



Competitiveness and price policy of Ukrainian agrarian enterprises for the production of organic products

Política de competitividad y precios de las empresas agrarias ucranianas para la elaboración de productos orgánicos

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ABSTRACT:

The article investigates the main factors of competitiveness of agricultural enterprises for organic production in Ukraine. The competitive advantages of Ukrainian organic farming enterprises are revealed. A comparative analysis of the pricing policy of Ukrainian agrarian enterprises producing traditional and organic products is carried out. The expediency of expanding of livestock cycle specialization from organic milk and dairy production to the large-scale proposals of organic meat and meat products is substantiated.

Keywords: competitiveness, agrarian enterprise, organic agriculture, organic production.

RESUMEN:

El artículo investiga los principales factores de competitividad de las empresas agrícolas para la producción orgánica en Ucrania. Se revelan las ventajas competitivas de las empresas agrícolas orgánicas ucranianas. Se lleva a cabo un análisis comparativo de la política de precios de las empresas agrarias ucranianas que producen productos tradicionales y orgánicos. Se confirma la conveniencia de ampliar la especialización del ciclo ganadero desde la producción de leche orgánica y láctea hasta las propuestas a gran escala de carne orgánica y productos cárnicos.

Palabras clave: competitividad, empresa agraria, agricultura orgánica, producción orgánica.

1. Introduction

In the conditions of the intensive introduction of innovative technologies into the production of agricultural and food products on the one hand and the spread of the philosophy of a healthy lifestyle among the general population - on the other hand, increasingly important quality become indicators of food. Organic products are known to have greater environmental friendliness and usefulness compared to traditional counterparts..

Food safety is now a key issue for the development of agribusiness in the leading countries

of the world. Therefore, in the USA, Canada, the EU countries due to a significant increase in demand for quality food, the main direction of agricultural development today is the organic production of agricultural products (Kovalev, 2005). During the last 10 years, Ukraine has also demonstrated steady growth in the area of agricultural land, which is certified organic production and occupies the 20th place in the list of countries of the world with the area of organic agricultural land.

Price is an important factor in determining the demand for environmentally friendly organic products. Price is one of the decisive factors that prompts production and determines the competitiveness of goods, including organic agricultural products in the consumer agricultural market. The mechanism of pricing for organic agricultural products of Ukrainian farmers has its own specificity and needs to be studied.

2. Methodology

An important impetus for the development of organic production in Ukraine was the implementation of the Swiss-Ukrainian project - "Certification in organic agriculture and the development of the organic market in Ukraine", implemented by the Research Institute of Organic Agriculture (FiBL, Switzerland). As part of this project, in 2007 the Organic Standard Ltd was created - the first Ukrainian certification body to provide services in the field of organic production (Dushka et al., 2014). Today, such organizations as the Federation of Organic Movement of Ukraine, the consulting authority QueS, Retail Academy, Organic Business, etc. promote the development of organic production of agricultural products in Ukraine.

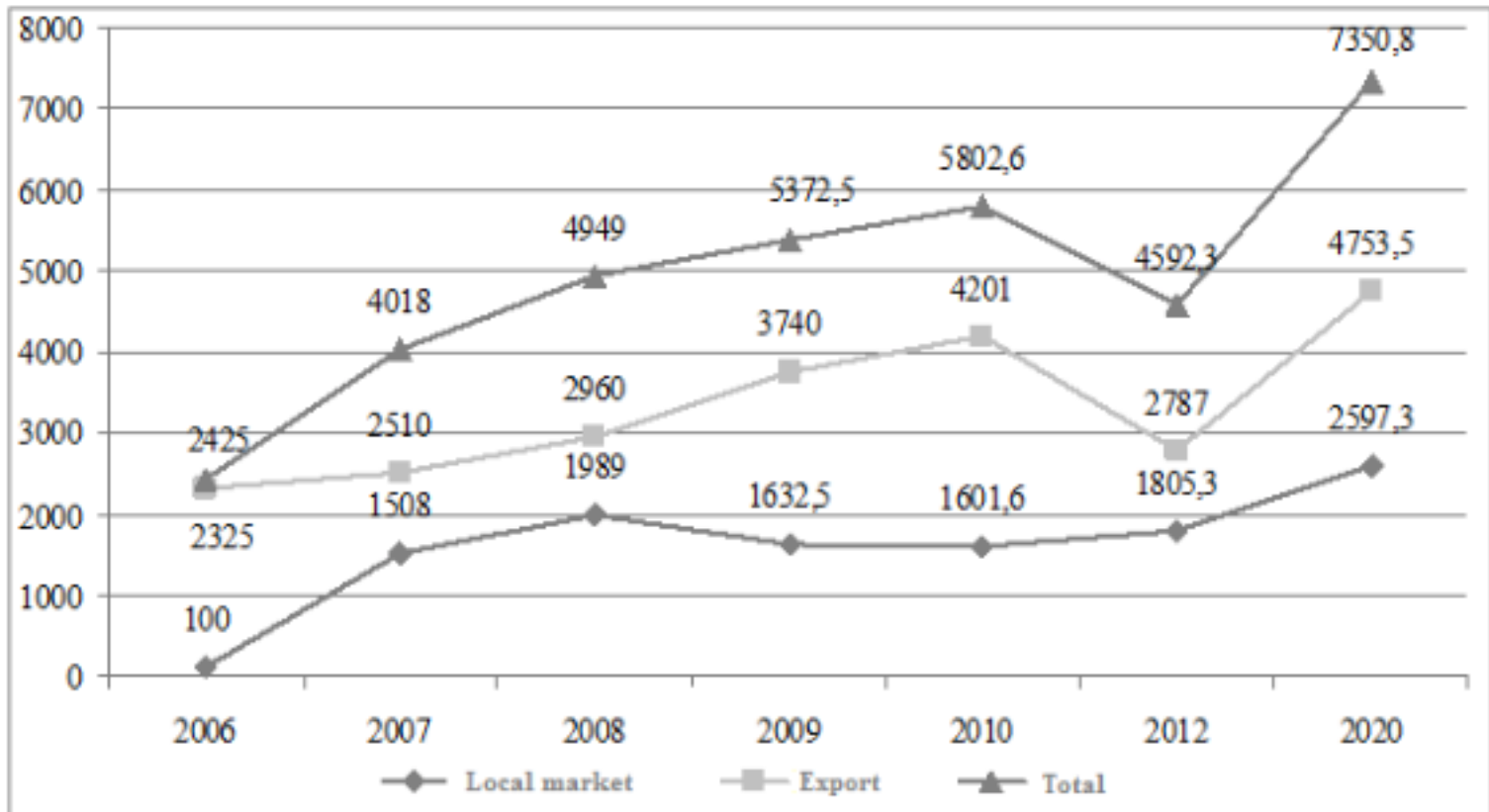
Domestic commodity producers, subject to the purchase of the necessary equipment (primarily, on the terms of integration and cooperation), the establishment of appropriate certification and standardization of production, can provide a growing demand for environmental goods not only domestic but also foreign consumers. Ukrainian agricultural producers that implement organic technologies make up 70.0% of their production in the EU, USA, where the demand for certified organic produce continues to grow by about 10.0% per year. According to the FiBL and the Project "Development of Organic Production in Ukraine 2013-2016", for today Ukraine is among the top 20 countries of the world's leading organic movement, such as the United States, Great Britain, Germany, France, Sweden, Switzerland, the Netherlands (Dub, 2008). At the same time, today the demand of EU countries for environmentally friendly products is satisfied only by one third (Galushkina, 2010).

In addition to quality, an important factor determining the demand for environmentally friendly organic products for both Ukrainian and foreign consumers is the price. Considering the existence of the economic crisis and the reduction of the solvency of Ukrainian consumers, as well as the need to increase the competitiveness of products for the foreign market, the study of the features and mechanism of pricing that determine the choice of the price model for managing organic business and determine the strategy of development of Ukrainian agrarian enterprises producing organic products. The theoretical and methodological basis of work is the authors' publication who studied the issues of competitiveness and pricing policy of agrarian enterprises for the production of organic products, in particular (Andriyчук, 2005), (Andreeva et al., 2010), (Dushka et al., 2014), (Dub, 2008), (Khodakivska et al., 2011).

3. Results

Based on the calculations (Federation of Organic Movement in Ukraine, 2017) it was established that in 2020 the range of organic products in Ukraine will be increased by 60.2% and will amount to 495 product names, including 74.5% in the local market and reaches 165 units; exports will be increased by 54%, to 331 product names. In 2013, the total volume of organic products sold in Ukraine amounted to 4592.3 tons, which is 2167.3 tons more than in 2006. On the local market, 39.3% were sold, and 60.7% of products were shipped for export (Fig. 1).

Figure 1
Volume of organic food production by agrarian enterprises of Ukraine and forecast of its growth till 2020.



The main organic products grown in Ukraine and exported include grains, legumes, oilseeds, melons, berries, vegetables, herbs, fruits, meat, mushrooms, nuts, honey. Exported products are used as raw materials and partly returned to Ukraine in the form of finished products. In this case, consumers pay a share of added value to the country that produced the final product.

The increase of the role of pricing on organic products in the strategy of its production and sales is determined by the rather high level of inflation, high prices for raw materials of organic origin, increased competition in the conditions of European integration and reduced purchasing power of buyers. The above factors determine the relevance of choosing a pricing model for organic business management and its economic justification (Khodakivska et al., 2011).

Currently, organic products market in Ukraine is at an initial stage of development, due to certain factors. Among them is the lack of state support for commodity producers in the transition period; insufficient number of officially registered certification centers for conformity assessment of production and products; unformed domestic demand for it; underdevelopment of market infrastructure, the complexity of providing technological requirements for reproduction of organic production; high cost and price of organic products.

One of the peculiarities of pricing for organic agricultural products is the presence and impact of additional costs. After all, the total cost per unit of organic produce includes the costs of providing organic and certification of production. At the same time, the presence of an environmental certificate is an additional argument in favor of its safety for consumers. Organic food is a specific commodity that requires not only special cultivation technology, but also marketing.

In particular, according to the standards, producers of organic products should ensure that they are transported to other units only in the appropriate packaging. When products are stored, identification of parties should be provided. The mixing of organic products with products or substances that do not comply with the rules of organic production should be avoided (Sirenko, 2012). All of the above explains the increase in prices for this category of food.

The second feature - the impact of prices of goods that do not have the environmental properties and value of organic products. The buyer will be more sensitive to the price, the higher it will be compared with ordinary goods. That is, the price of organic products should take into account not only the cost of competitor products with similar environmental

properties, but also the prices of products made from raw materials grown by the intensive method.

In determining the price of products, first of all, it is necessary to know its cost, which is the basis in the pricing process and characterizes the enterprise's costs for the manufacture and sale of products. Each company is trying to fully compensate for the costs associated with the production of products, and to get the most profit. It is therefore advisable to differentiate between types of costs, focusing on those that have closer interactions with the price of products produced in traditional and organic farms. Since organic farming in Ukraine is specialized mainly in the production of cereals and legumes, it was decided to investigate exactly the specified group of crops for organic and traditional types of farming in agribusiness.

Using correlation-regression analysis, direct dependence of prices on types of costs for grain and legume production in traditional and organic enterprises was established (Chudovskaya, 2013), (Novak, 2014). The ranking of the coefficients of correlation and determination of the indicators of production costs for cereals and legumes proves that among the most "influential" for the formation of prices in traditional enterprises the cost of mineral fertilizers prevails. Table 1

The correlation coefficient (0.972) shows a strong correlation and a direct relationship between the price of cereals and legumes and the cost of mineral fertilizers for their production. The determination coefficient (0.9447) shows that 94% of the cases of price changes are associated with a change in the cost of mineral fertilizers, that is, the accuracy of the selection in the regression equation is high. The slightest correlation (0,564) is observed between the price and the cost of wages in the production of grain and leguminous crops, and the change in this type of expenditure only in 32% of cases affects the price change.

The linear regression shows (with a probability of 94.5%) that the increase in the cost of mineral fertilizers by 1 UAH / pound corresponds to an increase in the price by 8,1939%. With a rather weak correlation between price and wage costs, a significant increase in prices is observed - by 38,077%, with an increase of this type of expenditure by 1 UAH / pound, however, with a very low probability of 31.8%. This makes it possible to predict the change in prices from the costs incurred for the production of cereals and leguminous crops.

Table 1
Price dependence on the type of costs of cereals and legume production for traditional and organic agrarian enterprises

<i>For traditional agrarian enterprises</i>			
<i>Costs</i>	<i>Regression equation</i>	<i>R</i>	<i>R²</i>
Mineral fertilizers	$Y = 8,1939 x - 7,4667$	0,972	0,9447
Petroleum products	$Y = 15,408 x - 91,024$	0,969	0,938
Seed	$Y = 10,235 x - 15,777$	0,962	0,925
Salary	$Y = 38,077 x - 133,89$	0,564	0,3178
<i>For organic production</i>			
<i>Type of expenditure</i>	<i>Regression equation</i>	<i>R</i>	<i>R²</i>
Petroleum products	$Y = 9,842 x - 18,489$	0,961	0,9232
Seed	$Y = 109,14 x - 517,92$	0,952	0,9054

Fertilizers	$Y = 116,57 x - 52,228$	0,904	0,8173
Salary	$Y = 154,64 x - 155,92$	0,869	0,7559

The data obtained from organic farms shows that the most impact on the price is the element of the cost of petroleum products (see Table 1). Thus, the link between the price and the cost of petroleum products is $R = 0.961$, between seed costs $R = 0.952$, between fertilizer and wages $R = 0.904$ and $R = 0.869$. As with the traditional type of management, there is the slightest correlation (0,869) between price and wage costs.

According to the linear regression data, an increase in the cost of petroleum products by UAH 1 / pound corresponds to a slight increase in prices (by 9.842%), however, with a high probability (92.32%). A significant increase in prices (by 109.14%) corresponds to an increase in seed costs of 1 UAH / pound and a significant probability of 90.54%. Also, the price will increase significantly with the change in fertility and wage costs by 1 UAH pound - respectively by 116.57 and 154.64%. Although in connection with the change in the cost of wages, the least cases of price changes are noted at 75.59%, while with the change in the cost of petroleum products the price varies in 92.32% of cases (Chudovskaya, 2013), (Novak, 2014).

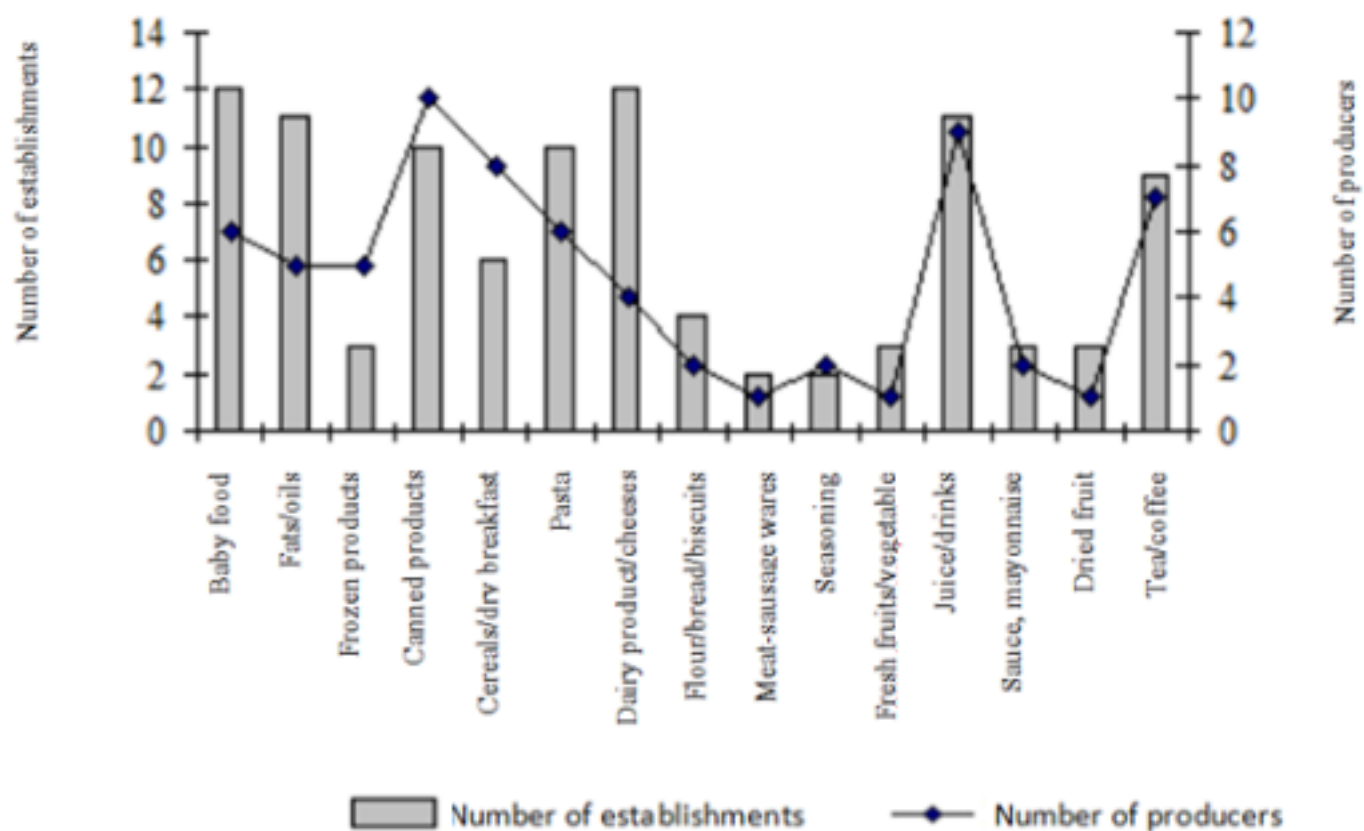
The effectiveness and competitiveness of organic production depends on the size, specialization and diversification of organic activities. Monospecialization of organic enterprises (Novak, 2016) allows them to optimize their costs, while diversification significantly reduces weather climate and marketing risks of uncertainty, contributes to the creation of a closed cycle of organic production, which ultimately also reduces costs for it. However, at the stage of organization and formation of organic enterprises, it is advisable to model the monospecialized ones, since this requires considerably less working capital. An important factor and component of organic activity that needs to be taken into account in all models and structure of organic enterprises is the availability or required amount of organic seeds and farm animals for breeding, especially authentic for those or other rural areas.

The disadvantage of the development of organic enterprises in Ukraine is the concentration of resources mainly on crop specialization. Meanwhile, the very specialization of the livestock cycle can significantly increase profits, avoid weather and climate risks and have a steady demand for consumer markets. So far, organic livestock enterprises are represented by the production of milk and dairy products. Practically there are no large-scale offers and production of organic meat and meat products. This indicates the need to eliminate these imbalances, including and in conditions of state support.

The entire assortment of organic products can be divided into 15 food categories: baby food; fats / oils; frozen products; canned products; cereals / dry breakfasts; pasta; dairy products / cheeses; flour / bread / biscuits; meat-sausage wares; ; fresh fruits / vegetables; juices / drinks; sauces / mayonnaise; dried fruits; tea / coffee. The offer of organic products is shown in Fig. 2.

Figure 2

Proposal for organic products in Ukrainian trade establishments [5]



As we see from Fig. 2, as a result of research of 13 shopping centers of the largest cities of Ukraine (Dnipropetrovsk, Donetsk, Kharkov, Kiev, Lviv and Odesa) it was established the widest assortment of organic and environmentally friendly products is presented in Kyiv (12 categories out of 15 studied ones). Ecologically clean products are also widely represented in Dnipropetrovsk and Lviv (11 categories). In other cities there are only 7 categories out of 15. According to the number of producers of environmentally friendly products, Lviv is the leader: shopping malls in Lviv present 26 of Ukrainian producers, 13 of which are local production, they are presented only in Lviv and not found in any of 5 other cities of Ukraine. The narrow assortment of organic and environmentally friendly products is presented in Odesa and Zaporozhye.

It was discovered that the geography of supply is concentrated, mainly in highly developed countries of Western Europe.

Most Ukrainian exporters have little experience in exporting organic products through the entry barriers to Western European markets, which are already divided among distributors of powerful western companies. Large agrarian enterprises have the opportunity to form large batches of organic products of the appropriate quality and export them abroad. However, in practice, export is mainly engaged in intermediary and intermediary structures that continuously monitor the external market, attend international exhibitions and cooperate with foreign partners (Steerenko, 2009).

In the EU, the markup on organic products is 15-50%, in the USA - about 30%, and in Ukraine 100-300% is relatively inorganic. Consequently, retail prices for organic products in domestic retail chains are significantly overestimated. This situation leads to the fact that less than 1.0% of Ukrainians can afford to buy organic products. Consequently, the development of the market for organic products in Ukraine could be carried out at a much faster pace, provided that the high cost of organic products is leveled out Table 2.

From data table of 2 it is evident that dairy products (milk, sour cream, butter) of organic production are more expensive than traditional ones more than 2.3 times. Organic eggs in the Ukrainian market are more expensive more than twice. The prices of organic produce are 2.5-3.8 times higher (tomatoes - 2.8 times, cucumbers - 2.5 times, carrots - 3.5 times, onions - 3.7 times). The difference in prices for traditional and certified bakery products was 3.3 times. Consequently, having analyzed the prices of some organic agricultural products, it can be proved that they are too high for the average domestic consumer. Therefore, given the unequivocal usefulness of organic produce, the deciding factor for the demand for it is the price and confirmation of its status.

The main motive for buying organic products is the desire of consumers to consume quality,

environmentally friendly products that are safe for health. Almost 70% of the population believe that the quality of traditional agricultural products is low and they are not satisfied with it (Shubravska,2008). Therefore, the organic products market will show a steady upward trend.

Table 2
The ratio of retail prices for traditional and organic products in Ukraine, 2016.

Food Name	Unit	Price, UAH.*		%
		On the traditional product	On Organic Goods	
Milk	1 liter	10,00	23,50	235
Sour cream	0,5 liter	15,00	34,00	227
Butter	200 g	22,00	50,00	227
Eggs	10 pcs.	20,00	37,50	187
Chicken fat	1 kg	40,00	90,00	225
Pork swab	1 kg	80,00	150,00	187
Carrot	1 kg	10,00	35,00	350
Onion	1 kg	8,00	30,00	375
Tomatoes	1 kg	50,00	140,00	280
Cucumbers	1 kg	40,00	100,00	250
Bananas	1 kg	35,00	60,00	170
Oranges	1 kg	35,00	57,00	162
Apples	1 kg	20,00	50,00	250
Bread	400 g	6,00	20,00	333

* Prices indicated to date March 20, 2018.
Source: own research.

As for the formation of consumer demand [15], there is already a category of people in Ukraine (up to 8.0% of the population), especially in large cities that have a given motivation to consume organic products and are willing to pay a higher price for them. This group of consumers creates an initial niche for the organic products market in Ukraine, and therefore, for the formation of the domestic market of such products. This can be confirmed by the results of a survey of Kiev residents. As can be seen from the data presented Table 3, most potential buyers agree to purchase environmentally friendly products, provided that the price for it will be 40-50% higher, compared with products grown by traditional technologies. Note that 200 residents of Kyiv aged 18 to 75 were interviewed. Eco-friendly products are ready to buy 73 of them, which is 36.5%. This is a high indicator, as about 30% of all respondents were not able to determine due to their lack of knowledge about the

issue, while 27 (13.5%) stated that they do not need to buy such products because they grow it in their own country and garden areas.

Table 3
Readiness of buyers to pay more for organic products

Increase in prices for environmentally friendly products,%	Number of respondents who agreed to buy environmentally friendly products	Share of separate groups of respondents who agreed to buy environmentally friendly products, in relation to the total number of respondents (200 people),%
40	26	13,0
50	22	11,0
60	13	6,5
70	7	3,5
80	5	2,5
Total	73	36,5

The greatest interest in environmentally friendly products was found in people aged 50-60, due to increased health care, as well as young people under 25 with its traditional aspirations for everything new. Conversely, people between the ages of 30 and 40, who were primarily indifferent to the consumption of such products. The only thing that can discourage the consumer from organic food is the price. For example, 1 kg of organic buckwheat will cost twice as much. But these products also have better taste qualities, because organic food contains more vitamin C and necessary minerals: calcium, magnesium, iron and chromium.

Within the domestic market of Ukraine, the share of organic products sales does not exceed 1% of the total volume of sales of agricultural products. In Europe, for example, it is 5%, with an increase in organic produce consumption of 8-11% per year (Dudar, 2012). In the United States, more than 40% of Americans consume organic products, while they can be divided into the following categories: the organic integrated group (37% of all organic consumers) - people who use organic products more than once a day; Organic middle group (39%) - use organic products at least once a week; Organic starting group (24%) - consumes organic products irregularly, occasionally.

The following factors severely restrict the development of the organic food market in Ukraine:

- lack of appropriate legislative acts and complicated procedure for organic certification of such products in accordance with the current international standards, first of all the norms of the European Union, lack of their own national standards;
- Insufficient institutional support and lack of financial support for the given sphere of activity from the state side;
- lack of awareness of the population, producers, bodies of state power and management about the opportunities and prospects for the development of organic production in the region, its advantages;
- Insufficient level of professional knowledge and experience of business entities regarding the implementation of organic production, lack of skilled personnel and their training system in this direction;

- prevalence of exports of organic raw materials;
- passivity of producers in the field of innovation implementation and lack of funds for these purposes;
- high amounts of trade margins on organic food in Ukrainian retail chains, which reduces their availability to consumers;
- lack of information on organic products from consumers, their benefits compared to inorganic and health benefits.

The research of the organic food market needs to determine the motives for purchasing such goods and the characteristics of the buyers. Today in Ukraine, it is mainly high-income people who are worried about their health and have information about the benefits of organic food. The analysis shows, that almost 60% of Ukrainian consumers will buy organic food if their value exceeds the cost of standard products by 10-25%; if their cost is higher - by 25-40% will exceed the cost of standard products, then the number of potential consumers will be reduced to 47%. Among consumers of organic food are people with education, young families with children, city residents.

4. Conclusions

For Ukraine, the growth in the number of commodity producers that produce organic products and ensure an increase in their consumption is a significant factor in economic and environmental and social development, since organic activities not only have a positive effect on the status of enterprises and the state, but also on health, life expectancy and reproduction of the population; the state of the environment.

In Ukraine, in 2014, more than 180 organic certified agroformations functioned. They occupied 402.7 thousand hectares or almost 1.0% of agricultural land in the country. On the average, the size of one organic plant was 1.5 hectares, and the growth rate of their number over the past 10 years was 15 farms per year. This allowed Ukraine to rank the 1st place in Eastern Europe and the 20th in the world by the level of concentration of organic production areas. However, this is extremely insufficient for a country with a unique agro-resource potential, and it also shows the existing problems of the organization of organic enterprises and the unused growth opportunities.

The main competitive advantages of the development of organic enterprises in Ukraine are their unique natural resource support, cheap labor in the countryside, strong traditions of organic production, the presence of highly qualified specialists, access to the leading agrarian markets of the world. Problems and risks of the development of organic enterprises concern restrictions or deficits of their own financial and investment funds; high cost of certification services; risks of uncertainty of weather conditions; unsuccessful marketing strategies on the domestic consumer market due to the occurrence of greenhouse gas phenomena and the lack of confidence of consumers regarding the truthfulness of organic information; difficulties in the formation of large batches of organic products for export. Also, the lack of organic enterprises in Ukraine is a concentration of resources mainly on crop specialization. Meanwhile, the very specialization of the livestock cycle allows you to significantly increase profits. So far, organic livestock enterprises are represented by the production of milk and dairy products. Practically there are no large-scale proposals and production of organic meat and meat products, which proves the need to eliminate these disproportions in conditions of state support. These are factors that should be focused on domestic enterprises, in particular Kherson plant of environmentally friendly products, LTD "Organik Milk", Private joint stock company "EthnoProduct", Confectionery factory "Croissan", ФГ "Tizesh", Private enterprise "Prigara", etc., which are also involved in the production of environmental products.

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