.V., Medvedev S.M., Mozol A.V., Nechaeva S.N., Polukhin A.A., Rasskazova A.A., Stavtsev A.N., Yuzbashev M.M., and others are devoted to methodological support for identifying and assessing factors affecting the efficiency of production potential.

The research findings of the mentioned scientists, related to the formation of a theoretical and methodological basis for assessing production potential in agriculture, guidance papers, and analytical techniques determining the relationship between resource endowment and effectiveness of the business activities of agrarian enterprises, enable a more informed approach to the formation of their technological, labor, material, financial, and managerial resources and contribute to sustainable development. At the same time, nowadays new economic conditions are formed due to sanctions, limited resource utilization, and the global geopolitical situation. External and internal factors previously not relevant for the scientific research are emerging, which may be crucial for increasing agricultural output and improving production profitability. The substantive nature of agricultural organizations' production potential and its fundamental differences from resource potential, as well as justification of the factors underlying its dynamic development, remain controversial. The dilemma of choosing indicators and using methodologies for comprehensive assessment of the effective functioning of agricultural organizations' production potential, as well as identifying internal reserves and substantiating development prospects still exists.

In this regard, the following tasks as: clarifying the concept of agricultural organizations' production potential, systematizing the factors that ensure the effective functioning of production potential in the modern conditions, proposing a methodology for comprehensive assessment of the effectiveness of production potential utilization, substantiating the parameters of individual indicative criteria, developing forecast values, and calculating reserves for indicators of the effective

functioning of agricultural organizations' production potential; require urgent solutions. It determines the relevance of the stated research topic.

Based on the results of the cited authors' works not only theoretical aspects of the subject of the research were logically supplemented and systematized, but also the methodological guidelines were significantly expanded and clarified, which made it possible to take a comprehensive approach to the development and substantiation of a number of conceptual authorial scientific and practical statements.

The object of the research is production potential of agricultural organizations. **The subject of the research** is trends, patterns, and economic relations that expand during the functioning and development of this production potential.

The purpose of the research is to develop theoretical and methodological principles and formulate practical recommendations for ensuring the effective functioning of the production potential of agricultural organizations.

To achieve this goal, the following tasks were carried out:

- to expand the conceptual and categorical apparatus by clarifying the concept of production potential in agriculture;
- to systematize the factors ensuring the effective functioning of the production potential of agricultural organizations;
- to propose a methodological approach to a comprehensive assessment of the effectiveness of production potential;
- to substantiate parameters and criterion values of individual indicators of the effective functioning of the agricultural organizations' production potential;
- to identify key aspects that ensure effective functioning of the production potential in the modern conditions and develop forecast levels of these indicators.

The theoretical and methodological basis of the study was provided by the scientific works of domestic and international scientists and practitioners devoted to the theory of developing productive potential, as well as the methodological and applied aspects of effectively utilizing productive potential in

the agricultural organizations. The information materials included data from the Federal State Statistics Service, annual financial statements of the agricultural organizations in the Orel Region, scientific publications and methodological recommendations on the formation and development of productive potential in the agriculture, and the author's theoretical and practical developments. Economic and statistical methods for processing economic information, monographic, computational, and digital research methods were used.

The topic of the dissertation complies with the requirements of the Higher Attestation Commission (VAK) specialty profile.

The dissertation research is conducted within the framework of the scientific specialty 5.2.3. Regional and Sectoral Economy within Section 3. Economy of the Agro-Industrial Complex (AIC) and complies with Sections 3.2. Issues of Assessing and Improving Economic Efficiency at Enterprises and in AIC Sectors; 3.3. Resource Base for the Development of AIC Sectors; Formation and Functioning of AIC Resource Markets; and 3.15. Forecasting the Development of the Agro-Industrial Complex and Agriculture in the VAK specialty profile of the Ministry of Science and Higher Education of the Russian Federation.

The scientific novelty of the study is the development of theoretical propositions, methodological approaches and substantiation of priority guidelines for improving the efficiency of the functioning of production potential, the distinctive feature of which is addition of the conceptual and categorical apparatus, systematization and classification of factors for the effective functioning of production potential in the agriculture, the development of a methodological approach to the comprehensive assessment of the use of production capabilities under the sanctions restrictions, substantiation of the criterion values of individual financial indicators used in the evaluation monitoring of potential development and substantiation of dominant priorities that ensure an increase in the efficiency of the functioning of production potential under the modern economic conditions.

The author's personal scientific findings include:

- a clarified definition of the production potential of the agricultural organizations was given, which should be understood as a complex, functional system of interconnected resources and internal capabilities of an economic entity, including such subtypes (components) as technological, human, innovative, informational, logistical, biological, financial, and digital potentials, developing dynamically under the influence of internal and external factors and ensuring its ability to achieve dynamically sustainable, maximum possible production and financial results in the specific organizational, economic, and natural-climatic conditions (Section 3.3. Resource base for the development of AIC sectors. Formation and functioning of AIC resource markets);

- the factors of efficient functioning of production potential in the agricultural organizations identified in the modern economic environment have been systematized and distributed according to classification directions: firstly, according to the principle of direct occurrence - internal, including groups of resource, technological, human, managerial factors, and external, accumulating groups of institutional, economic, social, environmental, political factors; secondly, typologically differentiated according to the nature of impact - stimulating and destabilizing; thirdly, the factors distributed according to the components of production potential (technological, human, innovative, information, logistical, biological, financial, digital), which will allow taking into account the individual and synergistic impact of groups of factors on the final results of the economic activity, identifying potential growth points and crisis zones, and, in general, contributing to an increase in the efficiency of functioning and development of the production potential of agricultural organizations (Section 3.2. Issues of Assessing and Improving Economic Efficiency at Enterprises and in AIC Sectors);

- a methodological approach for a comprehensive assessment of the efficiency of using the production potential of agricultural organizations has been developed, based on the calculation of specific indicators of the efficiency of its constituent components, determination of individual and general indices of the efficiency of production potential and resource availability, the comparison of the

obtained total ratio, and construction of an integral indicator of the efficiency of using the production potential, which will allow, firstly, to assess the closeness of the relationship between resource endowment and the efficiency of the functioning of the production potential in order to identify the level of intensity of the social and economic development of agricultural organizations, and secondly, to identify reserves for the growth of production potential, including those for agricultural organizations, zonally distributed according to the obtained values of the indicators of the efficiency of production potential and resource availability (Section 3.2. Issues of Assessing and Improving Economic Efficiency at Enterprises and in AIC Sectors);

- criterion values of indicators, as well as the range of their optimal deviations for use in assessing the functioning of the production potential component - financial potential, are proposed, which, unlike those previously established and used in the practical activities of agricultural organizations, have a negative lower limit of the normative range for the coefficient of reserves endowment with own sources, and a criterion value of the current liquidity ratio close to one, which clearly demonstrates the strengthening of the role and importance in the context of sanction restrictions of such determinants as rapid inventory turnover and acceleration of the working capital turnover in general and, in particular, inventories, which will make it possible to determine the optimal need for material resources necessary to maintain an uninterrupted process of agricultural production, calculate a rational structure of inventories, optimize expense items, mitigate potential risks, and thereby ensure savings in financial and material resources, maintain solvency and financial stability, manage cash flows properly and achieve high performance indicators of the functioning of the production potential of agricultural organizations (Section 3.15. Forecasting development of the agro-industrial complex and agriculture);

- the dominant factors ensuring the effective functioning of the production potential of agricultural organizations under the conditions of sanction restrictions have been identified, including an increase in the amount of material costs per 100

hectares of agricultural land, the level of investment, state support, wages, capital and energy supply, as well as the synergistic effect of the influence of factors, which made it possible to make forecasts of natural and cost indicators of the efficiency of the functioning of the production potential (the gross product value per unit of land area, crop yields and animal productivity) and to assess the potential capabilities of economic entities in agriculture to achieve the highest possible results in the functioning of the production potential; these data are necessary for making informed management decisions to identify existing internal reserves for growth in agricultural production volumes and to strengthen control over the use of resources (Section 3.15. Forecasting the development of the agro-industrial complex and agriculture).

The reliability and validity of the research results are ensured by the accuracy of the stated objective and the logic of the tasks set, as well as application of general scientific and specialized research methods used to interpret scientific and empirical material to develop recommendations for ensuring the effective functioning of production potential in agricultural organizations. The validity of the scientific statements of the dissertation is confirmed by an analysis of domestic and international scientific literature and a detailed assessment of accumulated scientific results on the research topic, the use of data from the official websites of the Ministry of Agriculture of the Russian Federation, the Federal State Statistics Service, and the Department of Agriculture of the Orel Region, materials from seminars, roundtables, and conferences, presentation of the research results in print and reports at scientific and practical conferences, and testing the scientific results in practical activities of a number of agricultural organizations in the Orel Region.

Theoretical and practical significance of the research. The theoretical significance of this study lies in its development of theoretical and methodological principles for clarifying the concept of production potential, substantiating the factors that contribute to the effective functioning of agricultural production potential, and exploring the conceptual foundations of methodological support for assessing the functioning and development of production potential. The practical

significance of this study lies in the fact that the results obtained were validated using data from agricultural organizations in the Orel region's agro-industrial complex and applied to the production and financial activities of the region's economic entities. A number of the statements and conclusions of the research can be used in teaching of higher education disciplines such as "Organizational Economics," "Production Organization," and "Economic Analysis," as well as in the development of specialized courses for the retraining and advanced training of management personnel.

The results of this dissertation were discussed and approved at international, all-Russian, and interregional university scientific and practical conferences in 2019-2025 (Orel, Kursk, Belgorod, Voronezh, Kemerovo, and others). The main statements of the dissertation have been implemented into the activities of the agricultural organizations in the Orel region.

Based on the results of the conducted research, 19 scientific papers with a total volume of 8.0 printed sheets were published (author's contribution – 4.9 p.s.), including 7 articles published in the leading peer-reviewed journals recommended by the Higher Attestation Commission of the Ministry of Education and Science of the Russian Federation.

List of the author's publications.

1. Sidorenko M.A. State and development trends of the production potential of agricultural organizations / L.I. Pronyaeva, M.A. Sidorenko // Public and municipal administration. Scientific notes. - 2024. - No. 4. - P. 152-159.

2. Sidorenko M.A. Methods for increasing the efficiency of the production potential of agricultural enterprises / M.A. Sidorenko // Economic environment. - 2024. - Vol. 13, No. 3. - P. 36-41.

3. Sidorenko M.A. State support as a factor for increasing the profitability and efficiency of agricultural production / O.V. Sidorenko, M.A. Sidorenko // Bulletin of the Kursk State Agricultural Academy. - 2024. - No. 6. - P. 134-142.

4. Sidorenko M.A. Factors of the formation and effective functioning of the production potential of agricultural organizations / L.I. Pronyaeva, M.A.

Sidorenko, O.V. Sidorenko // Bulletin of the Kursk State Agricultural Academy. - 2024. - No. 9. - P. 247-254.

5. Sidorenko M.A. Forecasting and substantiation of the parameters of effective functioning of the production potential of agricultural organizations / M.A. Sidorenko // Outpost of science. - 2025. - No. 1. - P. 84-96.

6. Sidorenko M.A. Methodological aspects of assessing the production potential and using the results obtained in the practical activities of agricultural organizations / M.A. Sidorenko // Bulletin of NGIEI. - 2025. - No. 4 (167). - P. 101-113.

7. Sidorenko M.A. Financial support for the functioning of the production potential of agricultural organizations / L.I. Pronyaeva, M.A. Sidorenko, O.V. Sidorenko // Bulletin of the Kursk State Agricultural Academy. - 2025. - No. 5. - P. 214-222.

8. Sidorenko M.A. Forecasting the financial and economic activities of organizations / M.A. Sidorenko // Scientific research in the agrarian sector of the economy: issues and achievements: Based on the proceedings of the All-Russian youth scientific conference, Orel, May 30, 2019. - Orel: Orel State Agrarian University named after N.V. Parakhin, 2019. - P. 213-219.

9. Sidorenko M.A. Formation of the grain potential of the Russian Federation: long-term trends and opportunities / O.V. Sidorenko, M.A. Sidorenko // Integrated development of rural areas and innovative technologies in the agro-industrial complex: Collection of the IV international scientific and methodological and practical conference, Novosibirsk, November 28-29, 2019 / Novosibirsk State Agrarian University. - Novosibirsk: Novosibirsk State Agrarian University, 2019. - P. 303-307.

10. Sidorenko M.A. The Impact of Artificial Intelligence on Production and Economic Growth / M.A. Sidorenko // The Role of agrarian science in the sustainable development of the AIC: Proceedings of the III International Scientific and Practical Conference dedicated to the 72nd Anniversary of the Kursk State

Agricultural Academy, Kursk, May 15, 2023. Volume Part 2. - Kursk: Kursk State Agrarian University named after I.I. Ivanov, 2023. - P. 251-255.

11. Sidorenko M.A. Production potential of the enterprise in the digital economy / M.A. Sidorenko // Innovative approaches to economic development: problems, trends, prospects: Collection of papers of the International student scientific and practical conference, Orel, May 23-24, 2023 / Under the general editorship of N.I. Proka. - Orel: Orel State Agrarian University named after N.V. Parakhin, 2023. - P. 908-912.

12. Sidorenko M.A. Economic activities of organizations in the regional agrarian sector: analysis, assessment methods / O. V. Sidorenko, M.A. Sidorenko // IV Arrigiev Readings on the topic: "Russia's Path to the Future World Order": Proceedings of the international scientific and practical conference, Orel, December 5-6, 2022 / Edited by N.V. Spasskaya, E.V. Takmakova. – Orel: Orel State University named after I.S. Turgenev, 2023. – P. 254-258.

13. Sidorenko M.A. Production potential of grain farming in the Russian Federation / O.V. Sidorenko, M.A. Sidorenko // Priorities for the development of the agro-industrial complex and rural territories of Russia in the new economic realities: Proceedings of the national scientific and practical conference, Voronezh, December 26, 2022. – Voronezh: Research Institute of Agricultural Development and the Agro-Industrial Complex of the Central Black Earth Region - branch of the Federal State Budgetary Scientific Institution "Voronezh Federal Scientific Center named after V.V. Dokuchaev", 2023. – P. 142-145.

14. Sidorenko M.A. Development of the production potential of agriculture in the Orel region / M.A. Sidorenko // Fundamental and Applied Research in Economics and Finance: Collection of Scientific Articles from the IX International Scientific and Practical Conference, Orel, December 7, 2023. – Orel: Central Russian Institute of Management – Branch of RANEP, 2023. – P. 193-196.

15. Sidorenko M.A. Improving Business Processes at Agricultural Enterprises / O.V. Petrushina, S.R. Rudenko, M.A. Sidorenko // Youth Science for the Development of the Agro-Industrial Complex: Proceedings of the IV

International Scientific and Practical Conference of Students, Postgraduates, and Young Scientists, Kursk, November 15, 2023. – Kursk: Kursk State Agrarian University named after I.I. Ivanov, 2024. – P. 207-212.

16. Sidorenko M.A. Resource availability as a factor for increasing the efficiency of functioning of the production potential in agricultural organizations / M. A. Sidorenko // Fundamental and applied research in the field of economics and finance: Collection of scientific articles of the X international scientific and practical conference. (December 6, 2024), Orel, December 6, 2024. - Orel, 2024. - P. 148-151.

17. Sidorenko M.A. Relevant methods for increasing the efficiency of using the production potential of agricultural enterprises / M. A. Sidorenko // Modern problems of the agro-industrial complex and their solution: materials of the VII National Conference, Belgorod, October 17, 2024. - Belgorod: FSBEI HE Belgorod State Agrarian University, 2024. - P. 216-219.

18. Sidorenko M.A. State support - a dominant factor in ensuring the efficient functioning of the production potential / O.V. Sidorenko, M.A. Sidorenko // Modern trends of agricultural production in the global economy: Proceedings of the XXIII International scientific and practical conference (Kemerovo, December 4-5, 2024) / editorial board: L.V. Popova [et al.]; Kuzbass State Agrarian University. - Kemerovo, 2024. - P. 183-187.

19. Sidorenko M.A. Factors for increasing the efficiency of functioning of the production potential in agriculture / M.A. Sidorenko // Youth science - for the development of the agro-industrial complex: Proceedings of the V International scientific and practical conference of students, postgraduate students and young scientists, Kursk, November 21, 2024. - Kursk: Kursk State Agrarian University named after I.I. Ivanova, 2025. – P. 113-118.

Scope and structure of the work. The dissertation consists of an introduction, three chapters, a conclusion, and includes 64 tables, 21 figures, 13 appendices, and 181 literature references.