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**СРАВНИТЕЛЬНЫЙ АНАЛИЗ ЗЕРНОВЫХ ПЕРЕВОЗОК В РОССИИ И
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erarcher@mail.ru**Аннотация**

В данной статье проведен анализ двух ключевых субъектов зернового бизнеса – Китая и России. Китай рассматривается в качестве потребителя и импортера зерновых грузов, а Россия – как их производитель и экспортер. Отдельно выделены основные проблемы перевозки зерна из России в Китай в современных экономических условиях.

Ключевые слова: зерновые грузы, потребление зерна, производство зерна, зерновые перевозки, экспорт зерна в Китай.

**COMPARATIVE ANALYSIS OF GRAIN TRANSPORTATION IN RUSSIA
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erarcher@mail.ru**ABSTRACT**

The article analyzes two subjects of the grain business - China as a consumer and importer of grain cargo and Russia as a producer and exporter of grain cargo. An analysis was also carried out and the main problems of grain transportation from Russia to China were identified.

Keywords: grain cargo, grain consumption, grain production, grain transportation, grain export to China.

Nowadays the food independence of any state, the economic situation of agricultural enterprises and their ability to provide population with food depend on grain production. A challenging problem which arises in this area is grain transportation. This research constitutes a relevant issue which has emerged from the following factors. Firstly, an increased importance of grain production and grain transportation for the food independence of a country. Secondly, the reorientation of cargo flows from Russia to the East where China considers to be the main economic partner.

The ultimate goal of this article is to analyze grain transportation from Russia to China and to identify the main problems of grain export. With this goal in mind, the following tasks will be considered: 1) to describe China as a grain consumer; 2) to characterize Russia as a grain producer and supplier; 3) to identify the problems of grain export from Russia and China. The theoretical method of literature review and best business practices was applied to address this issue.

Meeting the demand for foods is the basis of the agricultural policy of any country, including China. China is the most populous country and the largest food consumer in the world. During 2013-2019, China's soybean and rice consumption accounted for about 30 % of the total world consumption. The proportion of corn was about 25 %, and the proportion of wheat was about 15 %-20 %. Figure 1 represents the graphs based on the FAOSTAT data to confirm the above given statistic. As well as Figure 2 shows the diagrams providing the volumes of production, import and export of grain in China for 2013-2020 [1].

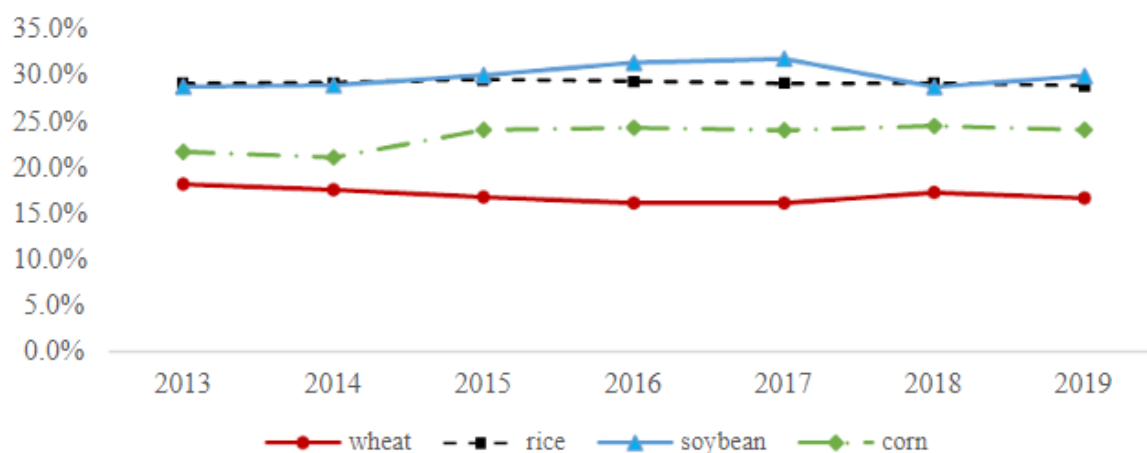


Fig. 1. The proportion of China's grain consumption in the world's consumption

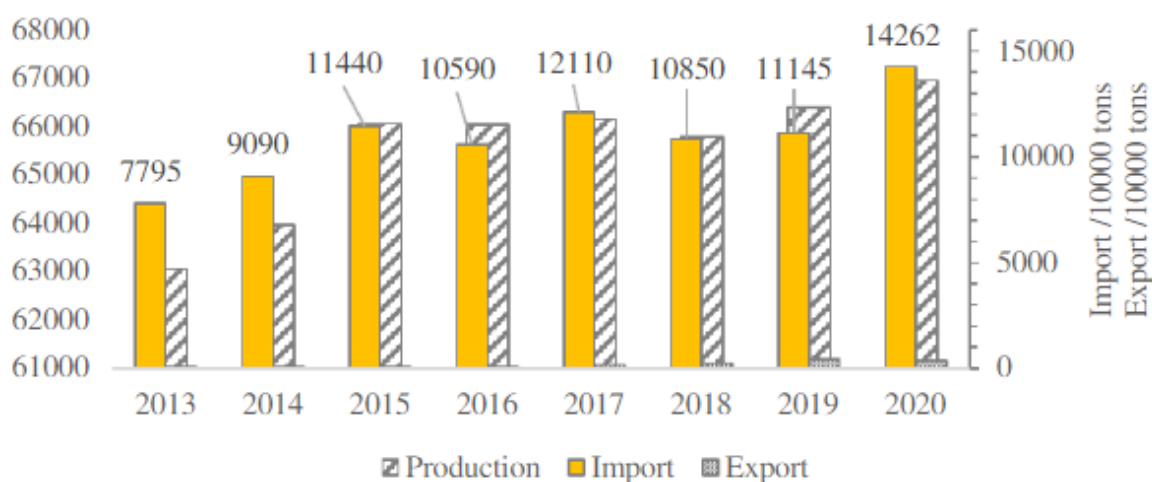


Fig. 2. Grain production, import and export in China

In the light of these statistic is conceivable that in recent years the volume of grain produced and imported into China has been constantly increasing. Moreover, the imported grain is almost as much as the grain produced, however the grain is almost not exported from China. Thus, China is a grain consumer that needs grain supplies from other countries and does not export its own grain. The major consumption of grain in this country is for main, feed, industrial, seed and other uses. As the volume of grain grows, the distance of its transportation increases.

Domestic grain transportation in China is carried out by rail, water and road transport. The railway is the most critical transport mode for supplying grain to Southwest China. The waterway transportation is mostly responsible for carrying grain from Northeast and East China to Central-South China; Guangdong Province is the largest destination for the waterway-transported grain (45 % in 2015). Road transport is mainly for short-distance transport within all regions [2].

Russia accounts for 9 % of the world's area under cultivation and 40 % of the black earth. It produces about 5 % of the world's grain. During the 1990s, Russia (USSR) was the largest importer of grain worldwide, with grain imports reaching 30 million tonnes per year. Russia is now a major grain exporter, yet the amount of grain produced has hardly changed much (see Fig. 3). What is the reason for this situation? The fact is that Russia has reduced its domestic consumption of grain. The surplus from this reduction is exported (see Fig. 4) [4].

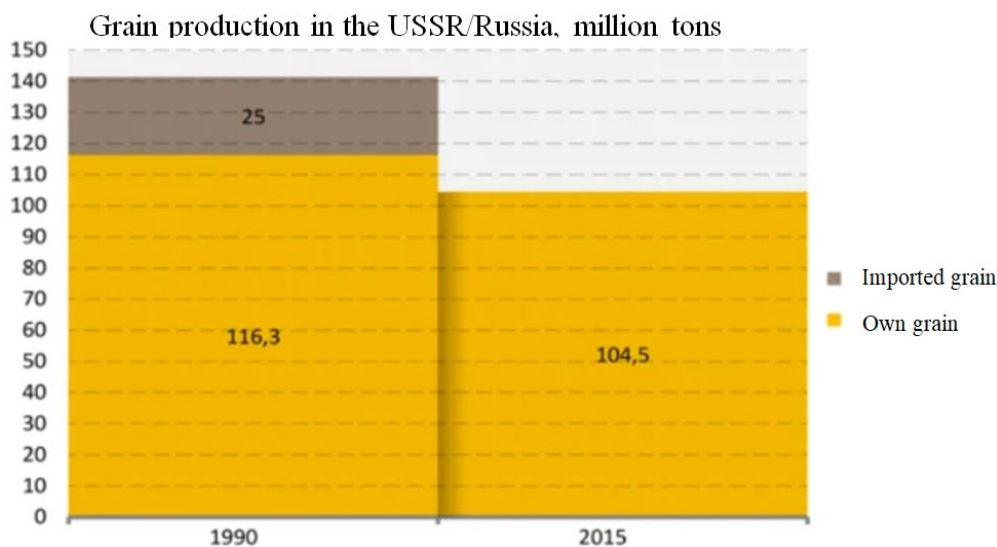


Fig. 3 Grain production

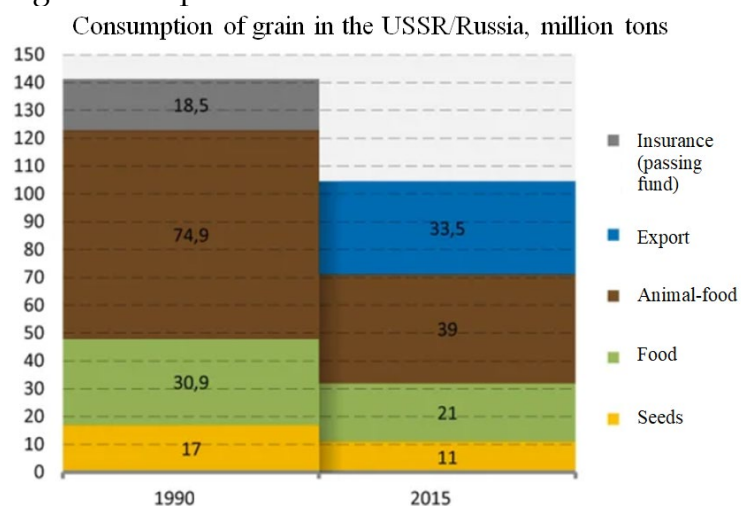


Fig. 4 Grain consumption

The diagrams in Fig. 5 illustrate the volumes of Russian grain produced and exported between 2011 and 2021. According to the diagrams, it can be stated that Russia exports about 30 % of its grain annually. Approx. 80 % of exported grain is wheat, approx. 10 % is barley, approx. 8 % is corn, and approx. 2 % is other grains [5].

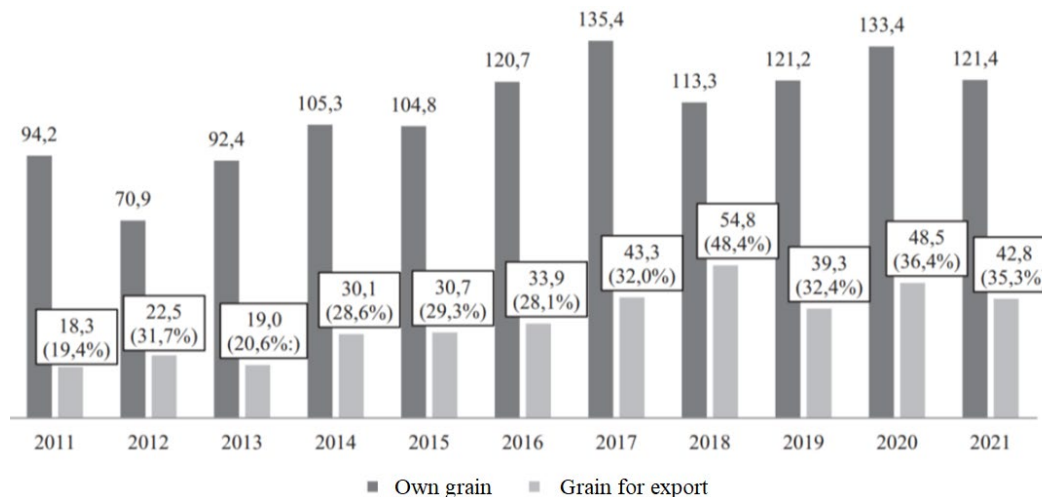


Fig. 5 Grain consumption and export in Russia, million tons

Since 2016, Russia has been the leader in grain exports. At that time, the largest importers of Russian grain were Egypt (17 %), Turkey (6 %), Bangladesh (4 %), Sudan (3 %), Nigeria (3 %), Indonesia (3 %), Yemen (3 %), Azerbaijan (2 %), Lebanon (2 %) and Latvia (2 %). Russia also exported grain to other countries (more than 100), but in smaller volumes. Nowadays the situation has changed due to the political situation. For example, Canada, America and Switzerland refused to import Russian grain. At the end of 2022, the largest importers of Russian grain are the countries of the Middle East (39 %), Asia (3 %), Africa (20 %), and the European Union (7 %). Turkey purchased 23 % of Russian grain, Iran – 21 %, Egypt – 15 %.

In 2022, there was an increase in supplies of Russian grain. Algeria increased imports by 3.7 times, Pakistan by 2.5 times, China by 78 %, Sudan by 64 %. In general, supplies of Russian grain in 2023 increased by 1.6 times (by 5.6 million tons). We can conclude that the political situation has not weakened the Russian grain business [6].

As it was written above, China consumes the most grain in the world and cannot provide itself with grain. At the same time, Russia produces 40-50 % more grain than it can consume, and Russia is also increasing its export potential. Following this, we can point out that Russia and China can interact as two business entities: a producer and consumer of grain, or an exporter and an importer of grain.

Nowadays China and Russia have increasingly strengthened their agricultural, economic, and trade cooperation. In early 2022 China and Russia signed a series of agricultural cooperation agreements, and Russian bulk grain products (wheat and barley) have been allowed for exportation to China since then. So, in recent years, China-Russia relations have become increasingly close, having recently been upgraded to a new era of comprehensive strategic cooperative partnership, and the level of cooperation and exchange between the countries has continued to rise.

Russia's grain exports to China are mainly concentrated in soybeans, corn, and buckwheat, accounting for about 95 % of the total grain exports to China. In addition to these three types of products, since 2015, the share of Russian wheat products exported to China has increased year by year, and the export has shown a geometric growth [7].

Delivery of Russian grain to China can be carried out by rail and water transport. By rail, grain is transported in wagons (hopper cars or gondola cars with liners) or in containers (special or universal with liners). Alternative delivery options are also available. By sea, grain is also delivered in containers on tanker ships or in bulk on dry cargo ships.

These days there are the following problems with grain exports to China:

1. insufficient development of transport and logistics infrastructure;
2. transport costs are high (average grain prices double);
3. limiting the list of Russian regions from which grain can be exported;
4. formation of a register of accredited exporters;
5. restriction of imports of grain products from China;
6. small production volumes of those grains that China needs (soybeans);
7. high customs duties on the export of certain goods (flour);
8. phytosanitary risks;
9. coordination of forms in the field of phytosanitary certificate;
10. environmental risks.

Solving these problems will ensure the further sustainable development of trade relations between Russia and China.

On this basis, we conclude that China and Russia are the major players of the grain business. At the same time, China is viewed as a grain consumer demanding supplies from other countries and not exporting its own product. Meanwhile, Russia produces 40-50 % more grain than it can consume alone and increases its export potential. The bilateral cooperation to provide food security is of great importance for the food market stability of the two countries and the whole world. However, there are at least 10 problems with grain exports from Russia to China that have not yet been solved.

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