ECOFORUM
[Volume 10, Issue 3(26), 2021]

RUSSIAN GRAIN FROM SIBERIA: EXPORT POTENTIAL, PRIORITY SALES MARKETS

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Abstract.
The study identifies the possibilities of the grain complex of Siberia to supply grain for export. The role of the state and the main regulatory documents of the federal and regional levels, aimed at the development of the grain market and its export from Siberia, have been determined. Using data from the Federal Customs Service of Russia, an analysis of grain exports by regions of Siberia and grain crops for 2017-2019 was carried out. The factors hindering the export of Siberian grain have been warned. The study presents a forecast of grain exports by the regions of Siberia until 2025, as well as its promising directions and priority sales markets. To identify trends in the development of grain exports, the main commodity groups (wheat, rye, barley, oats, buckwheat) were considered. Priority sales markets have been identified, to which supplies should be increased, while solving transport and logistics problems, overcoming tariff and non-tariff barriers.

Key words: *Grain market; Grain exports, Export problems, Siberia*.

JEL Classification: *Q11, Q13, Q17, Q18*

I. INTRODUCTION

The production of grain crops in Siberia has deep historical roots. During the Soviet years, grain production was concentrated in the fields of Siberia, along with collective and state farms in the North Caucasus, the Volga region, the Urals, Ukraine and Kazakhstan. In recent decades, Siberia has consistently ranked 4th among the macroregions of the Russian Federation in terms of gross grain harvest. Calculations show that Siberia accounts for 46% of oats produced in Russia, 17% of wheat and 15% of barley (average annual indicator for 2007-2018).On average, Siberia produces 13-14 million tons of grain per year, of which no more than 2.5 million tons are exported. At the same time, the potential of grain production, given the availability of sales markets and a decent price, allows us to count on 30-35 million tons of grain per annum (Bykovetal, 2020; Romanyuk, 2017).

The purpose of this study is to determine the export potential of the grain market in Siberia and priority sales markets. Export potential is understood as the ability of the grain complex to produce competitive grain for the grain market and export it in sufficient volume and at world prices. This article is addressed to researchers involved in the study of the grain market, as well as to all companies whose activities are related to the grain market. The level of development of grain production in Siberia is of strategic importance for the region and serves as one of the characteristics of its independence. Guaranteed provision of consumers with grain and products of its processing in the required volume and high quality characteristics is the main goal of the development of grain farming, the efficiency of which is largely determined by the trade in grain and its products (Cheshinsky, 1999). In this regard, grain production and the development of the grain market are becoming an important strategic task for the main grain-producing regions of Siberia.

II. RESEARCH METHODOLOGY

Using data from the Federal Customs Service of Russia, an analysis of grain exports by regions of Siberia and grain crops for 2017-2019 was carried out.Using the data provided by the Federal State Statistics Service, the factors hindering the export of grain in Siberia are determined.The study presents a forecast of grain exports by the regions of Siberia until 2025, as well as its promising directions and priority sales markets. The data of the Russian official statistical bodies were used as the initial information. To identify trends in the development of grain exports, the main commodity groups (wheat, rye, barley, oats, buckwheat) are considered. The authors used the methods of economic and statistical analysis.

The goal setting is based on the parameters of the Long-term Strategy for the Development of the Grain Complex of the Russian Federation until 2035, the State Program for the Development of Agriculture and Regulation of the Markets of Agricultural Products, Raw Materials and Foods approved by the Decree of the Government of the Russian Federation dated July 14, 2012, the Doctrine of Food Security of the Russian Federation, the Strategy for the Spatial Development of the Russian Federation on period until 2025, the Federal project "Export of agricultural products" of the national project "International Cooperation and Export" (2018).

III. RESULTS AND DISCUSSIONS

Today, the grain market is regulated by documents both at the federal level (Federal legislation, Long-term strategy for the development of the grain complex in the Russian Federation until 2035, Doctrine of food security of the Russian Federation) and at the regional level (Regional legislation, Strategy of socio-economic development in the regions of the Russian Federation, Municipal programs, Projects development).

The development of the grain market in Siberia depends on the level of efficiency of the functioning of the grain economy. Siberia is a large producer of grain in Russia, the gross harvest of grain and leguminous crops on average for 2015–2019. amounted to 14.8 million tons, that is, 4th place in the overall rating among federal districts with a share in total production of 12.4%. The share of food crops in the total volume of grain production is 69.3%, the area under crops of winter rye, grain fodder and leguminous crops has decreased, which led to structural shifts in production (Tab. no1).

Table no 1. Structure of gross grain harvest by regions of Siberia for 2015-2019,%

SiberianRegions	Totalcereals	В том числе						
		Wheat	Rye	Oats	Barley	Buck wheat	Millet	Legumes
AltaiRepublic	100	9,5	-	87,8	2,7	-	-	-
TyvaRepublic	100	64,8	0,8	23,0	10,7	-	-	0,8
TheRepublicofKhakassia	100	53,5	0,3	31,9	9,5	4,1	-	0,7
Altairegion	100	60,4	1,4	12,8	8,9	11,0	1,8	3,6
Krasnoyarskregion	100	64,4	1,3	15,6	17,1	0,2	0,6	0,8
Irkutskregion	100	58,4	0,4	19,1	21,2	0,0	-	1,1
Kemerovoregion	100	52,3	3,5	18,3	19,7	2,3	-	3,9
Novosibirskregion	100	66,8	1,1	12,6	13,7	1,2	0,3	4,3
Omskregion	100	72,2	0,4	5,0	18,0	0,1	0,9	3,3
Tomskregion	100	63,7	3,7	20,8	5,9	0,4	1,1	4,3

A comparative assessment of the distribution of grain resources shows that large areas of grain production have developed on the territory of Siberia. The main production of food grains is concentrated in the south (Altai, Krasnoyarsk, Novosibirsk and Omsk Regions), their share in 2019 accounted for 79.3% of all available resources, including wheat in these areas accounted for 79.2% of the total its production in the region.

Grain farming in Siberia allows to fully meet the grain and feed needs of the region and export up to 2.7 million tons of grain (Tab. no 2).

Table no 2. Siberian grain export forecast for 2025, thousand tons

SiberianRegions	Production	Export / Import (-,+)	includingexport
AltaiRepublic	9	-597,01	-
TyvaRepublic	24	-495,2	-
TheRepublicofKhakassia	130	-203,3	-
Altairegion	6012	1703	610
Krasnoyarskregion	2900	1018	690
Irkutskregion	1106	-21	-
Kemerovoregion	1431	150	100
Novosibirskregion	3492	1215	510
Omskregion	4100	2346	790
Tomskregion	451	-382	-
Siberia	**19655**	**4733,49**	**2700**

The volume of grain entering the market determines the volume of its supply, which is characterized by the level of marketability. For 2017–2019 in Siberia, the level of marketability was 54.6%, 68.5, 74.2%, respectively.

Regions of Siberia for 2017-2019 increased the export of grain from 31.8 to 149.7 million US dollars (Tab. no 3), and products of the flour-grinding industry from 43.9 to 66.2 million US dollars. In 2020 grain exports from Siberia amounted to 1.0 million tons.

Table no 3. Export of grain from Siberia, tons

SiberianRegions	2017		2018		2019	
	tons	thousand USD	tons	thousand USD	tons	thousand USD
AltaiRepublic	2773,2	841,8	13501,6	2444,7	11630,8	2276,6
TyvaRepublic	41,2	10,5	153,0	21,8	131,5	13,8
TheRepublicofKhakassia	-	-	346,3	52,1	-	-
Altairegion	30822,3	7647,7	121233,3	22259,17	308415,8	56634,0
Krasnoyarskregion	22455,3	4310,22	135431,3	25879,5	47658,5	9716,7
Irkutskregion	1405,0	379,7	9168,1	1790,7	12911,0	2163,9
Kemerovoregion	40,0	10,14	2453,1	462,9	9955,4	2288,2
Novosibirskregion	44747,6	11726,6	111157,4	23103,9	125244,7	26306,5
Omskregion	71048,5	12038,34	249013,7	48979,52	259598,4	47066,5
Tomskregion	10326,1	1609,8	11779,4	2380,8	15321,5	3218,8
Siberia	183659,2	38574,8	654237,2	127375,1	790867,6	149684,9

For all regions in Siberia, the difficulty of exporting is that there is an increase in competition from Romania, Pakistan and the Baltic countries on the international grain market. To ensure the dynamic development of the Siberian grain market, it is necessary to connect terminals to the public railway infrastructure, taking into account the capacity of highways.

The study of grain exports showed that the value of exports does not always depend on its volume: for 2017–2019 grain export in physical terms increased 4.3 times, and in value terms only 3.9 times. This is due to the influence of many factors (the price of products on the external market, the ruble to the US dollar exchange rate, the quality of the supplied grain, the sale period, etc.).

In 2019, the share of Altai region in grain exports in Siberia was 39.0%, Omsk region 32.8%, Novosibirsk region 15.8%, Krasnoyarsk region 6.0%, Irkutsk region 1.6%, Kemerovo region 1.3 %, Tomsk region 1.9%.

In 2017–2019 the largest share in the export of grain crops belongs to wheat. In 2019, the share of Altai region in wheat exports was 42.8%, Omsk region 27.9%, Novosibirsk region 12.9%, Krasnoyarsk region 5.3%, Tomsk region 2.6%, Altai Republic 2.2%, Irkutsk region 1.9% (Tab. no 4).

Table no 4. Export, commodity nomenclature of foreign economic activity "1001-Wheat and Meslin"

SiberianRegions	2017		2018		2019	
	tons	thousand USD	tons	thousand USD	tons	thousand USD
AltaiRepublic	601,2	103,5	3120,1	608,4	10682,2	2102,5
TyvaRepublic	-	-	-	-	-	-
TheRepublicofKhakassia	-	-	-	-	-	-
Altairegion	11330,5	2185,56	69305,9	11451,1	212571,1	34148,3
Krasnoyarskregion	18438,6	3623,8	130170,2	24915,0	26101,8	5764,7
Irkutskregion	-	-	7420,4	1410,4	9205,1	1582,2
Kemerovoregion	40,0	10,1	1029,4	200,6	0,03	0,02
Novosibirskregion	17167,91	3292,3	69583,1	12896,1	63812,8	11436,0
Omskregion	70121,4	11835,6	205134,6	41235,3	138783,0	24101,6
Tomskregion	10326,1	1609,8	11556,0	2350,5	12910,7	2551,5
Siberia	128026,2	22660,7	497319,7	95067,4	474066,7	81686,8

Wheat was exported to 14 countries: UAE - 1.1 thousand tons, Armenia - 1.64, Azerbaijan - 65.4, Belarus - 6.1, China - 19.0, Georgia - 3.0, Kyrgyzstan - 17, 9, Kazakhstan - 262.4, Latvia - 58.2, Mongolia - 13.7, Netherlands - 1.0, Turkmenistan - 0.7, Turkey - 23.0, Uzbekistan - 0.9 thousand tons.

Thanks to the accumulated production and resource potential, the regions of Siberia are ready to supply high-quality, environmentally friendly grain 2.7 million tons to foreign markets.In 2020, the geography of export of grain and leguminous crops is 34 countries: Azerbaijan, Armenia, Afghanistan, Belarus, Belgium, Great Britain , Germany, Georgia, Egypt, Israel, Iraq, Iran, Kazakhstan, Canada, Qatar, China, Kyrgyzstan, Latvia, Lithuania, Moldova, Mongolia, Netherlands, Norway, UAE, Saudi Arabia, USA, Tajikistan, Turkmenistan, Turkey, Uzbekistan, Finland, Czech Republic, Japan.

The export of grain from Siberia is carried out mainly by large agro-industrial and wholesale trade organizations, which are obligatory to have storage capacities. The main directions of grain export for export are the ports of the Krasnodar region, the Samur station (to Azerbaijan), the ports of the Baltic countries (the Posin station), the Trans-Baikal Territory (to China).The grain export is carried out by many Siberian companies (Novosibirsk Food Corporation LLC, KhlebnayaBaza No. 39 LLC, KupinskyKhPP LLC, Mercury CJSC, etc.), as well as companies from other constituent regions of the Russian Federation (Globex LLC Grain ", LLC" OZK Yug ", etc.). On the territory there are holdings in the field of transport and logistics services (LLC "Byte-Transit-Expedition", etc.).

The analysis of export activities made it possible to identify the main problems that negatively affect the development of grain exports. Therearehigh dependence of the gross yield and grain quality on natural and climatic conditions, which can create difficulties for the fulfillment of the contract; volatility of prices in the domestic grain market; high transport tariffs when moving grain, lack of unification of transportation conditions, logistics problems due to the unfavorable economic and geographical position of Siberia relative to the largest sales markets; weak information transparency of the market, which generates high transaction costs for all subjects of the grain market; long VAT refund; high applied tariff and non-tariff barriers.

The highest applied tariff barriers for Cereals (medium bound) are in Bangladesh 162.5-200%, Turkey 45-180%, Indonesia 27-160% and Morocco 34-159.67%. Non-tariff barriers are presented in Table 5.

Table no 5. Non-tariff barriers for Commodity nomenclature of foreign economic activity 10 "Cereals", by potential markets, 2019

Type of non-tariff barrier	Country
Measuresaffectingcompetition	Turkey, Iran, Indonesia, Uzbekistan
Restrictionsonpublicprocurement	Turkey, Uzbekistan, Tajikistan, China, Indonesia, Nigeria, Azerbaijan, Vietnam
Price controls, including additional taxes and fees	Turkey, Indonesia, Algeria, Nigeria, Iran, Azerbaijan, Kenya, China, Vietnam, Uzbekistan, Tajikistan, India, Libya
Consumptiontaxes	Turkey, Kenya, China, Vietnam, Uzbekistan, Tajikistan, India, Morocco, Brazil
Pre-shipment inspection and other formalities	Turkey, Indonesia, Algeria, Nigeria, Iran, Azerbaijan, Vietnam
Sanitaryandphytosanitarymeasures	Turkey, Indonesia, Bangladesh, Nigeria, Iran, Azerbaijan, China, Vietnam, Uzbekistan, India, Morocco
Requirements for import through a specific customs point	Turkey, Algeria
Additionalcustomsfees	Kenya, Tanzania
Labeling, Marking and Packaging Requirements	Turkey, China, Vietnam, Uzbekistan, Tajikistan
Certificationrequirement	Iran, Azerbaijan
Customs inspection, clearance and service fees	Vietnam
Rulesoforigin	Indonesia

Based on the current situation in the grain market of Siberia, the following promising directions have been identified that contribute to the growth of exports: improvement of grain storage and transportation systems; creation of a unified system of export promotion institutions; expanding the activities of JSC Russian Export Center to provide services to export-oriented enterprises; reorientation of grain export to export of its processed products; formation of a Siberian brand for grain products; search for new sales markets and an increase in grain supplies to the existing sales markets; supplies of grain grown in organic farming, high-quality grain and its processing products that meet the requirements of the importing country; improvement of domestic standards for grain with world requirements.

IV. CONCLUSION

Empirical results have confirmed that in Siberia the Altai and Krasnoyarsk Territories, the Novosibirsk and Omsk Regions will continue to play the main role of the main grain suppliers in the interregional market and for export, since the structure of the industry is maximally differentiated here, and the widespread introduction of more advanced technologies will ensure an increase in production volumes. Due to the better natural and climatic conditions, grain of higher quality will be produced in the Altai Territory and the southern districts of the Omsk Region. With the intensified use of intensive factors, this will contribute to the further development of the processing industries and an increase in the export opportunities of the regions.

The grain export in Siberia can be spontaneous, therefore the conclusion of a supply agreement with individuals and legal entities, the state for a period of 3-5 years can become an effective tool for the development of the grain market. Export development is constrained by the development of transport and logistics infrastructure. In the future, its development will increase the grain export of Siberia by more than 2.7 million tons.

Priority markets, to which supplies should be increased, when solving transport and logistics problems, overcoming tariff and non-tariff barriers, the development of grain and grain products exports for Siberian regions is seen in entering the markets: wheat - Vietnam, Egypt, Yemen, Kyrgyzstan, Lebanon , Libya, Nigeria, Saudi Arabia, Sudan, Tunisia; rye - Germany, Denmark, Israel, Kyrgyzstan, Lithuania; barley - Armenia, Egypt, Jordan, Uzbekistan, Japan; oats - Georgia, India, Lithuania, North Korea, Tajikistan, South Korea; buckwheat - Vietnam, Serbia, Uzbekistan, South Korea.

We believe that the marketing strategies for the development of the grain market and exports of Siberia until 2025 will be influenced by 3 main factors: 1) domestic demand for feed grain for industrial processing; 2) the demand for grain and related products in the world market; 3) demand for livestock products.

ACKNOWLEDGMENT

The study was carried out according to state grant from the President of the Russian Federation (MK-5244.2021.2).

V. REFERENCES

1. Avdeev, M. V., Tsvetnov, E. V., Cherkasova, O.V. (2019)*Trade Turnover of agricultural Products between Russia and Central Asia*,Russian Foreign Economic Bulletin, no 4, pp.74-87.
2. Chupin, R.I., Aleshchenko, V.V., Aleshchenko, O.A. (2017) *Forecasting the capacity of the wheat market based on the construction of a model of interregional input-output balance*, Marketing in Russia and abroad, no. 1 (117), pp. 78-92.
3. Altukhov, A.I. (2009) *An important factor in the active expansion of Russian grain exports*, Agricultural Economics of Russia,no 9, pp.37-42.
4. Afanasyeva, I.I., Gavrilov, I.V. (2015)*Problems and prospects for the development of logistics infrastructure for grain export in Russia*, Bulletin of the Rostov State University of Economics, no. 2 (50), pp.18-22.
5. Bykov, A.A., Borisova, O.V. (2020)*Mutual influence of agro-industrial complex of Siberia and Central Asian countries on the formation of the food market*, Basic research, no. 6,pp. 16-20.
6. Edigaryan, M.B., Zakharyan, A.V. (2018) *Grain processing is the future of Russian exports*, Alley of Science, Vol. 4, no. 6 (22), pp. 588-592.
7. *International Cooperation and Export* (2018) Passport of the national project (program)(approved by the Presidium of the Presidential Council for Strategic Development andNational Projects, (December 24, 2018, No 16) Moscow, Russia.
8. Kireyenka, N.V. (2021) *Models of agrarian business development in internationalpractice*,ProceedingsoftheNationalAcademyofSciencesofBelarus,Agrarianseries, vol. 59,no1, pp.22-40.
9. Romanyuk, E.O. (2017) *On the issue of production and export of wheat grain in Russia*, Eurasian Scientific Association, Vol. 1, no. 3 (25), pp. 97-100.
10. Pakhomov, A.P., Pakhomova, A.A. (2017) *Problems of grain export development in the region*, Nikon readings, no. 22, pp. 192-194.
11. Porkhun, K.A., Sergienko, D.A. (2018) *Export of Russian grain: internal and external factors*, Alley of Science, Vol. 7, no. 6 (22), pp. 609-616.
12. Cheshinsky, L.S. (1999) *Organization of the market for grain and grain products*,Khlebprodinform, Moscow, pp.56-87.