

Agriculture Export Supply Chain Management in Belgorod Region

Kolesnikov A.V.¹, Nasedkina T.I.², Zdorovets Yu.I.³, Chernykh A.I.³, Gruzdova L.N.³

¹ RAS, Hailar, China, Hulunbuir Institute

^{2,3} Belgorod, Russia, Belgorod State Agricultural University

Abstract- The export potential of a country determines the development of its economy, profit-making organizations, and a high level of competitiveness in the world markets of goods. Supply chain management can be utilized in export system to improve the efficiency and make it easy for the receiver and sender. So, in this paper impact of the supply chain management in agricultural potential for export investigated. In addition, a high share of exports characterizes the internal supply of goods, the ability to produce it at lower costs than competitors. The strategic direction in this direction is the export of food. As you know, Russia has reached the indicators of the Food Security Doctrine, and now it is possible to export agricultural products. One of the developed agricultural regions of Russia is Belgorod region. As part of the development of the Federal project "Export of agricultural products", it is necessary to assess at the regional level the capabilities of the Russian regions in terms of developing the export component and ensuring the implementation of the relevant indicators. In order to achieve these goals, we need a rational mechanism for allocating budget funds to support those regions that have prospects for increasing the production of export-oriented products, but for objective reasons, this mechanism is not available yet. The absence of an organizational and economic mechanism for state support of agricultural exports is not an incentive for further development of production and processing of agricultural products. This also does not contribute to the growth of Russia's export potential. In our opinion, it is advisable to determine the possible components of such a mechanism, taking into account the characteristics of each region, for further generalization and optimization. Taking into account the export potential of the region and the prospects for its improvement, it will be effective to use various tools: the development of long-term comprehensive programs for the development of export-oriented industries, stimulating regional taxpayers-exporters, and providing subsidies for the development of the export logistics system.

Keywords- Export, Agriculture industry, Supply chain management, export potential, region, state support

1. Introduction

Food supply chains are the lifeline for mankind existence on the planet. The nature of this food chains are local or domestic, international, right time availability of food, at right quantity and right quality is vital. It has been more than seven years

since our country officially joined the WTO, which means not only the risk of increasing imports of agricultural products, but also the expansion of opportunities for increasing food exports. However, after joining the WTO, the volume of exports of agricultural products and food has not changed, as evidenced by Rosstat data. In the future, due to changes in the conditions for foreign economic activity as a result of the gradual implementation of foreign policy directions, sanctions and counter-sanctions restrictions, the most pressing issue was not only import substitution in agriculture and related industries, but also the growth of agricultural exports [1]-[4]. At the same time, the lack of production volumes, primarily of products with high added value, the underdevelopment of export infrastructure, the lack of facilities for storage, transportation, and an inefficient system for promoting Russian goods to the foreign market constrain the export of agricultural products. The mechanism for solving problems, determined based on the Federal project "Export of agricultural products", provides for financial support of more than 400 billion rubles. First of all, the funds will be used to stimulate the production of new export-oriented goods in large quantities, organize an effective logistics chain, remove barriers to trade, and help domestic agricultural producers to promote in the domestic market [5]-[16]. For optimal allocation of state resources for stimulating agricultural exports, it is necessary to take into account the development prospects of each region in this direction [17]-[22].

2. Materials and methods

Supply Chain Management in horticulture showcasing and executed all through the anchor to ensure ideal chain execution. The presented study was prepared to assess the possibility of implementing the priority direction "Export of agricultural products of Belgorod region" within the framework of the Federal project "Export of agricultural products" and identify possible ways to increase the export potential of the region. The work used system, comparative, economic and mathematical, and other research methods. Published works of scientific research institutions of the Russian Academy of Sciences, statistical materials of the agro-industrial complex of Belgorod region were used as materials.

3. Results

Agriculture is one of the leading sectors of the economy for each economic society, for which one of the key points in development is the system of financing as an element of the country's state policy. The industry's difficulties go beyond its borders and affect the interests of the country as a whole, which is related to the country's food security. The main source of food in the country remains the agro-industrial complex, which determines the scale of most branches of agriculture and requires increased attention and support from the state. As a result of the crisis that engulfed the Russian economy, significant miscalculations were made in the strategy and tactics of reforming agriculture, which led to the loss of most agricultural producers, a decrease in production volumes and financial stability, and serious imbalances in agricultural production. Agricultural production is the main supplier of food products, both in the region and in the country. For a long period of time, Belgorod region has been one of the main agricultural regions of the Central Federal district, which produces mainly pork, poultry and grain products. If we consider the region's specialization in more detail, the region has a high share of livestock products in the total output of agricultural

organizations. This trend, combined with the trend of overall growth in agricultural production, is very promising. The main link in strengthening the economy of the agro-industrial complex of Belgorod region is still the development of animal husbandry, which is also associated with the optimal feed base, formed taking into account the peculiarities of growing a particular category of animals. The region also occupies confidently a leading position in the supply of livestock products to the domestic market. In general, the production of agricultural organizations in Belgorod region for all types, according to the Department of Agriculture of the region, increased in 2018 compared to 2014, with the exception of commercial fish of domesticated species and breeds.

To determine the effectiveness of the region's activities, it is advisable to use indicators that will determine the level of economic security of the region. There is no generally accepted method for determining the level of economic security, but it is necessary to take into account a whole set of indicators that will allow assessing the region's activities from different positions: social, technological, financial and economic. Table 1 provides a list of key indicators that characterize various components of economic security in Belgorod region.

Table 1. Indicators of economic security of the agro-industrial complex of Belgorod region

Indicators	Years					Variation 2018 from 2014 (+; -)
	2014	2015	2016	2017	2018	
Volume of state expenditures in the framework of state support for agriculture, million rubles	10972	7241	7738	5276	5799	-5173
Tax burden, %	7,0	6,7	7,3	7,4	11,4	4,4
Energy efficiency of labor per 1 employee, HP	37,2	36,8	36,3	103,8	103,4	66,2
Energy capacity per 100 ha, HP	165,1	169,2	169,6	496,6	491,2	326,1
Depreciation of fixed assets, million rubles	50320	60660	62552	75769	86853	36533
Return on funds, rubles	1,26	1,31	1,37	1,18	1,13	-0,13
Share of unprofitable enterprises, %	12,9	15,2	23,2	15,0	12,2	-0,7
Current liquidity ratio	0,14	0,14	0,17	0,23	0,11	-0,03
Profitability of sold products, %	22,3	20,2	16,1	14,1	16,9	-5,4
Innovations in the industry, million rubles	3540,6	1859,0	3197,7	3258,4	3485,6	-55,0

In 2014-2018, Belgorod region reduced slightly the indicators that characterize the main components of economic security. The level of state support decreased by 47.1%, and the level of tax burden - by 4.4 percentage points, which, in turn, may affect negatively the activities of agricultural organizations in the region. The decrease in the profitability of sold products also confirms the negative trend in the development of agricultural enterprises. Over the past decade, the agro-industrial complex has become one of the leading system-forming sectors of the economy of Belgorod region. The share of the agro-industrial sector in the gross regional product reaches more than 30%.

The most important role in the dynamic development of the sector was played by government support. Balanced mechanism of interaction of the Federation and regions in the co-financing of measures on development of agriculture allowed gradually to bring the industry to a whole new level: tackling the challenges of strengthening the domestic agricultural market and achieving the targets set out

in the Food Security Doctrine and the State Program, step by step moved to the active search of ways of minimizing technological, breeding and genetic dependence of innovative development of the industry and increase export potential.

During the period under review, agricultural production is constantly in need of state support to ensure the necessary level of reproduction. There are still some problems in the agricultural production of each region: the constant disparity in prices for agricultural and industrial products, the insufficient level of investment activity in the industry, the unavailability of credit resources for medium and small producers, sanctions, and a drop in the solvency of buyers.

Table 2. Dynamics of indicators of state support for AIC of Belgorod region, thousand rubles

Indicators	Years					Variation 2018 from 2014 (+; -)
	2014	2015	2016	2017	2018	
Amounts of reimbursement of part of agricultural producers' expenses for payment of insurance premiums	179529	165860	123466	-	-	-179529
Amounts of reimbursement of part of the interest rate on loans and borrowings	7703905	5040219	5632995	4176044	3993939	-3709966
Volumes of state support for livestock industries	947797	492260	601782	647960	1254617	306820
Volumes of state support for crop production industries	1372045	897244	832382	137763	334256	-1037789
Volume of state support for small businesses	7200	-	-	-	-	-7200
Volume of state support for economically significant regional programs	761777	645758	547800	314342	215870	-545907

As it can be seen from table 2, during 2014-2018, the volume of state support for agricultural production in Belgorod region decreased in all major areas, with the exception of the livestock industry, which is due to the priority of this industry. One of the main changes in the framework of state support for the regions is currently the use of the project approach, which is aimed at improving the efficiency of using budget funds, as well as ensuring the growth

of investment activity in the region, increasing the level of food security, and developing export-oriented sectors of agricultural production. Within the framework of the project management in the agricultural sector of Belgorod region, a priority development direction was determined, which is based on the project "Export of agricultural products of Belgorod region".

Table 3. Forecast of exports of crop, livestock and food products in Belgorod region

Indicators	Years								Variation 2024 from 2018 (-;+)	
	2017		2018		2021 (forecast)		2024 (forecast)			
	Thousand tons	Million dollars	Thousand tons	Million dollars	Thousand tons	Million dollars	Thousand tons	Million dollars	Thousand tons	Million dollars
Fat and oil products	137,0	124,0	138,3	128,7	164,2	147,8	285,0	214,0	146,7	85,3
Cereals	25,0	5,0	116,7	19,7	47,0	9,5	61,0	12,3	-55,7	-7,4
Fish and seafood	-	-	-	-	-	-	-	-	-	-
Meat and milk	48,2	53,0	35,6	39,2	63,4	70,0	71,1	78,2	35,5	39,0
Finished food products	62,9	88,0	75,9	106,3	85,7	120,	96,4	135,4	20,5	29,0
Others	69,2	62,3	66,0	59,4	66,7	60,	71,9	64,7	5,9	5,3
Total	342,3	332,3	432,5	353,3	427,0	407,3	585,4	504,5	152,9	151,2

Achievement of the volume of exports of agricultural products of Belgorod region in the amount of 540.5 million dollars by the end of 2024 is planned to provide by creating a new product mass (including with high added value), creating an export-oriented commodity distribution infrastructure, removing trade barriers (tariff and non-tariff) to ensure access of agricultural products to target markets and creating a system for promoting and positioning agricultural products in the region. In Belgorod region, producers of meat and meat products, oil and fat products, confectionery products, and grain processing products have a high export potential. According to preliminary estimates, the volume of exports of agricultural products in Belgorod region in 2018 is 353.3 million dollars, which is 1.5% of the national figure. At the same time, at least 50% of the export volume will belong to such large companies as "Efko", "Priorskolye", "Belgrankorm", "Agro-Belogorye", Alekseevsky dairy and canning plant, "Slavyanka" and "Belogorye" confectionery factories, and "Starooskolsky bread products plant", which are successfully developing foreign markets.

Work on "winning" international markets in Belgorod region began in 2010. Today, 30 manufacturers export their products to 24 countries,

including China, the United States, Sweden, Israel, Oman, the Netherlands, and others. 71 companies have received international certification as a possible exporter to 82 countries. Forming the production and export potential of the agro-industrial complex, they rely on reducing the use of antibiotics in animal husbandry and pesticides in crop production, improving the quality of products that must meet international standards of environmental friendliness and safety, and, consequently, have a high competitiveness on the world market.

In preparation for the regional component of the national project "international cooperation and exports", submitted to the Ministry of Agriculture promising food positions of Belgorod region were established having high export potential in the long term to 2024, including: meat and meat products, oil and fat industry, confectionery and chocolate, as well as products of processing of grain.

It is expected that the total volume of exports of agricultural products of Belgorod region by 2024 may reach 504.5 million dollars, which is more than 1.5 times (51.8%) higher than the value of the export volume in 2017. It is included:

- exports of meat and milk are planned to increase from 53.0 million in 2017 to 78.2 million dollars by 2024;

- exports of oil and fat products will increase by 90.0 million dollars and will amount to 214.0 million dollars in 2024;

- exports of finished food products (flour, confectionery, chocolate, sugar) will increase by 53.7% compared to 2017 and will amount to 135.3 million dollars;

- exports of other food products will increase by 2.4 million dollars and will amount to 64.7 million dollars in 2024.

The main potential for strengthening export opportunities for Belgorod region is the production of food products that meet the highest demands for environmental friendliness and safety, and, consequently, have a high competitiveness in international markets. This segment of the international agri-food market is growing most dynamically, increasing by 5-7% annually.

4. Conclusion

The agriculture export supply chain is far more complicated than other sector export supply chains due to various reasons such as fragmentation of supply and market, diversity, seasonal fluctuations, environmental changes. **The SCM for Agribusiness is essential based on the literature review and results. With a significant price parity between the Russian and global agri-food markets, and sometimes even a more attractive price situation on the Russian market, in order to achieve the goals of increasing exports to 45 billion dollars, producers of agricultural products need clear and understandable incentive mechanisms and targeted state support measures:**

- preferential short-term loans for the purchase of grain for processing throughout the country;

- preferential investment loans for the purchase of wagons and tanks for the transportation of products;

- "CAPEX" for enterprises of the food and processing industry engaged in the construction and modernization of processing facilities.

At the same time, taking into account the peculiarities of the functioning of agricultural enterprises in Belgorod region, in our opinion, it is necessary to pay attention to the following aspects:

1. The region's specialization in the production and sale of products for processing poultry, pork, and beef leads to the dependence of the volume of export deliveries on the principle of regionalization of the country's territory for animal diseases, which requires study at all levels.

2. Harmonization of Russian legislation with international legislation and the development of measures aimed at the consistent elimination of trade barriers (both tariff and non-tariff) require consideration at the state level.

3. Creating an export-oriented infrastructure, a system for promoting and positioning agricultural products on international platforms.

4. Expanding the areas of granting and using preferential investment loans aimed at developing export logistics.

5. Development of a unified methodology for determining and evaluating indicators of participation of each region in export deliveries, which will take into account not only the volume of products sold for export directly, but also through trade representations in other regions of the Russian Federation.

References

- [1] Kolesnikov A.V. "Efficiency of financing state support and regulation of agriculture", Russian economic Bulletin. Vol. 1. Issue 5. P. 69 – 79, 2019.
- [2] "Problems of formation of financial resources of organizations" / A.V. Kolesnikov, N.Zh. Myavlina, B.A. Solovyov, D.V. Parinov, A.P. Ovchinnikov, O.A. Lukin, P.I. Gulenko. International transaction journal of engineering management & applied sciences & technologies, № 5. P. 15 – 32, 2019.
- [3] "Main directions of the Strategy of sustainable socio-economic development of the agro-industrial complex of the Russian Federation for the period up to 2030" I.G. Ushachev, A.G. Paptsov, A.F. Serkov, A.I. Altukhov, L.V. Bondarenko, V.S. Chekalin et al. under the scientific guidance of Ushachev I.G. M.: publishing House "Sam Polygraphist", 58 p, 2018.
- [4] "Current directions for improving the agricultural policy of Russia" I.G. Ushachev, A.F. Serkov, V.V. Maslova, V.S. Chekalin. Agro-industrial complex: Economy, management, №3. P. 4 – 16, 2019.
- [5] Ashmarov I.A. "Some approaches to the study of the USSR' military economy in the soviet and russian national historiography", Historical Bulletin. Vol. 1. Issue 2. P. 19 – 31, 2018.
- [6] Minakova I.V. "Social and economic condition of Russia and possibility of its transition to innovative hi-tech model", Modern Economy Success. № 6. P. 24-27, 2017.
- [7] Gnatyuk S.N., Pekert N.A. "Education as a factor of sustainable development of agriculture". Russian Economic Bulletin. Vol. 1. Issue 3. P. 18 – 27, 2018.
- [8] Olkhovskiy V.V. "Assessment of the impact of macroeconomic and demographic factors on the Russian model of employment", Modern Economy Success. № 2. P. 31 – 37, 2018.
- [9] Narkevich, L.V., Narkevich, E.A. "Financial condition analysis in the crisis management system", Russian Economic Bulletin. Vol. 1. Issue 4. P. 10 – 24, 2018.
- [10] Novikov S.V. "Government stimulation and regulation of Russian innovation producers export expansion", Modern Economy Success. № 3. P. 24 – 27, 2017.
- [11] Schwarzkopf N.V. "Improving the use of data mining technology as a way of reducing credit

- risk*”, Russian Economic Bulletin. Vol. 1. Issue 1. P. 10 – 18, 2018.
- [12] Moiseenko Zh.N. “State support of small forms of management in agro-industrial complex: state and development trends”, Modern Economy Success. No. 4. P. 12-17, 2017.
- [13] Bogatov H.L., Abazova M.V., Yaitskaya E.A. “*State regulation of employment and reduction of rural poverty in the North Caucasus Federal District*” Modern Economy Success. No. 6. P. 88-92, 2017.
- [14] Shcherbinina A.G. “*Macroeconomic perspective forecasts for business*” Success of Modern Science and Education. № 11-12. P. 102 – 108. 2017.
- [15] Moiseenko Zh.N. “*State support of small forms of management in agro-industrial complex: state and development trends*”. Modern Economy Success. № 4. P. 12 – 17, 2017.
- [16] Komarova S.L. “*The assessment of the consumer basket for the analysis of the region competitiveness*”, Russian Economic Bulletin. Vol. 1. Issue 2. P. 19 – 25, 2018.
- [17] Kobets E.A. “*The implementation of import substitution programme in the agricultural sector*”, Modern Scientist. № 2. P. 71 – 74, 2017.
- [18] Kupryushin P.A., Chernyatina G.N. “*Economic and environmental aspects of rational nature management and optimization of the process of import substitution in the agro-industrial complex*”, Modern Economy Success. № 3. P. 44 – 48, 2017.
- [19] Narkevich L.V. “*Analysis of industrial capacity and break-even production in the crisis management system*”, Russian Economic Bulletin. Vol. 1. Issue 3. P. 28 – 41, 2018.
- [20] Vernigor N.F. “*The system of state support of agricultural production (case study - the example of the Altai territory)*” Modern Economy Success. № 6. P. 7 – 10, 2017.
- [21] Yankovskaya V.V. “*A mechanism developing the professional potential professor-teaching composition in the higher school*”, IOP Conference Series: Earth and Environmental Science. Vol. 274. №. 1. P.1-9. doi:10.1088/1755-1315/274/1/012114, 2019.
- [22] Yankovskaya V.V., Kukushkin S.N. “*The role of the high school in the "triple loop" model: SCBIN technologies*”, IOP Conference Series: Earth and Environmental Science. 2019. Vol. 274. №. 1. P.1-9. doi:10.1088/1755-1315/274/1/012115