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PRODUCTION OF ORGANIC PRODUCTS ON AGRICULTURAL HOLDING IN SERBIA

Abstract: Organic agricultural production is a system of agricultural management that strives for ecologically clean, ethically acceptable, socially just and economically viable agricultural production. Healthier producers, healthier land, plants and animals, a better ecological environment and, of course, healthier consumers who consume better quality products are organic advantages over conventional agriculture. Organic production is suitable for all types of farms. Small farms with modest agricultural resources can participate in creating an offer that, through consolidation, will be of market interest to other participants in the chain from farm to fork. The aim of this paper is to point out that organic production, which takes place in compliance with the principles of environmental protection, is a huge potential and an untapped opportunity for our country in the future.

Key words: organic production, benefits, environmental protection

ПРОИЗВОДЊА ОРГАНСКИХ ПРОИЗВОДА НА ПОЉОПРИВРЕДНИМ ГАЗДИНСТВИМА У СРБИЈИ

Apstrakt: Органска пољопривредна производња је систем пољопривредног газдовања који тежи еколошки чистој, етички прихватљивој, социјално праведној и економски исплативој пољопривредној производњи. Здравији произвођачи, здравије земљиште, биљке и животиње, квалитетнија еколошка средина и наравно здравији потрошачи који конзумирају квалитетније производе су предности органске у односу на конвенционалну пољопривреду. Органска производња је погодна

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за све типове пољопривредних газдинстава. Мала пољопривредна газдинства са скромним пољопривредним ресурима могу учествовати у стварању понуде која ће кроз обједињавање бити тржишно интересантна за остале учеснике у ланцу од фарме до трпезе. Циљ рада је да укаже на то да је органска производња која се одвија уз поштовање принципа заштите животне средине огроман потенцијал и неискоришћена шанса наше земље у будућности.

Кључне речи: органска производња, предности, пољопривредно газдинство

Introduction

Organic agriculture is a system of agricultural management that is aimed at ecologically clean, ethically acceptable, economically viable and socially just agricultural production. Organic agriculture is production that excludes the use of mineral fertilizers, pesticides, and growth hormones. Its essence is not only in the non-use of agrochemicals, but in the overall harmony of its processes and mutual relationships.

Compared to conventional agricultural production, the concept of organic agricultural production is much more complex. The explanation for this statement lies in the desire to establish the functioning of a farm consisting of several basic production units (arable land, pastures, orchards, vegetable gardens, vineyards and livestock farming), in the community of which balance, independence, harmony of the whole, stability and resistance to external influences (natural, economic, etc.) are established [1].

Organic production is a special system of sustainable economic behavior in agriculture that encompasses the cultivation of plants and animals, the production of food, raw materials and the processing of primary products, and includes all ecologically, economically and socially justified production and technological methods, operations and systems, making the most of soil fertility and available water, the natural properties of plants, animals and resources, increasing the yield and resistance of plants using natural forces and laws, with the prescribed use of permitted fertilizers, permitted plant and animal protection products, in accordance with internationally adopted norms and principles.

Agricultural holding in organic production

Organic agriculture is based on the fact that an agricultural holding is a whole, with specific production conditions, different from other holdings, i.e., that it is an "organism" consisting of several elements ("organs") that are qualitatively and quantitatively dependent on each other. The "organism" refers to everything that belongs to the holding, lives on it and depends on it: arable land, cultivated and wild plants and animals, forests, birds, running and standing water, buildings, people ...

From the very beginning of the development of organic agriculture, the principle of unity - the indivisibility of plant and livestock production has been advocated, which in its organization seeks to achieve a harmonious and balanced whole (of different plant and animal species) of a closed type. In this way, the farm as a whole is less susceptible to external stressful situations (natural, economic, etc.). Then it is possible to satisfy most of the needs on the farm (fertilizer, compost, animal and plant food, etc.). The emphasis is placed on sufficient production of fodder plants and fertilizers, or their procurement from outside.

Farms that have several different production units in their composition in organic agriculture have more advantages: a wider crop rotation, better utilization of arable land, a more even work schedule, faster asset turnover, biological processing of wild plants and production waste, fewer inputs, a closed natural cycle of material circulation, preservation of soil fertility, a uniform supply and offer of agricultural products on the market, better cash income and a more stable economic result as a whole. It is important that the organic (bio-, eco-) producer, based on his experience and knowledge, understands the complexity of the agro-ecological composition and the importance of the permanent implementation of organic technology as the foundation of the stability and profitability of his farm.

In practice, this means that the sequence of crops, or crop rotation, will affect all types of farming because it determines the quantity, type and quality of fertilizers, the need for mechanization and labor, and overall financial success. The lack of crop rotation and diversity disrupts key self-regulation mechanisms of agroecosystems, turning them into extremely sensitive systems dependent on high inputs of chemicals [2].

Organic farming can be specialized to a greater or lesser extent (fruit growing, viticulture, vegetable growing, dairy farming, etc.), if this proves to be an advantage or a necessity.

Agriculture in accordance with the laws of nature

The fundamental principles of organic plant agriculture are reflected primarily in encouraging the activity of biological processes within the farm through harmony, strengthening resistance to diseases and pests and proper utilization of crop rotation, diversity and choice of crops and varieties; sucking water from deeper layers through deep roots and preserving it in the soil; maintaining good soil structure with a high humus content, crop rotation, etc.; pollination by bees and other insects.

The fundamental principles of organic livestock farming are reflected in the encouragement of natural animal reproduction, grazing, and suckling of calves and lambs.

Other fundamental principles of organic farming are reflected in:

1. Cultivating an understanding of nature, its rhythm and laws;
2. Preservation and cooperation with nature, cultivating a sense of goodness and beauty;
3. Creating bonds for a new, different relationship between man and nature;
4. Implementing measures to achieve satisfactory economic success of agricultural holdings and reducing their dependence on industry and its products.

Unfortunately, it is precisely people who, by prioritizing the economic effects of agricultural production over others, have led to a situation where today most of the food we use in the diet of people and livestock contains substances harmful to their health. It is therefore a sad truth that today we have to fight for what we already had long ago. The so-called “green wave” swept the northern regions of today’s Serbia in the late 1980s. Since 2000, a new period of rapid development has begun, which is still ongoing today. Organic agriculture is present to a certain extent in various locations throughout Serbia. Organic production was was most prevalent in Vojvodina, as much as 68% of the total area under organic production in Serbia, followed by the region of southern and eastern Serbia with 20%, the region of Sumadija and Western Serbia with 12% and the region of Belgrade with 0% (Ministry of Agriculture and Environmental Protection, 2014).

The data from Table 1 and Table 2 confirm that the most common plant crops with organic status in the Republic of Serbia are cereals and fruits, and among animal species, sheep, cattle, then poultry and beekeeping, and that from year to year, organic production of almost all plant and animal species shows an increasing trend (Ministry of Agriculture, Forestry and Water Management, 2023).

Table 1. Organic plant production in the Republic of Serbia in the period 2014-2023. (Ministry of Agriculture, Forestry and Water Management, http://www.minpolj.gov.rs/organska/)

Product Group	2014 (ha)	2015 (ha)	2016 (ha)	2017 (ha)	2018 (ha)	2019 (ha)	2020 (ha)	2021 (ha)	2022 (ha)	2023 (ha)
Grains	2818,3	4.251,9380	4.607,3382	3.661,7238	3.613,6146	4.788,8139	3.623,1539	4.458,6938	3.838,5407	5.372,2269
Industrial Crops	1227,8	2.674,3837	2.918,3384	2.290,4552	1.961,8107	2.229,5569	1.294,2300	2.121,6130	2.075,7304	2.286,2184
Vegetables	153,6	170,4984	184,2900	230,0071	199,5329	184,1617	121,5597	169,7888	285,6865	223,6480
Forage Crops	1204,1	1.440,3911	1.348,6709	1.210,9465	1.336,5044	1.797,9223	3.872,6689	3.054,1015	2.262,2666	3.006,1897
Fruit	2202,1	2.895,1053	3.531,0259	4.055,9619	5.883,3670	5.324,3637	5.294,8396	6.614,9337	5.702,7938	5.894,1452
Medicinal and Aromatic Herbs	60,9	70,9413	112,4832	114,5909	193,3576	258,5427	399,9717	367,2883	375,1940	352,2478
Other	214,5	1.894,9346	226,8917	311,1656	535,6334	1.332,0868	2.855,8900	1.216,7221	2.171,9903	430,1134

Table 2. Organic livestock production in the Republic of Serbia in 2014-2023. (Ministry of Agriculture, Forestry and Water Management, http://www.minpolj.gov.rs/organska/)

Animal type	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Sheep	3153	4848	4379	4665	5138	6099	5711	11152	13212	15322
Pigs	76	232	283	87	284	315	326	280	217	190
Cattle	2726	2764	2895	2987	3594	3556	4627	6708	9423	8772
Goats	1154	1686	1406	2048	1486	536	286	349	522	535
Poultry	1140	1380	3158	4415	6735	17880	14936	33226	40066	36726
Horses	173	218	165	177	114	88	16	45	20	27
Donkeys	17	20	2	47						
Bee colonies	894	2504	2878	2307	3061	9960	12618	11964	103236	12305

Prospects for the development of organic agricultural production in Serbia

Scientific methods have long established a number of positive effects of organic agriculture in ecological, social and economic terms. In Serbia, however, there is still a certain amount of mistrust regarding the future of organic agricultural production. The increased concern is reflected in the doubt as to whether there is sufficient demand for this type of product in our country and in the world, especially considering the higher prices of this category of products.

What can be said is that with each day of hesitation, our country may be at a loss. If we are talking about the domestic market, and it is primarily in our country's interest, we can already see the import of organic agricultural products that could be produced on our farms on the domestic market. The demand for organic food is growing significantly. Considering our export opportunities, it is important to organize production for foreign

consumers as soon as possible. It has long been clear that our country has no chance of exerting any major influence on the market of classic agricultural crops such as wheat, corn, and the like - here we are at the mercy of large producer countries that dictate prices and trading conditions. Grains are the most common plant species in organic production in the world [3].

Organic agriculture, for which our country truly has a comparative advantage, is an area in which we can still be an equal participant in the market struggle. Europe perceives us as such and gives us a chance to do so. Several more arguments are in favor of the massification of organic production in our country. First of all, this type of production is very suitable for all types of agricultural households. Even small households with modest agricultural resources can participate in creating an offer that, through unification, will be of market interest to other participants in the chain from field to table. Comparative calculations have shown that even on small areas, this type of production is more profitable than the classical one. The average size of family farms of 20 ha and more is of course the backbone of the development of this type of production, because it is here that all the conditions for an unhindered flow of matter can be achieved to the greatest extent in a single, rounded whole: feeding livestock with organically produced feed, manure that is returned to the soil and enables new plant growth in a proper crop rotation, obtaining raw materials of animal origin (milk, meat, honey) that can be further processed.

Business outcome in organic agricultural production

In order to optimize the business results of participants in the production and trade of organic agricultural products, it is crucial for each of them to create a realistic picture of the environment in which they operate and their place in that environment. The technique for observing these indicators, which is most often used in the domain of marketing theory and practice, is SWOT analysis. At its core, SWOT analysis aims to indicate as precisely as possible internal strengths and weaknesses (S and W) as well as external opportunities and threats (O and T) in order to select the optimal marketing strategy for a given company from the multitude of available ones.

In the process of analyzing one's own strengths and weaknesses, the following questions are most often answered:

- What are the main areas of business in which the performance of a given company is better than that of its competitors;
- What are the main areas of business in which competitors have an advantage.
- The process of analyzing opportunities and threats provides answers to the following questions:
- In which markets can significant developments in terms of the sale of a given company's products be realistically expected;
- What technologies are in sight and what impact will they have on business results;
- In the case of sale in foreign markets - the state and trends of the general economic and political picture of the world;
- In which domain can we realistically expect developments in national economic policy and with which instruments will they be implemented;
- In what direction are sociological changes moving in a targeted market segment.

Generally speaking, companies operating in market conditions most often identify

their opportunities and threats from the environment based on research:

- Customers (interviews, informal meetings, test markets, etc.);
- Internal data (customer complaints, data from sales representatives, new types of product use, etc.);
- Competitors ("gaps" in their strategy, elements of the business in which they are most successful, etc.), [4].

Placement of "ecologically friendly" food

The specificity of agricultural products that they must be processed to a large extent in order to meet consumer demands is also present in organic agricultural products. Therefore, in the past ten years, a number of small and medium-sized enterprises have developed that specialize in the processing of organic agricultural products. This means that today, in addition to using the products in their fresh state, organic agricultural products can also be consumed as processed products made from whole grains and oilseeds, medicinal herbs, spicy peppers, dried, frozen and pasteurized vegetables, porridge, apple pulp and concentrate, jams, blackberry juices and wine, frozen berries, dried fruits, biscuits.

Consumers of organic agricultural products are the main drivers of everything that happens in this sector. Their needs and desires are the main motive in carrying out all marketing activities that include what needs to be done, from choosing what to produce, how to process it, how to inform the consumer about it, to where and at what price to sell the final product, while constantly collecting information on the extent to which they are satisfied with existing products. The starting point in all this is the examination of consumer opinions and attitudes. Of the many factors that influence consumers' decisions to buy organic products, it is possible to group them into two groups: the first, which includes factors that are rational in nature, and the second, which includes factors that are emotional in nature. The most common rational reasons are: health care, product quality, environmental awareness and price, while the most important emotional reasons are: packaging, promotion, product image and store image. Price as an instrument of the marketing mix is well defined in the case of organic agricultural products in our country. The level of 20-40% higher prices for organic agricultural products compared to conventional ones is sufficiently stimulating on the one hand for producers and processors of this category of products, and on the other hand it is within the limits of what is acceptable to consumers. It is not difficult to notice that the prices of organic products in market-developed countries are at a higher level. There are several reasons for this, the most important of which is certainly the purchasing power of consumers, i.e., the level of income they have, which is higher compared to our income level.

Price can serve as one way to differentiate organic products, since some national organic markets have high price elasticity of demand [5]. If used to its extremes, price-based differentiation can negatively affect the image of the product and the producer. Therefore, value-based differentiation is a safer strategy. Values such as altruism, ecology, universalism, charity, spirituality, and self-control are very powerful motivational forces when choosing organic products. In addition, the differences in yields of agricultural producers who switch from conventional agriculture (where they used agrochemicals extensively) to organic are far greater than in our country, and it is necessary to set the initial price of the product, i.e. the one that the farmer receives for his product in the field, at a higher level in order to be stimulating for the farmer. In our country, the use of agrochemicals in conventional agriculture is much more modest, and the decline in

yields in the organic production concept is smaller, which means that the incentive for farmers is present even at lower purchase price levels. Packaging is extremely important for organic products [6]. Ecological packaging of organic food based on design, economy and informativeness can make the product different in the eyes of consumers. It can be said that there are numerous studies that reveal a similar demographic profile of organic food consumers, showing that they are mainly women, the elderly, as well as married couples with children [7,8]. Other studies have identified similarities in terms of socio-economic characteristics and purchase motives. It has been proven that a higher level of education and higher income are associated with a greater likelihood of purchasing organic food [9]. Concern for one's own and family health stands out as the primary motive for purchasing these products [5, 10, 11]. In the study [12], the authors, based on the movement from lower to higher social status (education, place of residence, income, purchase of daily newspapers versus use of TV), distinguish between three consumer segments: those who do not consciously use organic food, unaware users of organic food, and aware users of organic food products.

In addition to health, contributing to environmental protection is often a highly ranked motive for purchasing organic food [10, 13]. Since organic production excludes the use of chemicals and pesticides, consumers perceive organic food as "environmentally friendly" [14].

Conclusion

Everyone in the world needs quality food products, and large companies are there to provide this through their network and, of course, create a new source of income for themselves. However, the fact remains that organic agriculture is largely tied to local markets. Consumers generally trust products produced near their place of residence more than products that come from unknown regions. In addition, there is a need to help the local community by purchasing products from those producers with whom they live, which greatly affects the improvement of the economic position of agricultural producers, increasing income. Maintaining small holdings by keeping young people in the countryside strengthens the demographic picture of rural areas. Keeping young people on their farms improves the infrastructure and leads to a better organization of life in rural areas. In recent decades, in a word, organic agricultural production has been achieving great growth and represents a great opportunity for our country in the production and marketing of food.

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