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Conference on Land Economy and Rural Studies Essentials**CONCENTRATION OF AGRICULTURAL PRODUCTION:  
TRENDS AND PERSPECTIVES**Ivan A. Minakov (a)\*, Natalia N. Belova (b)  
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belovvanat@mail.ru**Abstract**

The article examines the process of concentration of production in medium and large agricultural organizations, their size, features and factors of agricultural development in them. The concentration of production occurs through the merger, that is, combining two or more companies; acquisitions in the acquisition of shares and interest of the economic society, intensification of activities of producers, increasing specialization of production, renting and leasing of means of production, development of integration processes. The size of agricultural enterprises depends on the level of state support. More than 90% of the budget is allocated to large organizations. The role of large enterprises in the production of agricultural products and the formation of an export-oriented agricultural economy is shown, and proposals for the development of large-scale agricultural production are substantiated. In the course of the research, it was found that the largest enterprises using advanced technologies operate in the grain sector, beet growing, oilseed production and animal husbandry. From a geographical and natural-climatic point of view, the central and southern regions of Russia have the most favorable conditions for the creation of large enterprises; at the same time, enterprises located in the same region may differ in the size of production. In the conditions of saturation of the domestic market with certain types of food, an increase in the production of agricultural products will contribute to an increase in the effective demand of the population and the growth of agricultural exports.

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## 1. Introduction

Concentration of production is an objective process, which is explained by the law of superiority of large production to small ones. This law in agriculture does not have an absolute value, since the increase in the size of enterprises cannot be infinite and their parameters must increase to the optimal level, which will ensure the highest profitability of production.

The state's agricultural policy is primarily aimed at supporting the development of agriculture in medium and large enterprises. It is these organizations that play the main role in achieving food security on the basis of import substitution of the main types of products and the formation of an export-oriented agricultural economy. These enterprises widely use modern production technologies, high-performance equipment, progressive forms of labour and production organization, specialization and integration of production processes, marketing in the sale of manufactured products.

According to the Federal Law on the Development of SMEs in the Russian Federation, medium-sized enterprises include medium-sized enterprises with the number of employees of 101 - 250 people and annual income from 0.8 to 2 billion roubles. Large enterprises have more than 250 employees and an annual income of more than 2 billion roubles.

Agricultural activities in Russia are carried out by 6.0 thousand medium and large enterprises, or 24.5% of the total number of enterprises. These enterprises employ 1,008 people, representing 72.7% of the total number of employed in agricultural organizations, 64.7% of cattle, 92.1% of pigs and 26.1% of sheep and goats (The State Programme..., 2012).

The concentration of production in large agricultural companies goes through a merger, that is, combining two or more companies; acquisitions in the acquisition of shares and business companies (more than 30 % of the share capital); intensification of activities of producers on the basis of wide use of innovation, increasing specialization of production; rental and leasing of means of production; development of integration processes. The consolidation of the size of enterprises is not only due to the increase in production resources, but also their effective use, reducing the loss of grown products (Altukhov, 2020; Kulikov & Minakov, 2018).

In recent years, large enterprises have absorbed other organizations, which are mostly at the stage of bankruptcy. For example, the Cherkizovo Group acquired LLC Belaya Ptitsa-Kursk and JSC Altaysky Broiler, while the Rusagro group of companies absorbed the agricultural holding Solar Products.

## 2. Problem Statement

The state's agrarian policy is aimed primarily at supporting the development of agriculture at medium and large enterprises. It is these organizations that are assigned the main role in achieving food security on the basis of import substitution of basic types of products and the formation of an export-oriented agricultural economy. These enterprises widely use modern production technologies, high-performance equipment, progressive forms of labor and production organization, specialization and integration of production processes, marketing in the sale of manufactured products.

The concentration of agriculture in medium and large enterprises contributed to an increase in the production of both crop and livestock products. However, the growth rates for some types of products were

not high enough, which led to a decrease in their share in the structure of manufactured products. In this regard, the share of grain, fruits and seeds of oilseeds, eggs decreased (Minakov, 2018). The development of agro-industrial production is hindered by low effective demand of the population and high saturation of the domestic market with some types of agricultural products and food (grain, vegetable oil, sugar, meat and meat products) and their lack of demand (Minakov, 2019).

### **3. Research Questions**

In accordance with the solution to the problem posed, the article addresses the following issues:

- determination of ways of concentration of agricultural production and the peculiarities of the development of agriculture in medium and large enterprises;
- study of trends in the development of large-scale agricultural production and its role in providing the population with food and the formation of an export-oriented agrarian economy;
- identification of factors that determine the size of agricultural organizations and substantiation of directions for increasing production in medium and large forms of management.

### **4. Purpose of the Study**

The aim of the study is to develop theoretical provisions and practical recommendations for the development of the process of concentration of agricultural production in modern economic conditions.

### **5. Research Methods**

When studying the concentration of agricultural production, we used data from the Federal State Statistics Service and the Ministry of Agriculture of the Russian Federation, as well as articles in Russian and foreign periodicals. Monographic, statistical-economic, computational-constructive, abstract-logical and other methods were used as research methods. The statistical and economic method allows us to comprehensively characterize the phenomenon under study through mass digital data, so it was used to analyze the state and trends in the development of production in medium and large agricultural enterprises, the effectiveness of their functioning. The monographic method was used to study the activities of individual commodity producers with high economic results. The computational and constructive method was used to justify the development of agriculture in the future in the study area.

### **6. Findings**

There is a process of concentration of agricultural production at enterprises that are not related to small businesses, which causes the growth of the size of these farms. In some agricultural organizations, there is an increase in production volumes with a reduction in production resources (agricultural land, livestock, the number of employees) due to an increase in animal productivity and crop yields.

The major agricultural organizations in the area by the land Fund are holding "Miratorg" of about 1 million hectares, Prodimex LLC – 865,000 hectares, the group of companies "Rusagro" – 650,000, "Agrcomplex by N.I. Tkachev" – 649,000, Agroholding "Steppe" – 401,000, JSC "Agrosila" – 327,000

hectares; by the number of cattle: the agricultural holding "Miratorg" – 600 thousand heads, AO firm "Agrokompleks by N.I. Tkachev" - 108, holding "Eco-Nika" – 107, "Ak Bars" "Holding Company" – 97, agri-holding "Red East Agro" – 80, the group of companies "Zarechnoye" – 74; by cash revenue: agri-holding "Miratorg" – 119.4 billion rubles, Cherkizovo Group – 102.6, Rusagro Group – 83.3, Agro-Belogorje Group – 82.7, AgroPromcompletion Group – 60.9, Agroholding "Resource" – 53.2 billion rubles.

Specific features of agricultural production in medium and large enterprises are high-quality production, in-depth specialization of enterprises, higher levels of production intensity and state support compared to small forms of management, rational use of manufactured products through the development of integration processes, the presence of competitive advantages in the sale of products.

The state agricultural policy, implemented during the period of sanctions pressure from the European Union and the United States, has allowed one to increase production in medium and large agricultural organizations (table 1).

**Table 1.** Agricultural development at medium and large enterprises in Russia

Indicators	2016	2017	2018	2019
The area of crops, million hectares	29.9	28.8	29.5	29.8
Livestock, thousand heads:				
Cattle	5510	5446	4826	4746
including cows	2138	2129	2190	2200
Pigs	17005	17931	19532	21223
Sheep and goats	1025	1167	2028	1861
Gross harvest, million tons:				
Grain	53.5	56.7	49.4	53.2
Oilseeds	6.8	6.5	7.8	8.8
Sugar beets	38.5	38.7	32.6	42.7
Potato	2.2	1.8	2.1	2.4
Vegetables	1.9	1.9	2.3	2.7
Produced, thousand tons:				
Cattle and poultry to slaughter (live weight)	9613	10212	10513	10960
Milk	10807	11267	11882	12432
Eggs, million pieces	32523	330911	33060	32860

Source: Rosstat

In 2016-2019, the production of oilseeds increased by 29.4%, sugar beet – by 10.9%, potatoes – by 9.1%, vegetables – by 42.1%, livestock and poultry for slaughter (in live weight) - by 14.0%, milk – by 15.0%. Gross crop yields have increased as a result of increased crop yields. The volume of production of livestock products increased both due to increased productivity and the growth of the number of animals. The number of cows increased by 2.9%, pigs – by 24.8%, sheep and goats – by 81.6%.

The share of large and medium-sized enterprises in the production of agricultural products is growing every year (Table 2). The share of these farms in the cultivation of sugar beets, potatoes, vegetables, livestock and poultry for slaughter, and milk has increased. However, their share in the production of certain types of products (grains, seeds and oilseeds, eggs) is decreasing.

The economic efficiency of production in large enterprises is much higher than in small forms of management. So, the average daily increase in pigs reaches 800 g, milk yield per 1 cow-more than 10

thousand kg, which is almost 2 times more than the average for agricultural organizations. The concentration of production in large farms is an important condition for increasing the economic efficiency of agriculture. Agricultural organizations of the agro-industrial type function most effectively (Antsiferova et al., 2019).

In agro-industrial formations, all grown products are used rationally, since production, storage and processing are combined in a single technological process. Economic relations between structural divisions are built on a mutually beneficial basis, which contributes to the growth of economic efficiency of production in all areas of activity (Ivanova & Merkulova, 2018; Minakov & Nikitin, 2019).

Large agro-industrial formations (holding companies, agricultural firms, etc.) do not experience difficulties with the sale of products, since they themselves produce, process and sell them. Trade networks successfully cooperate with them, as they can supply products of the required volume and quality throughout the year (Nikitin et al., 2019, 2020).

**Table 2.** The share of medium and large enterprises in agricultural production organizations and farms of all categories of Russia, %

	2016		2017		2018		2019	
	Share in		Share in		Share in		Share in	
	SHO	HVK	SHO	HVK	SHO	HVK	SHO	HVK
Grain	62.1	44.3	59.7	41.8	62.1	43.6	62.7	44.0
Seeds and oilseeds	58.1	39.9	5.3	37.3	66.6	42.2	56.1	38.1
Sugar beets	84.9	74.9	84.5	74.5	87.0	77.3	88.2	78.6
Potato	48.7	9.2	42.4	8.3	47.4	9.1	52.2	11.0
Vegetables	60.2	14.0	55.4	14.2	62.7	16.4	67.5	19.0
Cattle and poultry to slaughter (in slaughter weight)	94.3	72.0	93.3	72.7	94.1	74.3	94.4	74.6
Milk	72.1	36.5	72.1	37.4	73.3	38.9	73.3	39.7
Eggs	94.3	74.8	92.1	73.8	91.5	73.7	90.9	73.3

Note: SHO – corporate farms – agricultural enterprises; HVK – production in all categories.

Source: calculated according to Rosstat data.

The reduction of small businesses and the concentration of production in large enterprises negatively affect the agricultural labor market. The use of high-performance equipment and modern production technologies by these farms leads to a reduction in the number of workers and an increase in unemployment in rural areas.

The size of agricultural producers is determined by many factors: the category of farms, the size of state support, specialization, investment climate, natural and climatic conditions and the agricultural policy.

The size of agricultural enterprises depends on the level of state support. More than 90% of the budget funds are allocated to large organizations. In 2017-2019, the volume of budget allocations from the federal budget increased from 233.8 to 311.5 billion rubles, or by 33.2%. The bulk of the budget funds are used to financially support the development of agricultural industries. In 2019, 73.9% of the budget was spent for these purposes.

The largest enterprises operate in grain farming, beet farming, oilseed production, and animal husbandry, where industrial technologies are widely used.

The central and southern regions of the country have the most favorable natural and economic conditions for the creation of large enterprises. However, enterprises located in the same region may differ in the size of production. These differences are due to natural and economic conditions (Kulikov & Minakov, 2019).

In agriculture, joint-stock companies have the largest production sizes. It is in this form of management that the economic interests of the owner are more protected and it is easier to increase the size of production. Currently, this organizational and legal form of management is widely used in the agro-industrial complex (Nikitin & Smykov, 2019).

Specialization and intensification of production largely determine the size of the enterprise. Highly specialized farms, based on the intensification of production, achieve high results in economic activity and increase their size.

In the conditions of saturation of the domestic agri-food market with certain types of food, high competition and a decrease in the effective demand of the population, the possibilities of increasing production in agricultural organizations are limited. The main part of the population (70%), which has low incomes, hinders the growth of the agricultural economy (Kulikov & Minakov, 2019). The increase in the production of agricultural products and food will contribute to the increase in the income of the population and the growth of agricultural exports.

In the current economic conditions, the export of agricultural products and food is growing. For the period from 2016 to 2019, it increased from 17.0 to 25.6 billion US dollars, or by 50.6%. Its share in the structure of Russian exports is 6.0%. The balance of the Russian trade balance for agricultural products is negative in the amount of 4342 million US dollars. Russian agricultural exports are dominated by raw materials. In the structure of exports of agricultural products and food in value terms, the main commodity items were grain (31.1%), vegetable oil (12.2%), seafood and fish (21.0%).

Grain exports have taken a key position in the structure of agricultural exports. The share of grain exports in the total volume of its production is 34.9%, taking the second place in the grain balance of the country after the consumption of grain for feed purposes. The steady increase in exports to a certain extent became the driver of the development of the grain industry. At the same time, grain has the highest market security in comparison with other types of agricultural products, raw materials and food.

The level of self-sufficiency indicates the presence of unclaimed products on the domestic market and reserves for the development of agricultural exports. In 2019, the level of self-sufficiency in grain was 155.5%, with the threshold value provided for in the Russian Food Security Doctrine – 95%, vegetable oil – 175.9% and 90%, sugar – 125.4% and 90%, meat and meat products (in terms of meat) – 96.7 and 85%.

However, when forming an export-oriented agricultural economy, it is necessary to take into account the negative side of exports – the increase in prices on the domestic agri-food market. For the successful development of the export of agricultural products and food, it is necessary to regulate it by the state using market methods.

The federal project "Export of agricultural products", which is an integral part of the State Program for the Development of Agriculture, plans to increase the volume of agricultural exports to 45 billion US dollars by 2025 by creating a new commodity mass (including with high added value), creating an export-oriented commodity distribution infrastructure, eliminating trade barriers (tariff and non-tariff) to ensure

access to target markets for agricultural products and creating a system for promoting and positioning agricultural products. In 2019, the federal budget expenditures for the implementation of this project amounted to 37.1 billion rubles.

In addition, state support is provided in the form of compensation for part of the costs of transporting agricultural products and food. In 2019 it was provided to 168 enterprises of the agro-industrial complex in the amount of 1.7 billion rubles. Further increase in the size and improvement of methods of state support will contribute to the growth of export operations, and, consequently, to the increase in production in agricultural organizations that are the main suppliers of products for export.

## 7. Conclusion

In modern economic conditions, there is a concentration of agricultural production in large agro-industrial organizations, where the production, storage and processing of products are combined in a single technological process. They are characterized by innovative development of agricultural sectors, territorial-sectoral division of labor, high-quality production, effective use of grown products, the presence of highly competitive products, and investment attractiveness. This ensures a sufficiently high economic efficiency of production in large enterprises.

The saturation of the domestic agri-food market with certain types of food, high competition and a decrease in the effective demand of the population restrain the growth of production in agricultural organizations. The increase in the production of agricultural products will contribute to the increase in the effective demand of the population and the growth of agricultural exports. For the successful development of the export of agricultural products and food, it is necessary to regulate it by the state in order to support it and stabilize prices in the domestic agri-food market.

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