Potential Volumes of Organic Produce Export From Siberia
(Case Study of Grain)

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Abstract. Grain crops in Siberia hold the biggest potential in organic farming in kind and value terms. All the regions of the Siberian Federal District have been traditionally engaged in growing grain crops. Grain area in the Siberian Federal District amounts to 8,992 thous. ha, that is the third biggest among the Russian Federation regions. All kind of agricultural companies (from large agribusiness holding companies to farm households) are engaged in grain production. Due to the natural climatic conditions and traditional living principles, the quality of Siberian grain has always been lacklustre. That resulted in the regional policy focused on domestic needs. Due to high logistical costs, it is unprofitable to transport grain surplus for long distances, while 15 to 25% of the gross yield of the harvested grain was enough for domestic food needs. The bigger part of the crop yield was used as fodder or for technical purposes. Under such a policy, there was no need to increase the volume of food grain of Grade 2 and 3. Thanks to the turn of the state policy to export-oriented grain production, the requirements to grain quality have also changed. Stringent requirements to the properties of grain supplied set by importing countries made Siberian grain growing go through a complete overhaul and put up the requirements to the quality of produce. Export activity in the Siberian Federal District has been flourishing for the past 5 years (seasons). Back in 2010, grain export from Siberia was just a topic for discussion, in 2015, it was in small batches from several regions, and nowadays all the constituent entities of the district are taking part in export activity. Throughout the past 6 years export supplies have grown by 5 times. Siberian regions have become full-fledged players of the export grain market side-lining such regions as: Republic of Bashkortostan and Republic of Tatarstan, Belgorod Oblast and Voronezh Oblast. The paper considers the development prospects of the Siberian grain export market, including grain with organic properties being exported to CIS and non-CIS countries.

INTRODUCTION

It is impossible to imagine the organic produce export from Siberia without grain crops, which have the maximum share in the agricultural production structure. Siberian Federal District (SFO) is located in the centre of the Russian Federation (RF) and owing to the fact that it is far from the country’s borders and from deep-water ports in particular it is not grain supplier for export into non-CIS countries. Over a number of years, the production was aimed at filling the domestic needs of the region, while surplus (mainly fodder grain) was sent to the adjacent regions.

The deterrents against grain export from the Siberian Federal District have always been:

1. Remoteness of the Siberian District from the country borders, so, inevitably, transportation costs “eat up” the profit;
2. Lacklustre production performance: the region lacks a large grain surplus which would require some export activity taking into account the red-tape component;
3. The quality of the grain produced in the Siberian Federal District fails to meet the importers’ requirements; and
4. In the Siberian Federal District, there was no union representing and protecting the Siberian agrarians in the grain market, specifically in export operations.

After the country’s grain production crossed over to the export-oriented policy, as well as the state support aimed at offsetting some of the railway transportation costs for grain was provided, the attitude to grain supplies has drastically changed.

The goal of this research is to study and forecast the production performance and grain export supplies from the regions of the Siberian Federal District. The findings were compared to the data related to the Southern, Central, North Caucasian and Volga Federal Districts (top grain-producing macroregions of Russia).

MATERIALS AND METHODS

The theoretical and methodological framework of the study is based on the scientific publications about the issue under study as well as applied research conference papers. The study is based on the information obtained from the official materials of the territorial body of the Federal State Statistics Service; Federal Customs Service and foreign trade of the Russian Federation; legislative and regulatory acts of the Russian Federation, regional bodies of legislative and executive power; academic papers on the issue under study and other sources.

According to the tasks in hand, the following research methods were used: monographic, abstract-logical, economic-statistical methods, and the method of expert assessment.

RESULTS AND DISCUSSION

In 2018, the President of RF issued Decree No. 204 On National Goals and Strategic Objectives for the Russian Federation until 2024 which is aimed at increasing agricultural output and export potential of agriculturists, including those from the Siberian regions. In 2019, at the initiative of grain market players in Siberia, with support of staff of the RF Presidential Envoy in the Siberian Federal District and the Executive Board of the Interregional Association of the Economic Cooperation of the Constituent Entities of the Russian Federation “Siberian Accord”, the Association of Siberian Grain Consortium. These two events spurred the development of grain export from the constituent entities of the Siberian Federal District. Now that the logistics and transport infrastructure have caught on, and thanks to the state support for grain export, one-off supplies turned into the full-fledged activity that generates revenue for grain market actors and regional budgets (Fig. 1).

![Figure 1. Grain export trends for Siberian Federal District, thous. Tonnes.](image-url)
Quite an active engagement of Siberian regions into export-oriented market activity became possible after the government had decided to partly offset the railway expenses for grain transportation to the companies. Over the past 15 years, grain production in the Siberian Federal District has grown by 32%, from 11,647.8 (2005) to 17,177 thous. tonnes (2021) [1]. In 2010, 694 kg of grain per capita were produced, while in 2021 the production was already 1000.7 kg, which provides the means for exporting grains, though in limited quantities, out of the district without compromising the interregional provisions. The grain quality is getting better, e.g., in harvest 2022 in the Novosibirsk Oblast, 85% of the wheat gross yield is classified as Grade 3, compared to the previous periods when this indicator was about 60% [2]. The motivation of Siberian grain producers is conveyed in the fact that suppliers from all 10 constituent entities of the Siberian Federal District are engaged in export activity. The grain market of Siberia is getting more and more export-oriented, while more market players get engaged in the export activity. As a result, it is more beneficial to agricultural producer to export grain and get foreign currency revenue rather than sell it in the domestic market. Due to that, there is an artificial scarcity of food grain in the domestic market, which results in price increase and domestic market volatility [3].

All the regions of the Siberian Federal District take part in export (Table 1).

<table>
<thead>
<tr>
<th>Region</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Siberian Federal District</td>
<td>805.40</td>
<td>1,081.38</td>
<td>1,565.7</td>
<td>180,668.45</td>
</tr>
<tr>
<td>Altai Republic</td>
<td>11.63</td>
<td>52.018</td>
<td>151.4</td>
<td>18.887</td>
</tr>
<tr>
<td>Republic of Tuva</td>
<td>0.13</td>
<td>0.9</td>
<td>1.1</td>
<td>0.05</td>
</tr>
<tr>
<td>Republic of Khakassia</td>
<td></td>
<td>17.57</td>
<td>12.9</td>
<td></td>
</tr>
<tr>
<td>Altai Krai</td>
<td>328.36</td>
<td>236.39</td>
<td>370.84</td>
<td>5.09</td>
</tr>
<tr>
<td>Krasnoyarsk Krai</td>
<td>47.65</td>
<td>119.304</td>
<td>85.6</td>
<td>0.067</td>
</tr>
<tr>
<td>Irkutsk Oblast</td>
<td>12.91</td>
<td>12.050</td>
<td>20.37</td>
<td>0.66</td>
</tr>
<tr>
<td>Kemerovo Oblast</td>
<td>9.96</td>
<td>4.39</td>
<td>16.78</td>
<td></td>
</tr>
<tr>
<td>Novosibirsk Oblast</td>
<td>120.2</td>
<td>288.69</td>
<td>502.18</td>
<td>28.95</td>
</tr>
<tr>
<td>Omsk Oblast</td>
<td>259.2</td>
<td>348.56</td>
<td>404.04</td>
<td>81.0</td>
</tr>
<tr>
<td>Tomsk Oblast</td>
<td>15.32</td>
<td>1.57</td>
<td>0.552</td>
<td>0.063</td>
</tr>
</tbody>
</table>

*The data are provided for the period from January to May 2022.

Export structure broken into region is reshaping itself due to new players in the grain market. So, in 2021, it was the first time when the Republic of Khakassia supplied 12.9 thous. tonnes for export, while the Altai Republic increased grain supplies by 13 times (151.4 thous. tonnes) in 2021 as compared to 2019.

The top suppliers according to Federal Customs Service as of 2021 are: Novosibirsk Oblast – 502.18, Omsk Oblast – 404.04, and Altai Krai– 370.84 thous. tonnes.

Lobbying the interests of export-oriented grain market players in the ministry and the creation of Siberian Grain Consortium has enabled the Siberian regions to become active participants and promote their grain produce in the world market. In 2021 grain export from the Siberian Federal District ranked third. The top two are Southern and Central Federal Districts, with 27,067.8 and 10,737.6 thous. tonnes respectively (Table 2).

<table>
<thead>
<tr>
<th>Region</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Siberian Federal District</td>
<td>23,316.7</td>
<td>4,679,360.4</td>
<td>28,141.5</td>
<td>27,067.8</td>
</tr>
<tr>
<td>Central Federal District</td>
<td>11,026.4</td>
<td>2,199,428.7</td>
<td>14,003.3</td>
<td>10,737.6</td>
</tr>
<tr>
<td>Siberian Federal District</td>
<td>805.40</td>
<td>150,104.99</td>
<td>1,081.38</td>
<td>1,041.2</td>
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<tr>
<td>North Caucasian Federal</td>
<td>1,084.5</td>
<td>212,394.5</td>
<td>1,087.3</td>
<td>5.85</td>
</tr>
<tr>
<td>Volga Federal District</td>
<td>802.8</td>
<td>157,087.4</td>
<td>1,351.1</td>
<td>248,549.2</td>
</tr>
<tr>
<td>Ural Federal District</td>
<td>8.756</td>
<td>1,694.4</td>
<td>15.3</td>
<td>2509.4</td>
</tr>
</tbody>
</table>

Traditionally, the largest grain exports go from the Southern Federal District, i.e., practically one third of all the grain export from Russia, which in 2021 was equal to 27.067 M tonnes of grain. Top exporting regions: Krasnodar
Krai and Rostov Oblast. Supplies from every particular region can be compared to cumulative supplies from the Central Federal District. The share of these two regions in the Southern Federal District export of grain amounts to 96%.

In 2021, the Central Federal District enjoyed the export of 10.737M tonnes, where the decrease of about 3 to 7% could be seen throughout the period. Practically all the regions of the district are at the same level in regard to the grain export. The typical exporting regions are Belgorod Oblast and Voronezh oblast. They have a share of 7 to 11% in the total grain export.

The Volga and North Caucasian Federal Districts export about 1 million tonnes of grain annually. The top exporting region in the North Caucasian District is Stavropol Krai, which accounts for 72 to 80% of all the grain supplies. In the Volga Federal District, the constituent entities have approximately the same share of 10% in the grain export structure.

The area under grain crops amounts to 9,263.4 thous. ha in the Southern Federal District, 8,682.9 thous. ha in the Central Federal District, 13,390.7 thous. Ha in the Volga Federal District, and 3,187.2 thous. ha in the North Caucasian Federal District.

Traditionally, the Southern and Central Federal Districts are the top grain exporters to CIS and non-CIS countries. Schemes and logistic routes were developed for them, as well as dock-side and railway infrastructure. Well-established supply mechanisms are up and running in the regions, the legal framework and regulations related to exports have been developed. The other regions have to incorporate themselves in the developed frameworks and adjust to the existing rules. This impairs the ability to compete of new export market players and, having products with similar properties, they still have lower marginality.

The deterrent against increasing grain export volumes from the Siberian Federal District is the export quotas defined annually according to the Decree of the Russian Federation Government for each district and region through participants of foreign economic activities.

The volume of the tariff quota for grain export (Vk, i) is calculated in accordance with the equation:

\[ V_{ki} = \left( \frac{V_i}{V_{o}} \right) \times V_{ko} \]

where:
- \( V_i \) – the volume of grain crops exported by an applicant within the base period;
- \( V_o \) – the volume of grain crops exported by all the applicants within the base period; and
- \( V_{ko} \) – the total volume of the tariff quota set for the period from 15 February to 30 June in regard to wheat, rye, barley, corn or a group of grain crops.

Provided that the volume declared by some applicants is lower than the volume of the tariff quota, the remaining total volume of the tariff quota is distributed among the rest of the applicant’s pro rata with the operational export, but not exceeding the volume stated [5].

As the volumes of the grain exported in the base (previous) year are tied up with the quotas for future periods, there cannot be any dramatic reduction or sharp increase in quotas. Originally, quota calculation was based on such indicators as grain production volumes in the region, production per capita, consumption per capita, and percentage in the total gross yield of food grain. On this measure, Siberian regions are lagging behind the grain exporting regions. For example, in the Belgorod Oblast and Voronezh Oblast of the Central Federal District 2,243 and 2,266 kg of grain per capita respectively, in the Krasnodar Krai – 2,451.7 kg, in the Rostov Oblast – 2,881.6 kg, and in the Stavropol Krai – 3,000.7 kg. In the Siberian Federal District this indicator is equal to 1,142.6 kg which does not allow for a dramatic increase in the grain export volumes with the present-day values. Practically, all the surplus of grain is taken out of the district [6]. A further increase is possible only if accompanied with the increase of food grain production volumes.

**CONCLUSION**

Siberian regions are well-placed to increase the grain area, including organic grain production. In the Novosibirsk Oblast alone, the area of waste land is over 1 M ha, the same story is in all the other Siberian regions (except the Kemerovo Oblast). The agronomic potential of grain crops has not been reached yet in any of the regions (according to average annual yield capacity). The natural climatic conditions over the past 25 years have become more comfortable for growing grain crops. New investors entered the regions which invigorated grain production participants and stimulated them to bring in new equipment and technologies. All that taken together plus state support can enable the district to increase grain export up to 2-2.3 M tonnes per season.
To conclude the following growth options for export-oriented organic farming can be set out:

1. Land under cultivation can be increased by means of putting into operation waste land;
2. Producers can be provided with support to grow food grain, Grade 2 and 3, which is in line with importers’ requirements;
3. The interests of Siberian exporters can be vigorously advocated and promoted through the Association of Siberian Grain Consortium; and
4. Assistance in development of logistical, transportation and warehouse infrastructure can be provided with the use of all the possible forms of production organisation (state, private, mixed, public-private (municipal) partnership).

ACKNOWLEDGMENTS

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