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## MODERN AGRICULTURAL ASPECTS OF THE COUNTRY'S FOOD SECURITY

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*Purpose:* to study the food supply of Russia, the development of measures to improve state policies in the field of food security. *Discussion:* the article shows the essential provisions of food security and its substantial characteristics. The current trends and the level of food security of the Russian Federation are determined. These are characterized by the achievement of the established criteria (with the exception of milk and dairy products, greengrocery), the general agricultural production expansion (with the simultaneous swing in production in particular years), and the decrease in imports of certain food products and the imports content of consumption, the increased consumption and the achievement of rational standards for such foods as grain, vegetable oil, potato, sugar. *Results:* the priority guidelines for improving the country's food security, concerning food accessibility for all groups of the population, agricultural production, quality assurance and food products liability, the improvement of organization and management of food security, ensuring the need for the development of the organic agriculture, are substantiated. The proposals presented in the study can be used to develop the State Strategy of ensuring the national security.

**Keywords:** food supply, food consumption, agricultural production, food security, food accessibility criteria.

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### Introduction

One of the strategic priorities of the socio-economic development of Russia is to improve the living standards and public health, which can be achieved by

improving the supply of high-quality food. Achieving a high level of food security is currently being restrained due to the weak introduction of domestic innovative developments in the manufacturing processes, storage, processing of agricultural products, therefore, the stimulation of innovative activity within agricultural enterprises is one of their main directions of state policy. First of all, a country's food security level depends on the basic potential of agricultural production. The agricultural policy concerning food security should be aimed at assisting domestic agricultural producers using the strategy of agricultural protectionism. Today, agricultural production and processing are thought to be the most important condition for political stability as well as the indicator of the national independence in countries with the developed market economies. Therefore, it is regulated properly.

The problems of ensuring food security of the state are considered by many scientists. Their works served as the basis of the presented study. Thus, the need and the urgency of an in-depth study of this issue considering the current economic environment in Russia have been established [6, 12].

In this regard, the purpose of the presented study is to develop scientific-based ideas and practical recommendations for ensuring the country's food security by enhancing its agricultural potential.

The following objectives have been set in order to achieve the goal, reflecting the logic of the study:

- to study the scientific framework of the country's food security, in particular, to clarify the essence and the content of the country's food security considering the agriculture participation;

- to analyze the current level of food security, as well as to assess the level of food facility;

- to develop recommendations to the improvement of the food security of the country, namely, to make out case for the food security development and to work out practical measures ensuring food safety.

## **Results and Discussion**

The generalization of the ideas of economists concerning the interpretation of the concept «food security», as well as the study of the principles of the social market economy has allowed to give the following definition of national food security. National food security is the country's ability to meet the food public demand. The food at the same time must be submitted in the required quantities, quality and variety, it should meet the conditions of health preservation and expansion of reproduction [2, 9].

Food security is assessed by a wide range of indicators, it must meet a number of criteria, and its provision depends on many factors (Fig. 1).

Currently, the main criteria for achieving food security are considered to be the physical, economic and qualitative food accessibility indicators for the country's population. The important criterion is the qualitative food accessibility,

determined by the safety degree of the food which is produced and sold in the country and consumed by the population [1, 2].

The state of development of the national agricultural sector is the most important factor influencing the level of a country's food security. The specificity of the role assigned to the agriculture is determined by the production of food as the basis of human life and the reproduction of labor-power, the production of raw materials for the process industries. Thus, the solution to the problem of food security becomes possible on the basis of measures providing conditions for the innovative development of agricultural production.

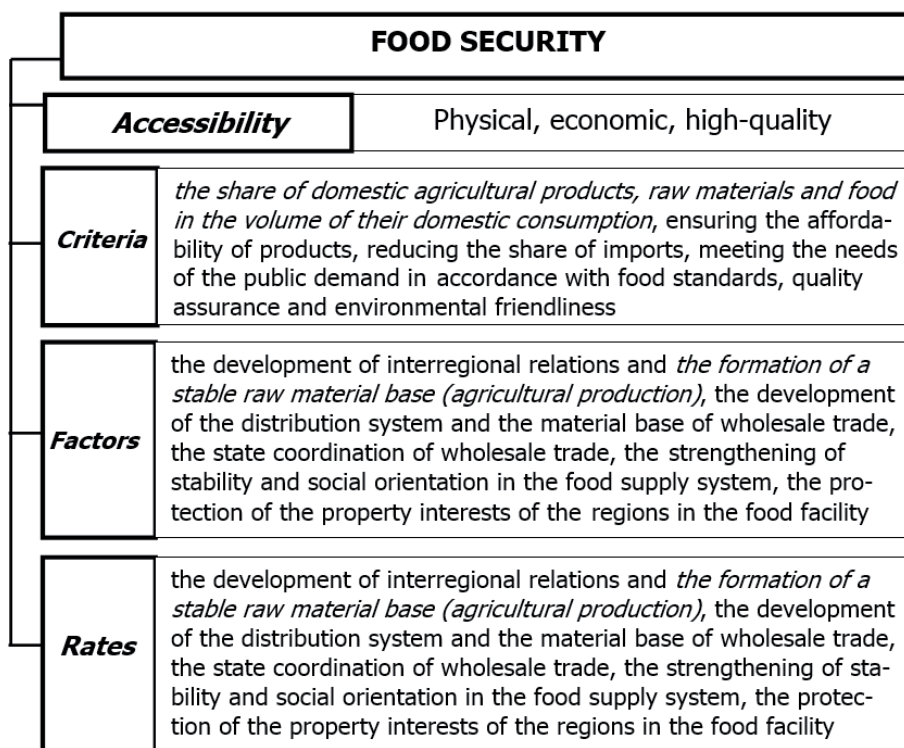


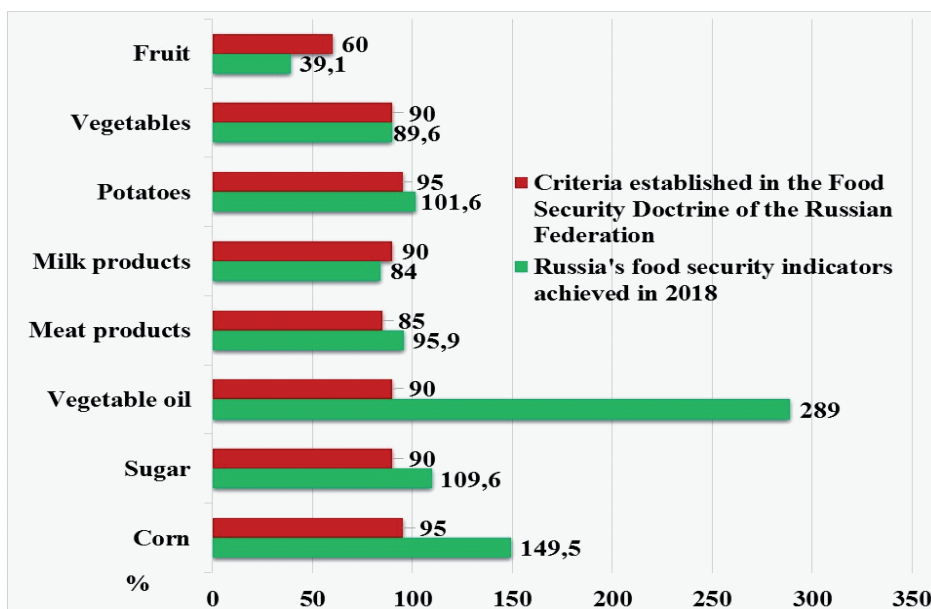
Fig. 1. Criteria, factors, indicators of food security

Above all the basis for enhancing food security is the improving of the functioning of the agricultural sector as follows:

- mobilization of the possibilities of own agricultural make, capable of guaranteeing a reliable supply of food to the population, primarily its basic types (grain, milk, meat);
- the organization of a system of cast-iron food quality guarantees;
- the formation and the development of special-purpose zones for the agricultural production;
- modernization of the production base and the formation of innovative infrastructure of the agri-food market [4, 9].

The problem of food security is multidimensional and reflects the objectively existing multifunctionality of agriculture itself.

The share of domestic agricultural production in the volume of its domestic consumption (Figure 2) and the import content in the food consumption (Figure 3) are often used as the indicators of the country's food security.



Source: <http://www.gks.ru/>

Fig. 2. Achieving the threshold values of food security of the Russian Federation in 2018

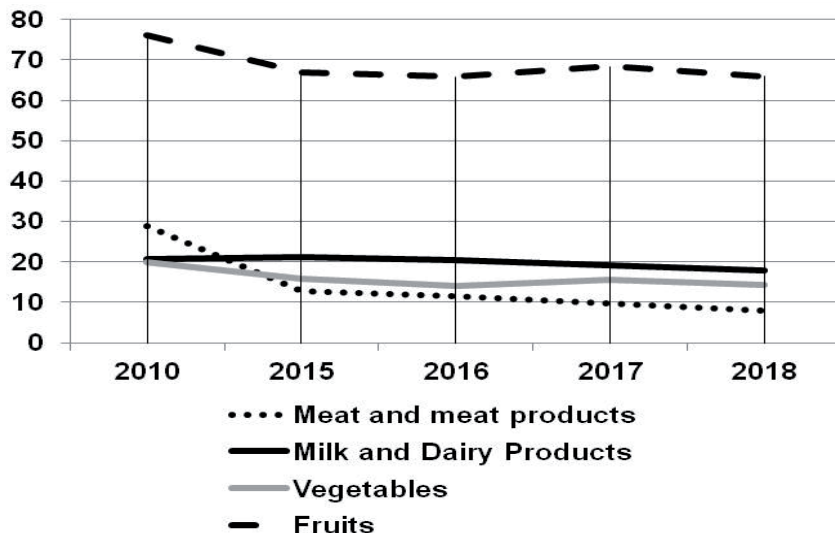
The criteria of the Food Security Doctrine of the Russian Federation are exceeded for almost all types of products, with the exception of dairy products, vegetables, fruits. However, despite the high indicators achieved, the issue concerning the provision of food to the population and the state of agriculture, which is the main supplier of food and raw materials for the food industry, are still complex [2, 9].

The implementation of the State programs for the development of agriculture and regulation of agricultural products, raw materials and food markets for 2008-2012 and for 2013-2020 resulted in the increase of the agricultural production volumes. However, it is not possible to fully avoid the influence of external and internal factors (climatic conditions, market conditions, financial condition of agricultural producers, foreign economic situation, etc.). Despite the lack of sustainability of agriculture, it is still possible to note the improvement of food supply of the population: increasing economic and physical access to domestic food for the population. Thus, the consumption of meat products is gradually approaching a rational norm (94.5% of the required volume of consumption, the growth in 2018 compared to 2010 was 9.5%). Consumption

of dairy products is 70.5% of the rational norm, vegetables – 76.4% (whereas in 2010 their consumption was 72% of the required level). Potato consumption almost corresponds to a rational consumption rate (98.9%). Vegetable oil is also a product which consumption exceeds the recommended values (by 16.7%). At the same time, sunflower oil is mainly consumed in Russia. A significant excess of the rational norm is noted for the actual consumption of sugar (by 44.4%), which turns out to be the cause of many diseases of the population. In this regard, measures are required to increase public interest in healthy eating. Despite the increase in fruit production, this was not enough to achieve a rational consumption rate (61% of the required level). Although, we must admit that for 2010-2018 a 5% increase in per capita consumption of fruits and berries [5, 7].

Improving production indicators naturally affects the volume of exports and imports of agricultural and food products. So, in particular, there was an increase of exports of fruits (more than 4 times), grain (almost 4 times), potatoes, vegetables and meat products (more than 3 times), dairy products (1.2 times) in general for 2010-2018.

The quantity of imports of agricultural raw materials and food products have remained almost at the same level (grain, potatoes, fruits) or have decreased (vegetables, meat products (3 times), dairy products) for the researched period. However, the quantity of imports in the consumption of milk and dairy products has decreased by 3%, vegetables – by 5%, fruits – by 10%, meat and meat products – by 19% (Fig. 3).



Source: <http://www.gks.ru/>

Fig. 3. The quantity of imports in the consumption of food products in the Russian Federation, %

The positive results achieved at present in the agrarian sector turned out to be insufficient for the stable functioning of the agrarian economy and reliable

provision of the population with domestic food. In modern conditions, the state has to strengthen the innovative activity aimed at overcoming the technological backwardness of the agricultural sector.

It is necessary to act as a coordinator of innovative processes that ensure food security considering the environmental and social interests of all stakeholders of innovative projects.

All this makes it necessary to develop the priority areas for improving the food security of the Russian Federation (Fig. 4).

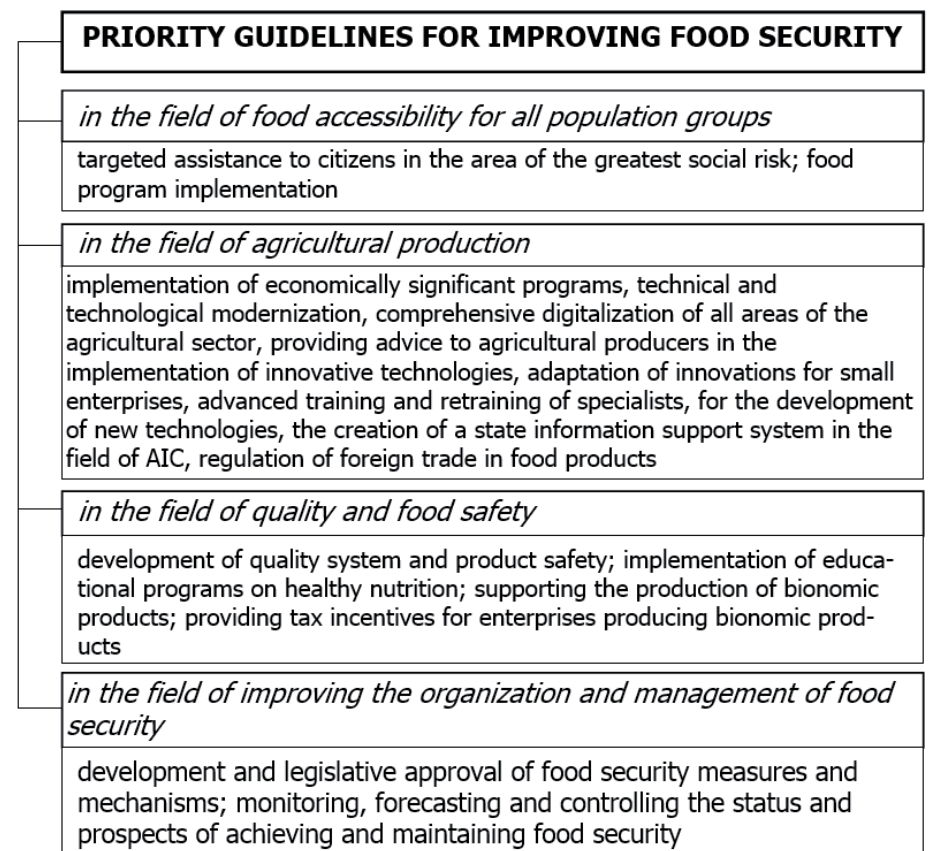


Fig. 4. Priority areas for improving food security

Despite the effectiveness of the implemented state agrarian policy, some issues related to improving food supply remained unresolved, which necessitates the following:

- acceleration of digitalization processes in dairy and beef cattle breeding, vegetable and fruit growing;

- conducting technical and technological modernization of power facilities and food processing industry with simultaneous control over the observance of requirements of the products which should not be below the established standards;

– the introduction of new and reconstruction of existing facilities in dairy farming, the allocation of additional grants for innovative projects in the country (farmer) economy;

– ensuring the selection of investment projects for the robotization of livestock complexes in the dairy sector (dairy farms), supporting the dairy industry in the framework of price regulation, subsidizing innovatively active small farms that breed cattle in the dairy and meat sectors;

– creating a unified information system and improving the regulatory mechanism for the network of wholesale distribution centers, developing common standards for their activities;

– the creation of a unified system of regulation of the network of wholesale distribution centers, the development of common standards for their activities;

– the construction of innovative elevators, vegetables and fruit warehouses, transport terminals on the basis of public-private partnerships;

– development of proposals to improve the agricultural insurance mechanism with state support;

– creation of product clusters based on the integration of agricultural enterprises with scientific and educational institutions forming a «technological chain» of a full cycle;

– accounting and application of innovative technical solutions and new modern technologies that ensure the saving of water and energy resources and environmental protection;

– deepening the integration of agriculture of the Russian Federation into the world agricultural market [1, 3, 8].

The implementation of the above proposals helps to create effective conditions for maintaining food security and achieving the main national interest – improving the living standards of the population [2, 5]. At the same time, the contradictions in the sphere of regulating the quality of manufactured and imported food products have not yet been settled and many problems in the organization of quality management systems at agricultural enterprises have not been resolved. In order to eliminate the bottlenecks in domestic quality management, it is necessary to do the following in the nearest future:

- to bring the Russian food quality system in accordance with international standards;
- to prohibit the use of poorly studied drugs and their effects on the human body in the production of food products and agricultural products;
- to establish the strict control over the compliance concerning the established requirements for the quality of food products, as well as to introduce the maximum penalties for their non-compliance;
- to step up the introduction of innovative environmentally friendly technologies in food production, to stimulate the transition of agribusiness to organic agriculture;

- to increase the volume of state support for scientific research aimed at identifying and eliminating the consequences of the use of potentially environmentally hazardous food production and storage technologies for the environment and public health;
- to strengthen the promotion of a healthy lifestyle which is achieved in particular through the consumption of healthy food starting with the educational institutions.

The main problems to the introduction of organic farming in Russia are: the ambiguity and underdevelopment of the legal framework; lack of modern technology; lack of qualified personnel; underdevelopment of the training system; lack of domestic seed material and Russian animal breeds.

The reasons for the lag behind foreign countries with developed organic agriculture are: epy lack of a common understanding of organic products and their environmental safety; a large number of pseudo-environmental products that mislead consumers; the unfocused position of the state towards organic products; the lack of measures to improve the environmental culture of the population.

To solve all these problems it is necessary to take a whole range of measures.

### **Conclusion**

Thus, ensuring national food security is the main task of the state, which at the present stage is advisable to solve by activating innovative processes and digitalizing the agro-industrial complex. At the same time, the great attention should be paid to quality control of manufactured products along all the technological chain when developing and implementing innovative projects aimed at modernizing the production, storage and refinement of food. This determines the achievement of the main national interest and the high living standards. The important functions of the state governing bodies are strategic planning of volumes of own production of food products and the insurance stocks of strategically significant food products. Besides, it should be considered that the determination of the volume of imports of food products and their production is either impossible, or difficult due to unacceptable climatic conditions. The improvement of food security, as well as the growth of domestic agricultural production will be facilitated by the implementation of measures to provide food to low-income population through compensation. The benefits of assistance to the low-income population will not be limited only to social effect, because the artificially created demand for food will lead to an increase in sales volumes and marketability, and on this basis to obtain additional revenue by agricultural producers. Ensuring the country's food security largely depends on the performance of the regional agri-food markets. Their high significance predetermines the need to develop priority areas for their regulation and support for production in order to improve food security.



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## **СОВРЕМЕННЫЕ АГРАРНЫЕ АСПЕКТЫ ПРОДОВОЛЬСТВЕННОЙ БЕЗОПАСНОСТИ СТРАНЫ**

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*Цель:* изучение продовольственного обеспечения России, разработка мер по совершенствованию государственной политики в области продовольственной безопасности. *Обсуждение:* в статье представлены сущностные положения продовольственной безопасности, ее содержательные характеристики. Определены современные тенденции и уровень обеспечения продовольственной безопасности Российской Федерации, характеризующиеся достижением установленных критериев (за исключением молока и молокопродуктов, овощей и фруктов), общим ростом производства сельскохозяйственной продукции (при одновременном колебании объемов производства в отдельные годы), снижением импорта отдельных продовольственных товаров и доли импорта в потреблении, повышением потребления и достижением рациональных норм по отдельным продуктам питания. *Результаты:* предложены приоритетные направления повышения продовольственной безопасности страны в сфере доступности продовольствия для всех групп населения, в сфере агропромышленного производства, в сфере обеспечения качества и безопасности продуктов питания, в области совершенствования организации и управления обеспечением продовольственной безопасности, обосновывающие необходимость развития органического сельского хозяйства. Представленные в исследовании мероприятия могут быть использованы при разработке Государственной стратегии обеспечения национальной безопасности.

**Ключевые слова:** продовольственное обеспечение, потребление продуктов питания, сельскохозяйственное производство, продовольственная безопасность, критерии доступности продовольствия.

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