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Organic agricultural sector in Russia and the world in 2019-2023: Market conditions, main challenges and development trends

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ABSTRACT

The study of organic agriculture has become increasingly important in both Russia and globally due to various factors affecting the environment, public health, and agricultural sustainability. This work aims to analyze the development dynamics of the organic agriculture market in Russia and the world from 2019 to 2023, while identifying potential opportunities for further growth in the Russian Federation. The research methodology involves statistical analysis and comparison of key indicators related to the development of organic production in Russia and globally. The materials used in this study include reports from the International Federation of Organic Agriculture Movements (IFOAM – Organics International), the Russian Union of Organic Agriculture, and data from the Statistics Division of the Food and Agriculture Organization of the United Nations (FAO). Key findings of the study are as follows: The area of land dedicated to organic agriculture increased by nearly one-third during the examined period, reaching a total of 98.8 million hectares. However, despite this positive global trend, Russia has experienced a decrease in its organic land area. While the number of organic producers has grown, Russian figures remain significantly lower compared to global standards. The global organic market expanded by approximately 30 billion euros, reaching a total size of 136.4 billion euros, whereas the Russian market remained stagnant, holding a minimal share of the global market. The analysis reveals a strong dependence of Russian producers on imports, with a considerable portion of exported products consisting of unprocessed raw materials. These factors underscore the significant potential for the development of the organic sector in Russia, particularly with the rising demand for natural food products and healthy lifestyles. However, to capitalize on these opportunities, active government policies are necessary to support producers, promote product certification, and eliminate administrative barriers.

Keywords: Agricultural sector, Organic production, Market conditions, Market, Institutions.
Article type: Review Article.

INTRODUCTION

The study of organic agriculture is becoming increasingly important in Russia and worldwide due to factors affecting the environment, public health, and agricultural sustainability. Organic agriculture aims to minimize negative environmental impacts by avoiding synthetic fertilizers, herbicides, and pesticides. This approach helps reduce pollution in soil, water, and air, preserves biodiversity, and restores natural ecosystems. Russia has vast areas of fertile land, many of which need careful management and restoration of soil quality due to decades of intensive chemical farming. Organic practices support the preservation and restoration of the country's natural resources. Products grown organically typically contain fewer harmful substances and often have greater

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nutritional value due to their natural growth processes. Research indicates that these products are richer in vitamins, minerals, and antioxidants, which can positively affect overall health. As Russians increasingly embrace healthy lifestyles and natural foods, the study of organic methods can help meet the rising demand for high-quality, domestically produced food. Additionally, organic agriculture enhances crop resilience against climate change, drought, and other extreme weather conditions. It promotes diversity in plant varieties and mitigates the risks associated with monoculture, ensuring long-term productivity in fields amid global climate shifts. Given Russia's diverse climatic conditions, which range from Arctic regions to subtropical areas in the Caucasus, developing sustainable technologies for cultivating environmentally friendly products is essential for adapting to these varied climates and achieving food independence. While the Russian market for organic products is still in its early stages, global demand for organic goods is growing rapidly. Russian products have significant potential to become competitive in international markets, given the country's rich natural resources and the opportunity to position its goods as pure and natural. The study and implementation of advanced organic farming techniques can position Russian agriculture as a leader in the industry, ensuring stable income and a strong presence in the global market.
Recently, research on organic production has become increasingly important. Current studies focus on various aspects of its development:
Country-specific and regional studies of organic production development (Avarsky *et al.* 2018; Trifanov *et al.* 2021; Galkin 2022b; Kruchinina 2022; Migunov & Syutkina 2022; Dobryanskaya & Petukhova 2022; Pavlov & Kudryavtsev 2023; Migunov *et al.* 2023b; Migunov & Syutkina 2023a; Migunov & Syutkina 2023b; Migunov *et al.* 2024).
Models of organic agriculture, prospects, and trends in its development (Chayka 2015; Vlasova & Asmaryan 2016; Krichker & Rushchitskaya 2021; Galkin 2022a; Andryushchenko 2022; Zamana *et al.* 2023; Zaruk *et al.* 2023; Arzamasceva *et al.* 2024; Zaruk *et al.* 2024b).
Government regulation and support for the development of organic production (Gaysin & Migunov 2017; Gaysin & Migunov 2018; Voronina 2020; Kovalchuk 2020; Tsebro 2021; Zaruk *et al.* 2024c; Zaruk *et al.* 2024d; Zaruk *et al.* 2024a; Migunov *et al.* 2023a).
However, less attention is paid to the study of the development dynamics of the organic market conditions in the world and in Russia, which justifies the selection of the research topic.
The aim of the work is to investigate the development dynamics of the global and domestic organic market environment for 2019-2023 and to demonstrate opportunities for growth for the Russian Federation.

Objectives
To investigate the dynamics of organic agricultural land in Russia and worldwide from 2019 to 2023.
To conduct an analysis of organic producers in Russia and worldwide from 2019 to 2023.
To study the market conditions for organic products in Russia and worldwide from 2019 to 2023, including in terms of export-import operations.
To identify development trends in organic production in Russia and worldwide.

MATERIALS AND METHODS

The research methodology employs a comprehensive approach, considering data series on key indicators of organic production development, as well as their dynamics and correlations in Russia and globally. The article's data on organic land area does not include land designated for wild plants or other types of land recognized by certain countries and organizations. Collecting data on organic producers presents challenges, as some countries, including Russia, report only on the number of companies, projects, or groups of firms, which may comprise multiple producers. In contrast, other countries report all individual producers, leading to potential double-counting. Therefore, the assessment of the number of organic product producers should be approached with caution. For the analysis of the global organic market, data from 48 countries (representing 25% of all countries with organic producers) is utilized for the years 2019-2021, as similar data is not available for the remaining countries. Additionally, data from 188 countries is analyzed for the period of 2021-2023.
The statistical data used for this analysis is sourced from the International Federation of Organic Agriculture Movements (IFOAM – Organics International), the Russian Union of Organic Agriculture, and the Statistics Division of the Food and Agriculture Organization of the United Nations (FAO).

RESULTS AND DISCUSSION

Organic market conditions in Russia and worldwide

Organic agricultural land in Russia and worldwide

Globally, a total of 98.8 million hectares of agricultural land were certified for organic production in 2021. This represents approximately 2.1% of global agricultural land (Fig. 1).

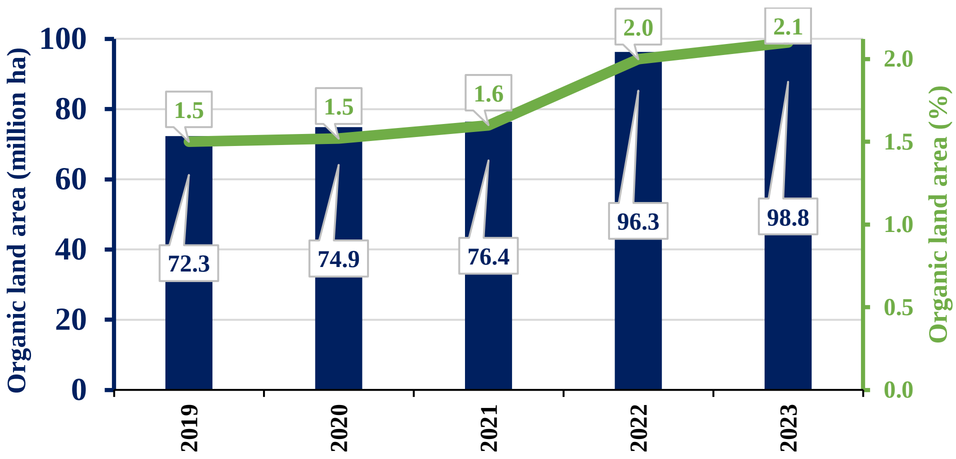

Fig. 1. Increase in organic land area and its share of global agricultural land, 2019-2023 (The World of Organic Agriculture. Statistics and Emerging Trends 2025).

In 2023, the area of organic land increased by 26.5 million hectares (+36.7%) compared to 2019. The regions with the largest areas of organic agricultural land were Oceania (53.2 million hectares) and Europe (19.4 million hectares). These are followed by Latin America with 10.3 million hectares, Asia with 9.1 million hectares, Africa with 3.4 million hectares, and North America with 3.3 million hectares. The European portion accounts for 19.4 million hectares, or 19.6% of all agricultural land under organic farming. Europe's share of global organic agricultural land has decreased by 3.1% since 2019.

The Russian Federation has 96.5 thousand hectares under organic production (Table 1). This is about 0.1% of all domestic agricultural land, which is 21 times less than the global average. For 2019-2023, the dynamics of changes in the area under organic agriculture in Russia is negative – ↓85.6% in area and ↓89.5% in share of the global area, which reflects a negative trend in the country compared to global values. Considering a longer-term dynamic, it can be noted that for 2011-2021 the growth of areas under organic agriculture in Russia amounted to ↑348.2% (with a global average value of ↑107.4%), and in 2022-2023, these areas decreased by 559 thousand hectares.

Organic producers in Russia and worldwide

In 2023, there were 4.5 million organic producers worldwide (Table 2), with 60.3% in Asia, 21.7% in Africa, and 10.8% in Europe; 4,332.5 thousand producers, 133.2 thousand processors, 10.4 thousand importers, and 9.2 thousand exporters of organic products. In the Russian Federation, there are 48 producers and 26 processors of organic products (The World of Organic Agriculture. Statistics and Emerging Trends 2025).

Organic market size

The organic market size in countries that provide such information amounted to 136.4 billion euros at the end of 2023. In 2023, the largest single market was the United States (59.0 billion euros, 43.2% of the global market), followed by the European Union (46.4 billion euros, 34.1%) and China (12.6 billion euros, 9.3%). In 2023, Switzerland had the highest per capita consumption at 468 euros. On average, global per capita consumption of organic products is 17 euros per year (The World of Organic Agriculture. Statistics and Emerging Trends 2025).

In the Russian Federation, the market is estimated at 183 million euros, with consumption at one euro per person, which is 17 times less than the global average and 66 times less than in Europe (Table 3). According to various estimates, less than 1.0% of the population in Russia are consumers of organic products, and this is highly differentiated by region (Organic agriculture: positions and prospects of Russia amid global trends 2022).

Table 1. Organic land area by country/territory, 2019-2023: Absolute values, changes, and percentages [Authors' calculations based on data from: The World of Organic Agriculture. Statistics and Emerging Trends 2021, 2022, 2023, 2025].

Years	Country/territory	Area (thousand ha)	Share (%)
	World	72,285.7	100.00
	Europe	16,528.7	22.87
2019	Russia	674.4	0.93
	World	74,926.0	100.00
	Europe	17,098.1	22.82
2020	Russia	615.2	0.82
	World	76,403.8	100.00
	Europe	17,844.9	23.36
2021	Russia	655.5	0.86
	World	96,339.7	100.00
	Europe	18,690.9	19.40
2022	Russia	187.0	0.19
	World	98,865.1	100.00
	Europe	19,457.6	19.68
2023	Russia	96.5	0.10
	World	36.77	*
	Europe	17.72	-13.93
Δ (%)	Russia	-85.69	-89.54

The organic market in Russia grew somewhat faster than the global and European markets between 2019 and 2021, but this is primarily due to the modest size of the domestic market. In 2022-2023, the Russian market remained at the same level of 183 million euros. If Russia's share in global agricultural production in 2023 is 2.03% [calculations based on data from the Statistics Division of the Food and Agriculture Organization of the United Nations (FAO)], then the share of organic production is 15.5 times smaller – 0.13%. The share of organic production in the domestic agro-food market is also small, amounting to 16.6 billion rubles, or 0.07% of the retail turnover of food products (Government Statistical Agency). The structure of organic production in the Russian Federation is as follows: cereals, flour, and flakes – 19.56%; dairy products – 15.21%; drinking milk – 14.13%; baby food – 11.96%; production of canned products, juices and other processed products from vegetables, fruits, grains and legumes – 10.87%; meat products – 10.87%; vegetables and fruits – 6.52%; alcoholic beverages – 6.52%; other products – 4.36% [calculated by the authors based on data from Government Decree of the Russian Federation]. The dynamics of organic product consumption, changes, and market size indicate that Russia has high potential for growth in the capacity of the organic market.

Exports and imports of organic products to the countries of the European Union and the USA [calculated by the authors based on data from The World of Organic Agriculture. Statistics and Emerging Trends 2025]

Verified data on the export of organic products to the countries of the European Union and the USA are presented for 2023. A total of 5,243.4 thousand tons of products were exported, which is 11.8% more than in 2021, of which exports to the EU countries amounted to 2,479.3 thousand tons, to the USA 2,764.1 thousand tons. The largest exports (2925.2 thousand tons) are shown by the countries of Latin America. The volume of exports from the Russian Federation to the countries of the European Union and the USA amounted to 86.1 thousand tons in 2023. Expert assessments show that the organic market in Russia is 63% occupied by imported suppliers and 37% by domestic producers, and in some segments this share is even smaller (Strategy for Organic Product Manufacturing Development in the Russian Federation until *2030* 2023).

Trends in the Development of Organic Production in Russia and Worldwide

The high growth rate of the global organic market in 2019-2023 (market growth of ↑30.0 billion euros, ↑28.2%) is explained by both previous development dynamics and the particular demand for organic products, which are, accordingly, perceived by consumers as healthier food options. Organic products were in demand as consumers sought to avoid illness and strengthen their personal immunity. However, in 2022-2023, the growth rate slowed due to changing conditions in global agricultural markets and new geopolitical challenges. The development of organic market conditions will continue to be associated with the complex conditions of global agricultural market development related to:

Increasing inflation – in 2022-2023, food prices, according to FAO estimates, more than doubled in some countries: rising prices negatively impacted sales of organic products due to high consumer sensitivity to price increases;

Food security risks due to sanctions; and

Protectionist measures taken by individual countries.

Table 2. Number of organic producers by country/territory, 2019-2023: Absolute values, changes, and percentages [Authors' calculations based on data from: The World of Organic Agriculture. Statistics and Emerging Trends 2021, 2022, 2023, 2025].

Years	Country/territory	Number (units)	Share (%)
2019	World	3,129,893	100.00
	Europe	428,677	13.70
	Russia	51	0.00
2020	World	3,368,254	100.00
	Europe	417,977	12.41
	Russia	48	0.00
2021	World	3,669,201	100.00
	Europe	442,274	12.05
	Russia	66	0.00
2022	World	4,514,450	100.00
	Europe	487,712	10.80
	Russia	39	0.00
2023	World	4,332,500	100.00
	Europe	494,624	11.42
	Russia	48	0.00
Δ (%)	World	38.42	*
	Europe	15.38	-16.64
	Russia	-5.88	-32.01

Under such conditions, producers have reduced incentives to switch to organic production, which can only be cost-effective and profitable in a favorable long-term development perspective for the farm.

Organic agriculture continues to develop worldwide, and in recent years, several key trends have emerged that are influencing this sector:

Growth in organic product consumption. Consumer demand for organic products continues to rise. This is driven by increased awareness of health, ecology, and sustainable development.

Increase in organic land area: In recent years, there has been an increase in the area dedicated to organic agriculture. Countries such as Australia, the USA, and Germany are leaders in this field (The World of Organic Agriculture. Statistics and Emerging Trends 2025).

Innovation and technology. The adoption of new technologies, such as digitalization, automation, and the use of big data analytics, supports the development of organic agriculture, increasing the efficiency and sustainability of production (Agriculture and Digital Technology 2022).

Support from governments and international organizations. Many countries are introducing support programs for organic agriculture, including subsidies, training initiatives, and technical assistance.

Integration with sustainable agriculture. Organic agriculture is increasingly viewed as part of a broader concept of sustainable agriculture, which emphasizes biodiversity protection, improved soil health, and resilience to climate change (Principles of Organic Agriculture. Preamble).

Change of climate policy. Changes in climate policy at the international level are increasing interest in organic agriculture as a method that can contribute to reducing carbon emissions and increasing resilience to climate change.

Promotion of local production. The COVID-19 pandemic has led to increased interest in local products and shorter supply chains, which, in turn, has had a positive impact on the organic sector [Food and Agriculture Organization (FAO)].

These trends highlight important shifts in organic agriculture and its role in ensuring food security, sustainable development, and environmental protection.

Table 3. Market size and per capita consumption of organic products, 2019-2021: Absolute values, changes, and percentages [Authors' calculations based on data from: *The World of Organic Agriculture. Statistics and Emerging Trends* 2021, 2022, 2023, 2025].

Years	Country/territory	Market size (million Euros)	Share (%)	Per capita consumption (Euros)	Share (%)
2019	World	106,404	100.00	14.0	100.00
	Europe	45,049	42.34	55.8	398.57
	Russia	155	0.15	1.07	7.64
2020	World	120,647	100.00	15.8	100.00
	Europe	52,000	43.10	63.2	400.00
	Russia	158	0.13	1.09	6.90
2021	World	124,845	100.00	15.7	100.00
	Europe	54,539	43.69	65.7	418.47
	Russia	183	0.15	1.26	8.03
2022	World	134,760	100.00	17.0	100.00
	Europe	53,070	39.38	64.0	376.47
	Russia	183	0.14	1.26	7.41
2023	World	136,430	100.00	17.0	100.00
	Europe	54,749	40.13	66.0	388.24
	Russia	183	0.13	1.26	7.41
Δ (%)	World	28.22	*	21.43	*
	Europe	21.53	-5.22	18.28	-2.59
	Russia	18.06	-7.92	17.76	-3.02

According to the Russian Union of Organic Agriculture, the prospects for the Russian organic market indicate that the domestic market could reach 5-10 billion euros by 2035, and the export potential could reach 10-15 billion euros (National Organic Union 2021). This scenario is possible if the average annual growth rate of the organic product market until 2035 is 26.5%-33.0% in Russia, which, under current conditions, appears unlikely. The accelerated development of organic production in Russia's crop production sector, and the high share of domestic producers in global exports of grain, legumes, and oilseeds (estimated, together with Ukraine, to account for up to 75% of the sunflower oil market and 30% of wheat), lead to the conclusion that there are further prospects for growth in this market in Russia through 2035. Positive dynamics in animal husbandry are characteristic of milk production, which is overwhelmingly consumed in the domestic market. The accelerated growth in consumption of organic products in developed countries, coupled with their limited potential to expand land under organic production, presents significant opportunities for expanding exports of organic products from the Russian Federation to these countries. Of course, it is necessary to specifically consider existing foreign trade barriers, administrative restrictions, difficulties in recognizing the certification of organic products in Russia and other countries, as well as the need to reorient export supplies from raw materials to food products with high added value (in 2021, 99% of Russian organic food exports were raw plant products; Strategy for Organic Product Manufacturing Development in the Russian Federation until 2030, 2023).

Factors limiting the growth of the organic food sector in Russia

High prices for organic products (1.5-3.0 times higher than prices for intensive commodity production);

Small number of accredited organic producers;

Low level of financial support for organic production from the state and regions compared to conventional intensive commodity production;

Product falsification and difficulties with labeling organic products;

Physical limitations on the sale of organic products due to insufficient production (Organic agriculture: positions and prospects of Russia amid global trends 2022).

Other authors also highlight problems in the development of the organic sector in Russia, including "the lack of targeted support programs for organic producers; issues with product certification; insufficient financial support for exports of domestic producers, primarily related to tariff regulation and logistical support; an insufficient number of certified producers; and high prices for organic food, which limit their consumption" (Asaturova *et al.* 2024). In recent years, the development of domestic commodity agriculture, including organic agriculture, has been based on large-scale commodity production. Within the framework of developing organizational and legal forms of interaction among economic entities in Russia, some authors propose alternative institutional forms of business organization, including contract farming – "a form of integration in which an agricultural holding supports small-scale farms in the production and sale of products, providing them with access to resources, consulting support, and previously inaccessible markets" (Ba *et al.* 2019). The development of such institutional agreements in Russia can occur through three alternatives: fixed-price contracts, production management contracts, and resource supply contracts. The advantages of such models are: lower market transaction costs, the ability to produce standardized products and utilize the benefits of specialization and concentration of production, a reduction in some fixed costs, the ability to fix prices in forward transactions, a reduction in risks, and rational planning under the established conditions of contracts (Galkin 2022a). Other authors point out in their works that scaling up and accelerating the development of the organic sector in Russia is possible through the mechanism of cooperation, "which improves the links between small producers and developing food systems by providing various services in the supply chain" (Kruchinina 2022). It is particularly important to note that the resolution of such issues, in part, remains within the state policy and support that will be implemented in the organic production sector in contemporary Russia.

CONCLUSION

Global dynamics and structure of organic land. In 2023, land dedicated to organic production amounted to 98.8 million hectares, representing 2.1% of global agricultural land. The area of certified organic land has been continuously increasing since 2000. In Russia, in 2023, the area of organic land was 96.5 thousand hectares, accounting for 0.04% of agricultural land. The dynamics of land area in Russia show a negative trend, with a decrease of ↓85.6% in area and ↓89.5% in its share of the global organic land area.

Analysis of the number of organic producers. In 2023, there were 4.5 million organic producers worldwide: 4,332.5 thousand producers, 133.2 thousand processors, 10.4 thousand importers, and 9.2 thousand exporters of organic products. In the Russian Federation, there are 48 producers and 26 processors of organic products.

Analysis of production and consumption of organic products. The global organic market volume in 2023 amounted to 136.4 billion euros. On average, global per capita consumption of organic products is 17 euros per year. In the Russian Federation, the market is estimated at 183 million euros, with per capita consumption at one euro.

Export of organic products. In 2023, 5,243.4 thousand tons of products were exported, which is 11.8% more than in 2021, of which exports to the EU countries amounted to 2,479.3 thousand tons, to the USA 2,764.1 thousand tons. Expert estimates indicate that the Russian organic market is 63% dominated by imported suppliers.

Key factors influencing global organic market development. Increasing inflation, food security risks due to sanctions, and protectionist measures are identified as key challenges. Key trends in the development of organic production worldwide include growth in organic product consumption, increase in organic land area, innovation and technology, support from governments, integration with sustainable agriculture, change of climate policy, and promotion of local production.

Opportunities for the growth of organic agriculture in contemporary Russia. Accelerated development of organic production in Russia is possible in sectors such as crop production and organic milk. The growing demand for organic products in developed countries, combined with existing land constraints in those countries, presents significant opportunities for expanding organic product exports from the Russian Federation, particularly in the area of processed products with high added value.

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