Agricultural specialization of the Jewish Autonomous Region as a factor in ensuring food independence

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Abstract. The article examines the indicators of production of basic food products, which characterize the food independence of the Jewish Autonomous Region. Based on the analysis of data for the period from 2010 to 2019, reflecting a decrease in crop and livestock production, it is concluded that the subject is completely food dependent. It is determined that it is necessary to legislatively consolidate agricultural specialization for the region on the basis of comprehensive monitoring of land and arable funds on the territory of the subject.

1. Introduction

The Jewish Autonomous Region today is a region of Russia that shows extremely low values for the production of agricultural products.

Located in a zone of extreme agriculture, the region is characterized by high waterlogging and constant soil erosion, which reduces the fertility of agricultural lands. Own production of crop and livestock products is practically non-existent. Most of the food comes either from other regions or from abroad. These factors form the region's rigid food dependence on external producers. The problems of the development of agriculture and rural areas in the region are of a systemic nature and require solutions, both at the level of the commodity producers themselves and the authorities (issues of improving the quality of life, rural residents, financial support of local commodity producers, the problem of a shortage of labor resources in rural areas, etc.) [1]. The development of agriculture requires the formation of new approaches to its organization. We consider a clear definition of agricultural specialization as one of the leading directions of development of this industry in the region [2].

2. Materials and methods

To assess the food independence of the Jewish Autonomous Region, an analysis of statistical data is carried out that reflects the actual production of food products that are part of the consumer basket and represent a group of strategic goods that meet, in accordance with the Food Doctrine of the Russian Federation, modern healthy nutrition standards. Since food independence implies a level of self-sufficiency, data are analyzed from 2010 to 2019, compared to 1990. When considering the indicators, the statistical and economic method was used. When determining possible directions of ensuring food independence of the region, methods of analysis and synthesis were used.
3. Results

Back in the 80s of the last century, the Jewish Autonomous Region was a territory with developed agriculture. Own production of agricultural products made it possible to cover the needs for the consumption of grain, potatoes, milk, meat. Since the transition to a market economy, there has been a steady decline in domestic food production. At the same time, there is an increase in the outflow of the population, both to the regions of the European part of Russia and outside the Federation. These negative trends require changes in the development strategy of the region's agricultural sector. Consider the dynamics of food production in the region from 2010 to 2019 (table 1) [3-4]. To compare the dynamics, the table contains data for 1990.

Table 1. Food production in the territory of the Jewish Autonomous Region from 2010 to 2019 (in comparison with 1990) [3-4].

| Product name (thousand tons) | 1990 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|-----------------------------|------|------|------|------|------|------|------|------|------|------|------|
| Corn                        | 63.8 | 6.0  | 25.8 | 20.9 | 5.4  | 16.7 | 10.9 | 8.9  | 11.1 | 9.6  | 5.4  |
| Livestock and poultry for slaughter | 16.6 | 3.5  | 3.4  | 3.4  | 3.1  | 2.5  | 2.0  | 1.6  | 1.3  | 1.4  | 2.1  |
| Potatoes                    | 141.0| 102.9| 89.7 | 90.1 | 44.7 | 57.9 | 56.9 | 35.9 | 38.7 | 42.1 | 17.9 |
| Milk                        | 105.0| 26.3 | 25.4 | 19.9 | 14.3 | 11.5 | 9.6  | 8.9  | 9.4  | 9.1  | 9.3  |
| Egg (million pieces)        | 49.0 | 26.2 | 30.2 | 34.6 | 18.1 | 17.3 | 16.7 | 16.5 | 14.2 | 13.0 | 9.7  |
| Fruits and berries          | -    | 1.8  | 1.5  | 1.4  | 1.1  | 1.4  | 1.1  | 1.4  | 1.0  | 1.4  | -    |
| Vegetables                  | 22.0 | 30.7 | 31.4 | 27.6 | 16.4 | 21.9 | 20.3 | 17.5 | 15.1 | 14.5 | 7.4  |

Table 1 clearly shows the negative dynamics in the gross production of food products that meet modern requirements for a healthy diet. The largest drop is noted for such products as livestock and poultry for slaughter, potatoes, milk and eggs. If the drop in production for fruits, berries and vegetables can still be explained by unfavorable climatic conditions, then for the above products there is a whole set of problems. At the same time, in 1990, the results of crop and livestock production represent much more significant values [5]. The strategy of socio-economic development of the Jewish Autonomous Region clearly defines a set of problems that set the development of the region back decades [6]. However, among the weak scientific support, the backwardness of technical equipment and the steady outflow of residents from rural areas to cities, it should be noted that the approaches to organizing the agrarian sector of the regional economy are irrational.

Based on the doctrine approved by the Presidential Decree, food independence is one of the indicators of food security [7]. Threshold values for food production are characterized as the ratio of domestic production to consumption indicators. However, it is necessary to point out here that the doctrine considers the production of food products for the Russian Federation as a whole, without taking into account the natural differentiation of the territory according to agro-climatic characteristics. At the same time, it is quite clear that, being located in different landscape zones, the subjects are characterized by local characteristics of agricultural factors and independently determine the vectors of development of the agricultural industry. There are no large agricultural producers in the region today, and small and medium-sized businesses are focused on the needs of China, since there is an investment dependence on this neighboring state. Based on the definition of food independence, in order to provide the population with the necessary food products, it is necessary to take into account the size of the population. So in 2019 the population of the region was 159,913 people [4]. To meet the needs for food products in 2019, the region had to provide the indicators that are reflected in table 2.
The data are given taking into account the diet of food products included in the consumer basket for the Jewish Autonomous Region in 2019 [8-9]. However, we clearly see that only one of the positions in the name of goods is provided by our own production - this is potatoes. The rest of the positions are significantly below the required values.

Table 2. The ratio of the required and actual production of goods in the Jewish Autonomous Region in 2019 [8-9].

| Name of product | Required volumes of goods for 2019 (kg) | Actual production (kg) |
|-----------------|----------------------------------------|------------------------|
|                 | Taking into account the norms | Taking into account the specific weight of domestic products (not less) | |
| 1. Bread products (bread and pasta in terms of flour, flour, cereals, legumes) | 17,062,717 | - | Corn 5,400,000 |
| 2. Potatoes | 12,729,075 | 12,092,620 | 17,900,000- |
| 3. Vegetables and melons | 17,846,291 | - | 7,400,000 |
| 4. Fresh fruits | 11,897,527 | - | - |
| 5. Sugar | 3,566,060 | 2,852,848 | - |
| 6. Meat products | 8,379,441 | 7,122,525 | 2,100,000 |
| 7. Fish products | 4,733,425 | 3,786,740 | - |
| 8. Milk and dairy products | 41,097,641 | 36,987,877 | 9,300,000 |
| 9. Eggs (pieces) | 32,622,252 | - | 9,700,000 |
| 10. Vegetable oil | 1,599,130 | 1,279,304 | - |
| 11. Other products (salt, tea, spices) | 671,635 | - | - |

Such indicators of a subject's self-sufficiency in food products characterize him as a subject with a high degree of food dependence, which in turn indicates a decrease in the level of food security. It is quite clear that in order to compensate for the necessary goods, they are supplied from other regions or from abroad, which significantly increases their cost.

So what needs to be done for the region to acquire the status of food independence? The vectors of agricultural development considered below represent possible ways of developing this industry in the region, and can be applied to any territory of our state.

We believe that one of the most important areas is the definition and legislative consolidation of agricultural specialization for the constituent entities of the Russian Federation. To date, each of the subjects independently determines the specifics of agricultural cultivation of the arable fund. We believe that the imperative nature of specialization will eliminate the situation when a one-season effect is observed from the crops grown. So, subjects lying in moderate and polar conditions actually cannot produce some groups of goods. Such an approach, based on integrated monitoring of land and arable resources on the territory of the subject, taking into account the lands that lie in the zones of seasonal or permafrost, are constantly or periodically flooded, will make it possible to determine those crops that will be profitable for the subject. It is quite understandable that the cultivation of watermelons and rice on land rented by Chinese entrepreneurs does not provide a significant investment in the regional budget. A possible option for such an imperative assignment of specializations to the constituent entities may be the Food Security Doctrines for the federal districts of the Russian Federation, which will take into account the landscape patterns of territories and, at the regional and local levels, determine the agricultural specialization of the constituent entities located in them. Accordingly, the universal approach to food production in the regions will be updated.
The territory of the region from 2016 to 2020 systematically receives the maximum amount of precipitation in the summer season, which causes an increase in the level of watercourses and forms a prolonged flooding of farmland. However, land monitoring, taking into account the negative consequences of a decrease in fertility, changes in land boundaries, the degree of erosional changes in the region, was not carried out. Therefore, an important step in the development of agriculture is a set of scientific measures aimed at updating the characteristics of the arable fund. We believe that the specialization in crop production of the region should be the production of soybeans, potatoes and fodder grain to provide a fodder base for animal husbandry. We consider the cultivation of indoor crops to be unprofitable, since this process requires huge financial investments, which significantly increases the cost of production. It is more correct to compensate for such types of products as fresh fruit through supplies from the European part of Russia. In the summer-autumn season, a huge number of wild plants - berries, ferns, mushrooms - ripen in the region. The collection of these gifts of nature is chaotic. Controlling the collection of these products by licensed procurers is very difficult, since it is impossible to track the actual volume of procurement. The presence of so-called "black purveyors" complicates the process. We believe that the solution to the issue of regulating the collection of wild plants is possible through the creation of procurement points as public sector enterprises.

In animal husbandry, emphasis should also be placed on evidence-based approaches to the choice of its directions. Preference should be given to the development of pig and poultry farming. This approach will protect the economic interests of regional producers and consumers of foodstuffs from the expansion of Chinese goods, which occurs by ousting similar domestic goods from the Russian market. At the same time, products that do not meet sanitary and epidemiological characteristics are often imported into the region. To address the issues of providing the region with meat and dairy products, it is necessary to take into account the severity of the climate when determining breeding species of animals.

We believe that another promising direction is the establishment of fur farms for the production of fur products, which will ensure the replenishment of the regional budget and allow purchasing the missing products in other regions. A possible option could be the creation of fur farms for the cultivation of fur animals. Considering the unique combination of floristic areas in the region, one should not forget about beekeeping. Today in the region there is not a single state-type beekeeping enterprise. Individuals are engaged in breeding bees for honey production. Few are involved in this activity as a legal entity. Meanwhile, this branch of agriculture makes it possible to produce, in addition to honey, other products that are actively used as raw materials in the pharmaceutical and perfumery and cosmetic industries.

The acute issue for the region remains the pronounced raw materials orientation of exported goods. Unfortunately, in the structure of exports from the region, commodity positions continue to dominate, representing commodity groups. Accordingly, for the development of agriculture, it is necessary to create appropriate processing enterprises that will not only provide products to the population of the region, but also supply it to other regions. The established production facilities for deep processing of grain crops (soybeans) will provide an increase in the share of added value and will establish the production of import-substituting products [10-15]. In general, this topic is a promising scientific direction and will be developed further. The findings represent possible ways to ensure food independence of the region, which will contribute to the development of agriculture in the region.

4. Discussion
The results of the research on the development of agriculture in the Jewish Autonomous Region were discussed in the framework of the XXV International Scientific and Practical Conference "Innovative Research as a Locomotive for the Development of Modern Science: from Theoretical Paradigms to Practice" (Moscow, 2020). Materials on the analysis of food independence of the Jewish Autonomous Region, taking into account the indicators of the recommended rational norms of food consumption, were published in the journal "Financial Business" No. 7, 2020.
5. Conclusion

Based on the analysis of the time series for food production, which represent indicators of ensuring food independence for the territory of the Jewish Autonomous Region, possible ways to ensure this indicator have been identified. These measures include:

- Definition and legislative consolidation of agricultural specialization for the region;
- Carrying out comprehensive monitoring of land and arable funds on the territory of the subject, taking into account the lands that lie in the zones of seasonal or permafrost, are constantly or periodically flooded.

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