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FORMATION AND DEVELOPMENT CHARACTERISTICS OF GRAIN PRODUCTION AND MARKETING IN SIBERIA

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The paper is devoted to the urgent problem for the regions producing grain under unfavorable natural and climatic conditions providing grain to consumers and the sector of the economy under the conditions of the world food market transformation. Siberia is the largest grain producer in the Russian Federation. The region produces over 14 million tons of grain annually. In turn, according to estimations by scientists at the Siberian Federal Scientific Centre of Agro-BioTechnologies of the Russian Academy of Sciences, the volume of grain production in Siberia could reach 19.7 million tons by 2025. This research aims to determine the formation and development characteristics of grain production and marketing in Siberia and develop the organizational and economic mechanism for its regulation. The approach used for the formation and development of grain production and sales takes into account the interaction of producers, the specifics of Siberian regions and is based on specific areas of the grain market. The research reflects the results of the study, which includes (1) the analysis of Siberia's natural and climatic conditions, (2) evaluation of grain production and marketing, (3) identification of the specific features of production in the region, and (4) identification of the production and marketing main problems. The grain production and the market analysis have established that there are disproportions between the volume of grain production and food industry demand, livestock production and industrial processing in Siberia regions. The tendencies and patterns analysis of grain complex development in Siberia allows us to conclude that its dynamic development is possible at a qualitatively new level. For this purpose, we have developed the organizational-economic mechanism of grain production and marketing regulation.

Only a comprehensive approach to the regulation of production with the active participation of the government will increase the volume of grain on the market.

Keywords: *grain market; Siberia; grain production; export*

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ОСОБЕННОСТИ ФОРМИРОВАНИЯ И РАЗВИТИЯ ПРОИЗВОДСТВА И СБЫТА ЗЕРНА В СИБИРИ

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Статья посвящена проблеме актуальной для регионов, производящих зерно в неблагоприятных природно-климатических условиях – обеспечению зерном потребителей и отрасли экономики в условиях трансформации мирового продовольственного рынка. Сибирь - крупнейший производитель зерна в Российской Федерации. Ежегодно в регионе производится более 14 млн тонн зерна. В свою очередь, по расчетам ученых Сибирского федерального научного центра агробиотехнологий Российской академии наук (СФНЦА РАН), к 2025 году объем производства зерна в Сибири может составить 19,7 млн тонн. Целью авторского исследования является определение особенностей формирования и развития производства и сбыта зерна в Сибири и разработке организационно-экономического механизма по их регулированию. Используемый подход к формированию и развитию производства и сбыта зерна учитывает взаимодействия производителей, особенности регионов Сибири и основывается на конкретные направления развития зернового рынка. В статье отражены результаты исследования, включающего анализ природно-климатических условий Сибири, оценку производства и сбыта зерна, выявления специфических особенностей производства в регионе, выявления основных проблем производства и сбыта. Анализ производства и рынка зерна позволил установить, что в регионах Сибири имеют место диспропорции между объемами производства зерна и его спросом со стороны пищевой промышленности, животноводства и промышленной переработки. Анализ тенденций и закономерностей развития зернового комплекса Сибири позволяет сделать вывод о возможности его динамичного развития на качественно

новом уровне. Для этого нами разработан организационно-экономический механизм регулирования производства и сбыта зерна. Только комплексный подход к регулированию производства при активном участии государства будет способствовать увеличению объемов зерна на рынке.

Ключевые слова: *зерновой рынок; Сибирь; производство зерна; экспорт*

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Introduction

Under current economic conditions, grain production determines the development and functioning of agricultural and food markets; therefore, its development mainly contributes to the growth of the agro-food complex [6]. The grain market covers all aspects of expanded agricultural reproduction; therefore, it should be considered a structural formation that characterizes a certain type of economic functioning and connection formation. Despite the low bioclimatic potential of the agricultural zone (2–2.5 times lower than in the European part of Russia), Siberia has all the conditions for the grain market development [20]. The gross grain and pulses harvest averaged 14.8 million tons in 2015–2019 (share in total Russian production is 12.4%) [13]. In 2015–2019, the share of food crops in the structure of grain crops was 71.9% and 69.3% in total grain production. Compared to 2010, the area under winter rye and cereal crops in Siberia has decreased, while the area under wheat, which forms the main consignments of grains for the market, has expanded. The development of grain production has been negatively affected by higher food grain prices than for coarse grain and higher transportation tariffs for grain transportation. This led to increased regional self-sufficiency in grain, which caused inefficient use of the bioclimatic potential of Siberian territories and, consequently, a decrease in the grain quality characteristics. Grain prices analysis shows that in 2017–2019, prices in Siberian regions were lower than the Russian average. Prices within regions fluctuate: 2017 – 1,716.1 RUB/t; 2018 – 3,766.3 RUB/t; 2019 – 3,032.2 RUB/t. The highest prices were for pulses, corn, and wheat, and the lowest for oats. Thus, in 2019, the wheat cost was 8,111.7 RUB/t, corn cost was 8,576.2 rub/t, and oats cost was 5,908.7 RUB/t. The highest grain sales prices for 2017–2019 were recorded in the Khakassia Republic, Irkutsk, and Tomsk regions.

The main objective of the Siberian grain market is to provide the territory with grain resources through the rational use of its production potential and or-

ganization of grain promotion from producer to consumer with minimal costs. The problems of functioning and development of the grain market are reflected in the works of A.I. Altukhov [1], A.A. Klyukach [8], B.S. Koshelev [10], P.M. Pershukevich [14], V.F. Stukach [9], I.G. Ushachev [21]. At the same time, the researchers' publications cover insufficiently the improving and organizational issues and economic mechanisms of grain farming adaptation to modern conditions, considering the regional characteristics of the grain market development.

Materials and Methods

Descriptive analysis. This research aims to identify the formation of grain production features in Siberia and create an organizational and economic mechanism for its development. To achieve this goal, the following tasks were set and solved:

- Analysis of Siberia natural-climatic conditions;
- Grain production assessment;
- Grain prices analysis by regions;
- Assessment of land availability, equipment and grain processing enterprises capacity;
- Identification of specific grain production and marketing features;
- Identification of main problems of grain production and marketing;
- Development of the organizational-economic mechanism of development of production and marketing of grain and grain products.

The research has shown that grain production and marketing depend on the influence of external and internal factors, mainly on natural-climatic factors, public demand geography and national economy branches demand, development of production and market infrastructure, level of governmental support, tariff and non-tariff barriers. As a methodological basis, we used the data provided by the Federal State Statistics Service [22], the Federal Customs Service [23], and data from primary sources of information. Grain production is considered for the years 2010–2019. The study's methodological basis includes the works of the following scientists in the field of the grain market, as well as legislative and regulatory acts regulating this sphere: V.V. Aleshchenko, O. A. Aleshchenko, V. A. Dobryakova [4], A. I. Altukhov [2], A.V. Gordeev, V. A. Butkovsky [5], I. G. Gainutdinov [20], V. V. Garshin, R.V. Podkolzin [15], G. M. Gritsenko [14], S. A. Zhidkov [6], A. A. Klyukach [8], B. S. Koshelev [9], P. M. Pershukevich [13], S. A. Raeva [18], V. F. Stukach [10], L. V. Tyu [12], I. G. Ushachev [21]. The paper used economic and statistical methods and statistical grouping techniques. According to the authors, the analysis of the selected

characteristics will make it possible to determine the specifics of the formation and development of grain production and marketing in Siberia.

Results

Grain largely determines the inter-sectoral proportions of the entire Siberia regions' economy. Grain production is the basis for the sustainable functioning of the agro-food sector; it has a systemic nature for other sectors of the economy [11]. The state of grain production and the grain market situation in the world are accepted as the main indicator of food security [9]. The Siberian grain market predetermines the agricultural and food market's functioning.

Siberia's grain market development depends on grain farming efficiency. A specific feature of the region is the wide latitudinal gradient. The sum of temperatures over 10°C, which is used for zoning grain and pulse crops varieties, increases from north to south from 1550°C to 2050°C; annual precipitation decreases from 450–500 to 250–300 mm. In this region, the summer (July – August) precipitation maximum stands out sharply; the precipitation is up to 40%–50% of the annual sum. In general, the natural-climatic conditions of the Siberian subjects arable territory are diverse and more suitable for the cultivation of early- and mid-maturing varieties of spring cereals and leguminous crops, whose needs in the sum of active temperatures are 1400–1700°C.

Siberia (Siberian Federal District) contains most Russian land resources: agricultural land is 19.6%, the total sown area is 17.6%, grain and pulse crops are 18.6%. The district's arable land is mainly represented (70%–80%) by potentially fertile soils.

Over the last 10 years, the availability of equipment has decreased: one tractor takes up to 450 ha of arable land; a combine harvester takes 459 ha of grain crops. Energy capacity per 100 ha of the sown area has decreased to 143 hp [14].

Siberia has a wide network of industrial enterprises producing flour, cereals, pasta, compound feedstuff for pig and poultry breeding needs, but the utilization of production capacity level is 47%–58% [5]. Currently, Siberian regions can export 5.5 million tons of grain, including 1.0 million tons for export [1].

The characteristic features of the current stage of Siberia's grain complex development are inadequate economic relations between the market subjects, a relatively low level of material and technical support of grain producers and their financial condition, the presence of shadow sales channels, and a high level of transaction costs.

The Siberian grain market has specific features:

- The grain market predetermines the entire agri-food market development in the region, as grain is a strategic resource, the availability of which determines economic stability in society, the volume of commodity movement and efficiency of sales of grain products in Siberia, the rate of return on funds invested in production;
- Harvest and quality of grain are highly dependent on natural-climatic conditions, which leads to instability of grain production volumes with high-quality characteristics and its supply to the market on inter-regional and inter-state relations;
- Mismatch between the level of grain production and consumption in the region;
- Zonal nature of certain types of grain production;
- Most of the produced grain goes to the market, and a small part remains in the farms for internal consumption;
- Instability and seasonality of grain production leads to the necessity to stockpile grain and contributes to high capital requirements and low fixed assets turnover ratio;
- High price volatility, making the price mechanism unable to regulate supply and demand;
- Low competitiveness and a large number of intermediary organizations, which increase transaction costs [10].

One of the seed market formation characteristics is the seasonal nature of the demand for seeds during the sowing season [18].

Among the main principles of the Siberian grain market are the following: (1) unlimited number of market participants; (2) freedom in the choice of grain marketing channels; and (3) system of government regulation of grain production and marketing, which determines the price mechanism, interventions, subsidies, and reimbursement of some material costs [23].

Currently, there is a shortage of durum wheat, rye, and grain grown using organic technology on the Siberia grain market [15].

Studies have identified the main problems that hinder Siberia's grain market development:

- The high dependence of grain lot formation and its quality characteristics on natural-climatic conditions, which complicates the contract execution;
- Insufficient resource and transport-logistical support of the grain market;
- High transport tariffs for grain transportation, and lack of transportation conditions unification;

- Restrictions on the export of grain and grain products;
- Lack of unified quality standards for grain with importing countries;
- Price volatility on the grain market and its dependence on the world market situation, gross grain harvest in other regions of Russia;
- Poor information transparency on the grain market;
- High transaction costs (their share in the cost structure of enterprises can exceed 26%).

If the problems of the grain market in Siberia are not solved in time, its spontaneous functioning will intensify.

The results framework is based on the parameters of the Long-term Strategy for the Development of the Grain Complex until 2035 [17], the State Program "Agricultural Development and Regulation of Agricultural Products, Raw Materials and Food Markets" [16]; Agro-industrial complex of Russia in 2019. [19]. The legal basis for the grain market is provided by the Law of the Russian Federation "On Grain" [7] and the Federal Law "On the Development of Agriculture" [24].

Further grain production formation and development is seen in improving the organizational and economic mechanism of its functioning, which should be based on the mutual interest of all subjects and take into account the specific features of the grain industry in each region of Siberia. At the same time, the active regulatory role should belong to the government, and market regulators should stimulate the increase in the production of grain and its products [4].

Discussion

Summarizing the domestic and foreign experience in the regulation of the grain market, we believe that in developing the organizational-economic mechanism aimed at the grain production development in Siberia, it is necessary to take into account regional characteristics of production and its development considering risk factors since the successful activity on the Siberia grain market is associated with the management decisions effectiveness and their implementation.

First of all, it is necessary to work out a regional target program of grain economy and grain market development in Siberia regions, which should present clear guidelines for the development of quantitative and qualitative parameters of grain production, distribution, exchange, and consumption. Such a program should form effective channels of grain and the marketing of its products. Therefore, the existence of inter-regional projects developed based on the Concept of the inter-regional program "Development of the Grain Market of

Siberia Until 2025" can become a driving force for the grain industry development in Siberia.

Within the Interregional Association Siberian Accord (Novosibirsk), the Russian Export Center JSC (Moscow) and the Association Siberian Grain Consortium (Novosibirsk), it is necessary to strengthen the work of interregional projects.

The coarse grain market development perspective is in increasing the sowing of leguminous and corn crops.

The formation of export resources grain quality through the rational use of natural advantages and the use of investment and innovation factors should become a priority marketing strategy for the coming perspective and requires mandatory government regulation.

Considering the grain market in Siberia characteristics, the tools and methods of management of negative influence of agro-ecological risks can be the following: increasing of using highly productive seeds zone: soft spring wheat – "Altaiskaya-100," "Altaiskaya-530," "Voloshinka," etc.; hard spring wheat – "Zhemchuzhina Sibiri," "Oasis"; soft winter wheat – "Zimushka," "Novosibirskaya 51," "Omskaya-5," etc.; winter rye – "Irtyshskaya," "Krasnoyarskaya Universalnaya"; improvement of the grain crop system insurance with governmental support based on the foreign countries experience (if profitability is reduced by 60%, compensation from the government can be up to 70% of the lost profit) [3].

The perspective of overcoming risks in the market is in the development of exchange trading as a necessary element of civilized market trade in grain and the creation of an inter-regional grain stabilization fund that carries out commodity interventions in the market. Grain market in Siberian regions should be formed considering the situation, market infrastructure development, and competition. In turn, the grain industry competitiveness is characterized by individual production costs, quality indicators, and market capacity [2].

Grain storage capacity calculation in Siberian transport and logistics centers has shown that the capacity of one-time grain storage is more than 5.0 million tons. We believe that infrastructure development should be faster than grain production growth, and the leading role in the formation of market infrastructure should belong to the government. When supplying grain outside Siberia, it is necessary to link grain storage and transportation capacities with its main commodity movement.

The current situation on the grain market of Siberia allows us to state that the grain market formation and development should occur with the government's active participation in creating information and marketing centers, developing

transport and logistics infrastructure, and improving storage and transportation systems of grain and grain products, including a unified information and communication system of the grain market, a system of licensed warehouses, harmonized system of domestic standards with the international system.

Conclusion

The study has achieved the set goal and solved the tasks; it has identified the main factors that have the greatest impact on the functioning and development of grain production and marketing in Siberia: (1) natural and climatic conditions; (2) level of development of production and market infrastructure; (3) logistics; (4) world and regional grain market conditions; and (5) competitiveness on foreign markets.

The grain production development in Siberia perspective is in the formation of market-based economic structures that will interact with the Russian Grain Union, Interregional Association of Economic Cooperation "Siberian Agreement," the Association "Siberian Grain Consortium" on the development of grain production and market, as well as the Russian Export Center. As a result, the Siberian grain market will be a set of specialized regional markets. This will help create conditions for the functioning of commodity-money relations and the implementation of equivalent inter-sectoral and inter-regional commodity exchange.

The practical significance of the research is to identify the specific features of the development of grain production and marketing in Siberia, which are determined by the unique characteristics of the territory – various natural and climatic conditions within the administrative unit, favorable soil conditions, immense production scale, limited sales in the national market, low level of infrastructure development, remoteness of the territory from foreign markets (which requires optimization of transaction costs). The organizational and economic mechanism for the development of production and marketing of grain proposed by the researchers was developed considering these specific features; it is based on an integrated approach and allows meeting the needs of the market in grain with high-quality characteristics. With grain production reaching 19.7 million tons by 2025, the priority for inter-regional grain relations will be to increase the supply of grain from more favorable production areas. The regions of Siberia can supply the interregional market with (1) high-quality, environmentally friendly grain, (2) grain grown by organic farming, (3) grain processing products and flour products. The decrease of supplies to the grain market is explained by the fact that by 2025 it is planned to increase the market share of grain products with high added value, including products of deep

grain processing. On the domestic market, coarse grain supplies will increase to areas that are most favorable for livestock development but do not have a comparative advantage in grain production.

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References

1. Altukhov A. I. *Zernovoy Rynok Rossii* [The Grain Market of Russia]. Moscow: Publishing house of IP Nasirddinova V. V., 2012. 698 p.
2. Altukhov A. I. Preodoleniye i chastichnoye regulirovaniye riskov v zernovom khozyaystve i na rynke zerna v Rossii [Overcoming and partially mitigating risks in the grain industry and in the grain market of Russia]. *Niva Povolzhya*, 2014, vol. 4, no. 33, pp. 2–11.
3. *Analiticheskoye upravleniye apparata Soveta Federatsii, 2020 g* [Federal Assembly of the Russian Federation, 2020]. URL: http://council.gov.ru/services/reference/9368/
4. Aleshchenko V.V., Aleshchenko O.A., Dobryakova V.A., Idrisov I. R., Rudoy E. V. Geoinformatsionnoye kartografirovaniye dlya analiza prostranstvenno-vremennykh dannykh sel'skokhozyaystvennogo proizvodstva regionov Sibiri [Geoinformation mapping to analyze the spatio-temporal data of agricultural production in Siberian regions]. *Geodezia i Kartografia*, 2021, vol. 969, no. 3, pp. 28–35. https://doi.org/10.22389/0016-7126-2021-969-3-28-35
5. Gordeev A.V., Butkovsky V.A. *Rossiya - Zernovaya Derzhava* [Russia is a Grain Power]. Moscow: DeLi print, 2009, 470 p.
6. Zhidkov S.A. *Prioritetnyye napravleniya razvitiya rynka zerna v Rossii* [Conceptual directions of development of the Russian grain market]. Michurinsk: BIS, 2018, 313 p.
7. *Zakon RF ot 14 Maya 1993 g. No 4973-I "O zerne" (s izmeneniyami I dopolneniyami* [Federal law from 14 May 1993, No 4973-I "On grain," (amended and supplemented), 1993]. URL: https://base.garant.ru/10108087/
8. Klyukach A. A. Problemy sovershenstvovaniya planirovaniya i povysheniya effektivnosti zernovogo khozyaystva RSFSR [Problems of improving planning and improving the efficiency of grain farming of the RSFSR], Dis. of PhD of econ. sci. Moscow, 1974, 395 p.
9. Koshelev, B.S., Stukach, V. *Zernovoye Proizvodstvo Regiona v Usloviyakh Rynk*a [Grain Production of the Region in Market Conditions]. Omsk: Sphera, 2006, 359 p.

10. Koshelev, B.S., Stukach, V.F. Petsevich, V.S. *Formirovaniye Organizovannogo Rynka Potrebitelem: Regional'nyy Aspect* [Formation of an Organized Grain Market: A Regional Aspect]. Omsk: OmGAU Publishing, 2009, 364 p.
11. Kusakina, O.N. Rynok zernovykh kul'tur: sostoyaniye i tendentsii razvitiya [Grain crops market: state and development trends]. *Vestnik Instituta Druzhby Narodov Kavkaza (Teoriya Ekonomiki i Upravleniya Narodnym Khozyaystvom). Ekonomicheskiye Nauki* [Bulletin of the Institute of Friendship of the Peoples of the Caucasus (Theory of Economics and Management of the National Economy)], 2017, vol. 4, no. 44, pp. 52–58.
12. Pershukevich P.M., Tyu L.V., Bykov A.A., Stenkina M. V. Perspektivy usileniya eksportnoy oriyentatsii razvitiya zernovogo kompleksa Sibirskogo Federal'nogo Okruga [Prospects for strengthening the export orientation of the development of the grain complex of the Siberian Federal District]. *Agropromyshlennyy Rynok*, vol. 9, pp. 62–70. https://doi.org/10.33305/209-62
13. Pershukevich P.M., Zyablitseva I.V. Strategicheskiye napravleniya sotsial'no-ekonomicheskogo razvitiya agropromyshlennogo proizvodstva Sibiri [Strategic direction of socio-economic development of agro-industrial production in Siberia]. *Problemy Agrarnogo Rynka*, vol. 2, pp. 27–33.
14. Pershukevich P.M., Tyu L.V., Gritsenko, G.M. Problemy i perspektivy razvitiya zernovoy otrasli i rynka zerna v Sibirskom Federal'nom Okruge [Problems and prospects of development of the grain industry and the grain market in the Siberian Federal District]. *Dostizheniya nauki i tekhniki APK* [Achievements of Science and Technology of the Agroindustrial Complex], vol. 33, no. 10, pp. 5–8. http://dx.doi.org/10.15862/01ECOR319
15. Podkolzin R.V., Garshin V.V. Tipichnyye osobennosti razvitiya zernovogo rynka orlovskoy oblasti [Typical features of the development of the grain market of the Orel region]. *Problemy Sovremennoy Nauki i Obrazovaniya*, vol. 21, no. 63, pp. 51–53.
16. *Postanovleniye Pravitel'stva RF ot 14 iyulya 2012 g. N 717 "O Gosudarstvennoy programme razvitiya sel'skogo khozyaystva i regulirovaniya rynkov sel'skokhozyaystvennoy produktsii, syr'ya i prodovol'stviya" (s izmeneniyami i dopolneniyami), 2012 g.* [Resolution of Government of Russian Federation from 14 July 2012, N 717 "State Program for the development of agriculture and regulation of agricultural products, raw materials and food markets," 2012]. URL: https://base.garant.ru/70210644
17. *Pravitel'stvo Rossiyskoy Federatsii, rasporyazheniye ot 10 avgusta 2019 g. № 1796-r, 2019 g.* [Government of Russian Federation, Decree from 10 August 2019, No 1796-r, 2019]. URL: http://static.government.ru/media/files/y1IpA0ZfzdMCfATNBKGff1cXEQ142yAx.pdf

18. Raeva S.A. Osobennosti formirovaniya rynka semyan zernovykh kul'tur [Features of the formation of the grain seed market]. *Zernovoye Khozyaystvo v Rossii* [Grain farming in Russia], vol. 1, no. 55, pp. 44–47. https://doi.org/10.31367/2079-8725-2018-55-1-44-47
19. *Selskoe khozyaystvo v Rossii, 2019 g.* [Agro-industrial complex of Russia in 2019]. https://rosstat.gov.ru/storage/mediabank/sh_2019.pdf
20. Mukhametgaliev F.N., Sitdikova L.F., Avkhadiev F.N., Asadullin N.M., Gainutdinov I.G. Tendentsii razvitiya zernoproizvodstva v usloviyakh importozameshcheniya [Trends in the development of grain production in the context of import substitution]. *Vestnik Kazanskogo Gosudarstvennogo Agrarnogo Universiteta*, vol. 15, no. 57, pp. 117–122. https://doi.org/10.12737/2073-0462-2020-117-122
21. Ushachev I.G. *Marketing zerna v Rossii* [Grain marketing in Russia]. Moscow: Russian Academy of Agricultural Sciences, 2008, 155 p.
22. *Federalnaya Sluzhbs Gosudarstvennoy Statistiki, 2021 g.* [Federal State Statistics Service, 2021. URL: https://rosstat.gov.ru
23. *Federalnaya Tamozhennaya Sluzhba, 2021 g.* [Federal Customs Service, 2021]. URL: https://customs.gov.ru/
24. *Federal'nyy zakon "O razvitii sel'skogo khozyaystva" ot 29.12.2006 N 264-FZ (poslednyaya redaktsiya), 2006 g.* [Federal Law "On the Development of Agriculture," from 29 December 2006, No 264-FZ (last edition), 2006]. URL: http://www.consultant.ru/document/cons_doc_LAW_64930/

Список литературы

1. Алтухов А.И. Зерновой Рынок России. М.: Изд-во ИП Насирддинова В. В., 2012. 698 с.
2. Алтухов А.И. Преодоление и частичное смягчение рисков в зерновом хозяйстве и на зерновом рынке России // Нива Поволжья. 2014. Т. 4. № 33. С. 2–11. vol. 4(33), pp. 2–11.
3. Аналитическое управление аппарата Совета Федерации, 2020 г. URL: http://council.gov.ru/services/reference/9368/
4. Геоинформационное картографирование для анализа пространственно-временных данных сельскохозяйственного производства регионов Сибири / Алещенко В.В., Алещенко О.А., Добрякова В.А., Идрисов И.Р., Рудой Е.В. // Геодезия и картография. 2021. Т. 969. №3. С. 28–35. https://doi.org/10.22389/0016-7126-2021-969-3-28-35
5. Гордеев А.В., Бутковский В.А. Россия – зерновая держава: учебник. М.: ДеЛи принт, 2009. 470 с.
6. Жидков С.А. Приоритетные направления развития рынка зерна в России. М.: БИС, 2018. 313 с.

7. Закон РФ от 14 мая 1993 г. N 4973-I «О зерне» (с изменениями и дополнениями), 1993 г. URL: https://base.garant.ru/10108087/
8. Клюкач А.А. Проблемы совершенствования планирования и повышения эффективности зернового хозяйства РСФСР: Дис. д-ра экон. наук. М., 1974. 395 с.
9. Кошелев В.С., Стукач В. Зерновое производство региона в условиях рынка. О.: Сфера, 2006. 359 с.
10. Кошелев В.С., Стукач В.Ф., Пецевич В.С. Формирование организованного рынка зерна: региональный аспект: монография. О.: Изд-во ФГОУ ВПО ОмГАУ, 2009. 364 с.
11. Кусакина О.Н. Рынок зерновых культур: состояние и тенденции развития // Вестник института дружбы народов Кавказа (теория экономики и управления народным хозяйством). Экономические науки. 2017. Т. 4. № 44. С. 52–58.
12. Перспективы усиления экспортной ориентации развития зернового комплекса Сибирского Федерального Округа / Першукевич П. М., Тю Л. В., Быков А. А., Стенкина М. В. // Агропромышленный рынок. 2020. № 9. С. 62–70. https://doi.org/10.33305/209-62
13. Першукевич П.М., Зяблицева И.В. Стратегические направления социально-экономического развития агропромышленного производства Сибири // Проблемы агрорынка. 2019. Т. 2. С. 27–33.
14. Першукевич П.М., Тю Л.В., Гриценко Г.М. Проблемы и перспективы развития зерновой отрасли и рынка зерна в Сибирском Федеральном Округе // Достижения науки и техники АПК. 2019. Т. 33. № 10. С. 5–8. http://dx.doi.org/10.15862/01ECOR319
15. Подколзин Р.В., Гаршин В.В. Типичные особенности развития зернового рынка орловской области // Проблемы современной науки и образования. 2016. № 21(63). С. 51-53.
16. Постановление Правительства РФ от 14 июля 2012 г. N 717 «О Государственной программе развития сельского хозяйства и регулирования рынков сельскохозяйственной продукции, сырья и продовольствия» (с изменениями и дополнениями), 2012 г. URL: https://base.garant.ru/70210644
17. Правительство Российской Федерации, распоряжение от 10 августа 2019 г. № 1796-р, 2019 г. URL: http://static.government.ru/media/files/y1IpA0ZfzdMCfATNBKGff1cXEQ142yAx.pdf
18. Раева С.А. Особенности формирования рынка семян зерновых культур // Зерновое хозяйство в России. 2018. Т. 1. № 55. С. 44–47. https://doi.org/10.31367/2079-8725-2018-55-1-44-47
19. Сельское хозяйство в России, 2019 г. URL: https://rosstat.gov.ru/storage/mediabank/sh_2019.pdf

20. Тенденции развития зернопроизводства в условиях импортозамещения / Мухаметгалиев Ф.Н., Ситдикова Л.Ф., Авхадиев Ф.Н., Асадуллин Н.М., Гайнутдинов И.Г. // Вестник Казанского государственного аграрного университета. 2020. Т. 15. № 57. С. 117–122. https://doi.org/10.12737/2073-0462-2020-117-122
21. Ушачев И.Г. Маркетинг зерна в России. М.: Всероссийский НИИ экономики сельского хозяйства, 2008. 155 с.
22. Федеральная Служба Государственной статистики, 2021 г. URL: https://rosstat.gov.ru/
23. Федеральная Таможенная Служба, 2021 г. https://customs.gov.ru/
24. Федеральный закон «О развитии сельского хозяйства» от 29.12.2006 N 264-ФЗ (последняя редакция), 2006 г. URL: http://www.consultant.ru/document/cons_doc_LAW_64930/

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