

# Organic agriculture and sustainable development of the agrarian sector of regions in the context of "green" economy

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**Abstract.** The possibilities of realization of the principles of "green" economy in the agrarian sector of Russian regions are investigated in the article. At the same time special attention is paid to the organic agriculture as one of indicators of transition to "green" economy and sustainable development of the agrarian sector. Some tendencies of organic agriculture development in regions of Russia are considered. The key directions of transition of the agrarian sector of economy of Russian regions to the model of "green" economy are defined.

## 1 Introduction

Nowadays "green" economy acts as the engine of sustainable development without prejudice to the nature, it allows to maintain ecological wellbeing of the population, increases production efficiency due to preservation and increase in the natural capital, reduction of toxic and carbon emissions, expansion of the biodiversity as well as the growth in incomes and employment of the population. No other sector affects such a set of important aspects of "green" economy as the agrarian sector. On the one hand, the agrarian sector of economy provides mankind with food and occupies about 40% of the world territory, it is the main source of income for the most part of world's population/ On the other hand, it does considerable harm to the nature due to emissions of greenhouse gases, water pollution. It will be possible to allow to avoid the adverse effects and to provide sustainable development of the agrarian sector of economy thanks to the organic agriculture. Organic agriculture is the system of production which is based on ecological processes, a biodiversity and cycles taking into account local conditions, and combining traditions, innovations and scientific achievements for the purpose of improvement of state of environment. Many governments of the states actively support now organic agriculture and recognize it as a steady form of agrarian production. Therefore organic agriculture plays a great role in transition to "green" economy [1, 2].

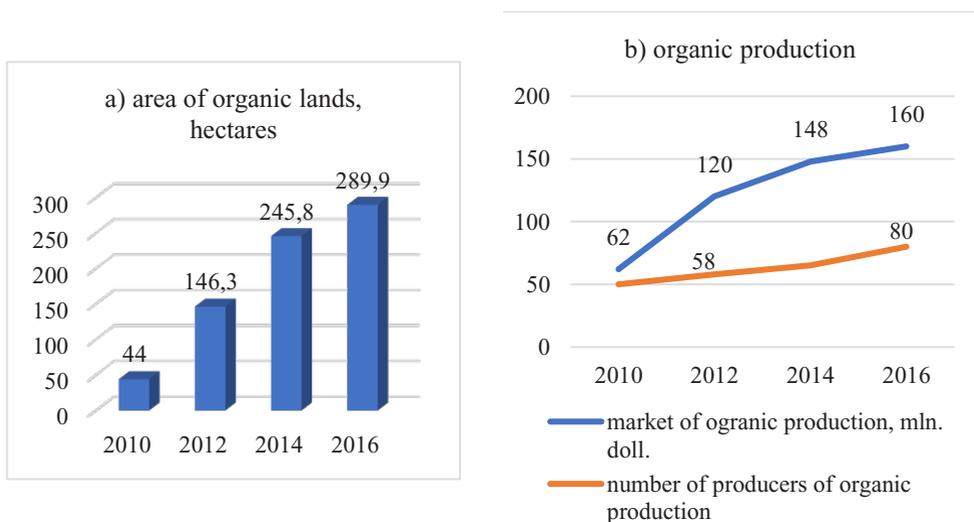
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In spite of the fact that the concept the "green" economy" is new for Russia, and the market of organic production rather young, the purposes, planned by the country for the next 10-20 years in many respects correspond to the purposes of transition to "green" economy, that is reflected in policy of the use of resources and environmental protections, standard and legal documents and tax tools. Russia has the huge potential for the organic agriculture development and for the transition to "green" economy: environment, low level of environmental pollution, development of transport infrastructure, existence of pasturable grounds [3]. However the country is not capable to realize it in full for a variety of reasons, connected with the small output and the insufficient number of producers of organic production, lack of standard and legal regulation and programs of support of organic agriculture and also educational, scientific and research programs [4]. The solution of the designated problems has huge value for sustainable development of the agrarian sector of economy of regions of Russia and transition to "green" economy.

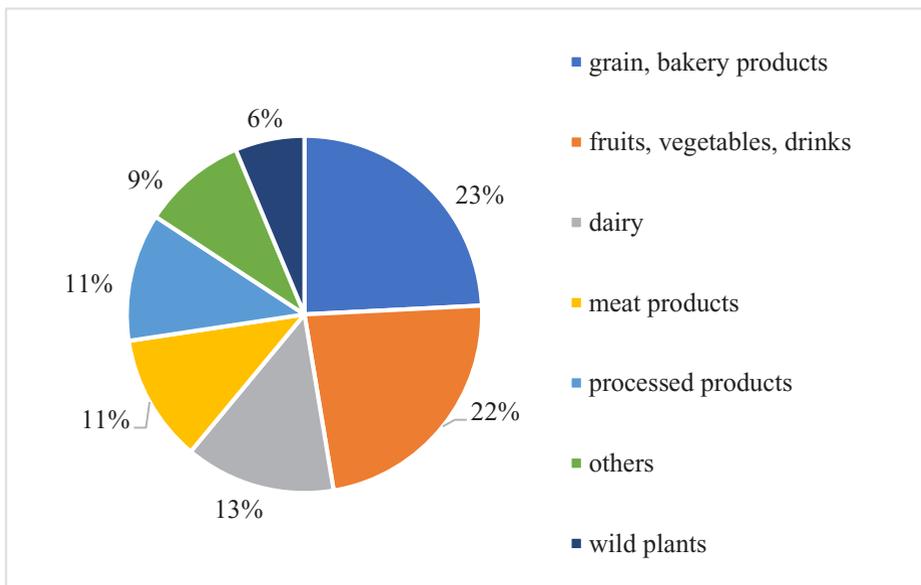
## 2 State of the Art

Nowadays the organic agriculture in Russia is one of the most dynamically developing branches of the economy, showing positive growth. In 2016 the market of organic agricultural production has made 160 bln. US dollars, the area of organic lands in Russia has increased almost to 290 thousand hectares, about 80 organic farms work (fig. 1) [5]. It cannot be compared with for example, of the EU, USA and many other countries [6, 7, 8]. Nevertheless, the market of organic production in Russia has grown almost three times from 2010 to 2016 in rather difficult years for the country in the conditions of sanctions. Russia is high on the list according to the gain of the lands certified under organic agriculture, but also these are only 0.2% of total area of agricultural grounds in the country. However not all the organic lands are used for designated purpose, a part them are certified under future projects. The number of producers of organic production in Russia are not enough for satisfaction of the growing demand. The majority of organic farms in Russia are small and average on the area. The main part of organic products is released by larger producers and holdings as well.



**Fig. 1.** Key indicators of the organic agriculture development in Russia in 2010-2016.

Producers of organic production manufacture in Russia mainly grain, bakery products (23%), fruit, vegetables (22%), dairy products (13%), meat and meat products (11%) (fig. 2) [5].



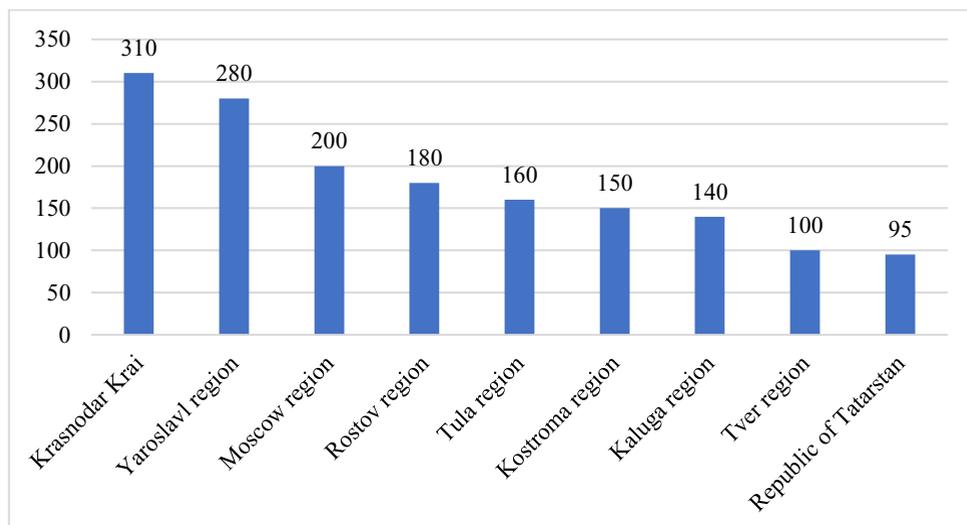
**Fig. 2.** Structure of production of organic production in Russia in 2016.

The most part of producers of organic production in Russia is in the European part of the country and is concentrated in the Yaroslavl, Saratov, Rostov and Moscow regions, Krasnodar Krai (fig. 3) [5].



**Fig. 3.** Distribution of producers of organic production among the regions of Russia.

Leaders in the output of the certified organic production are Krasnodar Krai (310 million rubles), Yaroslavl (280 million rubles), Moscow (200 million rubles), Rostov (180 million rubles) and Tula areas (160 million rubles) (fig. 4) [9].



**Fig. 4.** Rating of regions of Russia on the output of the certified organic production in 2016, million rubles.

## 4 Results and discussion

It is difficult to estimate the prospects of development of organic agriculture in regions of Russia in connection with insufficiency of data and lack of official statistics in the country in a section of regions [10].

The Russian organic agriculture exists in the conditions of a standard and legal vacuum. Nowadays the draft federal law "On Production and Turnover of Organic Production" is being under consideration in the State Duma of the Russian Federation [11, 12].

Production and distribution of organic production in Russia regulate 3 national standards (GOST): GOST P 56104-2014 "Organic foodstuff. Terms and definitions; GOST P 56508-2015 "Organic production. Rules of production, storage, transportation"; GOST P 57022-2016 "Organic production. The order of carrying out the voluntary certification of organic production" [13].

But at the same time some Russian regions now rather actively work on the creation of the regulatory base for the organic agriculture development [14, 15]. It is possible to name Krasnodar Krai, the Belgorod, Voronezh, Ulyanovsk regions (table 1) among such regions.

**Table 1.** Existing regional documents and normative legal acts of Russia in the field of organic agriculture.

Regions	Normative-and-legal acts
Ulyanovsk region	The law of the Ulyanovsk region "On the measures of the state support of producers of organic products in the Ulyanovsk region"
Krasnodar Krai	The law of Krasnodar Krai "On the organic agricultural production in Krasnodar Krai"
Voronezh region	The law of the Voronezh region "On the organic agricultural production in the Voronezh region"
Belgorod region	"On the approval of the long-term target programme "Introduction of Biological System of Agriculture in the territory of the Belgorod Region for 2011-2018"

Thus, organic agriculture in Russian regions exists, but it is in embryo still. Certain steps are necessary for the achievement of economic, food and ecological security of the country, for the increase in the standard of living of the population, preservation of the proper environment from the state, business structures, and the population. The problem of the state is to support organic agriculture that will promote transition of regions of Russia to "green" economy more active and effective [16, 17, 18].

### 3 Conclusions

Ecological technologies with the use of hydrotechnical melioration, agrosomelioration, crop rotation, biological methods of pest control, technologies of exact sowing and various methods of minimization of processing of the soil are the cornerstone of modern organic agriculture that allows to achieve increase in production of production and to cardinaly increase labour productivity.

Russian regions should base on natural resources and on the use new opportunities of growth and perspective models, in particular organic agriculture. If many countries are engaged in "organic chemistry" purely from the commercial point of view, then in Russia producers of organic production are committed to "the organic idea" that does this sector steadier.

In the context of "green" economy there are the following advantages of organic agriculture: the increase in profit at the expense of higher prices of the final product or cost cutting of production or their combination; increase in employment rate (on all chain of value creation); increase in export of organic production or reduction of import, for example, agrarian chemicals, or their combination; decrease in emissions of carbon and also preservation of a biodiversity and local landscape; accumulation of the natural capital, in particular, soil; cutting of costs for purification of waters and services of health care; increase in the social capital, including cooperation between farmers, growth of trust of society.

Development of organic agriculture in regions of Russia – a component of sustainable development of the agrarian sector of the country and transition to model of "green" economy. At the same time it is necessary to consider resource base of agrarian regions, innovative-and-investment opportunities, to be based on interregional integration and expansion of regional production communications. It is not less important to improve market infrastructure, to change consumer habits, to create standard and legal base for development of organic agriculture, to define export opportunities, to investigate the potential of domestic market.

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