

DEVELOPMENT OF ORGANIC FARMING IN MOLDOVA: TENDENCIES AND CHALLENGES

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Abstract

The pedoclimatic conditions of Moldova are favorable for the development of ecological agriculture and trading organic agri-food production is a real chance to gain new distribution markets. As the demand for organic agricultural products is increasing, it can be considered a new opportunity for the agri-food export development. The aim of this paper is to analyze the current situation in the development of ecological agriculture in Moldova and its prospects for future growth. The research is based on data provided by Ministry of Agriculture and Food Industry (MAFI), Agency of Interventions and Payments in Agriculture (AIPA). The paper includes an analysis regarding the dynamics of areas cultivated under organic farming in Moldova, number of ecological farmers, their territorial distribution, and state subsidies allocated for development of ecological farming. Farmers education and training have an important role in promoting organic agriculture and ecologic practices in farming. The most challenging problem in organic farming is preventing and controlling diseases and pests. Thus, scientific research plays a specific role in promoting ecological agriculture, and it has a responsibility to focus on giving technical-practical solutions that are simple to implement for all technological components.

Key words: ecological agriculture, organic farming, subsidies

INTRODUCTION

Organic farming has a large contribution to environmental protection, maintaining the natural balance and obtaining valuable agricultural products without a negative effect on population health. In recent decades organic farming is developing rapidly worldwide.

Practicing ecological agriculture is governed by many requirements and principles, which start from the quality of the land to the actual production of the final product. The role of this system of agriculture is to produce much cleaner food, more suitable for the metabolism of the human body, but in full correlation with the conservation and development of the environment. Genetically modified organisms and their derivatives are prohibited in organic farming [3, 11, 13].

Organic farming is a modern global trend and is increasingly widespread around the world. According to FAO data, in the last 16 years, its area has increased by 4 times, and more than 2 million organic producers have been certified, of which more than three quarters

are in developing countries. Currently, organic production includes 1% of the world's agricultural area. Trends in the development of organic production are current in more than 170 countries of the world, and this figure increases annually because organic products are becoming increasingly in demand for various objective reasons by different segments of the population. The development of organic farming is an opportunity to diversity the exported agri-food products on global agri-food market [10].

In recent decades, organic farming has developed rapidly in the Member States of the European Union (E.U.). The area of agricultural land under organic farming had expanded with over 45 percent in 2020 comparing to 2012 in European Union countries. According to Eurostat data, ecologic agriculture in E.U. was practiced on 14.7 million hectares of agricultural land in 2020. The largest share between member states belongs to France, Spain, Italy and Germany. This was due to the negative reaction to the consequences of intensive traditional agriculture to some components of

the environment and the quality of agri-food products. Another reason was the adoption of normative acts and materials within the E.U. countries regulating the production, processing, and labelling of organic products, as well as the information support provided to the population and the markets of organic products.

In Moldova the development and practice of ecological agriculture started in the late 90s. However, earlier research addressing sustainable agriculture was promoted, within three research institutes regarding: soil conservation research - 1949, biological methods of plant protection from 1968 and the design of alignment strips to protect agricultural fields since 1965.

The pedoclimatic conditions of Moldova are favorable for the development of ecological agriculture and trading organic agri-food production is a real chance to gain new distribution markets. As the demand for organic agricultural products is increasing, it can be considered a new opportunity to boost agricultural exports on new markets [12].

The aim of this paper is to analyze the current situation in the development of ecological agriculture in Moldova and its prospects for future growth.

MATERIALS AND METHODS

The research is based on the analysis of data regarding the dynamics of areas cultivated under organic farming in Moldova, number of ecological farmers and their territorial distribution. To assess the state support for ecological agriculture, the number of beneficiaries for subsidizing the development of ecological agriculture was examined. The data provided by Ministry of Agriculture and Food Industry (MAFI), Agency of Interventions and Payments in Agriculture (AIPA) was used.

RESULTS AND DISCUSSIONS

Organic farming offers many more advantages both to agricultural producers, consumers of products and to the environment. Thus, more and more

agricultural producers are shifting from conventional to organic farming.

In Moldova, the development of ecologic agriculture is supported by the adoption of the Law no.115/2005 on organic agri-food production [8], the Government Decision no.1078/2008 on the approval of the Technical Regulation "Organic agri-food production and labelling of organic agri-food products" [5] and the Government Decision no.884/2014 for the approval of the Regulation on the use of the national trademark "Organic Agriculture – Republic of Moldova"[6].

According to the Law nr. 115/2005, regarding the ecologic agri-food production, all organic production is certified complying with European requirements. The certification and inspection of organic agricultural production is done by an authorized institution of the Ministry of Agriculture and Food Industry. It reflects the rules regarding the production, methods and principles of ecologic agri-food products, labelling, inspection and certification mechanism, imports, exports, and financial incentives for ecologic agri-food producers [8, 12].

Traditionally, agricultural sector was supported by government through different policies and strategies, particularly focusing on farmers income support to ensure agricultural supply with high quality products. Nevertheless, supporting the promotion and development of organic farming is a fundamentally new element of rural development policy, designed to encourage different rural initiatives, helping farmers to restructure their farms, to diversify the range of products, and to access traditional and new markets [11].

Due to its contribution to GDP, significant percentage of overall exports (over half), and substantial labor force employment, the agricultural sector has always been important to Moldova's economic development. Nevertheless, organic farming is a new approach in the development and revival of the agricultural sector.

Analyzing the dynamics of organic farming development in Moldova, a slight increase of

the areas under ecological agriculture with large fluctuations is observed (Table 1).

Table 1. Dynamics in ecological farming development

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Area, ha	80	169	250	715	7,346	11,766	16,585	19,740	22,102	61,644	45,326	29,798	25,500	30,001	75,686	20,584	28,548	29,352
Number of producers	11	17	23	31	64	155	185	160	172	77	64	58	40	103	136	125	152	144

Source: based on data from the Ministry of Agriculture and Food Industry [9].

From the data regarding the area registered in the organic agriculture, experienced large fluctuations. The largest area under ecologic agriculture was cultivate din 2017, with 75,686 hectares, experiencing a large reduction in 2020. One of the reasons for this decline, was

caused by the costs of ecological inputs that are imported by agricultural producers.

Between 2007 and 2011, there was a rise in the number of agricultural organic producers, from 64 to 185, as well as the area used for ecological agriculture, from 7,346 ha to 61,644 ha. One of the main reasons regarding the increase in the dynamics registered from 2003 to 2011 were the favorable policies supported by the Government, being granted subsidies from 2007 to reimburse the expenses in the conversion period Starting with 2012, the subsidies were granted only at the establishment of the multiannual plantations, which may have had a negative impact on the sector.

In the following period 2012-2016 a decline is observed followed by an immediate growth in 2017 is noticed, due to improvement in governmental policies that allow favorable conditions for development.

In 2020, 144 organic operators were registered in the Republic of Moldova (mostly agricultural producers specialized in different crops, beekeepers and eco certified processors). The total area of ecologic certified land or the land is the conversion

period was 29 352.1 hectares, being recognized as ecologic crops – 87 eco varieties and as ecologic products – 65 varieties.

In 2020, we had 144 organic farmers registered (Table 1). Among them, the largest share belongs to farms that have 78 percent certified organic land. In the context of the development of organic products markets and consumer interest, as well as the chance for rural community development, the value chain of organic agriculture is a promising one.

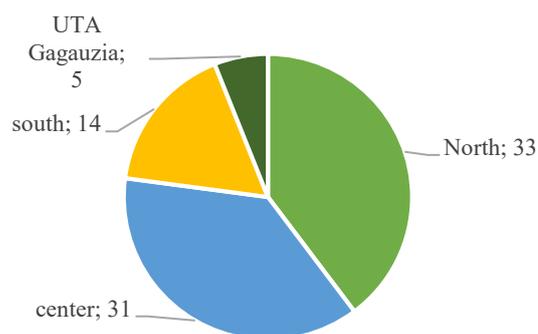


Fig 1. Distribution of ecological farmers by geographical zones (%)

Source: based on data from „Ecological agriculture atlas” [2].

Regarding the geographical distribution of ecological producers, most are in the north (33%), followed by center and south region (with 31 and 14%) (Figure 1).

In Moldova the principles of sale of organic agri-food products are poorly developed.

Analyzing the trade chain, we notice the use of several terms such as "bio", "eco" or "organic" that orient consumers to organic products. Organic products are represented by products obtained and labelled in such a way as to inform the buyer that this product, or the ingredients in the product, have been produced according to organic production methods. The economic operator, following the receipt of the organic product certificate from the inspection and control body, acquires the right to label its products with the indication organic (eco), biological (bio) or organic. Their main role is to support the buyer, who is thus able to more easily identify the products that have been grown/processed in compliance with the principles applicable in organic farming [8].

According to Law 115 from 2005 about ecologic production, certification and inspection of production is compulsory to apply the national organic agriculture logo "Organic Agriculture – Republic of Moldova". Inspection and certification organizations granted 144 operators accreditation in 2020.

For an area of 7,312.16 hectares, two authorities certified more than half of the organic operators (57%). The use of the trademark is over-regulated, and only few farmers can comply with the authorization requirements. Currently, only four domestic producers use the national logo for ecological agriculture. Moreover, the authorization is issued by the Ministry of Agriculture and Food Industry (MAFI) for only one year.

Table 2. Area under ecologic agriculture, by products

Type of product	Area, ha	
	2019	2020
sunflower	6,571.29	6,315.12
wheat	5,537.58	4,363.91
corn	4,557.87	5,560.44
walnut	4,605.45	2,587.16
pea	1,193.6	1,371.66
soya	1,078.91	1,444.93
rape	1,033.29	766.73
apple tree	473	462.01
plum tree	370	277.97
lavender	265.4	267.07

Source: based on data from Ecovisio atlas [2].

Among main cultivated crops under ecologic agriculture a largest area is registered by sunflower, wheat, corn, walnut, pea, soya (Table 2).

In 2020, over 75% is maintained by annual cereal crops (22,242 ha) in the total area of organic land.

According to MAFI data, a decrease in the export of organic products from 55.4 thousand tons in 2018 to 5.9 thousand tons by the 2020, was experienced (Figure 2). This sharp decrease is due to unfavorable climate conditions and the effects of a severe drought that affected dramatically the harvest.



Fig. 2. Evolution of certified ecological products exports, tons.

Source: based on data from the Ministry of Agriculture and Food Industry [9].

Among main exported crops is sunflower, corn, peas, soya etc.

To support ecologic agriculture and organic food production in Moldova, the Government through different organizations is involved. These include the Investment Agency, the Agency for Interventions and Payments in Agriculture (ODIMM), as well as the Organization for the Development of the Small and Medium Enterprises Sector (ODIMM) (AIPA).

The Government Decision No. 592/2019 [7], which approved the Small and Medium Sized Enterprises (SMEs) greening program, [7] which responds to the national priorities on the greening of enterprises, as indicated in the following governmental acts: the approval of the Eco SMEs Program demonstrates the Republic of Moldova's dedication to accelerating the process of reducing the link between economic growth and environmental

degradation, as stated in "The Vineyard We Want," the Final Declaration of the United Nations Conference on Sustainable Development (and the provisions of the National Development Strategy "Moldova 2020". Depending on the scale (in accordance with the set grid), different amounts of money are provided to implement greening actions: up to 200 thousand lei for small scales and 500 thousand lei for large scales.

An equally important role in supporting and developing organic agriculture and organic food production is played by the Agency for Intervention and Payments in Agriculture (AIPA). AIPA is an administrative authority responsible for the correct and transparent implementation of the sources of the National Fund for the Development of Agriculture and Rural Environment, as well as the resources of the development partners. Thus, according to Government Decision no. 455/2017 [4], to support the promotion and development of organic agriculture, financial support is provided under Sub-measure 2.5 to all producers who are registered in the organic farming system as a compensatory payment for income foregone and additional costs incurred by beneficiaries who enter voluntary commitments and undertake to remain in this agriculture system. for a duration of 5 years. The financial support shall be granted in the current subsidy year for conversion to organic farming and for the maintenance of organic farming in the field of crop production and organic beekeeping.

Table 3. State subsidies allocated for the development of ecological agriculture

Years	Applications for subsidies	Granted applications	Amount applies, thousands MDL	Amount granted, thousands MDL
2016	14	12	641.8	596.02
2017	31	30	1,880.1	1,590.2
2018	72	69	7,740.9	7,251.5
2019	76	67	8,603.7	7,845.1
2020	65	63	6,901.0	6,220.3
2021	59	53	7,482.2	6,808.8

Source: based on data from Agency of Interventions and Payments in Agriculture [1].

In 2018 there is a significant boost in the number of subsidies applications received by The Agency of Interventions and Payments in

Agriculture. From 72 applications worth 7,740.9 million lei were submitted, of which 69 were accepted and 94% of the requested amount was paid to agricultural producers. Since 2019 subsidies application from producers that are registered in organic farming is constantly increasing. In 2019, 76 files with the value of MDL 8,603.7 thousand were submitted and 67 files – MDL 7,845.1 thousand were approved. From 2020 there is a decrease of the agricultural producers who apply to obtain subsidies that led to the operation of the changes to the Government Decision no. 455/2017 to increase the amount of subsidy for agricultural land in conversion.

CONCLUSIONS

In Moldova, the development of organic farming is a new tendency, slowly growing in recent years. With a share of 1.14 percent in total agricultural area and 144 operators registered in organic farming it is an opportunity for the development of agricultural sector. Recently, an increase by twice in the number of applications to support organic farming is observed, which indicates an interest from farmers in conversion of agricultural land to ecologic agriculture. Another reason for the further development of ecological agriculture in Moldova is the dramatic increase in inputs prices used in traditional agriculture which stimulates farmers to orient towards organic production. Among main cultivated crops under ecologic agriculture a largest area is registered by sunflower, wheat, corn, walnut, pea, soya. Farmers education and training have an important role in promoting organic agriculture and ecologic practices in farming. The most challenging problem in organic farming is preventing and controlling diseases and pests. Thus, scientific research plays a specific role in promoting ecological agriculture, and it has a responsibility to focus on giving technical-practical solutions that are simple to implement for all technological components.

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