

## Food Export: Looking to the East

V. V. Rau

*Institute of Economic Forecasting, Russian Academy of Sciences, Moscow, 117418 Russia*

*e-mail: bandura3@yandex.ru*

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**Abstract**—A number of issues related to the functioning of the agrarian market in conditions of increasing export supplies are considered in the paper using the example of the grain sector of the Russian economy, and ways of overcoming possible disproportions in this sphere from the standpoint of national economic efficiency are proposed. The prospects of mutually beneficial Russian-Chinese cooperation in the agrarian sphere are shown.

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**Grain is the base of the Russian food export.** For the past 15 years, Russian agriculture in general and its grain sector in particular have gone a long way from stagnation to sustainable development. Russia has become one of the leading countries in grain exports, simultaneously increasing the production and supply of quality livestock and other agricultural products. The overwhelming majority of domestic food needs are now fully covered by Russia's own production. The country is gradually turning from an importer of food into the world's largest exporter, which gives it additional income and forms powerful incentives for the development of productive forces and the social sphere of the village and improvement of the living conditions of rural residents. Of course, there are still many acute problems hampering the progress of an agrarian economy, but the positive dynamics are being increasingly felt in both the productive and scientific circles of the agrarian community [1–4].

The development of the grain industry after a long and painful recession in the 1990s has finally acquired a steady positive trend, which significantly increased the gross output and yield of cereal crops and made it possible to achieve the highest per capita output of grain of 813 kg in 2016 (Table 1).

Grain currently accounts for about 40% of total Russian food exports. At the moment, this is mainly wheat (80% of external grain supplies), but some increase in the export of feed grain (barley, maize) with the unconditional provision of the growing domestic needs of Russian animal husbandry is possible in the future.

Based on the analysis of the balance structure of grain resources and the use of grain in recent years, we can conclude that the main growth was demonstrated just by grain exports, in contrast to imports, which fluctuated steadily around the 1 mln t mark. The share of

Russian grain exports in the total volume of its production has almost doubled, having increased from 15.8% to almost 30% in comparison with 2005 (Tables 2, 3).

Undoubtedly such a significant structural shift has required active regulatory state actions, which were aimed primarily at ensuring the stability of the domestic market, including the supply of food to the Russian population and the provision of the livestock sector with feed grain. In general, this problem has been successfully solved, although a number of regions were characterized by structural and price deformations in the grain market, which were due to its sharply increased export orientation. The strengthened position of Russia among the world's leading grain producers and exporters, as well as the completion of the country's long-term dependence on food imports have become the main positive result of these processes.

In the 2015/2016 agricultural year, Russia, having reached a grain yield of 61 mln t, surpassed the level of the United States in wheat output (compared to 56.1 mln t) and was ranked third among the world's largest producers of this crop after China and India, where the wheat output was 130.2 and 86.5 mln t, respectively (Table 4).

However, even with such a large amount of gross output, both India and China cannot fully meet the rapidly growing domestic needs of their multimillion population and will probably have to import large quantities of grain and other foodstuffs from abroad in the future, which has created favorable conditions for the development of mutually beneficial trade and economic cooperation in the food sphere between our country and these leading countries of East Asia. According to the results of the 2015/2016 agricultural year, the share of countries in the world wheat production reached the following values (%): Russia – 8.3;

**Table 1.** Grain production in Russia

| Years     | Sown area, mln ha | Gross output, mln t | Yield from sown area, c/ha | Per capita grain output, kg |
|-----------|-------------------|---------------------|----------------------------|-----------------------------|
| 1986–1990 | 65.6              | 104.3               | 15.9                       | 714                         |
| 1991–1995 | 59.1              | 87.9                | 14.9                       | 592                         |
| 1996–2000 | 50.0              | 65.1                | 13.0                       | 443                         |
| 2001–2005 | 44.8              | 78.8                | 17.6                       | 544                         |
| 2006–2010 | 45.0              | 85.2                | 18.9                       | 596                         |
| 2011–2015 | 45.3              | 93.5                | 20.6                       | 650                         |
| 2016      | 47.1              | 120.7               | 25.6                       | 813                         |

Source: [1].

United States – 7.6; Canada – 3.7; Ukraine – 3.7; Australia – 3.3; Kazakhstan – 1.9; Argentina – 1.5; Brasilia – 0.7; and Belarus – 0.4.

It should be noted that in the conditions of low growth rates of domestic solvent demand, food export can become an effective activating factor in the development of the agroindustrial complex of the country's national economy through the maintenance and growth of the incomes of both rural producers and the technologically related enterprises of other branches of the agroindustrial complex. Competently and timely regulating export supplies of agrifood products, the state gets the opportunity to ensure their optimal level and structure to achieve the balance of interests of domestic producers and consumers in the domestic and foreign markets.

This export-oriented strategy is widely used by many countries of the world and makes it possible to preserve the development potential of the food sector

with its orientation to achieve long-term macroeconomic goals even in unfavorable conditions.

The positive dynamics of the main types of Russian grain exports can be traced in recent years for all the major importing countries (Table 5).

The main consumers of Russian grain are traditionally the states of the Middle East and North Africa: Egypt, Turkey, Saudi Arabia, Iran, Jordan, Azerbaijan, Algeria, Lebanon, etc. Along with them, Central Africa (Nigeria) and East Asia (Bangladesh, Korea), as well as Europe (the Netherlands) have become relatively new and rapidly growing markets for Russian foodstuffs.

The development of new sales markets is a key task of domestic food export, which is focused mainly on the countries and regions with a high potential for growth in consumption and rapidly growing solvent demand. First of all, they include the countries of East Asia, in which the growth rates of the population and

**Table 2.** Resources and use of grain (without grain processing products), mln t

| Indicator  | 2001–2005 | 2006–2010 | 2014  | 2015  | 2016  |
|--|-----------|-----------|-------|-------|-------|
| <b>Resources</b>   |           |           |       |       |       |
| Reserves as of the beginning of year                                   | 43.4      | 53.3      | 52.6  | 60.2  | 64.8  |
| Output   | 78.8      | 85.2      | 105.3 | 104.8 | 120.7 |
| Import   | 1.9       | 1.0       | 0.9   | 0.8   | 1.0   |
| Total amount of resources  | 124.1     | 139.5     | 158.8 | 165.8 | 186.5 |
| <b>Use</b>   |           |           |       |       |       |
| Production consumption   | 23.0      | 21.5      | 21.0  | 20.9  | 22.3  |
| Including for:   |           |           |       |       |       |
| seeds  | 11.4      | 10.7      | 10.9  | 10.7  | 11.2  |
| cattle fodder  | 11.6      | 10.8      | 10.1  | 10.2  | 11.1  |
| Grain processed into flour, grits, mixed fodder and for other purposes | 46.0      | 46.7      | 46.4  | 48.2  | 52.2  |
| Losses   | 0.9       | 0.9       | 1.0   | 1.1   | 1.1   |
| Export   | 9.3       | 15.4      | 30.1  | 30.7  | 33.9  |
| Personal consumption   | 0.1       | 0.1       | 0.1   | 0.1   | 0.1   |
| Reserves as of end of year   | 44.8      | 54.9      | 60.2  | 64.8  | 76.9  |

**Table 3.** Grain exports in Russian Federation, mln t

| Indicator                               | 2005 | 2010 | 2015  | 2016  |
|---|------|------|-------|-------|
| Grain exports                           | 12.3 | 13.9 | 30.7  | 33.9  |
| Grain output                            | 77.8 | 61.0 | 104.8 | 120.7 |
| Share of exports in the total output, % | 15.8 | 22.8 | 29.3  | 28.1  |

Source [3, 5].

economic development are significantly ahead of the world's average indicators and which are, moreover, in relative proximity to the Far Eastern borders of Russia.

The reasonable expansion of food export without damaging domestic consumption should also be recognized as an important humanitarian mission of Russia in the international arena that has contributed to the successful fight against hunger and malnutrition in the least developed countries of the world, as well as in the countries that are affected by wars and natural disasters. This aspect of international food aid and trade is especially relevant for our country, which has unique and extensive land and water resources for effective agricultural production, which are absent in many other countries that are forced to import significant amounts of food, often at very high prices.

Export prices for the main types of Russian grain usually follow the dynamics of world prices, reflecting the properties of countries and regions (Table 6).

However, it should be noted that the average level of Russian prices remains much lower than the world level, which is indicative mainly of the insufficiently

high quality of Russian grain imported abroad. Thus, in 2016, prices for domestic grain were in some cases 10–20% below the world level, and a similar analogy was also observed in 2015. Accordingly, domestic producers and suppliers annually had significant losses due to the low quality of grain and sometimes lost markets. The problem of the quality of grain and other food products acquires a particularly important role when producers enter new markets, where they are compelled to compete with products, which often have very high consumer standards and also enjoy significant support from their states.

The unsatisfactory quality of grain also creates difficulties in the processing industry in the production of the necessary assortment of flour and grits both for the needs of the domestic Russian market and for promoting these products with higher added value abroad. The volumes of exports, in particular exports of Russian wheat and wheat-rye flour, have been very insignificant over the past 15 years: 0.17 mln t in 2000; 0.23 mln t in 2005; 0.14 mln t in 2010; 0.26 mln t in 2015; and approximately 0.24 mln t in 2016. In addition, in order to increase flour exports, there is a need for substantial state support for flour-milling enterprises, as well as a more developed logistics system, since flour is a much less transportable product than grain, which requires special conditions for storage and transportation.

However, despite possessing large genetic resources of grain crops, which allow obtaining high-quality grain in many regions of the country, only 2% of Russia's total grain production is of the first and second grade. Strong wheat with a gluten content of

**Table 4.** World wheat production, mln t

| Country       | 2005/2006 | 2010/2011 | 2015/2016 | 2005/2016 with respect to resulting production, % |
|---------------|-----------|-----------|-----------|---|
| Total         | 618.8     | 649.5     | 737.0     | 100   |
| China         | 97.4      | 115.2     | 130.2     | 17.7  |
| India         | 68.7      | 80.8      | 86.5      | 11.7  |
| Russia        | 47.6      | 41.5      | 61.0      | 8.3   |
| United States | 57.2      | 58.9      | 56.1      | 7.6   |
| Canada        | 25.7      | 23.3      | 27.6      | 3.7   |
| Ukraine       | 18.7      | 16.8      | 27.3      | 3.7   |
| Pakistan      | 21.6      | 23.3      | 25.1      | 3.4   |
| Australia     | 25.2      | 27.4      | 24.2      | 3.3   |
| Turkey        | 18.5      | 17.0      | 19.5      | 2.6   |
| Kazakhstan    | 11.2      | 9.6       | 13.7      | 1.9   |
| Argentina     | 13.8      | 17.2      | 11.3      | 1.5   |
| Brasilia      | 4.9       | 5.9       | 5.5       | 0.7   |
| Belarus       | 1.2       | 1.7       | 2.9       | 0.4   |

Source: [6, 7].

**Table 5.** Russian grain exports to main importing countries, 1000 t

| Country                 | 2001 | 2005  | 2010  | 2015  | 2016  |
|-------------------------|------|-------|-------|-------|-------|
| <b>Wheat and meslin</b> |      |       |       |       |       |
| Total                   | 1638 | 10319 | 11848 | 21234 | 25327 |
| Egypt                   | 30   | 2879  | 4841  | 4534  | 5824  |
| Turkey                  | 95   | 43    | 1453  | 3118  | 2648  |
| Bangladesh              | 0    | 507   | 141   | 892   | 1860  |
| Nigeria                 | 0    | 0     | 0     | 866   | 1413  |
| Azerbaijan              | 138  | 816   | 125   | 1242  | 1141  |
| <b>Barley</b>           |      |       |       |       |       |
| Total                   | 1522 | 1768  | 1534  | 5295  | 2863  |
| Saudi Arabia            | 574  | 828   | 952   | 2970  | 1392  |
| Iran                    | 149  | 118   | 87    | 634   | 439   |
| Jordan                  | 0    | 3     | 0     | 269   | 197   |
| Algeria                 | 64   | 41    | 0     | 52    | 119   |
| Lebanon                 | 10   | 48    | 20    | 52    | 113   |
| <b>Maize</b>            |      |       |       |       |       |
| Total                   | 1    | 69    | 230   | 3698  | 5324  |
| Korea                   | 0    | 0     | 0     | 900   | 936   |
| Turkey                  | 0    | 0     | 80    | 1368  | 838   |
| Iran                    | 0    | 0     | 64    | 133   | 705   |
| Netherlands             | 0    | 0     | 0     | 126   | 569   |
| Lebanon                 | 0    | 9     | 14    | 83    | 409   |

Source: [5, 6].

over 28% also accounts for not more than 2% of total commodity resources. In addition, the production of wheat of the hard varieties has almost ceased in a number of regions. Its crops are concentrated mainly in the Orenburg, Chelyabinsk, and Saratov oblasts, and in the Altai krai, making up less than 2% of the total area under wheat, and the gross yield is only 0.5 mln t, providing only a third of the country's domestic demand. Even the third-grade soft wheat with a gluten content of 25% and more, which is the most widespread and most in demand in the domestic market, is still not grown in a sufficient amount. In contrast, the share of the fourth-grade wheat of a worse quality, which is mainly exported, has reached 40% of the total commodity volume. In some years, the fourth-grade and fifth-grade wheat accounts for up to 80% of all consignments of grain exported abroad, which, of course, considerably reduces its competitiveness in the world market [2].

The development of the domestic food export and, in particular, grain exports, of course, must be under the constant control and support of the state. Together with the effect of market mechanisms, this will ensure achieving the highest national economic efficiency and balance of all branches of the agroindustrial complex, primarily crop production and animal hus-

bandry. Agencies for state regulation of agrarian markets should also more intensively orient domestic producers toward a greater supplementation of the export of raw materials with the export of products with high added value: flour, products of deep grain processing, and livestock products produced based on grain components and with their use. This approach will not allow the growth of external grain deliveries in isolation from the interests of other branches of agrarian production and needs of the domestic market.

In particular, the situation with the use of grain fodder remains complicated, since the feed expenditures for the output of livestock products are higher by factors of 1.5–2 than the level achieved in most of the economically developed countries. To solve this problem, it is necessary not only to use all feed grain in the livestock sectors in a processed form but also to optimize the composition and structure of mixed fodders, saturating them to standard levels with premixes, microelements, vitamins, proteins, and other valuable components that increase productivity, reduce the mortality of livestock, and improve the quality and competitiveness of livestock products in both the external and internal markets.

Meanwhile, the share of the most valuable leguminous crops that are a very important source of fodder protein for livestock and poultry and for increasing soil fertility has significantly decreased in recent years in the structure of crops and production of feed grain. Thus, while in 1990 the sown area under leguminous crops was 3.5 mln ha, in 2016 it was only approximately 1.6 mln ha. However, the gross yields of export-oriented grain crops have continuously increased.

In a number of Russian regions, mainly in the southern port regions with direct access to sea grain terminals (Krasnodar krai and Rostov oblast), the technological gap between the development of the grain industry and main livestock sectors has arisen in the face of a significant but insufficiently controlled growth in grain exports. This has led to disproportions in the functioning of the agrarian market, irrational use of the bioclimatic potential, and orientation to a greater extent on immediate benefits rather than on the real needs of agricultural production. Thus, in 2011–2015, the share of the grain area occupied more than 60% of the sown areas in more than a third of the Russian regions, significantly exceeding the recommended agrotechnical norms [1].

There is a need to develop the agrarian sector based on the formation of large specialized zones for the production of the main types of agricultural crops, including grain. Many countries of the world have been successfully implementing this process for a long time; moreover, the state not only promotes a more rational distribution of agricultural production but also actively regulates it through various legislative, economic, and organizational measures at the inter-ethnic, country, and regional levels. Meanwhile, the

huge climatic diversity that is one of the most important components of the domestic agrarian potential allows Russia to produce most agricultural products on its territory and reliably ensure the country's food security.

It is not possible to efficiently improve the placement and specialization of the agroindustrial complex without a developed agrarian infrastructure and logistics. One of the priorities of the State Program for the Development of Agriculture and Regulation of Agri-food Markets for 2013–2020 is to minimize transport costs and optimize other factors that determine the competitiveness of agricultural products and food industry in the country's regions with the creation of modern logistics centers.

In this respect, in particular, it is planned to expand the existing terminals and construct new deep-sea grain terminals in the seaports of the Azov-Black Sea, Baltic, and Pacific basins. This will increase the export potential of the grain economy by 2030 presumably to 40–50 mln t with the unconditional fulfillment of all agrotechnical requirements, as well as ensuring the growing needs of the domestic market and improving the quality of products.

In general, grain will continue to maintain its position as an important item in food exports, playing a significant role in the overall system of international trade.

At the present stage of economic development, there is a very important problem of a high degree of involvement of Russian food exports in transnational trade and technological chains of supply and sale of products, in which the leading role is played by foreign firms and corporations. The absence of large domestic traders for many important types of products reduces the overall effectiveness of export activities in the agri-food sector and makes it dependent on the interests of international capital. In this case, the state is called upon to reliably ensure the priority of national producers in the international arena and the entry of Russian companies into foreign markets.

Another no less important problem is the rather narrow circle of domestic exporters. For the time present, the small and medium forms of agricultural enterprises are poorly involved in this activity. Probably, in this case we should create specialized export cooperatives with the most active participation of the appropriate branch unions in this process, in particular, grain, meat, and dairy unions.

Although the rules of the World Trade Organization prohibit direct government subsidies for exports, most countries make extensive use of indirect forms of support through the so-called "green box" of WTO rules, which include, in particular, the financing of educational and research programs for agriculture, development of its infrastructure, and the social development of rural areas. In addition, it is advisable to make more extensive use of various extra-budgetary

**Table 6.** Export prices for main types of Russian grain, dollars/t

| Country                 | 2001 | 2005 | 2010 | 2015 | 2016 |
|-------------------------|------|------|------|------|------|
| <b>Wheat and meslin</b> |      |      |      |      |      |
| On the average          | 88   | 110  | 175  | 186  | 166  |
| Egypt                   | 85   | 110  | 177  | 186  | 170  |
| Turkey                  | 86   | 117  | 165  | 182  | 160  |
| Bangladesh              | –    | 104  | 171  | 163  | 150  |
| Nigeria                 | –    | –    | –    | 195  | 173  |
| Azerbaijan              | 102  | 111  | 200  | 191  | 167  |
| <b>Barley</b>           |      |      |      |      |      |
| On the average          | 80   | 115  | 128  | 178  | 148  |
| Saudi Arabia            | 78   | 118  | 125  | 182  | 150  |
| Iran                    | 82   | 106  | 120  | 179  | 145  |
| Jordan                  | –    | 110  | –    | 178  | 149  |
| Algeria                 | 77   | 105  | –    | 172  | 157  |
| Lebanon                 | 124  | 110  | 110  | 149  | 139  |
| <b>Maize</b>            |      |      |      |      |      |
| On average              | 365  | 95   | 188  | 162  | 161  |
| Korea                   | –    | –    | –    | 168  | 166  |
| Turkey                  | –    | –    | 177  | 158  | 151  |
| Iran                    | –    | –    | 195  | 184  | 171  |
| Netherlands             | –    | –    | –    | 164  | 166  |
| Lebanon                 | –    | 81   | 172  | 159  | 155  |

Source: [6].

sources of support for export activities, including through branch unions of producers and processors of agricultural products and other public organizations. This will enable a more vigorous and targeted involvement of private investments of companies and firms that are interested in developing new markets for their products in foreign countries, along with state investment.

**East Asia is a very important potential importer of Russian food.** Clearly East Asia, including, in particular, both a number of ASEAN countries (Indonesia, Malaysia, Vietnam, Laos, Brunei, Kampuchea, Myanmar, Singapore, Thailand, and the Philippines) and states such as India and China are clearly the most rapidly developing region of the world. Meanwhile, all of them are characterized by a growing population and its increasing purchasing power and the resulting tension in connection with supplying food to the population through their own limited natural resources and potential. As this region develops economically and socially, it is increasingly becoming the world's largest importer of agricultural products and raw materials. As already noted, its proximity to Russia's eastern borders opens ample opportunities for mutually beneficial trade and economic cooperation in the agrifood sector, as well as for the connection of integration pro-

cesses in the Eurasian economic space with similar trends in East Asia, in particular, with the well-known Economic Belt of the Silk Road Project, initiated by China. This is facilitated by the unique territorial position of Russia as a connecting transport bridge between Europe and Asia.

Positive trends in the development of the Russian agrarian sector and its export potential, which have been achieved in recent years, allow us to hope that Russia will be able to gain a foothold as one of the most important suppliers of food products in the international arena without damaging domestic needs [8, 9].

According to the available estimates, China is now ready to annually buy 3.5 mln t of Russian wheat, and Japan and Indonesia are ready to buy 5 and 8.5 mln t, respectively. However, in order to partially meet these needs, Russia must increase its current grain production from 15 mln t of grain in Siberia and the Far East to 25 mln t. In this case, it will be possible to export at least 10–15 mln t abroad, primarily to Southeast Asia, which are located much closer to Russia than to most of the other food suppliers. Undoubtedly, this expansion of exports should occur gradually, since it will require significant investments in agricultural production along the whole technological chain, logistics, and infrastructure: the modernization of elevators alone will require approximately 270 bln rubles [10]. However, these investments, together with the competent organization of agricultural production can effectively pay off against the background of the rapidly growing demand for food products, which is taking place in the East Asian countries.

World food production is also growing dynamically, overtaking increasing consumer demand. For example, in the past few years, the gross grain yield has increased from 2 to 2.5 bln t, while Russia's share in the total grain production is still only 4%. However, while ten years ago its share in the world's grain exports did not exceed 1%, it has now reached 9% [10]. On the whole, the share of Russia in the world food market is still not large (approximately 2%), but the growth potential is huge, given the size of the undeveloped and extensively used agricultural lands, as well as new opportunities that are opening up for the country in connection with the global warming of the climate on the planet. Thus, despite the fact that Russia accounts for approximately 10% of the world's sown areas and 40% of all chernozems, currently only 5% out of them is being reclaimed, while in Germany and the United States reclaimed lands account for approximately 40% and 45%, respectively. This allows these countries to almost double their yields only by increasing the productivity of irrigated land. In addition, the main part of Russian arable land is experiencing an acute shortage of fertilizers, and this is taking place despite the fact that the country is the largest producer and exporter of mineral fertilizers in the world with an

annual output of 20 mln t. However, of this amount, only 2.6 mln t are currently being used, despite the fact that the minimum demand is 10 mln t. For a hectare of arable land, Russia still applies slightly more than 40 kg of the primary nutrient, while Brazil, the United States, and China apply 120, 170, and 350 kg, respectively. Accordingly, the yield of cereal crops in Russia is not more than 26 c/ha even in the most favorable years as a whole, while in the enlarged European Union it is over 35 c/ha, and in China it is 45 c/ha [10].

Grain and its processed products have been and remain the base of Russian agrarian exports. In recent years, as noted, the forage orientation of grain exports has somewhat grown, which in a number of cases has increased its attractiveness and competitiveness in foreign markets. This applies to some extent to both our traditional importers from the countries of the Middle East and North Africa (Egypt, Iran, and Saudi Arabia) and new consumers represented by East Asian countries (China, India), as well as countries of the Asia-Pacific region (APR)—Indonesia, Malaysia, Vietnam, Laos, etc. This trend is likely to develop further in the future, contributing to a considerable extent, to the development of new markets in Russia, where the demand for foods of animal origin is growing at an accelerating rate, following the rapid growth in the population and its incomes.

Meanwhile, in the case of growth in export deliveries, it is of course necessary to make an allowance for the need to unconditionally provide food and fodder grain, first of all, to domestic consumers. In the conditions of the decelerated growth in real incomes of the population, it is important to prevent an unjustified increase in prices for food products in the domestic market. To do this, the state has enough economic instruments, including, if necessary, the introduction of a temporary export duty on a particular type of product, as well as grain interventions.

The following points should also be recognized as very important areas for the further development of the grain economy in the context of its growing export orientation:

—Improvement of the grain quality by optimizing the location of grain production on the territory of the country, identifying specialized zones for growing the main types of grain crops, significantly improving agricultural machinery based on the growth in the levels of mechanization, chemicalization, melioration, selection, and seed production; and the storage and transportation of grain products;

—Scientifically based phased expansion—in parallel with the export of grain—of the export of products made from it with a higher added value (flour, grits, and ready-made grain products, including confectionery and bakery products), as well as all types of

livestock products, which are produced using grain forage;

—Development of innovative technologies for deep processing of grain with obtaining a wide range of valuable chemicals (polysaccharides, esters, vitamins, organic acids, etc.), which are actively used in modern medicine, cosmetology, the food industry, and other sectors of the national economy, and which are also widely demanded by the world market.

In general, the balanced export in the modern conditions is an important incentive for domestic producers to further develop production, increase its efficiency, and improve the range and quality of products.

Meanwhile, the expected global warming certainly increases the bioclimatic potential of our country and, consequently, the prospective export opportunities of Russian agriculture, especially in the regions of Siberia and the Far East. In particular, it is assumed that warming can significantly move away the northern border of effective agriculture and thereby significantly expand additional territories for arable land, which can be gradually developed and involved in normal agricultural turnover.

Let us examine some of these issues based on the example of interaction and trade economic cooperation with China, Russia's largest eastern neighbor and strategic partner.

***Prospects for Russian-Chinese cooperation in the food sector.*** Stable economic growth at 6–8% or higher, as well as the country's accession to the WTO, has led to the average earnings of Chinese workers having tripled and reached 3.6 USD/hour over the past ten years. China has already surpassed the largest countries of Latin America in the level of wages and has approached European countries such as Portugal and Greece [11]. Based on this, a middle class, which is striving for the living standards of more developed countries, is being actively formed, which is affecting, among other things, the structure and quality of nutrition. The consumption of meat and dairy products, ecologically clean food products, premium goods, etc., is growing at an accelerating rate.

In addition, in recent years, China has abruptly changed its demographic policy. Because of the rapid aging of the labor force in the country, the famous slogan of one family—one child has been abandoned, and now the authorities even plan to encourage couples to have two children. In 2015–2016, the birth rate in China was at the highest level it has been in the past few decades (17.8 and 18.7 mln newborns, respectively, compared to the average long-term birth rate of 16 mln in the previous period), and this trend is likely to develop further in the future [12].

Although China is considered one of the world's largest agrarian producers (for example, the annual

gross yield of all types of grain in the Chinese People's Republic is over 500 mln t, and their annual gross yield in India and the United States is 450 and 300 mln t, respectively), it will be more and more difficult for it to satisfy such rapidly growing domestic demand food in the future, considering the limited land and water resources suitable for agriculture, as well as the currently achieved high level of intensity of their use. In this regard, it should be noted that the country has developed and has been successfully implementing a special program for several years, according to which China actively buys or leases agricultural land in various countries of the world for the purpose of producing food for its own needs. However, even with its help, the solution of the food problem in the future is becoming a very difficult task.

Under these conditions, as noted, Russia can increase food exports to the Chinese People's Republic, including through the existing potential of agricultural land in the eastern regions of the country that are directly adjacent to China. This is also favored by the preferential economic regime of the territories of advanced development, which is in force in the Far Eastern Federal District (FEFD) and is attracting both foreign investors from China, Japan, and South Korea, and Russian entrepreneurs.

In 2016, in particular, the newly established Russian-Chinese Fund for the Agro-Industrial Development in the Far East joined the financing of large agricultural projects with the aim of expanding the large-scale production of ecologically clean products (soybeans, corn, meat, milk, seafood) as early as by 2020 for both domestic consumption and export to the APR countries, primarily to China. The mandatory conditions for the support of the fund are the use of modern agricultural technologies by producers, sustainable agriculture, and involvement of predominantly Russian labor (the share of foreigners must not exceed 20%). It is planned that the fund will finance 10% of the cost of the projects, the initiators themselves must invest an equal sum, and the remaining funds are provided by banks, including Chinese ones, at a rate of not more than 6%. To quickly saturate the market with finished livestock products, the development of swine breeding is emphasized. Currently, the agro-fund is considering 27 major projects with a total funding of more than 190 bln rubles [13].

In 2016, the construction of Russia's first Chinese livestock cluster was also started in Primorskii krai. Two Chinese agrohholdings are ready to breed cows here and also to revive two abandoned dairy plants. The location in the Far East is very beneficial for them from the standpoint of markets: meat and dairy products are not sufficient in both China and the eastern Russian regions. If the first of such projects with the participation of Chinese businessmen prove success-

ful, the Russian Far East can expect a real boom in agrarian investment, which will sharply increase the number of applicants for participation in joint ventures [14].

In this regard, the opening of the Asian Infrastructure Investment Bank (AIIB) in 2016, founded by 57 countries, including Russia, is of great importance. The AIIB was created on the initiative of China, and the five countries with the largest volume of invested funds, China, India, Russia, Germany, and South Korea. The authorized capital of the bank is 100 bln dollars, and in the future its influence in the region will be comparable with the World Bank and Asian Development Bank [15]. For Russia, these are credits primarily for the construction of railways and motorways, energy facilities in Siberia and the Far East, modernization of the Trans-Siberian Railway and the Baikal-Amur Mainline, and development of the port infrastructure of the Northern Sea Route and Pacific coast. All these facilities are vitally important for both Russia's internal development and the expansion of mutually beneficial cooperation, including in the food sector, with Russia's eastern neighbors.

The supply of Russian food to China is possible both by sea through the Far Eastern ports and by rail and road transport in the areas of the joint border between the two countries, as well as through the territory of Russia's partners in the Eurasian Economic Union (EAEU)—Kazakhstan, Kyrgyzstan, and Uzbekistan within the Western Europe—Western China transport corridor, which is being actively formed.

Russia together with its partners in the EAEU has already proposed more than 40 large joint projects that complement the main transport corridors of Eurasia and involve co-financing from China with the aim of building a powerful transport infrastructure there that makes it possible to redirect to it a significant part of the currently existing sea trade flows between Western Europe and China. Thus, the previously mentioned practical combination of active processes of Eurasian integration and the grandiose Chinese project, Economic Belt of the Silk Road, will be ensured.

The Russian Export Center (REC) and appropriate branch structures are beginning to provide ever-increasing assistance to domestic producers when they enter foreign markets. Under their guidance, all measures of export support are joined in an integral system: promotion, crediting, insurance, subsidizing, inclusion in priority national projects, etc. It is also planned that a number of trade missions in the most important countries for export should be transferred under the guidance of the REC. This will allow combining the administrative support from the trade missions with the commercial assistance to exporters from trading houses, the creation and expansion of which is

envisaged, including in a number of East Asian countries, and in particular in China. An important role is played by domestic producers from amongst medium-sized companies, for which the "Made in Russia" national umbrella brand is being formed to supply quality products for mass consumption. Russia is positioning itself as a European power with important interests in Asia.

According to the data of the Federal Customs Service, the main increase in total exports to China was ensured as early as 2016 due to growth in the supply of domestic food worth 1.5 bln USD, which is a quarter more than in 2015 [16, 17]. A favorable reason for expanding the export of finished food products was also the fact that, on the return journey, the freight trains from China to Europe were, as a rule, unloaded. This, naturally, reduced the overall effectiveness of such transportation. The idea was to fill them on the Russian territory with food products that are in great demand among the Chinese consumers: primarily, meat, honey, chocolate, ice cream, and confectionery products, including those made from grain, as well as mineral water, juices, wines, and spirits. To this end, the REC and Russian Railways, jointly with the Chinese, prepared an agreement on a preferential tariff for such transportation and consolidation points, where goods from different manufacturers could be accumulated to load a whole train at once, which would be sent to China. In particular, Kaluga oblast and Republic of Tatarstan were planned as possible consolidation points.

The first test trains with food followed the new route to China in April 2017. Its main advantage is a significant reduction in the time for delivering cargoes (ships sail for more than a month by sea from Europe to China, and trains reach there in 14 days by rail from Central Russia). In this case, railway transport turns out to be much faster than shipping, which is of fundamental importance for the transportation of food products with a very limited shelf life. It is especially important that export supplies, thanks to the creation of cargo consolidation points, become available not only for large but also for many medium and small manufacturers. This increases the overall export potential and contributes to creating the economic conditions for fair competition when entering foreign markets.

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