

# BULLETIN ON ORGANIC AGRICULTURE IN THE REPUBLIC OF MOLDOVA

Chisinau • 2020



# Foreword



*Dear reader,*

You are holding this brochure where you can find a short description about the state of organic farming in the Republic of Moldova. It is a movement in the incipient stages of development. More and more farmers are realizing that conventional farming isn't sustainable.

Ecological farming is offering solutions for a more sustainable agriculture in order to overcome challenges of economic, ecologic and social orders.

Ecological agriculture is supposing a new agro ecological approach to farm intensification by respecting the integrity of the whole farm through regeneration of soil fertility.

By cutting the dependence from industrial inputs farmers can increase their economic competitiveness and simultaneously to improve the ecological and social wellbeing.

Through collaboration between different players on the entire food chain all components are benefiting. It allows to mitigate and to adapt better to global warming, to produce other important environment and social services.

The dominance of economic parameters for agricultural producers and total negligence of consumers of natural resources and their health are the main obstacles on the way to more sustainable, including ecological agriculture. Slowly but surely farmers are realizing that environmentally friendly management of natural resources, including vegetation, soils, water etc is profitable for them, for the entire society for whom they are providing environmental and social services.

Cooperation of farmers, research institutions, NGO and other organization both at the national and international levels is very helpful in sharing the gained experience. We are very thankful to all organizations and devoted individuals for their contribution in promoting ecological agriculture in Moldova.

*Boincean*

With respect Boris Boincean,  
*doctor habilitate of agricultural sciences,  
research professor, director of Selectia  
Research Institute of Field Crops,  
Balti, Republic of Moldova  
President of Moldova Organic Value Chain Alliance*

# TABLE OF CONTENTS

<b>Foreword .....</b>	<b>2</b>
<b>1. The current state of the organic farming in the Republic of Moldova.....</b>	<b>6</b>
1.1 The development of organic farming .....	6
<b>2. Controls and certification .....</b>	<b>8</b>
2.1 State role.....	8
2.2 Standards and legislation related to the organic farming.....	9
2.3 Control bodies operating in the Republic of Moldova .....	9
2.4 Basic statistics of conducted controls.....	10
2.5 The most common infringements of the rules.....	12
2.6 Inputs of organic farming (Annex no. 1).....	13
2.7 Laboratory testing .....	13
<b>3. Information about organic production .....</b>	<b>15</b>
3.1 Number of registered businesses in organic farming .....	15
3.2 Number of employees involved in organic production .....	16
3.3 Pattern of production on organic farms .....	17
3.4 Key commodities in the organic agriculture .....	18
3.5 Organic producers .....	19
3.6 Organic processors.....	20
3.7 Organic importers.....	21
3.8 Organic exporters.....	21
<b>4. Pattern of production on organic farms .....</b>	<b>26</b>
4.1 Plant production .....	26
4.2 Livestock production .....	27
<b>5. Organic food trade .....</b>	<b>29</b>
5.1 Demand.....	29
5.2 Distribution .....	30
5.3 International comparison .....	31

<b>6. Support for organic farming and production of organic food.....</b>	<b>32</b>
6.1 Development of state support for organic farming .....	32
6.2 Subsidies for organic production.....	33
<b>7. Breeding and recommendation of varieties suitable for organic farming in the Republic of Moldova .....</b>	<b>36</b>
<b>8. Science and research in the area of organic farming.....</b>	<b>38</b>
8.1 Financing the research .....	38
8.2 Innovations.....	39
8.3 Organic E-prints .....	41
<b>9. Organizations and associations involved in the organic farming sector .....</b>	<b>44</b>
9.1 Ongoing projects and programs on support of organic farming sector .....	44
<b>10. Calendar for operators from organic farming sector for 2021 and annual local and international events .....</b>	<b>52</b>
<b>11. Sustainable Organic Farming .....</b>	<b>54</b>



# Acronyms and abbreviations

ANSA	– National Agency for Food Safety
CAECP	– Accreditation Center in the field of Product Conformity Assessment
CB	– Control Body
CEE	– European Economic Community
EA-BLA	– Bilateral Recognition Agreement with European Accreditation Cooperation
EU	– European Union
FiBL	– Research Institute of Organic Farming
GEF	– Global Environment Facility
ILAC-MRA	– International organization for accreditation bodies – Mutual Recognition Arrangement
MARDE	– Ministry of Agriculture, Regional Development and Environment
MOLDAC	– National Accreditation Center
MOVCA	– Moldova Organic Value Chain Alliance,
USAID	– United States Agency for International Development
ÚKZÚZ	– Central Institute for Supervising and Testing in Agriculture

# CURRENT STATE OF ORGANIC FARMING IN THE REPUBLIC OF MOLDOVA

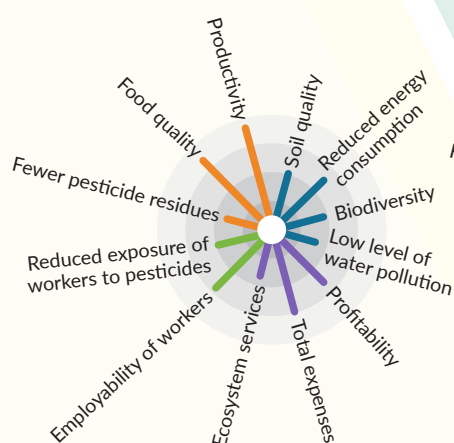
## 1.1 The development of organic farming

The importance of organic farming worldwide has increased during the last two decades, being determined by a growing awareness of the progress of resource degradation and climate change, but also by consumer demand for healthy food alternatives (Graph 1). Moldova, like many other

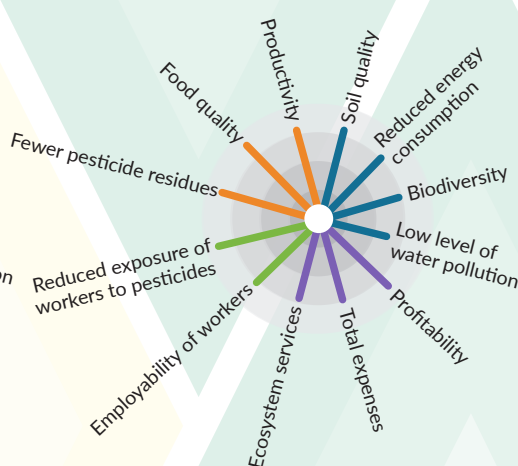
countries that are largely based on agriculture, recognizes this global trend and tries to adapt to it by creating the necessary conditions to address issues related to conventional agriculture, as well as to increase the value of exports on established markets and expanding into new markets.

Graph 1

Conventional



Ecological



Organic farming in the Republic of Moldova has increased in the last 5 years and due to the State support by including the subsidy sub-measure 2.5 „Supporting the promotion and development of organic farming”.

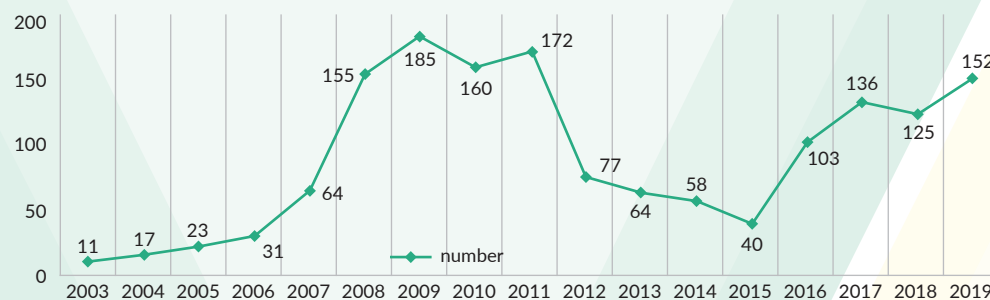
Currently, the value chain of organic agriculture consists of 152 operators (Graph 2), where the largest share belongs to businesses who own 78% certified organic land. The value chain of organic farming is a promising one in the context of the development of organic products markets and the consumer's interest, and for the opportunity for the rural community's development.

There were registered 152 operators in the Republic of Moldova in 2019, mainly organic

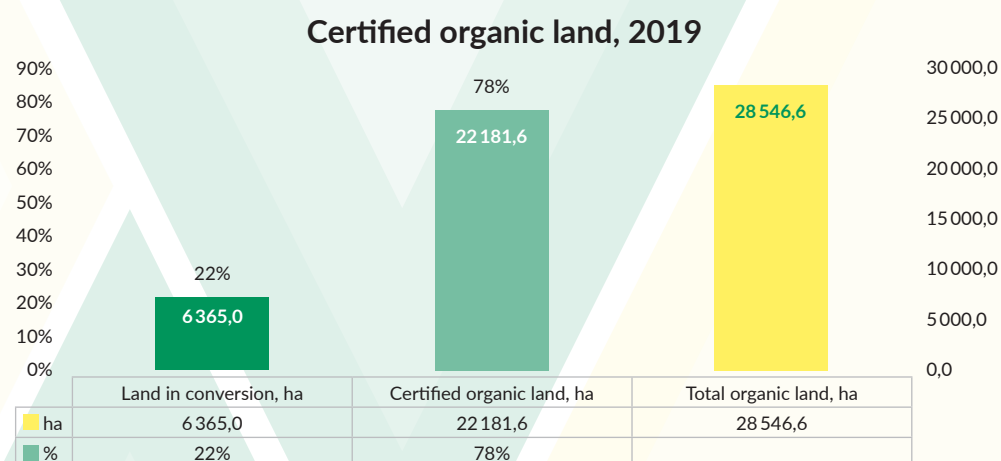
certified farmers and processors. The total acreage of organic certified land or in the conversion period was 28 546.6 hectares, of which over 22.1 thousand hectares are certified in organic system, and 6,365 hectares in conversion. (Graph 3) For comparison, there were certified or in the conversion period about 17,7 thousand hectares of agricultural land in the Republic of Moldova according to official data from 2018. About 1844.5 hectares of forests and spontaneous flora are certified in organic system. (Graph 4) Only 1.1% of the total national agricultural area is represented by the organic certified area.

The apparent decrease of the total acreage is not a real image of the situation. In fact, the total acreage of organic certified production has

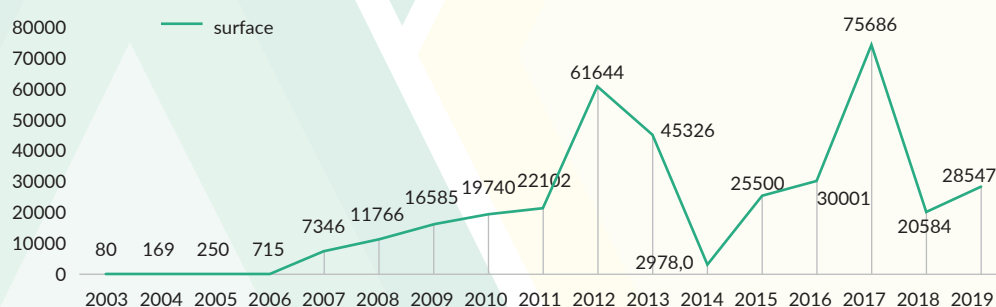
Graph 2 Number of entities from the organic farming value chain.



Graph 3 The acreage of organic land included in the organic agriculture value chain.



Graph 4 Dynamics of registered acreages in organic farming in the period 2003-2019 in the Republic of Moldova



increased. Due to the issues of non-recognition of the equivalence of Moldovan organic certificates, many operators have stopped registering their fields in the national system of organic certification, applying and getting the certification from international control bodies, whose certificates are recognized in the EU. Unfortunately, there is no access to data on internationally certified acreages and attempts to collect this data provide sporadic results. Since

accredited private certification bodies started certifying Moldovan producers in 2003, the amount of economic agents under the national eco-label has increased rapidly. The decrease of the number of economic operators around 2014 was caused by the interruption of the state support by granting subsidies, also, the loss of recognition of the equivalence of the Moldovan organic certificates in the European Union had consequences in the cultivation area.

## 2.1 State role

The state has a key role in the system of administration and control in the organic farming sector through its institutions. At the moment, according to the legislation in force, MARDE is the competent authority having as basic responsibility the policies making in the field. At the same time, the duties of the competent authority are provided in art. 4 of Law 115/2005. The state also holds the function of accreditation of the inspection and certification bodies from organic farming sector.

To demonstrate compliance with the criteria laid down in ISO/IEC 17011, MOLDAC is subject to level assessment by the counterparts, organized by the *European Cooperation for Accreditation*, recognized by the European Commission as the European accreditation infrastructure, under the Article 14 of Regulation (EC) no. Regulation (EEC) No 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products and repealing Regulation (EEC) No. 339/93, after consulting the Member States.

MOLDAC is a signatory to the EA-BLA bilateral agreement in the following areas:

- Tests, including medical tests,
- Calibration,
- Inspections,
- Product certification,
- Certification of management systems.

MOLDAC is a signatory to the ILAC-MRA Mutual Recognition Arrangement for the following areas:

- Tests,
- Calibrations,
- Medical tests,
- Inspection.

## 2.2 Standards and legislation related to organic farming

Currently, the regulatory framework in the field of organic agricultural food production in the Republic of Moldova is reflected primarily by Law no. 115-XVI of 09.06.2005 on organic farming. The provisions of the European “old approach” regulations have been transposed in this law, or more precisely the Council Regulation (EEC) No 2092/91 on organic production of agricultural products and its indication on agricultural goods and food. This later was repealed by the Council Regulation (EC) No 834/2007 of 28 June 2007 on organic production and labeling of organic products.

### National legislation on organic farming

1. Law no.115 of 09.06.2005 on organic agri-food production [lex.justice.md](http://lex.justice.md).
2. Government Decision no.149 of 10.02.2006 on implementation of the Law on organic agri-food production [lex.justice.md](http://lex.justice.md).
3. Government Decision no.1078 of 22.09.2008 on the approval of the Technical Regulation „Organic agri-food production and labeling of organic agri-food products” [lex.justice.md](http://lex.justice.md).
4. Government Decision no.884 of 22.10.2014 for the approval of the Regulation on the use of the national mark „Organic Agriculture – Republic of Moldova” [lex.justice.md](http://lex.justice.md).
5. Order of the Ministry of Agriculture and Food Industry no.107 of 26.05.2008 on the approval of the Rules on the economic agents registration in organic agri-food production [lex.justice.md](http://lex.justice.md).



The process of harmonization of the Legislation of the Republic of Moldova with the European one by transposing the provisions of the EU Regulation 2018/848 on organic production and labelling of organic products started in 2019.

### National mark „Organic Agriculture – Republic of Moldova”

Starting with 17 of December 2010, the national mark „Organic Agriculture – Republic of Moldova” is used for the labeling and presentation of organic agricultural food products and shall apply only to agri-food products that have been subjected to the inspection and certification throughout the production cycle by inspection and certification bodies, authorized by MARDE.

According to the Law on organic agri-food products, only economic operators that produce, process, import, export and/or sell organic agri-food products registered at MARDE have the right for use the national mark „Organic Agriculture – Republic of Moldova” for the organic agri-food products, labels and packaging.

6. Order of the Ministry of Agriculture and Food Industry no. [49\\_27.03.2015.pdf](#) on the establishment of the profile commission, the Regulation on the organization and functioning of the profile commission regarding the examining of the applications for use of the national mark „Organic Agriculture-Republic of Moldova”.
7. Order of the Ministry of Agriculture and Food Industry no. [9\\_19.01.2010.pdf](#) on the establishment of the authorization commission, the Regulation of the authorization commission of the inspection and certification bodies.
8. [Government Decision no. 356 of 11.06.2015](#) on approval of the Technical Regulation „Organization of the wine market”.
9. Law on Vine and Wine no [57-XVI of 10.03.2006](#).
10. Law no. [78-XV of 18.03.2004](#) on food products.

These documents are available on MARDE's [web page](#).

#### Accreditation standard:

- SM SR EN ISO/IEC 17065:2013 Conformity assessment. Requirements for bodies certifying products, processes and services.

The mark is registered by the State Agency on Intellectual Property. It belongs to the state and it is managed by the MARDE.

The symbol of the mark is a leaf in space, the colors of which change from light to dark shades. Inside the leaf, there is the „eco” logo in light green.



RM-OC prec-001



AB-CDE-999

## 2.3 Control bodies operating in the Republic of Moldova

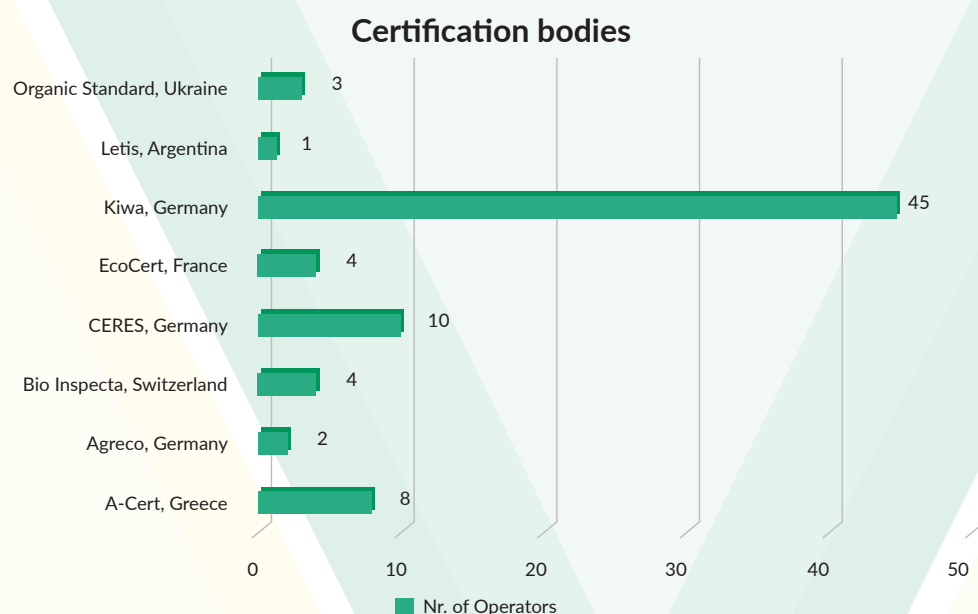
In 2019, 2 inspection and certification bodies „Certificat Eco” SRL and SRL „Control Union Dnjestr” were operating in the frame of Law no.115 of 09.06.2005 on the ecological agri-food production [lex.justice.md](#) on the territory of the Republic of Moldova. „Bio Cert Tradițional” SRL suspended its activity at the moment (Table 1).

Parallel, [8 inspection and certification bodies](#) recognized by European Commission were operating on the base of European Regulation 834/2007, on the territory of the Republic of Moldova (Graph 5).

The current statistics in the field of certification of organic products are proceeded through two pathways:

1. Data collected by the competent authority, MARDE;
2. Data of the European Commission on certified acreages under European Regulation 834/2007.

Graph 5



Thus, a good part of economic operators certifies organic agri-food production to European Union Regulation and are not registered at a national level, and another part of the economic operators

certifies the products to the Law 115/2005 by the National Control Bodies, which, do not comply with the provisions of EU standard.

Table 1 Analysis of accredited bodies for ecological certification and analysis of their activity in 2019

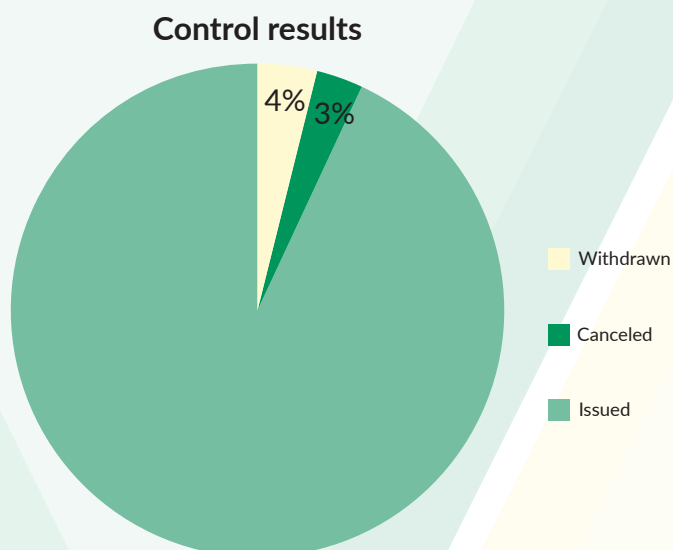
Name OF CB	Number of ecologically certified businesses		Total certified acreage	
	Structure, %	ha	Structure, %	ha
SRL Control Union Dnjestr	58	59.2%	5,204	83.7%
SRL Certificat Eco	38	36.7%	923	14.8%
SRL Biocert Tradițional (6 months)	4	4.1%	91	1.5%
<b>Total</b>	<b>98</b>	<b>100.0%</b>	<b>6,217.6</b>	<b>100.0%</b>

## 2.4 Basic statistic of conducted controls

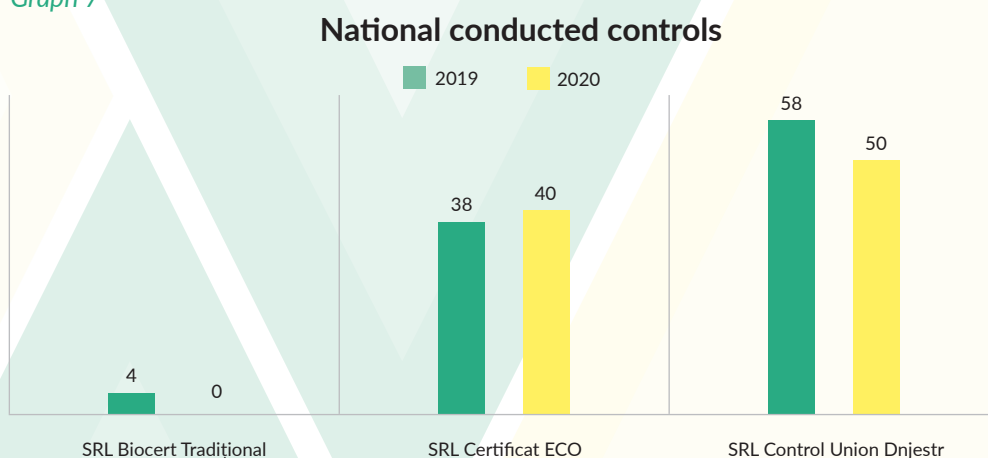
According to the provided data by both local certification bodies, 190 inspections were performed during period January 2019 and October 2020 (Graph 7). Each farmer, production or processing unit is inspected at the place of production or processing at least once a year. The operator who has several production units, is inspected at each farm, each field (with sampling, as needed), each warehouse and office.

The Certification Bodies recognized by the EU Commission carry out 2 controls on each operator: one coordinated with the operator and one unannounced. There were conducted 77 controls in 27 localities of the Republic of Moldova in 2019 (Graph 8). As a result, 3 certificates were **withdrawn**; 2 certificates were **canceled**; 72 certificates were **issued** (Graph 6).

Graph 6

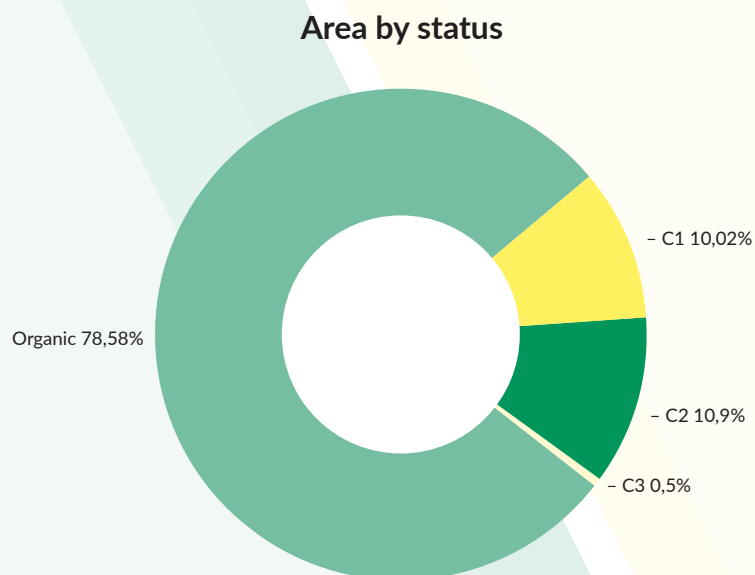


Graph 7



Inspection at the production unit (category A) aims the inspection in order to determine the production conformity with the legislation in force (Table 2). The inspection also assesses compliance with ongoing process aspects (category D).

Graph 8



Processes are as follows: storage, sorting, cleaning, packaging etc. The activity of trade or export it is also considered a process (for example it shall be checked the invoices and (incoming –

outcoming documents), balances of goods and is checked that data of what is and what was in the warehouse.

*Table 2 Summary on the conducted controls under national legislation*

Laboratory tests		The results of laboratory tests of taken samples from operators were below the detectable limit.
Issued Certificates	2019	Certificates of conformity (Organic Status) – 63, of which: Cat. A – 58 Cat. A/D – 2 Cat. D (import) – 3
		Confirmation Conversion (Year 1-3) – 27 (cat. A)
	2020	Certificates of conformity (Organic Status) – 77 Cat. A – 68 Cat. A/D – 2 Cat. D (import) – 7
		Confirmation Conversion (Year 1-3) – 23
Product categories (National legislation on organic agri-food production)		Plant production Cat. A (walnut, hazelnut, almond, sea buckthorn, vineyard, aronia, plum, briar, raspberry, strawberry, cereal, lavender, herbs, vegetables, etc) – 70 producers.
		Processed agricultural products Cat. D – 7 Operators, including: <ul style="list-style-type: none"><li>– 3 processors (wine, tea, hazelnut kernel);</li><li>– 4 importers (fresh fruits and vegetables, alcoholic beverages, wines, dairy products, pastries, cereals, other processed foods).</li></ul>

Project „Institutional support within organic farming in the Republic of Moldova” had an important role in ensuring efficient controls by organizing comprehensive trainings on conducting official controls in organic farming. The training was divided into 2 parts. The first part was focused on a study visit in Czech Republic in the period 18-22 March 2019. The second part was held in Moldova, being organized within Czech project in cooperation with MOVCA in the period 21-23 May 2019. In this respect, ANSA inspectors, representative of local CBs and 3 MOVCA members were trained on conducting the official controls in field of organic farming by the Czech inspectors from ÚKZÚZ, Brno.

## 2.5 The most common infringements of the rules on organic farming

Following the controls carried out during 2019, were detected various medium-major non-conformities. For example, the operators included in the control system of CB Certificat-Eco are mainly producers managing small acreages (about 65% of certified operators have an area of less than 25 ha), cultivated with multiannual cultures, respectively, these operators have a small number of employees. Resulting therefrom, the most common non-compliances in this case are:

- Weaknesses in the management of documents and records (Lack of records or failure to update them).
- Lack of measures to prevent contamination with prohibited products from neighboring lands.
- Errors in filling the annual production plan (higher yield was planned and no updates were submitted by 2020).



- Partial non-declaration of production (intercropped cultures in walnut plantations).
- Failure to follow the friendly practices for soil fertilizing by the operator.

Major non-conformities were also detected, which led to the repeating of the conversion period and the downgrading of production:

- Use of treated seed material;
- Use of non-certified seed material;
- Parallel production – annual crops (Organic – Conversion).

## 2.6 Inputs of organic farming

In 2019, 5 ordinary plenary sessions of the Interdepartmental Republican Council were organized and held for the approval of phytosanitary products and fertilizers.

According to the Council decisions, **101 products were approved**, of which products allowed for use in organic agri-food production are: **12** insecticides, nematocides and acaricides; **19** bactericides and fungicides; **1** growth regulator; **13** pheromones; **1** product for the treatment of warehouses and stored products; **3** surface active-substances; **16** fertilizers.

The list of the allowed inputs for use in organic farming is presented in the [Annex 1](#).

## 2.7 Laboratory testing

**P.I. Phytosanitary Central Laboratory** is compound of several laboratories. The institution's laboratories have implemented the quality system in accordance with ISO 17025 being accredited and recognized nationally and internationally.



Enterprise laboratories are structured in 2 departments: Phytosanitary Quarantine Department and Product Quality Department.

### 1. Phytosanitary Quarantine Department:

#### 1. Morpho-biometric testing laboratory – analytical capacity:

- |                                     |                                     |
|-------------------------------------|-------------------------------------|
| • <i>Trogoderma granarium</i>       | • <i>Cydia funebrana</i>            |
| • <i>Thrips palmi</i>               | • <i>Grapholita molesta</i>         |
| • <i>Pseudauleucaspis pentagona</i> | • <i>Ceratitis capitata</i>         |
| • <i>Frankliniella occidentalis</i> | • <i>Globodera rostochiensis</i>    |
| • <i>Scaphoideus titanus</i>        | • <i>Globodera pallida</i>          |
| • <i>Tuta absoluta</i>              | • <i>Ditylenchus destructor</i>     |
| • <i>Diabrotica virgifera</i>       | • <i>Ditylenchus dipsaci</i>        |
| • <i>Aonidiella aurantii</i>        | • <i>Bursaphelenchus xylophilus</i> |
| • <i>Aonidiella citrina</i>         | • <i>Meloidogyne chitwoodi</i>      |
| • <i>Sitophilus oryzae</i>          | • <i>Meloidogyne fallax</i>         |
| • <i>Sitophilus zeamais</i>         | • <i>Longidorus diadecturus</i>     |
| • <i>Plodia interpunctella</i>      | • <i>Xiphinema americanum</i>       |
| • <i>Cydia pomonella</i>            | • <i>Xiphinema californicum</i>     |

#### 2. Microbiological testing laboratory – analytical capacity:

- |   |   |
|---|---|
| • <i>Erwinia amylovora</i>                                  | • <i>Helminthosporium carbonum</i> ( <i>Cochliobolus carbunus</i> ) |
| • <i>Agrobacterium tumefaciens</i>                          | • <i>Stenocarpella macrospora</i> , <i>St. maydis</i>               |
| • <i>Clavibacter michiganensis</i> spp <i>sepedonicus</i>   | • <i>Plasmopara helianthi</i>                                       |
| • <i>Clavibacter michiganensis</i> spp <i>michiganensis</i> | • <i>Puccinia horiana</i>   |
| • <i>Ralstonia solanacearum</i>                             | • <i>Plum pox virus</i>   |
| • <i>Pantoea stewartii</i>                                  | • <i>Arabis mosaic virus</i>  |
| • <i>Monilinia fructicola</i>                               | • <i>Strawberry latent ring spot virus</i>                          |
| • <i>Monilinia laxa</i>                                     | • <i>Strawberry mild yellow edge virus</i>                          |
| • <i>Monilinia fructigena</i>                               | • <i>Tomato ring spot virus</i>                                     |
| • <i>Verticillium albo-atrum</i>                            | • <i>Tomato yellow leaf curl virus</i>                              |
| • <i>Verticillium dahlia</i>                                | • <i>Tomato spotted wilt virus</i>                                  |
| • <i>Verticillium nigrescens</i>                            | • <i>Tomato black ring virus</i>                                    |
| • <i>Phomopsis helianthi</i>                                | • <i>Pepino mosaic virus</i>  |
| • <i>Tilletia controversa</i>                               | • <i>Tobacco ringspot virus</i>                                     |
| • <i>Tilletia tritici</i>                                   |   |
| • <i>Tilletia indica</i>                                    |   |

#### 3. Molecular biology laboratory – analytical capacity:

- |   |  |
|---|--|
| • Detection of genetically modified organisms in soybean, rapeseed, corn and their derivatives        | • Diagnosis of <i>Xylella fastidiosa</i> bacterial disease (Pierce's disease)    |
| • Diagnosis of Grapevine Yellows Phytoplasmas ( <i>Flavescence doree</i> ) and Black Wood (Bois noir) | • Diagnosis of <i>Clavibacter michiganensis</i> spp <i>sepedonicus</i> bacterium |

## 2. Product Quality Department

### 1. Chemical testing laboratory – analytical capacity

Determination in flour and bran, cereals, oilseeds, groats, bakery products and pasta, vegetable oil, feed material, fodder of the following indices:

- Protein
- Oil content
- Acidity
- Non-oily impurities
- Peroxide index
- Acid index
- Phosphorous substances
- Color index
- Starch
- General ash
- Ash insoluble in hydrochloric acid
- Urease activity
- Cellulose
- Soap content
- Heavy metals (Pb, Cd, As)
- Aflatoxin B1,
- Sum B1, B2, G1, G2
- Deoxynivalenol
- Zearalenon

- Determination of pesticide residues by the GC MS/MS method:

- Organochlorine:**
- |                       |                    |
|-----------------------|--------------------|
| 1. Acetochlor;        | 10. HCH,-beta;     |
| 2. Bromuconazole;     | 11. HCH,-delta;    |
| 3. Chlorobenzyl;      | 12. Iprodione;     |
| 4. Diniconazole;      | 13. Penconazole;   |
| 5. Endosulfan,-alfa;  | 14. Procymidone;   |
| 6. Endosulfan,-beta;  | 15. Propiconazole. |
| 7. Endosulfan-sulfat; | 16. Tebuconazole;  |
| 8. Fenheximid;        | 17. Tetradifon;    |
| 9. HCH,-alfa;         | 18. Triadimefon;   |
|                       | 19. Triadimenol.   |

- Pyrethroids:**
- |                  |                       |
|------------------|-----------------------|
| 1. Bifenthrin;   | 4. Deltamethrin;      |
| 2. Cypermethrin; | 5. Fenvalerate/       |
| 3. Cyfluthrin;   | esfenvalerate;        |
|                  | 6. The λ-cyhalothrin. |

- Organophosphorus:**
- |                  |                       |
|------------------|-----------------------|
| 1. Chlorpyrifos; | 5. Phosalone;         |
| 2. Diazinon;     | 6. Malathion;         |
| 3. Dichlorvos;   | 7. pirimiphos-methyl; |
| 4. Ethion;       | 8. Profenofos         |

- Nitrophenol:**
- |                     |                   |
|---------------------|-------------------|
| 1. Azoxystrobin;    | 5. Pirimetalin;   |
| 2. Flutriafol;      | 6. Prometryn;     |
| 3. Kresoxim-methyl; | 7. Spiroxamine;   |
| 4. Picoxystrobin;   | 8. Pendimethalin; |

- Determination of pesticide residues by the LC MS/MS method

- Organochlorine:**
- |                 |                  |
|-----------------|------------------|
| 1. Acetamiprid; | 3. Imidacloprid; |
| 2. Clopyralid;  | 4. Thiacloprid;  |
|                 | 5. Tiametoxam.   |

- Organophosphorus:**
- |                |              |
|----------------|--------------|
| 1. Dimethoate; | 2. Ometoate. |
|----------------|--------------|

- Nitrophenol:**
- |                 |                  |
|-----------------|------------------|
| 1. Bromoxynil;  | 5. Lenacil;      |
| 2. Carbendazim; | 6. Methomyl;     |
| 3. Cimoxanyl;   | 7. Metribuzin;   |
| 4. Diquat;      | 8. Oxamil;       |
|                 | 9. Thiabendazole |

- Determination of nitrate content in products of non-animal origin (fruits and vegetables) by the ionometric method

### 2. Physico-chemical testing laboratory – analytical capacity

Determination in flour and bran, cereals, oilseeds, groats, bakery products and pasta, vegetable oil, feed materials, fodder of the following indices:

- Organoleptic properties
- Humidity
- Foreign impurities
- Hectolitre mass
- Falling number
- Pest infestation
- Gluten (quantity, quality)
- Ash content
- Acidity
- Magnetic metal purities
- Determination of granularity, fineness of grinding
- Germination energy
- Viability
- Porosity of the core

### 3. Seed testing laboratory – analytical capacity:

- Determination of the purity and number of grains of other crops
- Determination of germination
- Determination of viability by the method of tetrazole using
- Determination of attack by pests
- Determination of humidity
- Determining the mass of one thousand grains
- Identification of variety purity by the method of protein electrophoresis
- Organoleptic indices

#### Contact information:

Address: 2044, mun.Chisinau,

Mesterul Manole 4 str.

Phone: +37322471713

Email: centruldecarantina@mail.ru

Web: <http://www.carantina.md>

# INFORMATION ABOUT ORGANIC PRODUCTION

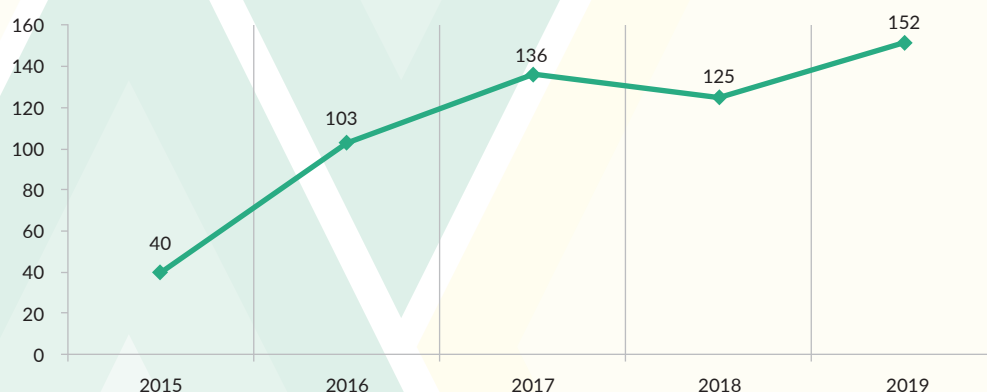
# 3

## 3.1 Number of registered businesses in organic farming

Organic farming has seen a continuous increase of acreages in the last decade, both globally and in our country, associated with the diversification of organic production and an increasingly better organization of the organic system (Graph 9). This has directly led to an interest increase in becoming part of organic farming through the producing, processing, import and export of organic production (Graph 10).

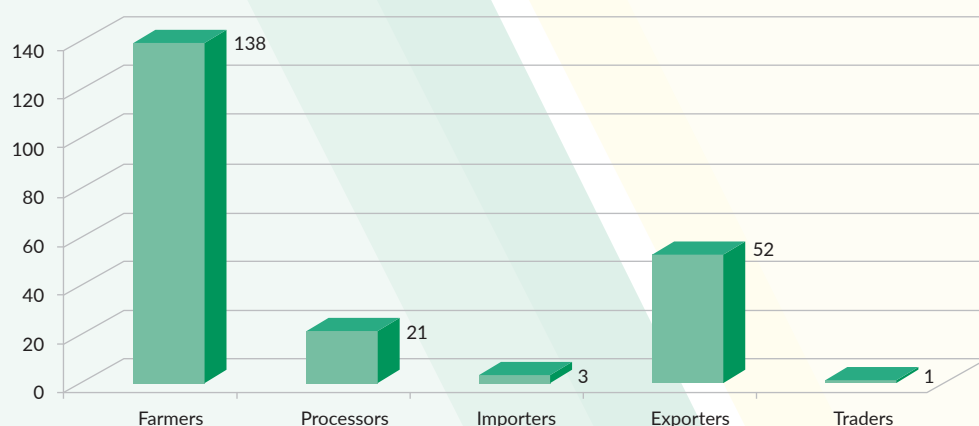
Compared to previous years, the number of economic operators from organic farming in the Republic of Moldova is constantly growing. This is due to the support of international projects such as The Global Environment Facility (GEF), Donau Soya, USAID, People In Need. This fact greatly emphasizes the importance of practicing organic farming.

*Graph 9 Dynamics of increasing the number of operators in organic farming in 2015-2019*



The *Graph 10* presents the type of operators in organic farming in 2019.

### Operators in Organic Farming



### 3.2 Number of employees involved in organic production

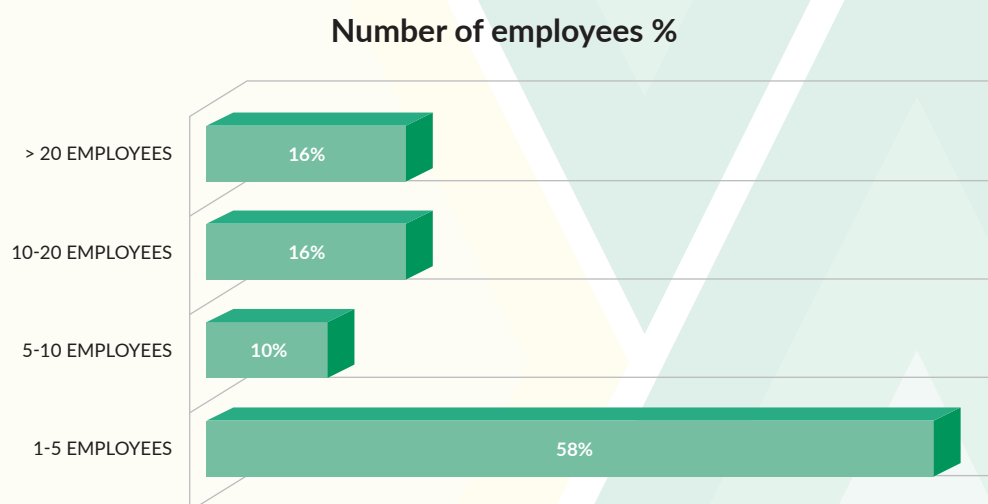
Currently, the Republic of Moldova has an imposing agricultural potential, and business in the agricultural sector has been and remains strategic for the country, being the economic backbone of our country. Considering the favorable climatic conditions throughout the territory of Moldova, agriculture is very good developed. The main tasks of contemporary agriculture are to ensure society with competitive and healthy products with affordable prices, satisfying continuous growing needs of the population quantitatively and qualitatively, but also harnessing the export potential.

A common problem in both organic and conventional agriculture is the insufficiency of qualified specialists, responsible in this field. The interest of young generations in agriculture is

constantly declining, young people preferring to work abroad, which creates a serious problem for the farmers.

In the organic farming system, the number of employees in each enterprise differs depending on the total managed area, the performed agricultural work, and the period in which they are involved. For this reason, the number of employees differs when a large part is working just seasonally, at the process of harvesting, processing and storage of the harvest. As for number of permanent employees in the agricultural enterprise, this value largely depends on the surface of the cultivated area and the complexity of the enterprise; on average, there are 20 permanent employees in an enterprise with 450 ha of arable land (Graph 11).

Graph 11



Following the survey conducted among the members of the MOVCA Association, the number of employees involved in organic production turned out to be different in each household. (Table 3)

- The organic operators with 1-5 employees manage agricultural areas of different size, as follows: 10 operators have 1-10 ha organic farmland; 3 operators – 10-50 ha and 1 operator – 50-100 ha.

- The organic operators with 5-10 employees: 2 operators have 10-50 ha organic fields; 1 operator is managing 100-500 ha of organic farmland.
- The organic operators with 10-20 employees: 2 operators have 50-100 ha and 3 operators are managing 100-500 ha of organic farmland.
- The organic operators with more than 20 employees: 1 operator has 1-10 ha, 1 operator has 100-500 ha and 3 operators are managing more than 500 ha organic farmland.



Table 3 Number of permanent employees registered in agricultural businesses from organic farming sector

Surface, ha	1-5 employees	5-10 employees	10-20 employees	> 20 employees
1-10	11	0	0	1
10-50	4	2	0	0
50-100	2	0	2	0
100-500	1	1	3	1
> 500	0	0	0	3
<b>Total %</b>	<b>58%</b>	<b>10%</b>	<b>16%</b>	<b>16%</b>

### 3.3 Pattern of production on organic farms

In the Republic of Moldova, organic farms are largely focused on the cultivation of annual cereal crops (Table 4). In most localities, the organic farms of small and medium size are prevailing, such as:

- Plant production farms specialized in producing raw materials of plant origin, field crops, vegetables, perennial plantations, medicinal plants, flowers and even dendrological plantations;

Table 4 Areas distribution by crops in the value chain of organic farming.

Crops	Area in conversion [ha]	Total converted area [ha]	Total organic area [ha]
Cereals for grain production (including seeds)	2,881.1	8,060.8	10,941.8
Wheat	1,138.0	4,325.1	5,463.1
Barley	63.9	303.8	367.7
Corn	1,484.6	3,074.3	4,558.9
Dried vegetables and protein crops (including seeds and mixtures of cereals and legumes)	562.1	889.2	1,451.3
Industrial crops	2,320.3	6,901.6	9,221.8
Oilseeds	2,238.4	6,716.6	8,954.9
Sunflower seeds	1,871.1	4,699.8	6,570.9
Soy	204.4	874.5	1,078.9
Rape	52.8	980.5	1,033.3
Medicinal plants (Lavender)	81.9	183.5	265.4
Fresh vegetables and melons		17.9	17.9
Vegetables for leaves or stems (Asparagus)		10	10
Strawberries	2.1		2.1
Grapes	13.4	4.2	17.6
Nuts	254.0	3,185.2	3,439.1
Apples		473.0	473.0
Plums	47.1	123.0	170.1
Pears		12.6	12.6
Berries	53.3	28.5	81.8

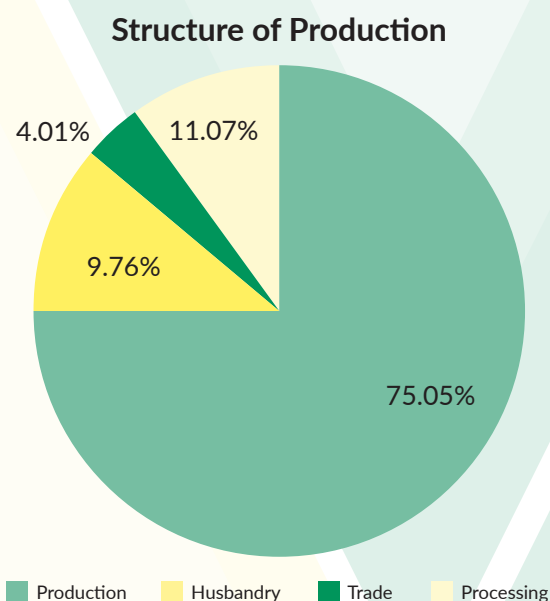
- Livestock farms, specialized in production of animal origin: cattle breeding, sheep's breeding, goats breeding, poultry, fish farms etc. According to the organic concept of animal husbandry, a livestock farm includes the animal population, livestock stables and land areas necessary for the fodder production;
- Agro-industrial farms: plant production farms or livestock farms + industrial units for semi-processing or processing of agricultural products;

- Joint venture: farm specialized in plant production and livestock production.

(Source: <http://ies.gov.md/2016/04/din-dosarul-agriculturii-ecologice-3/>)

From the chart below, we notice that the production sector in the Republic of Moldova represents the largest share in the value chain of organic farming with 75,05%, followed by the processing sector with 11,07%, animal husbandry with 9,76% and trade activity being a less practiced in OF field, with a percentage of 4,01% (Graph 12).

Graph 12



### 3.4 Key commodities in organic agriculture

Agriculture plays an important role in Moldova, given the fact that about 1/3 of the population works in this sector. At the same time, almost 1/4 of the total export volume is generated by agriculture.

The range of cultivated crops is highly diversified due to good natural conditions for producing, relatively low production costs and the proximity to the EU (by its quality) which is the most important market for organic products in Europe.

After organic cereals, a special attention is given to cultivating nuts, dried fruits, sunflower seeds, sunflower oil, legumes such as soybeans and peas and organic wine.

The year 2020 was one with a number of challenges for Moldovan agriculture, both conventional and organic producers achieved low yield compared to 2019 and could not honor the contracts for the delivery of organic production due to lack of goods. In the third quarter of this year, agricultural production, according to estimates, decreased by 31,3% compared to the corresponding quarter of the previous year, including plant production – by 36,0% and livestock production – by 9,3% (Table 5).

The share of agricultural production obtained in the third quarter of 2020 is 72,4% of the total agricultural production (obtained during 9 months of 2020) and the share of the third quarter of 2019 is **79,1%** (obtained during 9 months of 2019).

Table 5 Dynamics of quarterly indicators of agricultural production volume in 2020/2019

	Year	I quarter, %	II quarter, %	III quarter, %	IV quarter, %	Total, %
Total agricultural production of which:	2019	98,0	94,6	105,3	87,9	98,4
	2020	102,4	94,4	68,7	x	x
Plant production	2019	103,6	91,0	108,4	87,4	100,2
	2020	89,2	72,9	64,0	x	x
Livestock production	2019	97,9	96,0	93,1	90,0	94,0
	2020	102,6	102,0	90,7	x	x

### 3.5 Organic producers

Our country has a national legislation, which is more or less in accordance with international requirements, and therefore local producers who know and respect it bears the name of Organic Producer and can sell its products under that mark. Now, most of organic products are exported and the domestic consumer has less access to them.

The number of organic producers is constantly growing, being 138 organic producers, out of the total number of 152 operators in the organic farming sector. This is due to the increased interest of farmers to pass from conventional to organic farming.

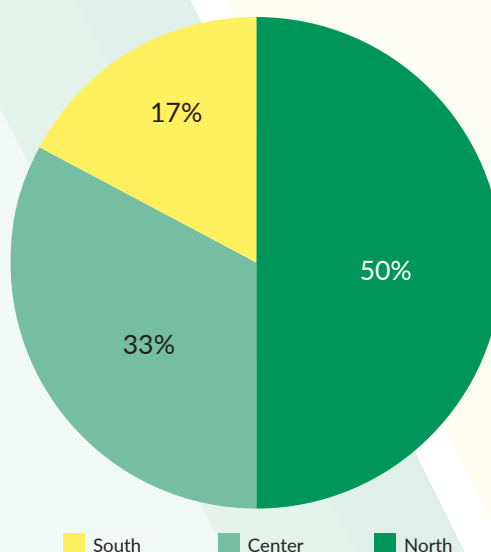
Thus, by analyzing the data from the "Atlas of Organic Agriculture" on share of number of



organic producers by location in the Republic of Moldova, then the share of 50% is held by the northern area, followed by the central area with 33% and the southern with 17% (Graph 13).

Graph 13

Organic producers by location





### 3.6 Organic processors

The sector of processing of organic products is at the initial stage of development in the Republic of Moldova. Mostly, most processors are also producers who grow the organic raw material on their fields and process it, thus ensuring a full cycle, from producing to processing.

The dried and dehydrated fruit industry in the Republic of Moldova is changing, focusing on high quality products, sold for current consumption or used in the manufacture of confectionery, pastry, bakery, even if the local market is limited.



One of the most famous organic processors in the Republic of Moldova is Dorin Mereuță. In Dorin Mereuță's Bakery, whole meal bread is baked with various ingredients such as dried fruits, as well preparing breadcrumbs, muffins, oat biscuits and apple tart, etc.



Biocămara company was established from a cooperation with the Zăbriceni Monastery, specialized in the production of teas from dried medical herbals. The medical plants are cultivated on an acreage of 30 ha, being ecologically certified. Likewise, they produce honey; as well as various syrups, the syrup from dandelion flowers and fir and pine buds. The above-mentioned products are obtained entirely by the work of the monks of the monastery. The products are sold through the created brand "Biocămara".



"RoseLine" company is specialised in rosehips cultivation. Currently, the plantation acreage is over 70 hectares, with a tendency to expand, until 2023 to reach 150 hectares of rosehip plantation. The total volume of the annual harvest reaches about 150 tons. At the same time, the company also processes the obtained harvest. The company has developed a unique technology for separating fresh fruits and cleaning them from seeds and bristles before drying process. A by-product of the activity of this company are rosehip seeds, which are the raw material for oil production, which is requested product in the cosmetics industry.



The „Ygrick-Group” Farm is a family business that was created in order to produce and sell products with high nutritional value. At the moment, the company has over 30 ha of agricultural land. The farmland is certified in organic system for cultivating crops, such as walnuts, almonds and sea buckthorn. Harvested agricultural products are processed and marketed. These products represent the raw material for producing of: almond oil, walnut oil, almond flour, all being sold under the Bianthi brand.

Micu & Co is an enterprise focused on organic agricultural production. In addition to the annual cultivated crops, Micu & Co has a walnut orchard of with an area of 26 ha and a plum orchard with an area of 10 ha. The producer processes part of the production obtained from the managed acreage, thus, wide range flour is produced from wheat, rye and buckwheat.





### 3.7 Organic importers

According to the annual survey on organic agriculture conducted by the Research Institute of Organic Agriculture FiBL, Switzerland, in the Republic of Moldova are registered 3 importers of plant protection products approved for organic production in the Republic of Moldova. This category includes companies specializing in the import of products for organic farming



ICS „JM Invest Group” SRL, helps farmers to implement the conservative and ecological technologies for plant growth. One of the offered products by the company is AZOTER liquid fertilizer.

„Proteh-Agro” SRL, is an official and exclusive dealer of UAB Bioenergy LT (Lithuania). The company imports the following organic products: BioEnergy LT FOSFIX; BioEnergy LT AZOFIX; BioEnergy LT Bactoforce; BioEnergy RUINEX.

registered in the state register. As successful companies we can list the following:

Commercial food hypermarkets, such as Kaufland and Metro, also belong to the category of importers of organic products. The Kaufland hypermarket has a special assortment of imported organic food, called the K-Bio assortment.

Both Kaufland and Metro hypermarkets have a large range of imported organic products starting with organic products for personal hygiene to food products.



ÎM „Ducato-M Company Group International” SRL is a Moldovan-Italian company, which has been operating in the Republic of Moldova since 1997. Since 2016, Ducato-M C.G.I. SRL presents its new Italian partner AGM SRL, producer of organic fertilizers, on the market of the Republic of Moldova. AGM fertilizers are products derived from animal blood and safe from ecological point of view, because they are subjected to sterilization processes in accordance with EC regulations in force.

### 3.8 Organic exporters

An amount of 48,353.5 tons of organic production was obtained in 2019. Mostly, obtained organic products in Moldova are exported – 48 048,6 tons of primary and processed products were exported last year. For example, 42 333,1 tons of cereals, legumes and oilseeds were sold last year from the total amount of 42 615,8 tons of sold organic products (Table 6).

Sunflower was the most exported Moldovan organic agricultural product, from a quantitative point of view. More than 15.700 tons of sunflower were delivered abroad last year. Wheat was exported in the amount of 13.842,9 tons, corn – 11.347,1 tons, peas – 685,3 thousand tons and soybeans 296,3 thousand tons. Walnuts are also in the top of exports of organic products, in 2019 being exported 5589,5 tons of walnuts.



Despite the relatively small acreages certified in organic system, international partners from EU countries are interested in organic products produced in Moldova. In 2019, we ranked 3rd in the top of the main suppliers of organic cereals (excluding wheat and rice) on this market (Table 7).

Table 6 The volume of exported products in 2019

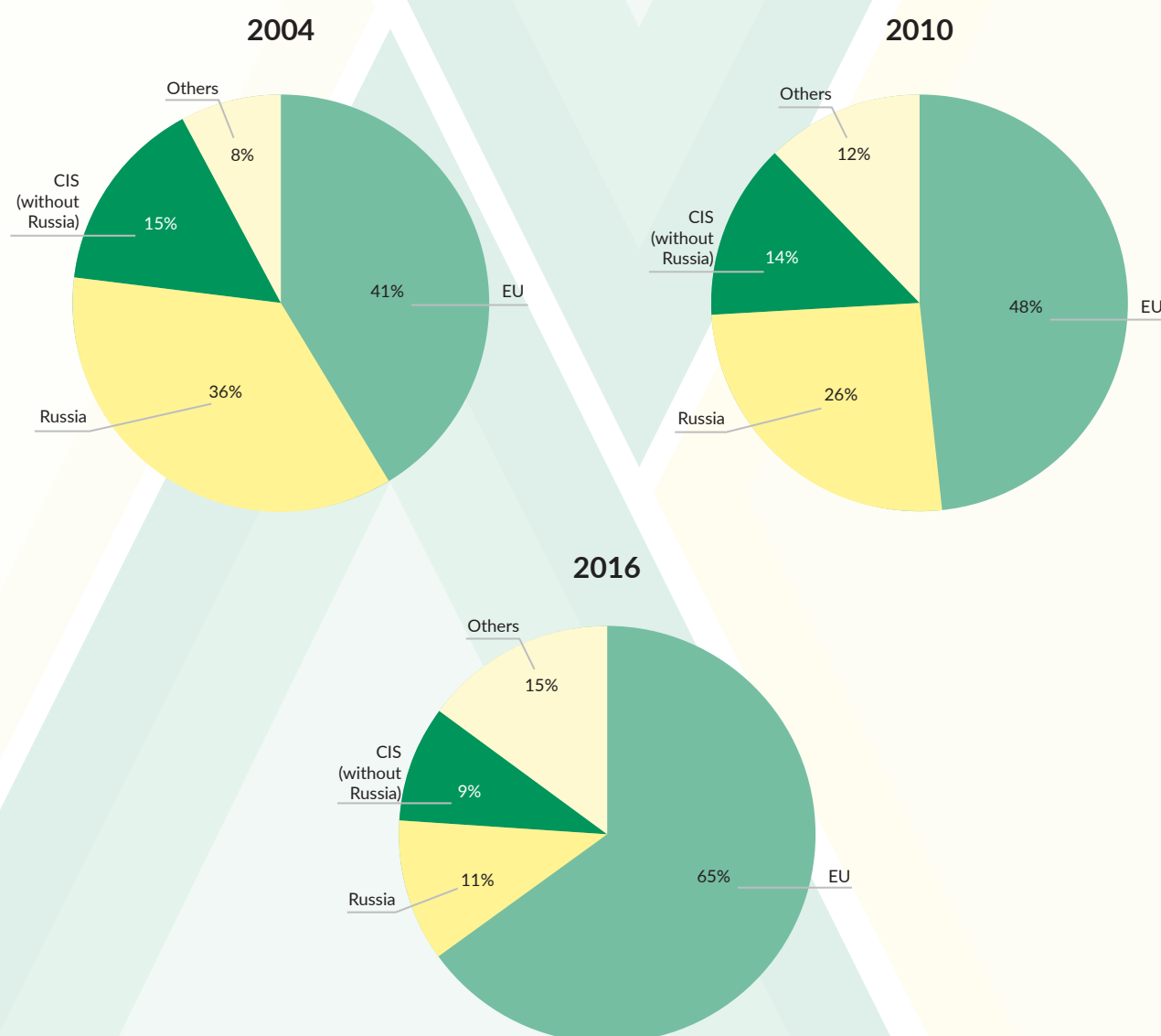
Domestic and international trade (sales by product group)	VOLUME organic retail sales (all channels) [MT]	VOLUME organic distribution (all channels) [%]	Ecological retail VALUE (all channels) [mln, lei]	Organic share VALUE [%]	Export volume [MT]
Food and drinks	48.353,5		0,0		48.048,6
<i>Food and beverages (without beverages)</i>					
Agricultural products	48.259,5				
Non-perennial crops	42.647,8		0,0		
<i>Non-perennial crops without details</i>					
Cereals (except rice), legumes and seeds oleaginous	42.615,8		0,0		42.333,1
Cereals	25.859,2		0,0		25.576,5
<i>Cereals, no details</i>					
Wheat	13 931,9				13.842,9
Mixture of corn and corn	11.377,1				11.347,1
Barley	518,5				386,5
Rye	31,7				
Oat					
Triticale					
Buckwheat					
Protein crops (dried legumes)	685,3		0,0		685,3
Beans					
Green peas	685,3				685,3
Lupine					
Other protein crops					
Oilseeds	16.071,3		0,0		16.071,3
Sunflower seeds	15.700,0				15.700,0
Soy	296,3				296,3
Flaxseed					
Rape					
Other oilseeds	75,0				75,0

Table 7 Main cereals suppliers in the EU

	2018 imports TMT	2019 imports TMT	Change (%)	Share (%, 2019)
Ukraine	113.9	179.4	57.5	76.9
Turkey	46.6	24.9	-46.6	10.7
Moldova, Republic Of	22.3	9.2	-58.8	3.9
Bolivia	7.3	8.3	14.2	3.6
Peru	5.3	5.8	8.7	2.5
Russian Federation	14.7	1.6	-89.3	0.7
United Arab Emirates	36.6	0.0	-100.0	0.0
<b>Total</b>	<b>254.2</b>	<b>233.2</b>	<b>-8.3</b>	<b>100.0</b>
Share selected countries in total (%)	97	98		

(Source: <https://agrobiznes.md/moldova-in-top-3-tari-ce-exporta-cereale-eco-in-uniunea-europeana.html>)

Graph 14 Regional export trends for Moldovan goods, both, organic and conventional



(Source: German Economic Team Moldova, based on NBS 2017)

Republic of Moldova is on the 17th place in the list of exporters of organic agri-food products to EU. At the same time, the exported volume of these products decreased significantly in 2019, by 27.7% compared to 2018 (Table 8).

At the same time, Republic of Moldova ranks 6th in the top of exporters of organic wheat in EU and 4th in the list of oilseed exporters (except for soybeans) by delivered volume (Table 9).

The exports volume of organic cereals grown by farmers in the country is constantly growing. Thanks to the support provided by the donors from the Netherlands and the Czech Republic, but also to the partnership between a private company, Prograin Organic, and the non-governmental organization People in Need Moldova, 63 farmers from 23 rayons managed to export their organic production to the European Union.



One of the leaders in the export of organic products to the European Union is the Moldovan-Dutch company "Prograin Organic", which has exported about 20 thousand tons of Moldovan organic cereals during last year. The company's turnover was 10 million dollars in 2018.

Another company that exports large quantities of organic products from the Republic of Moldova is AMG-Kernel, a company with large acreages

of walnut orchards, about 800 ha, which also produces and exports a wide range of organic cereals.



Monicol Company is a local producer and exporter of organic walnuts and dried fruits. The product range includes plums, cherries, pears, apples, tomatoes and other. The average annual export volume varies between 1700 tons – 2000 tons of nuts.

(Source: <https://madein.md/monicol>)

The evolution of exports has maintained its positive trend over the last three years, which makes the organic farming sector more and more attractive to farmers (Graph 14). If in 2016 only 5000 tons of organic cereals were exported to the European Union, through a project supported by Prograin Organic and People in Need Moldova, last year amount of exported products reached about 20 thousand tons. In 2019, 30 thousand tons of organic cereals were exported.





Table 8 List of countries exporting organic cereals in EU

Rank	Exporting countries	2018 EU imports	2019 EU imports	Change (%)	Share in total (%, 2019)	Cumulated share (%, 2019)
1	China	404 623	433 705	7.2	13.4	13.4
2	Ukraine	265 817	337 856	27.1	10.4	23.8
3	Dominican Republic	271 801	324 354	19.3	10.0	33.8
4	Ecuador	276 879	304 297	9.9	9.4	43.2
5	Peru	204 871	214 240	4.6	6.6	49.8
6	Turkey	262 722	210 760	-19.8	6.5	56.3
7	India	125 477	176 568	40.7	5.4	61.7
8	Colombia	63 114	87 341	38.4	2.7	64.4
9	Kazakhstan	50 250	85 675	70.5	2.6	67.1
10	Brazil	72 204	78 825	9.2	2.4	69.5
11	Mexico	69 497	74 857	7.7	2.3	71.8
12	Argentina	66 838	63 369	-5.2	2.0	73.8
13	Egypt	46 599	56 591	21.4	1.7	75.5
14	Togo	22 123	44 684	102.0	1.4	76.9
15	Tunisia	40 126	42 591	6.1	1.3	78.2
16	Israel	40 610	40 983	0.9	1.3	79.5
17	Moldova, Republic Of	55 368	40 053	-27.7	1.2	80.7
18	Paraguay	35 121	38 271	9.0	1.2	81.9
19	Honduras	40 235	37 352	-7.2	1.2	83.0
20	Pakistan	27 091	34 116	25.9	1.1	84.1
21	Sri Lanka	26 096	32 089	23.0	1.0	85.1
22	Canada	29 726	30 924	4.0	1.0	86.0
23	Thailand	31 872	30 415	-4.6	0.9	87.0
24	Philippines	23 869	26 487	11.0	0.8	87.8
25	Russian Federation	34 069	26 313	-22.8	0.8	88.6
26	South Africa	23 145	25 430	9.9	0.8	89.4
27	Chile	33 223	24 492	-26.3	0.8	90.1
28	Côte d'Ivoire	14 392	23 503	63.3	0.7	90.9
29	Morocco	19 950	20 744	4.0	0.6	91.5
30	Ghana	14 915	20 318	36.2	0.6	92.1
31	United States	170 533	19 881	-88.3	0.6	92.7
32	Serbia	20 989	18 065	-13.9	0.6	93.3
33	New Zealand	19 148	17 304	-9.6	0.5	93.8
34	Uganda	23 327	16 616	-28.8	0.5	94.3

(Source: <https://agrobiznes.md/moldova-in-top-3-tari-ce-exporta-cereale-eco-in-uniunea-europeana.html>).

Table 9 Main exporters of organic oilseeds in EU (thousand tons), 2019

	2018 imports	2019 imports	Change (%)	Share (%, 2019)
Turkey	44.8	37.8	-15.4	23.6
Ukraine	28.8	29.1	1.2	18.2
China	20.8	21.3	2.5	13.3
Moldova, Republic Of	15.7	15.7	0.1	9.8
India	13.7	13.2	-3.9	8.2
Kazakhstan	7.7	12.5	60.7	7.8
Uganda	2.5	5.4	120.6	3.4
United Arab Emirates	39.3	0.0	-100.0	0.0
<b>Total</b>	<b>192.5</b>	<b>160.1</b>	<b>-16.8</b>	<b>100.0</b>
Share selected countries in total (%)	90	84		

## PATTERN OF PRODUCTION ON ORGANIC FARMS

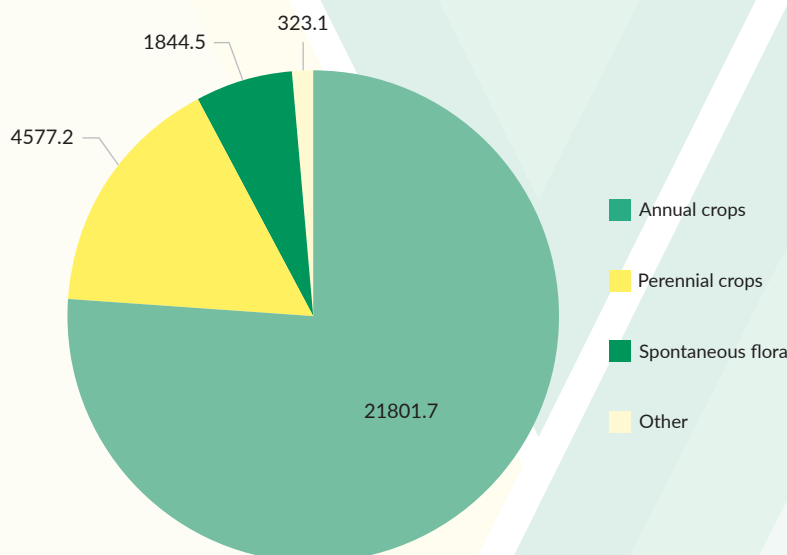
### 4.1 Plant production

Demand for organic products is growing year by year, organic farming technologies are in continuous evolution and the political framework favors organic farming. In this context, the cultivation of annual and multiannual crops in the organic system in the Republic of Moldova is practiced in small farms, starting with a

few hectares and up to large businesses with hundreds of managed farmland hectares.

According to official statistics, in 2019 an acreage of 28 546,6 ha was registered in the Republic of Moldova (Graph 15).

Graph 15 Pattern of certified organic acreages and area in conversion (ha)



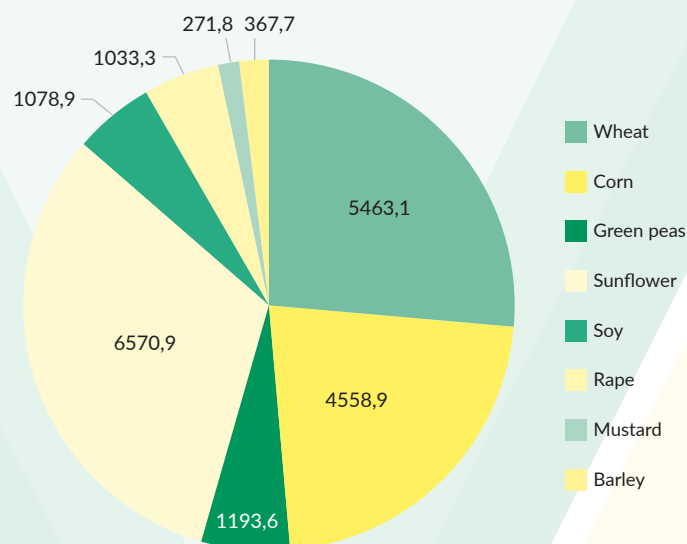
Source: Global Survey on Organic Agriculture conducted by the FiBL Organic Agriculture Research Institute, Switzerland (2020).

The largest acreage was used for annual crops with a share of 21801,7 ha, followed by perennial crops with an acreage of 4577,2 ha. Wheat, sunflower and corn are the most common annual crops in organic farming, together representing about 77%.

In 2019, the largest acreages with annual crops was with sunflower (6570,9 ha), followed by wheat with a share of 5463,1 ha, and large acreages being registered for Corn – 4558,9 ha (Graph 16).

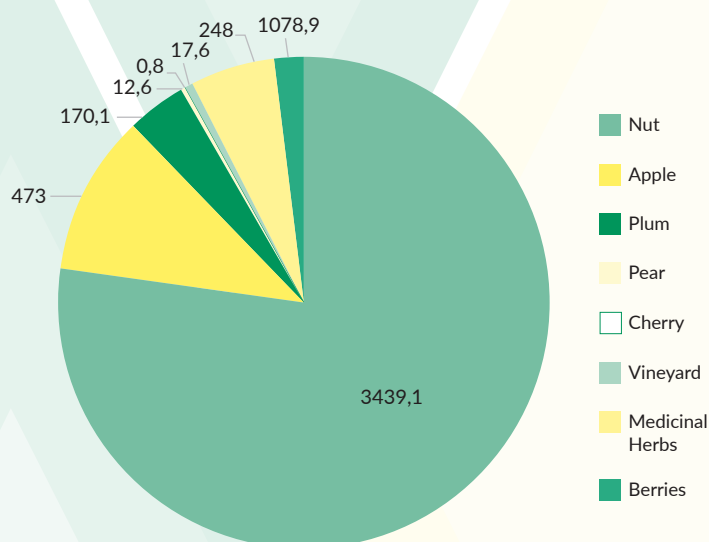
From the group of perennial crops from organic system, the largest surfaces are recorded in the cultivation of apple, walnut and medicinal / aromatic plants (Graph 17). Compared to the acreages used for organic annual crops cultivation, acreage of perennial crops is much smaller. This is due to the fact that the disease and pest control in the organic system is much more difficult compared to the conventional system. The control of diseases, pests and weeds is quite difficult because of small range of plant protection products approved for organic production in the Republic of Moldova.

Graph 16 Pattern of ecological areas with annual crops



Source: Global Survey on Organic Agriculture conducted by the FiBL Organic Agriculture Research Institute, Switzerland (2020).

Graph 17 Pattern of ecological areas of permanent cultures



## 4.2 Livestock production

Animal husbandry has an important role in organic farming. It "closes" the nutrient cycle within the farm:

- Animal excrement provides valuable organic fertilizers for soil revitalization and crops nutrient supply.
- Ruminants and other herbivores effectively use produced fodder on the farm, which is

essential for crop rotation, maintaining humus content and effective weed control.

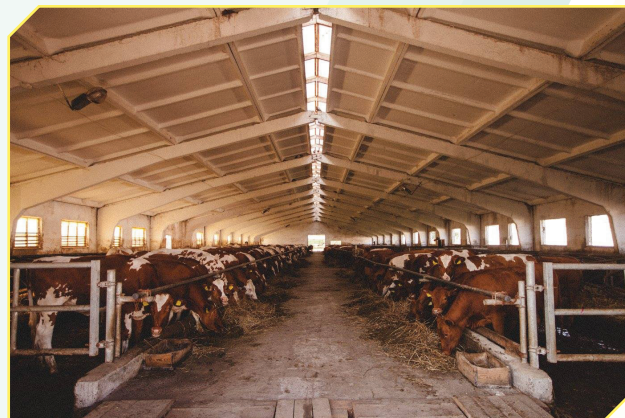
- The straw produced on the farm can be used as animal bedding. Straw binds nutrients from animal excrements and urine. The resulting manure is a good soil conditioner and a long-term fertilizer.

In the Republic of Moldova, the livestock sector is poorly developed and the raw material obtained from organic animal husbandry is not harnessed correctly.

There are several key points determining the weak development of the ecological livestock sector in the Republic of Moldova, such as:

- Animal husbandry is not a profitable activity in Moldova; there are very few conventional animal farms.
- The market for organic products certified with the Moldovan ecological standard is missing.
- Even if someone would like to certify a farm with international standards for export purposes, then the export will not be possible, because the production of animal origin from Moldova is not accepted abroad.

There are a small number of animal farms (except for poultry farms, industrial production of meat and eggs) in the Republic of Moldova. There were no express demand for livestock production certification due to the decrease of the number of animals annually and animal farms are not economically efficient. Neither of the two certification bodies in Moldova has the scope of accreditation on livestock production



certification. Accreditation for this area is possible, but it is not economically justified. That is, any scope of accreditation also represents costs. There is not any economic justification for these 2 certification bodies, to accredit this area with the Moldovan standard for 1-2 farmers who would like to be certified, especially as the other 2 existing areas hardly covers its costs (accreditation on production and processing certification), because farmers are willing to pay a very small amount for certification. And this, in turn, comes from the fact that organic products certified on national law do not have a market. (Only a very small number of approx. 90 certified operators sell the production as organic).



# ORGANIC FOOD TRADE

# 5

## 5.1 Demand of organic food products

Organic production is gaining importance increasingly higher and is in a continuous expansion. This development is supported by growing consumer demand for organic agricultural products. They are increasingly aware and interested in maintaining health through the consumption of organic products, plus the society's demand for sustainable agricultural development, as well as the multitude of favorable effects on the farm and the environment.

Experts believe that due to favorable natural and agrotechnical conditions, there is a chance that Moldovan farmers can actively participate in the overall development of Moldovan agriculture by reconsidering organic farming as an important source of income, and this opportunity should not be missed. In order to benefit from these opportunities, it is necessary that Moldovan farmers, who want to practice this type of agriculture, to implement specific technologies required by organic production rules and regulations and complying with the requirements imposed by the European Union, in order to obtain competitive products on the international market.



Growing demand for organic products consumption is a certain trend for the next years. Prices for export-oriented organic dried fruits are 20-70% higher than for conventional production, having a market segment with growth potential. That is why organic production is a profitable and supported business at EU level, as well as in the Republic of Moldova.

The citizens of the Republic of Moldova are becoming more and more interested in organic food. As the demand for organic food is growing, more and more stores in the country have started to arrange specially designed shelves for these products. At the same time, the number of local producers offering high quality organic food has also increased, so Moldovans have the products they need to have a healthy lifestyle.

The market of organic agri-food products is not yet well developed in the Republic of Moldova, while in most European countries it has a large aptitude, Western consumers being adept of the organic food consumption on a large scale. One motivation for this consumption habit may be that people in well-developed countries are much better informed in this field and have high incomes per capita. High prices of organic products limit the access of Moldovan consumers to such products, compared to the consumers access in well-developed countries.

Farms deciding to produce and sell organic agri-food products are modern, flexible farms and opt for the idea that Moldovans should consume healthy and as natural as possible food, in the spirit of a harmonious physical and spiritual development. These units mainly address the



field of organic food, aiming to contribute to the expansion and development of this concept among the population of the Republic of Moldova. The contribution of these units is, in particular, to produce, import, market and promote organic certified products. The support of Moldovan producers is based on the intention to distribute

these organic products in specialty stores and supermarket chains in the Republic of Moldova. Specialized institutions contribute significantly to the creation and development of the local market of organic products, and to the implementation among the Moldovan consumers of a healthy lifestyle and nourishment.

## 5.2 Distribution

The distribution of organic food products on the Moldovan market is carried out through store networks, such as (Metro; Kaufland; Fourchette; Nr.1; Fidesco; Sincer). These stores offer a wide range of organic products, such as sunflower oil and kernel nuts, dried fruits, dried herbal teas, organic cereals, etc.



Some organic producers sell their products independently through websites that contain the company's brand and representative design. Examples of producers marketing their organic production through online sales platforms are:



[bianti.md](http://bianti.md); [equinox.md](http://equinox.md); [ebio.md](http://ebio.md); [biocămara.md](http://biocămara.md).

During the development of the organic farming sector, other online sales platforms appeared, specialised in the marketing of both certified organic products and products obtained from conventional agriculture. These platforms merge the whole range of local Moldovan food products into one. Example of such platform is: [madein.md](http://madein.md).

The distribution of organic products is also carried out through fairs, trade fairs organized in different localities of the country. The weekly **EcoLocal Farmers Market**, which brings together over 30 local companies with organic products every week and attracts not only local customers





but also those from abroad. Is a very efficient fair for marketing, promoting and capitalizing organic products.

Another fair for local organic products marketing is the Caravana **IarmarEco** 2020 event, which is organized by the **EcoVisio** organization. It is held in several localities in the country and at different dates, this event provides consumer access from various parts of the country to local organic products.



### 5.3 International comparison

A survey conducted by "France 2" French TV station highlights major differences in terms of trade with organic products within the European Union.

Thus, while large supermarket chains seem to have launched a real economic war on this issue, sales of organic products in the European Union have reached, in 2018, not less than 29.1 billion euros, an increase of 12,4% compared to the previous year. As expected, the largest consumer market for organic products is Germany. According to France 2 assessment, about 70% of organic products sold in the European Community are consumed by four countries: Germany, France, Italy and the United Kingdom. However, when it comes to daily consumption, Danes, Austrians and Swedes are champions. For example, the daily shopping cart of Danes is made up of 9,7 percent organic products, while the French do not exceed 3,5%.

In France, the quantity of purchased organic products doubled in just five years, between 2012 and 2017, from € 4.189 billion to € 8.333 billion, according to published statistics by Agence Bio (French Agency for development and promotion of organic farming). Almost a third of organic products sold in Hexagon are imported.

In Romania, the statistics on the organic products consumption differs from the rest of the European Union. Large supermarkets have increased the number of organic products on the shelf, by establishment of special spaces for organic products. However, the number of organic products from the large Romanian supermarkets varies between 200 and 500, compared to 1.200-1.800 in the same supermarkets from Western Europe. Among the people who stated that buy organic products, 4 out of 10 respondents said that the bought organic products represents 10% and 30%, and only 2 out of 10 said that 30% and 50% of bought products are organic. The factors that would determine Romanians to buy more organic products are: the lower price (42,41%) and the certainty that the product they buy is really ecological, without chemicals (43,4%).

However, almost 7 out of 10 Romanians are willing to pay extra for organic food. Of these, 43,85% would agree to pay 5 to 10% more for organic food, and 27,86% would be willing to pay even 10% to 20% more. 3 out of 10 respondents would not be willing to pay more for organic products.

Despite the statements that they would pay extra for organic products, paradoxically, only a lower price of these products would motivate 42,41% of respondents to buy organic food.

# SUPPORT FOR ORGANIC FARMING AND PRODUCTION OF ORGANIC FOOD

## 6.1 Development of state support for organic farming

To support organic farming and organic food production, Moldovan state acts through various organizations such as: the Organization for the Development of the Small and Medium Enterprises Sector (**ODIMM**), the Investment Agency (former **MIEPO**), Agency for Intervention and Payments in Agriculture (**AIPA**).

The SME Greening Program, implemented by the Organization for the Development of the Small and Medium Enterprises Sector (**ODIMM**), is a State Program aims to support the development of the SME sector, approved by Government Decision no. 592/2019, which meets national priorities on greening of the enterprises, outlined in the following government acts:

1. Development strategy for the small and medium-sized enterprises sector for the years 2012-2020 (**Government Decision no.685/2012**);
2. The program for promoting the „green” economy in the Republic of Moldova for the years 2018-2020 (**Government Decision no.160/2018**);
3. The environmental strategy for 2014-2023 and the Action Plan on its implementation (**Government Decision no.301/2014**);
4. The low-emission development strategy of the Republic of Moldova until 2030 and the Action Plan for its implementation (**Government Decision no.1470/2016**);
5. National Energy Efficiency Program 2011-2020 (**Government Decision no.833/2011**);
6. Energy strategy of the Republic of Moldova until 2030 (**Government Decision no.102/2013**);
7. Waste management strategy in the Republic of Moldova for the years 2013-2027 (**Government Decision no.248/2013**);
8. Water supply and sanitation strategy (2014-2028) (**Government Decision no.199/2014**).

The approval of the Eco SME Program confirms the commitments of the Government of the Republic of Moldova in increasing the process of decoupling economic growth, of environmental degradation, assumed by signing the Final Declaration of the United Nations Conference on Sustainable Development "The Future We Want" (Rio de Janeiro, 20- June 22, 2012) and the provisions of the National Development Strategy „Moldova 2020”, approved by Law no. 166/2012, transposed in the Program for promoting the „green” economy in the Republic of Moldova for the years 2018-2020 and the action plan for its implementation. The financial support for the implementation of greening actions differ depending on the scale (according to the established scale): up to 200 000 Lei for the small scale and 500 000 Lei for the large scale.

*The implementation of the Greening Program and the action plan are financed from the state budget of the Republic of Moldova and supported through the EU4Environment Project, financed by the European Union.*

**Agency for Intervention and Payments in Agriculture (AIPA)** has an equally important role in support and development of organic farming and production of organic. AIPA is a public institution whose mission is to manage the resources of the National Fund for the Development of Agriculture and Rural Environment, as well as of the provided financial resources by the development partners for management and for intervention measures implementation in the agricultural sector.

**AIPA** is a reliable partner for agricultural producers, giving them the chance to grow, to become sustainable and competitive, both nationally and internationally, by accessing



subsidies and support programs for the private sector in rural areas. Subsidies amounting to **7 845 123 Lei** were approved and granted in 2019.

The accomplishment of the mission focuses on the following fields of activity: ensuring the correct and legal conducting of fund management operations provided for supporting agricultural producers; control of the use of funds granted to

the beneficiaries; participation in the elaboration of the subsidized areas; continuous monitoring of compliance with eligibility criteria and contractual conditions for granting of non-reimbursable financial assistance by the grant recipients; information, communication, presentation of innovations that take place in the activity process.

## 6.2 Subsidies for organic production

Organic production is a global system of agricultural management and food production that combines best environmental practices, a high level of biodiversity, the conservation of natural resources and the application of high animal welfare standards. It is a production method that is gaining ground in the European Union, Moldova unfortunately registering much more modest results in this regard.

Agency for Intervention and Payments for Agriculture (AIPA) is the responsible authority for granting subsidies to support the promotion and development of organic agriculture, which operates based on Government Decision no. 20/2019. The financial sources for subsidizing the sub-measure in question are those from the National Fund for the Development of Agriculture and Rural Environment. The distribution of Fund resources between measures and sub-measures of support is determined by AIPA in consultation with relevant associations of agricultural producers.

Thus, according to the Government Decision no. 455/2017, financial support is provided under **Sub-Measure 2.5** on supporting of the promotion and development of organic farming to all operators registered in the organic farming system. This is a compensation payment for the loss of income and additional costs endured by the beneficiaries who have concluded voluntary

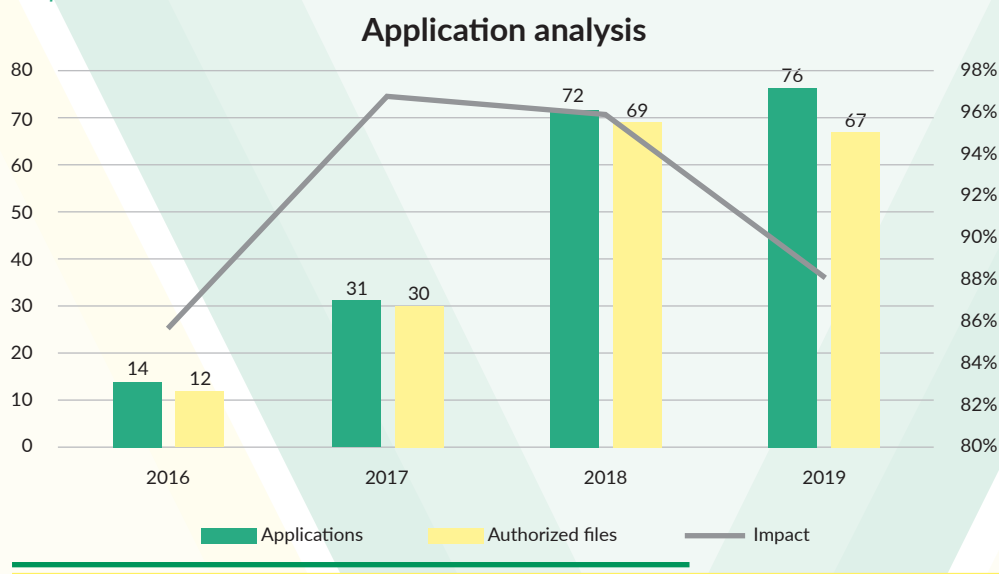
commitments and undertake to remain in this farming system for at least 5 years.

There were received 14 applications with a total amount of 641 850,10 lei in **2016**, 12 applications being approved (86% of them), in the total amount of **596 026,00 Lei** which represents 93% of the total requested budget. There was a significant increase by **55%** in **2017** over 2016. 31 applications amounting to 1 880 008,23 Lei were submitted, of which 30 were accepted which represents 85% of the requested budget – **1 590 179 Lei**. Analyzing the situation in 2018, we understand that the number of applications for subsidies on **Sub-Measure 2.5** is constantly increasing. Thus, 72 applications were submitted to AIPA with a requested budget in the amount of **7 740 877,78 Lei**. From the total submitted applications, 96% of them were validated and 94% of their total value was granted (**69 applications – 7 251 529 Lei**). The statistics present the situation from **2019** as follows: the number of submitted applications was similar to the one registered in 2018. As a result, there were submitted **76 applications** amounting of **8 603 718,46 Lei** and **67** of which were approved – **7 845 123 Lei** (**Table 10; Graph 18**). Currently, 65 applications for subsidies amounting 6 715 271,25 Lei were submitted up to October 31, 2020. These applications are still in a processing state.

Table 10 Information on applications for subsidies on Sub-measure 2.5

Year	Number of submitted applications	Number of authorized applications	Ration of years, %	Requested amount, MDL	Authorized amount, MDL	Ratio of amounts, %
2016	14	12	86	641,850.10	596,026.00	93
2017	31	30	97	1,880,008.23	1,590,179.00	85
2018	72	69	96	7,740,877.78	7,251,529.00	94
2019	76	67	88	8,603,718.46	7,845,123.00	91

Graph 18



In this year, financial support is provided for conversion to organic farming and for the maintenance of organic farming in the field of organic production and organic beekeeping

(Table 11). The amount of financial support shall be calculated in the form of a quantum, expressed as a fixed sum per unit area and shall be:

*Table 11 Period of conversion to organic farming methods for the following crops*

Category	1st year (mdl/1 ha)	2nd year (mdl/1 ha)	3rd year (mdl/1 ha)
a) orchards, vineyards, fruit shrubs and strawberries	1500	2000	2500
b) medicinal and heteroolaginous plants	1300	1600	2000
c) field crops, pastures and hayfields	800	1000	-
d) vegetables	3000	3500	-
e) beekeeping	300	-	-

The maximum value of the granted support in order to maintain the practices of organic farming will not exceed the amount of 200 thousand lei for one beneficiary.

The conversion period to organic farming methods is 2 years (for annual crops), 3 years (for multiannual crops) and 12 months for bee products.

For the purpose of the maintenance of organic farming, AIPA covers 20% of the price of sold organic products. In this respect, operator shall submit: the invoices; and a copy of the customs and complementary declaration, with the attached invoice, in case of export.

It should be noted that the subsidy beneficiaries reimburse the received amounts only if they do not keep running the organic farming system **for 5 years** period. Agricultural producers can **NOT** benefit from financial support if the conversion period is repeated for the same field.

The period for the submission of applications for subsidies under this measure is from **1 February to 31 October** of each subsidising year.

The operators willing to apply for subsidies under sub-measure 2.5. should fulfill the following mandatory conditions:

- 1) goods, eligible investment object purchased from suppliers and distributors;
- 2) don't have debts for the payment of taxes and fees to the national public budget at the time of submitting the application for subsidies;
- 3) belong to one of the associations of agricultural producers with a general or particular profile;
- 4) prove, by confirmatory documents, the performing of the investment (invoices, payment orders, documents for placing in service);
- 5) are not included in the Prohibition List of subsidies beneficiaries and are not in the process of insolvency or liquidation;
- 6) are legal holders of the properties in / on which the investment is made and are owners of the property that is the object of the investment;
- 7) for the wine sector, agricultural producers must register the owned or possessed vineyards in the Vine and Wine Register of the Republic of Moldova.

**NOTE:** if the operator is included in the Prohibition List of subsidies beneficiaries – the Territorial Service of AIPA will reject the application for financial support, without being registered.

The required documents for the submission of the application for subsidies for each area under this sub-measure are:

- 1) the application for subsidies for this sub-measure;
- 2) the copy of the registration certificate, with declaration on establishment attached, for the peasant households;
- 3) the certificate attesting the fact that the agricultural producer is a member of a professional association, under the Law no. 257/2006 on the organization and functioning of agricultural and food product markets, issued by the association and / or organization concerned;
- 4) copy of the financial documents for the year preceding the year of application, for legal entities, except for agricultural companies established in the year of subsidising, approved under the existing procedure by the decentralized public services of the National Bureau of Statistics; and in the case of peasant households – unified report (UNIF 14 / VEN 12 form), except for agricultural businesses established in the current subsidising year;
- 5) the document confirming the professional qualification of the administrator or, as appropriate, of an employee with part-time job (at least 0,5 units) in the field of investment – copies of diplomas or training certificates, with a total number of at least 24 hours, issued by the consulting companies, including international ones, but with the exception of deforestation of perennial plantations;
- 6) declaration on own responsibility regarding the veracity of the data and submitted documents, including the commitment not to sell / transfer for use in any form the subsidized investment, to use it according to the destination, to not grub the perennial plantations, in accordance to the specified periods;
- 7) the copy of the producer registration form in organic farming, for the year for which he requests the specific support;
- 8) copy of the contract concluded between the producer and an inspection and certification body which is recognized by the Ministry of Agriculture, Regional Development and Environment;
- 9) the copy of the HACCP certificate or, as the case may be, of Global Gap, GMP or ISO or of the concluded and prepaid contract with one of the specialized companies, for the purpose of certification according to the mentioned standards; for cumulatively applications for financial support under the sub-measures 1.1, 1.6, 1.8 and 2.5, in case of two and more applications, exceeding 1 million lei, by agricultural producer's assumption of the obligation to get certification during the next two years from the moment of support received and to maintain the conditions underlying the granting of the certification;
- 10) the copy of the certificate of conformity / authorization confirming the conversion period issued to the operator by the inspection and certification body, stating: the cultivated crop, the acreage, the number of bee families and the year of conversion;
- 11) the notification issued to the operator by the inspection and certification body attesting that no cause of termination or cancellation of the contract between the operator and the inspection and certification body has occurred and that the operator is still integrated into the control system of the body concerned;
- 12) copy of the document confirming the sale of organic products, permitted on the territory of the Republic of Moldova;
- 13) the operator's commitment by which he undertakes to remain in the organic farming system for a period of 5 years from the date of request for support.

# BREEDING AND RECOMMENDATION OF VARIETIES SUITABLE FOR ORGANIC FARMING IN THE REPUBLIC OF MOLDOVA

For efficient and sustainable food production in organic farming, crop rotation, choice of varieties and technology must be carefully considered. Since most of the available varieties have been produced under conventional farming conditions, the potential of organic farming has not been fully exploited. Some characteristics, which are important in organic farming, such as resistance to seed-borne diseases, weed suppression or nutrient efficiency (NUE), are not the most important parameters for selection of varieties where these deficiencies are addressed by pesticide protection and mineral fertilizers. Another aspect is the question of the effective root system of the variety, an issue which is completely overlooked in conventional breeding. Therefore, breeders worldwide are starting to focus on producing varieties under organic conditions for use in organic farming, with the aim of stabilizing the production and quality of organic foods.

These varieties must meet the high yield requirements for high-quality production, taking into account the nutritional and technological properties of organic food and the hygienic requirements of production. Organic agriculture differs from conventional agriculture in many respects. One of these, for example, is the use of legumes in crop rotation, the residues of which provide an important source of post-harvest nutrients, especially nitrogen. In contrast, the use of fast-soluble mineral fertilizers in conventional agriculture makes nitrogen easily available to plants. A major problem in organic farming is the lack of regenerative fertilization with mineral fertilizers when winter crops are in great need of nitrogen to restore growth, but this is not readily available. Therefore, a variety

grown under organic farming should have the ability to restore growth even under poorer conditions, and should be tolerant to mechanical weeding processes, which help to accelerate the mineralization of organic matter in the soil in springtime.

On the agricultural market, most of the available varieties have been developed and promoted under the conditions of conventional agriculture, using artificial pesticides and mineral fertilizers which are prohibited in organic agriculture. Because most varieties are also bred for conventional agriculture, it is not known how these varieties would behave under organic conditions. In several European countries, the recommendation of suitable varieties has been introduced. This is closely linked to the official register of varieties and is intended to help farmers to choose the most suitable variety for their location. The register may contain hundreds of varieties without any information on their suitability for given conditions, and the recommendation list is therefore a means of selecting the best variety. In several European countries, the recommendation of varieties for organic conditions has also been introduced to provide organic farmers and producers with information on how conventionally-bred varieties perform under organic agriculture conditions. Organically-bred varieties are also included.

Choosing the right variety for the local climate, field conditions and the market can minimize loss and increase success in yield and quality of production. It helps to avoid pointless efforts with poorly-adapted or poorly-performing varieties which are unsuitable for the given conditions, and thus reduce costs.



The establishment and implementation of a variety recommendation system helps:

- To minimize loss due to poor variety performance
- To minimize loss due to the occurrence of pests and disease due to poor tolerance/resistance of the variety
- To maximize yield and quality of production
- To improve the most important requirements of the market
- To identify the best variety and the best organic seed source

Establishing a system of recommendation of varieties suitable for growing without fast-release mineral fertilizers and chemical-synthetic pesticides is one of the objectives set within a project coordinated by the Czech Republic and carried out in Moldova. This project, entitled „Institutional support within organic farming in the Republic of Moldova”, is organized and implemented by the Czech Central Institute for Supervising and Testing in Agriculture (ÚKZÚZ) and donated by the Czech Development Agency. Although no state-guaranteed system of recommendation of varieties, similar to those in e.g. the Czech Republic or Poland has yet been established in Moldova, we do believe that comparing different varieties, and evaluating yield, health condition and quality parameters make a good start for the farmers in becoming aware of the importance of choice of the right variety, with regard to the intended purpose of the crop.

As an example, the most common arable crop in Moldova – winter common wheat – has proven the fact that not all common wheat varieties grown organically (i.e. with limited possibility of using fast-soluble forms of nitrogen fertilizers) are capable of achieving the quality parameters necessary to sell the crop as food-grade wheat for a higher price. The situation is similar for spelt and other marketable crops. The basis for recommendation of varieties is a testing in local conditions, which is the aim of our Moldovan-Czech team.

The system of recommendation of varieties is currently developing. Therefore, more sites were added after the first year (of the project) so as to cover all significant pedo-climatic regions of Moldova. Some varieties have also been changed, so in some cases results from a single year are only available. This means that, so far, we have to rely on arithmetic averages for evaluation, rather than biometric statistical methods. Despite these limitations, the trials and their results have brought interesting and useful practical knowledge. We have also added an individual chapter on commercially attractive spelt.

For in depth insights about the evaluated parameters, its results and the procedure itself, please refer to the source: *„Recommendation of varieties for organic agriculture in the Republic of Moldova, winter wheat, results from 2019”* published in 2020 within the project Institutional support within organic agriculture in the Republic of Moldova, by the Central Institute for Supervising and Testing in Agriculture.

# SCIENCE AND RESEARCH IN THE AREA OF ORGANIC FARMING

## 8.1 Financing the research in organic farming sector.

In the Republic of Moldova there is no special funding program related to research in organic agriculture. Such a state program was run in 2007-2008, but due to lack of financial means this program was stopped. Fragmentary research on organic agriculture is carried out by some scientific institutions in the Republic of Moldova.



Thus, the **Research Institute of Field Crops „Selectia”** implements a research program in the field of organic farming through long-term field experiences, with various crops and systems of tillage and fertilization of the soil, without the chemicals use for diseases, pests and weeds control.

**The Institute of Genetics, Physiology and Plant Protection (IGFPP)** implements a wide range of biological measures for diseases and pests control.

IGFPP research directions:

- **Fundamental direction:** Genetic control of valuable quantitative and qualitative traits, elaboration of new principles for increasing and quantifying hereditary variability, study of genetic-physiological diversity and conservation of plant gene pool, genetic-physiological mechanisms to conduct the production process. Interaction mechanisms of useful and harmful species in agrocenoses and their potential amelioration in regulating the population density of economically important pests of agricultural crops.
- **Practical direction:** Elaboration of new principles, technologies and breeding biotechnologies; creation of varieties and hybrids with productivity, quality and increased ecological resistance to different agricultural systems; elaboration of physiological procedures for optimization and ensuring the stability of the production process in intensive, organic (ecological) and high precision agriculture; the development of environmentally friendly means for the plant protection from diseases, pests and procedures for their application in organic and conventional agriculture

## 8.2 Innovations

In organic farming in the Republic of Moldova, several innovations are applied, such as: crop rotation; "zero" tillage under the conditions of the organic farming system; preparation and application of composts; use of successive crops; the use of leguminous crops in crop rotation, etc.

### Preparation and application of composts

Composting is a safe way to turn waste into a source of soil enrichment with organic matter.

Costs for composting and compost spreading are presented in the study below.

*The calculation below is inspired by a pilot composting trial conducted in November 2019 by the organic walnut producer **Fernuci from Ciuciulea**, Glodeni rayon of Moldova. It was coordinated by Dutch expert Henk de Lange, a consultant within the EIB "Livada Moldovei" project.*

In the study, the compost was produced from about 70% old sheep manure (0.5% N in the dry matter), which was available for free in Ciuciulea, 10% hay from its own alfalfa (2.5% N in the dry matter) and 20% agro-industrial residues (0.3% N in the dry matter) from nearby rayons, offered at a symbolic price plus transportation costs.

Table 12 presents calculations for the fixed annual costs incurred by a farmer in the Republic of Moldova for the purchase of necessary composting machinery and equipment.

**Therefore, the fixed annual costs of the equipment would be:**

- 9,42 euro/t for 1 000 t per year;
- 1,88 euro/t for 5 000 t per year;
- 0,94 euro/t for 10 000 t per year.

In composting, there are a number of variable costs related to compost transportation costs (Table 13).

*Table 12 Fixed annual costs for composting machinery and equipment*

Machinery, Equipment	Acquisition price (EUR)	Replacement value (EUR)	Remaining value (EUR)	Depreciation (%)	Depreciation (EUR)	Interest rate (%)	Interest rate (EUR)	Maintenance (%)	Maintenance (EUR)
Tractor with front loader (second hand)	21 000	20 000	1 000	8	1 600	3,5	368	3	600
Shredder (second hand)	6 250	6 000	250	10	600	3,5	109	2	120
Composter CMC 300 (new)	26 000	25 000	1 000	10	2 500	3,5	455	2	500
Covering cloth 500x4 m, 1.5 EUR / m <sup>2</sup>	3 000	3 000	0	10	300	3,5	53		
Compost distributor (new)	14 500	14 000	500	10	1 400	3,5	254	4	500
<b>TOTAL</b>	<b>(EUR)</b>				<b>6 400</b>		<b>1 238</b>		<b>1 780</b>
<b>TOTAL GENERAL</b>	<b>(EUR)</b>								<b>9 418</b>

Table 13 Operational costs for the compost production from 1250 t of fresh material.

Activity	Quantity	Unit	Cost per unit (EUR)	Total Cost (EUR)
The collection of raw materials which are not available in the village (about 20% of the ingredients of the compost)	250	tone	2	500
Market value of alfalfa hay (approximately 10% of compost ingredients)	125	tone	97	12 179
Preparation of furrows of 500 m (fuel costs for 8 h of tractor with consumption of 10 l / h)	80	litri	0,9	72
Composting 15 times (12 liters of fuel per return)	180	litri	0,9	162
Compost distribution (cost per ton)	1 000	tone	2	2 000
<b>TOTAL</b>				<b>14 913</b>
<b>PER TON OF COMPOST</b> (Conversion Rate 56%)				<b>21,30</b>

The production costs of compost (21.30 euro/ton) must be compared with the benefits generated by the use of compost. Compost can have a significant role in the organic farming

system, as other permitted sources of nitrogen; phosphorus and potassium have usually a high price and normally involve import duties and import VAT.

Table 14 Compost value in organic and conventional production, per ton of compost

Nutrient/Ingredient	Average amount	Unit	Average organic production price (EUR)	The average price for the conventional production (EUR)	Compost value per t of organic production (EUR)	Compost value per t at conventional production (EUR)
Dry substance	700	kg				
Effective dry substance*	200	kg	0,05	0,05	10,00	10,00
Azot (N)	7	kg	2,00	0,80	14,00	5,60
Phosphorus (P <sub>2</sub> O <sub>5</sub> )	8	kg	1,60	0,80	12,80	6,40
Pottassium (K <sub>2</sub> O)	20	kg	1,60	0,80	32,00	16,00
Calcium (Cao)	30	kg	0,25	0,25	7,50	7,50
Magnesium (MgO)	12	kg	0,30	0,30	3,60	3,60
Sulfur (SO <sub>3</sub> )	5	kg	0,41	0,35	2,05	1,75
<b>TOTAL</b>					<b>81,95</b>	<b>50,85</b>



The table above (Table 14) clearly shows that compost has a higher value in organic production, mainly due to the high price of such potassium mineral fertilizers as Patentkali, which are allowed in organic farming.

The net value at 3 levels of the amount of compost produced per year and used in either organic or conventional agriculture is presented in the table 15:

Table 15 Value of compost in organic and conventional production per ton of compost

Amount of ready-made compost (t)	Fixed costs (EUR / t)	Variable costs (EUR / t)	Ecological value (EUR / t)	Conventional value (EUR / t)	Ecological net value (EUR / t)	The net value in the conventional system (EUR / t)
1 000	9,42	21,30	81,95	50,85	51,23	20,13
5 000	1,88	21,30	81,95	50,85	58,76	27,66
10 000	0,94	21,30	81,95	50,85	59,70	28,60

As a general figure, it can be assumed that compost produced on a larger scale has a value of about 30 euro/t in conventional agriculture and 60 euro/t in organic farming.

Material source: *Feasibility assessments of alfalfa investments for non-livestock farms in Moldova*, Authors: Henk de Lange, Christoph Arndt, Chişinău 2020.

### 8.3 Organic E-prints

Organic Eprints is an international open access archive of electronic documents related to research in organic food and farming. The archive contains full-text papers together with bibliographic information, abstracts and other metadata. It also offers information on organisations, projects and facilities in the context of organic farming research.

#### Objectives

The main objectives of Organic Eprints are:

- to facilitate the communication about organic research,
- to improve the dissemination and impact of research findings, and
- to document the research effort.

In accordance with these objectives the archive is designed to facilitate international use and cooperation.

#### Policy

The archive will accept published and unpublished documents such as scientific papers, theses, reports, book chapters, newspaper articles,

videos, and project descriptions. The only criteria for acceptance are that the documents are relevant to research in organic agriculture and suitable for communication, and that the required metadata information is correct. All languages are supported, but an English abstract is encouraged.

The metadata (author, title, date, etc.) are freely accessible to all, and documents can be downloaded, stored and printed freely, in accordance with fair use.

However, documents may NOT be made publically available from other sources. Instead, linking to the eprint summary pages is encouraged

link: <https://orgprints.org/>

#### Publications published in Moldova

- Boincean Boris. Guidelines on organic farming (field crops). Chişinău, Eco-Tiras, 2018 (in Russian and Romanian)
- Boris Boincean and David Dent. Farming the Black Earth. Sustainable and Climate-Smart Management of Chernozem Soils. Springer Nature Switzerland AG, 2019, 226 p.

- Борис Боинчан, Давид Дент. Земледелие на черноземах. Адаптивный менеджмент почв. Prut Publisher, 2020 (translation from English), 236 p.
- Boincean Boris, Alfalfa cultivation in organic system (Figure 5).
- Thomas Bernet, Gilles Weidman, Paul van den Berge, Jeremias Niggli, Boris Boincean, Luminița Crivoi. Organic farming. Basic principles and good practices. Printing: "GAIDAȘENCO DESIGN" SRL, 2019, 48 p. (Figure 1).

*Figure 1: Organic Farming. Basic principles and good practices (2019)*

### Agricultura ecologică

Principii de bază și bune practici



FiBL



- The leaves are part of nature. Developed by EcoVisio for „InfOrganic”/„Development Education” Association (AED) with the financial support of the „Liechtenstein Development Services” (LED) Foundation from Moldova.
- Watch out for Tropinota hirta. Developed by EcoVisio for „InfOrganic”/„Development Education” Association (AED) with the financial support of the „Liechtenstein Development Services” (LED) Foundation from Moldova.
- Water sampling: from source to laboratory. Developed by EcoVisio for „InfOrganic”/„Development Education” Association (AED) with the financial support of the „Liechtenstein Development Services” (LED) Foundation from Moldova.
- Soil sampling: from the field to the laboratory. Developed by EcoVisio for „InfOrganic”/„Development Education” Association (AED) with the financial support of the „Liechtenstein Development Services” (LED) Foundation from Moldova.
- Hot compost: what is it and how is it made?. Developed by EcoVisio for „InfOrganic”/„Development Education” Association (AED) with the financial support of the „Liechtenstein Development Services” (LED) Foundation from Moldova.
- Cold compost (passive): what is it and how is it made?. Developed by EcoVisio for „InfOrganic”/„Development Education” Association (AED) with the financial support of the „Liechtenstein Development Services” (LED) Foundation from Moldova.
- Organic cultivation of (extra) early potatoes. Developed by EcoVisio for „InfOrganic”/„Development Education” Association (AED) with the financial support of the „Liechtenstein Development Services” (LED) Foundation from Moldova.
- Roman Rozsypal, Zdenek Perlinger, Boris Boincean. Tillage in order to save moisture. Published by Bioinstitut, May 2017. Publication made within the project „Support of Organic Agriculture in Moldova” funded by Czech Development Agency within the framework of the ”Development Cooperation Program of the Czech Republic”.
- Roman Rozsypal, Zdenek Perlinger, Boris Boincean. Fattening and soil fertilization.
- Ludmila Castraveț, Ina Griza. GUIDELINES for small and artisanal producers: Drying plums and apples, the publication developed with the financial support of the Liechtenstein Development Service (LED) Foundation in Moldova within the „InfOrganic” project carried out by the Development Education Association (AED).
- Thomas Bernet, Jurgen Recknagel, Ludwig Asam, Monika Messmer; Translation: Mihai Bostan; Ela Malai. Organic Soybeans in the Republic of Moldova: Recommendations for the cultivation and marketing of organic soybeans in the Republic of Moldova. – 2nd Edition– Chișinău: S.n., 2020 (Î.S.F.E.-P. „Tipografia Centrală”) – 64 p.

Published by Bioinstitut, December 2016. Publication made within the project „Support of Organic Agriculture in Moldova” funded by Czech Development Agency within the framework of the „Development Cooperation Program of the Czech Republic”.

- Roman Rozsypal, Zdenek Perlinger, Boris Boincean. Intercrops and successive crops as green (siderate) fertilizers. Published by Bioinstitut, December 2016. Publication made within the project „Support of Organic Agriculture in Moldova” funded by Czech Development Agency within the framework of the „Development Cooperation Program of the Czech Republic”.
- Ciubotaru Valentin, Bucătaru Valentin, Moldovan Ana, Gumovschi Andrei, Bivol Elena, Andriucă Valentin. Training manual for trainers and farmers: The organic farming system, developed by the BIOS Public Association within the Rural Program for Inclusive Economic and Climate Resilience (PRRECI), financed by the Global Environment Facility (FGM) and implemented by the IFAD Consolidated Programme Implementation Unit (Figure 2).

Figure 2: Organic farming system



- Pavlina Samsonova, Vlastimil Trcka, Zdenek Perlinger, Boris Boincean. The aims, bases and rules of organic plant production. Published by Bioinstitut, December 2016. Publication made within the project „Support of Organic Agriculture in Moldova” funded by Czech Development Agency within the framework of the „Development Cooperation Program of the Czech Republic”.
- Henk DE LANGE, Christoph ARNDT. Feasibility assessments of alfalfa investments for non-livestock farms in Moldova: Composting, Green Fertilizers and Export.
- «Phytosanitary products and fertilizers allowed for use in organic farming», developed by SS «State Center for Attestation and Approval of Phytosanitary Products and Fertilizers» with the support of the project «Institutional support within organic agriculture in the Republic of Moldova», implemented by the Central Institute for Supervising and Testing in Agriculture (ÚKZÚZ) and funded by the Czech Development Agency (Figure 3).

Figure 3: Phytosanitary products and fertilizers allowed for use in organic farming






# ORGANIZATIONS AND ASSOCIATIONS INVOLVED IN THE ORGANIC FARMING SECTOR



## 9.1 Ongoing projects and programs on support of organic farming sector


Various international projects in organic farming are being implemented in the Republic of Moldova. These are mostly carried out in scientific cooperation with various European countries and globally.


Name of the institution	<div>MOVCA</div> <div>"Moldova Organic Value Chain Alliance"</div> 
Brief history	<p>MOVCA is a non-governmental organization, non-profit, representative of agricultural producers, farmers' associations, distributors, importers, exporters, consultants, wholesalers and active supporters of organic farming and is the first and only representative association of the Organic Farming sector in Moldova.</p> <p>Since 2015, MOVCA has actively supported the development of the organic farming sector by pursuing the organizational mission, which consists of: promoting organic farming; increasing the consumption of ecological products; improving soil quality; supporting the green economy; contributing to the protection of the natural environment; increasing the number of organic producers and consumers.</p>
Main activities	Organic Agriculture, Lobby and Advocacy, Trainings and workshops
Projects and current activities	<ol style="list-style-type: none"> <li>1. Training program <b>Sub-measure 2.5. – Supporting the promotion and development of organic farming.</b> Training program „Organic farming system” aimed at training of farmers from organic farming system, potential organic farmers and to everyone interested in practicing organic farming. The primary objective of the training program "Organic farming system" is to provide theoretical and practical knowledge, enabling beneficiaries to train and exercise the skills needed to overcome information gaps in organic farming practicing.</li> <li>2. Project implementation "<b>Improving the potential of local communities for adapting to climate change</b>", financed by the Swedish Embassy and managed by AO EcoContact. For the project implementation, MOVCA aims to achieve the following outputs: establishing of 2 demonstration fields with siderite cultivation for green fertilization of the soil, at least 60 trained persons within performed activities on these demo plots and at least 10% of trained farmers will use green manure in the implemented agricultural system.</li> </ol>

Results of 2019	<ol style="list-style-type: none"> <li>1. Development of <b>E-learning Educational Portal in Organic Agriculture</b> for farmers training to achieve the Project overall objective: Promoting the application of harmless and environmentally friendly agricultural technologies. The project is under development, having 10 modules: 2 uploaded on the platform, 5 modules in the process of filming and 4 modules in the process of editing. The expected output is informing and training of students from agricultural institutions from all over the country (State Agrarian University from Chişinău and State University "Alecă Russo" from Bălţi, Centers of Excellence and Agro-Industrial Colleges). <a href="http://studii.movca.md/">http://studii.movca.md/</a></li> <li>2. Training program <b>Sub-measure 2.5. – Supporting the promotion and development of organic farming</b>. Training program „Organic farming system” aimed at training of farmers from organic farming system, potential organic farmers and to everyone interested in practicing organic farming. The primary objective of the training program "Organic farming system" is to provide theoretical and practical knowledge, enabling beneficiaries to train and exercise the skills needed to overcome information gaps in organic farming practicing.</li> <li>3. Organizing the participation of Moldovan farmers at the largest exhibition of organic products in Europe <b>Biofach</b>, which takes place annually in Nuremberg, Germany. Starting with 2017, MOVCA organized the development and transportation of the country stand, facilitated the participation of local producers and had supported the identification of new export opportunities, establishing contacts and signing the contracts with European traders and retail networks. As a result of participating in the Exhibition in 2019, the following successes were registered: 27 new contracts, 36 jobs were created. The organization of these events was financially supported by the Moldovan Investment Agency, People in Need Moldova, USAID.</li> <li>4. Development of the evaluation report "Information needs of farmers about organic farming in the Republic of Moldova", carried out within the project "InfOrganic" with the financial support of the Association "Education for Development".</li> </ol>
Partners	CNFA Moldova, ÚKZÚZ, Association Education for Development, People In Need Moldova, Ecovisio, Educational Centre PRO DIDACTICA, MARDE, FiBL, Research Institute for Field Crops „Selecția”, Moldovan Investment Agency.
Headquarter	50 Căpriană street, Office 207, Chişinău, Moldova
Contact data	<a href="mailto:info@movca.org">info@movca.org</a>




Name of the Organization	<p><b>CNFA Moldova</b>  <b>Farmer-to-Farmer Program in Moldova</b>  <b>(F2F Moldova)</b></p>  
Brief history	Combining cultural exchange and sustainable economic development, the USAID F2F program provides voluntary technical assistance to farmers, farm groups and agribusinesses in developing and transitional countries to promote improvements in food processing, production and marketing. An F2F implementer for over 20 years, CNFA was pleased to begin a new F2F contract in October 2018.
Main focus	Organic Agriculture, Dairy/Livestock
Projects and current activities	<p>CNFA's F2F program for the Southern Africa Region will continue to provide outstanding American volunteer technical resources, responding to the local needs of host-country farmers and organizations, to increase rural incomes in the core countries of Malawi, Mozambique, Madagascar, Zambia, Zimbabwe, Moldova.</p> <p>The program will provide 53 US experts to undertake assignments to the Republic of Moldova. The purpose is to provide technical assistance to Moldovan producers, processors, service providers, their associations, and other beneficiaries in the country, to close the "knowledge gap" constraining their development. By working along multiple points along the two value chains, the volunteers will contribute to strengthening commercial linkages among the various actors. Support to agricultural education at universities will contribute to long-term competitiveness of the organic agriculture and dairy/livestock sectors.</p> <p>The trainings will focus on association development, internal and member communication, advocacy, marketing, extension and education, food safety and quality, new product development and access to export markets, education, forage production, and pasture management.</p>
2019 Results	<p><i>Volunteer-led activities:</i>  Number of volunteer assignments: 12  Number of beneficiary organizations assisted: 9  Areas of assistance:</p> <ul style="list-style-type: none"> <li>• advanced financial management</li> <li>• needs assessment</li> <li>• strategic planning</li> <li>• veterinary services improvement</li> <li>• organizational development</li> <li>• support to participation in trade shows</li> <li>• communication</li> <li>• marketing strategy for the organic agriculture e-learning platform</li> </ul> <p><i>Non-volunteer led activities:</i></p> <ul style="list-style-type: none"> <li>• Legal support to updating the organic agriculture law</li> <li>• Data analysis support to the Ministry of Agriculture Organic agriculture value chain assessment Capacity development</li> <li>• Support to the organic agriculture e-learning platform administration</li> </ul>
Partners	Association Education for Development, People In Need Moldova, EBRD Advice for Small Business
Headquarter	50 Căpriana Street, Office 225, Chișinău, Moldova
Contact data	<a href="mailto:nmocanu@cnfamoldova.org">nmocanu@cnfamoldova.org</a>

Name of the institution	<b>Central Institute for Supervising and Testing in Agriculture from Czech Republic (ÚKZÚZ)</b> 
Brief history	<p>ÚKZÚZ is an administrative authority and specialized body of the public administration subordinated to the Ministry of Agriculture of the Czech Republic. It is an organizational unit of the state system.</p> <p>The Institute performs the administration and carries out some other administrative activities, expert and testing tasks and control and monitoring activities in the areas of: FERTILISERS AND SOIL, PLANT VARIETIES, SEEDS AND SEEDLINGS, PERENNIAL PLANTS, PROTECTION AGAINST HARMFUL ORGANISMS, PLANT PROTECTION PRODUCTS, FEED, ORGANIC FARMING and LABORATORIES.</p>
Donor	Czech Development Agency (CZDA)
Main objective, outcomes and activities	<p>The objective of this project is the support of organic farming sector in the Republic of Moldova in accordance with the EU requirements. The project purpose is to increase the capacity, the transparency and the credibility of state Institutions in the field of organic farming.</p> <p>The outcomes of the project are as follows:</p> <ol style="list-style-type: none"> <li>1. Reinforcement of the institutional structure in the field of organic farming</li> <li>2. Establishing of an operational system for unified approval of inputs to organic farming</li> <li>3. Strengthening of the competency of local laboratory in the field of organic farming</li> <li>4. Establishing of system for recommendation of organic agro-technological procedures, species and varieties</li> </ol>
Projects and current activities	Institutional Support within Organic Farming in the Republic of Moldova
2019 Results	<ul style="list-style-type: none"> <li>• Purchasing the LABORATORY EQUIPMENT for CARANTINA – 19162,58 EUR</li> <li>• Purchasing of the ON-LINE PESTICIDE MANUAL for CARANTINA – 540,63 EUR</li> <li>• Have been provided Training materials (video) – “Agro-chemical tests of agricultural soils”, “Wheat variety testing”, “Determining heavy metals in feedstuffs”, “Determining pesticide residues” to CARANTINA</li> <li>• Supporting participation at 2 international events             <ol style="list-style-type: none"> <li>I. INTERNATIONAL CONGRESS AND FAIR ON ORGANIC FARMING BIOFACH IN NUREMBERG</li> <li>II. THE 9th INTERNATIONAL SYMPOSIUM ON RECENT ADVANCES IN FOOD ANALYSIS (RAFA)</li> </ol> </li> <li>• Organizing 3 study visits in the Czech Republic             <ol style="list-style-type: none"> <li>I. STUDY VISIT ON CONTROLS IN THE CZECH REPUBLIC</li> <li>II. STUDY VISIT ON OFFICIAL CONTROL OF PESTICIDE RESIDUES</li> <li>III. STUDY VISIT ON OFFICIAL CONTROL OF PESTICIDE RESIDUES</li> </ol> </li> <li>• The interim report on trials has been elaborated under the title “Pilot recommendation of varieties for organic farming in the Republic of Moldova – Winter wheat”</li> <li>• Legal and technical support to harmonization of draft Law on organic agricultural food products – to MARDE and MOVCA</li> </ul>
Partners	<p>Ministry of Agriculture, Regional Development and Environment (MARDE)</p> <p>National Agency for Food Safety (ANSA)</p> <p>State Centre for Certification and Approval of Plant Protection Products and Fertilizers (PESTICIDE)</p> <p>National Centre for Verification and Certification of Plant Production and Soil (CARANTINA)</p> <p>State Commission for Variety Testing (COMMISSION)</p> <p>Research Institute for Field Crops (SELECTIA)</p>
Headquarter	Hroznová 2, 656 06 Brno
Contact data	<p>Project manager: Ing. Ludmila Šípková Tel.: (+420) 733 612 566 E-mail: <a href="mailto:ludmila.sipkova@ukzuz.cz">ludmila.sipkova@ukzuz.cz</a></p> <p>Project coordinator: Cristina Colun Tel.: (+373) 690 92 150 E-mail: <a href="mailto:coluncristina@yahoo.com">coluncristina@yahoo.com</a></p>

Name of the Organization	<p>Association Education for Development (AED)</p> 
Brief history	<p>The Association Education for Development (AED) is a non-governmental, apolitical and nonprofit organization founded in 2017. The AED team is the same team that implements the CONCEPT project from 2008 up to the present, EdAgri din 2012 până în 2018, InfOrganic Moldova 2020-2022 (in the past a pilot-project in 2019), SECI II (2020-2021).</p>
Main focus	<p>The mission of AED is to support the development of formal and non-formal education, aligned with the learner's needs, the requirements of labor market and those of green environment, through modernization and implementation of educational policies, in partnership with public institutions, civil society and development partners.</p>
Projects and current activities	<p><b>CONCEPT IV, 2019 – 2021 – Strengthening the Vocational Education and Training in Moldova</b> – complements the efforts VET staff with an intervention strategy at different levels: school level (15 vocational schools), meso level (Training Centre for VET Staff of the Technical University) and macro level (MECR). Components:</p> <p>Training of VET Staff, organizational development, student's participation in decision-making process, quality promotion in assessment, teachers support, the use of media in the teaching-learning process, improvement of dormitories.</p> <p><b>InfOrganic Moldova 2020-2022</b> – through non-formal education contributes to the development of a digital community with information for all those who want to implement environmentally friendly practices, for the development of the organic farming sector in the Republic of Moldova. Components: straightening of the stakeholders from organic farming sector (quarterly round tables), develops informational materials (articles, brochures, info graphics, videos, pocket cards), with open access on basic site ("AgroEco" section of agrobiznes.md/agroeco), and sharing on stakeholders web pages (Ecovisio, MOVCA, etc)</p> <p><b>SECI, 2020-2021 – Initiatives for the Skills Development in the Field of Renewable Energy</b> – set up the training programs for RES installers, focusing on training; develops curricula, teaching materials for students and teachers, as well as assessment tools (Installers of solar photovoltaic systems, Installers of solar thermal systems); assists the strengthening of partners and economic operators from the RES sector (identification of requirements for qualifications) and their involvement in the development of various materials; contributes to the improvement of workshops from the partners institutions for the training of RES installers.</p>
2019 Results	<p><b>CONCEPT:</b> Vocational training is of higher quality and more efficient, with an improved teaching process in 15 partner schools; Technical University of Moldova offers modern training activities to teachers; improved management of partner schools; school boards are empowered to advocate more actively for changes; assessment is based on qualifications; relevant initiatives of the sectorial committees (textiles, gastronomy) are supported.</p> <p><b>InfOrganic:</b> The educational offer of the Center of Excellence in Horticulture and Agricultural Technologies (CEHTA) for students from specialty horticulture is oriented towards practice and more relevant. Information on organic production methods is available; the most important stakeholders in the field of organic farming are strengthened.</p> <p><b>SECI:</b> The skills of teachers who train specialists in the field of renewable energy (photovoltaic systems, solar thermal systems and heat pumps) have been strengthened. There were developed materials, course materials for teachers, technical equipment was installed for teaching purposes and a capacity development plan in these areas have been developed.</p>
Partners	<p>Ministry of Education, Culture and Research (MECR); Ministry of Agriculture, Regional Development and Environment (MARDE); Ministry of Economy and Infrastructure (MEI); Energy Efficiency Agency (EEA); Technical University of Moldova (TUM); NGO Pro Didactica; NGO Child Rights Information Center (CRIC); Research Institute for Organic Agriculture FiBL, Switzerland (FiBL); USAID Farmer-to-Farmer Moldova Program, implemented by CNFA (F2F); EcoVisio Association; Moldova Organic Value Chain Alliance (MOVCA).</p>
Headquarter	<p>25 Bănulescu Bodoni street, Office 21, Chișinău, Moldova</p>
Contact data	<p>+373 22 22-19-50, +373 22 23-22-39  <a href="mailto:info@aed.org">info@aed.org</a>, <a href="http://www.aed.org/">http://www.aed.org/</a></p>

Name of the institution	<p style="text-align: center;"><b>DONAU SOJA ASOCIATION from AUSTRIA</b>  <b>Office in the Republic of Moldova</b>  <b>PROJECT "INCREASING THE COMPETITIVENESS OF THE AGRI-FOOD SECTOR IN MOLDOVA THROUGH INTEGRATION TO DOMESTIC AND GLOBAL VALUE CHAINS, IN PARTICULAR IN THE SOYA SECTOR".</b></p> <div style="display: flex; justify-content: space-around; align-items: center;">       </div> <p><small>This project is funded by the European Union</small></p>
Brief history	<p>This project is a part of the program on "Development of Rural Areas in Republic of Moldova (DevRAM), financed by European Union and implemented by Austrian Development Agency (ADA), in partnership with Donau Soja Austria and Educational Centre ProDidactica in cooperation with Ministry of Agriculture, Regional Development and Environment and Ministry of Education, Culture and Research of the Republic of Moldova.</p>
Main objective, outcomes and activities	<p><b>PURPOSE OF THE PROJECT: Building of value chains for GMO-free and organic soya.</b> This specific emphasis is integrated into the approach on increasing the competitiveness of the Moldovan agri-food sector by capacity building in agriculture, supporting innovation and market development and aligning the quality of production processes and practices with those used in the EU.</p>
Projects and current activities	<p><b>THE PROJECT IS FOCUSED ON THE FOLLOWING FOUR COMPONENTS:</b></p> <ul style="list-style-type: none"> <li>• Enhancing capacities for innovation and education in agriculture in Moldova</li> <li>• Increasing access to market and advancing the demand for certified and organic agri-food products on national and foreign markets.</li> <li>• Use of standards and certification to raise the performance of value chains</li> <li>• Promoting an enabling environment for ensuring quality standards in the agri-food sector (including organic agriculture and products) and alignment of Moldova's legal framework and policy documents to EU quality standards</li> </ul>
2019-2020 Results	<ul style="list-style-type: none"> <li>- Best Practice Manuals on soybean cultivation in a conventional and ecological system have been developed, adapted, disseminated to farmers.</li> <li>- 12 demonstration plots on soybean cultivation in a conventional and ecological system have been established.</li> <li>- 5 Field Days were organized with the participation of about 200 farmers, representatives of academia, experts, with the sharing of the best soybean cultivation technologies in a conventional, no-tillage and ecological system.</li> <li>- About 300 farmers gained theoretical and practical skills in soybean cultivation within the trainings organized by Donau Soja.</li> <li>- A high-performance sowing machine have been purchased within the project with the support of the European Union for Research Institute for Field Crops "Selecția"</li> <li>- Study visits were organized in Serbia, Romania, with the participation of 33 farmers, researchers and soybean processors from the Republic of Moldova.</li> <li>- Establishment of two Cooperation Agreements with International Research Institutions: Turda Agricultural Research Station (Romania) and the Institute for Field Crops and Vegetables in Novi Sad (Serbia) for the exchange of soybean genetic material for variety breeding and testing.</li> <li>- Support in Development of a Network of experts and representatives of research institutions from the Republic of Moldova with the international research community, researchers integration in the European scientific environment, participation in international conferences in Budapest, Poznan and Vienna.</li> </ul>
Partners	<p><b>PROJECT BENEFICIARIES:</b> farmers, associations, soya processors, VET institutions (schools, colleges.), research institutions and final consumers.</p>
Headquarter	<p>27, Statul Țării street, Office 26, Chișinău, Republic of Moldova</p>
Contact data	<p>Viorel Gherciu – 069120839  Ela Malai – 079536418</p>



Name of the Organization	<p>People in Need Moldova</p> 
Brief history	<p>People in Need is a non-governmental international organization established in 1992 in Prague, Czech Republic, which provides assistance to regions affected by conflicts or natural disasters and promotes respect for human rights.</p> <p>Being one of the largest NGOs in Central Europe, People in Need supports the development of countries through advocacy activities of human rights and democracy, activities to strengthen the social and educational sector, but also awareness and information actions. During its existence, the organization has provided support to the population of 54 countries, and currently People in Need operates in 32 countries.</p> <p>PIN has been working in Moldova since 2003, for empowering people to change their lives for the better.</p> <p>During its activity in the country, the organization has contributed to the development of the following sectors:</p> <ul style="list-style-type: none"> <li>• Sustainable livelihoods and environment</li> <li>• Social protection and inclusion</li> <li>• Good governance.</li> </ul>
Main activities	<p>Within the sector „Sustainable livelihoods and environment”, People in Need Moldova has established two main focus areas – development of organic agriculture and supporting small and medium business in North Development Region.</p>
Projects and current activities	<p>Project „Development of sustainable organic agriculture in the Republic of Moldova” (Donor: Czech Development Agency)</p>
2019 Results	<p>The People in Need Moldova team obtained the following results:</p> <ul style="list-style-type: none"> <li>• Establishment of „Ecoferm”, the first cooperative of organic farmers in the country, strengthening members capacities of this cooperative, including by donating composting equipment</li> <li>• Supporting the participation of MOVCA members at the international exhibition BioFach 2019 in Germany</li> <li>• Organizing the training on „Composting – soil enrichment through the recovery of organic waste” in Văscăuți village, Florești rayon, for farmers interested in organic farming</li> <li>• Organizing three study visits for farmers interested in organic farming – two visits to Poltava, Ukraine, and one visit to Călărași district, Romania</li> <li>• Organizing two Field Day events: 1) „Fertilization in organic farming”, on demonstration plot of „Micu &amp; Co” farm from Olișcani village, Șoldănești rayon;</li> <li>2) „Protection and foliar fertility of plants” on demonstration plot of „Hiliuțanul” farm from Hiliuți village, Râșcani rayon</li> <li>• Organizing the workshop on „Organic Products for journalists: from myth to tasting” (Chișinău)</li> <li>• Conducting the practical lesson for students from agricultural specialties in the demonstration plot of „Hiliuțanul” farm from Hiliuți village, Râșcani rayon</li> <li>• Carrying out the information campaign on organic farming, through social networks, where two animated spots were promoted – 1) <u>What is an organic product?</u> and 2) <u>Why are organic products better?</u></li> <li>• Editing the publication „The Art of Manure Composting”</li> </ul>
Partners	<p>MOVCA, Prograin Organic, EcoLocal</p>
Headquarter	<p>20 Toma Ciorbă street, office 7, Chișinău, MD-2004, Republic of Moldova</p>
Contact data	<p>Tel.: +373 69 43 44 11  E-mail: <a href="mailto:info.moldova@peopleinneed.cz">info.moldova@peopleinneed.cz</a>  Silvia Bicenco, country director – <a href="mailto:silvia.bicenco@peopleinneed.cz">silvia.bicenco@peopleinneed.cz</a></p>

Name of the Organization	
Brief history	<p>EcoVisio is a non-governmental organization from Moldova, which focuses on empowering young people and organic education in action.</p> <p>The main areas of activities and interest are: organic agriculture, transport, energy efficiency, renewable energy, conscious consumption, urban / rural development and resource flows.</p> <p>It is founded in 1999, but in 2013, the association is transformed and renamed to EcoVisio.</p>
Main activities	<p>"EcoVisio" is dedicated to realizing the full potential of our region as a model of sustainable development. To this end we run educational and empowerment programs, bring together key actors and foster ecological and social innovation. We promote active citizenship, environmental and economic resilience, social entrepreneurship and rural development by nurturing a growing community of change makers in Moldova.</p> <p><i>Our main working topics are:</i> Education for Sustainable Development, Peace and Transformative Leadership, Social Entrepreneurship and Green Economy, Rural Development and Tourism, Trees and Organic Agriculture, Eco-Construction, Waste Management and Energy.</p>
Projects and current activities	<p>In the field of agriculture: Rural Agroecology Resilience Hub Project, supported by the Global Environment Facility Grant Program.</p>
Partners	<p>MOVCA; AED; EcoLocal; SGP/GEF; SIDA</p>
Headquarter	<p>71 Alexei Mateevici street, office 5A, Chişinău. Republic of Moldova</p>
Contact data	<p>068249296 Daniela Fornea</p>

# CALENDAR FOR OPERATORS FROM ORGANIC FARMING SECTOR FOR 2021 AND ANNUAL LOCAL AND INTERNATIONAL EVENTS

No.	Event	Category	Venue	Period 2021	Frequency
1	Made in Moldova	Exhibition	Chişinău, Moldova	January	Annual
2	BioFach	Exhibition	Nurnberg, Germania	February	Annual
3	Round table with stakeholders from OF sector	Meeting	Chişinău, Moldova	February	Quarterly
4	„Ecolocal” Farmers Market	Fair	Chişinău, Moldova	March-December	Week-end
5	MoldAgroTech / Farmer	Exhibition	Chişinău, Moldova	March/October	2 times per year
6	International conference on OF	Conference	Chişinău, Moldova	June	Annual
7	Field days	Training	Moldova	June, August	Annual
8	IarmaEco	Fair	Chişinău, Moldova	October	Seasonal
9	Moldova Business Week	Conference	Chişinău, Moldova	November	Annual
10	Farmer's day	Event	Moldova	November	Annual

**“Fabricat în Moldova” (Made in Moldova)**, over the years, it has become the most popular exhibition platform, which shares the main market development trends of the products and services in the Republic of Moldova. Becoming the largest national exhibition, it can rightly be called the mirror of the Moldovan market, the image of the business community, the meeting place of both specialists and business representatives. Throughout the 18 editions, the most important and large-scale events have taken place during the exhibition, receiving positive feedback from local producers, being widely publicized and highly appreciated.





The national exhibition “Made in Moldova” – 2020, entitled “Home! Authentic! Indigenous” brought together 460 entrepreneurs from different branches of the national economy, being visited by 61500 persons, according to a conducted review by the Chamber of Commerce and Industry of the Republic of Moldova (CCI). At the same time, starting with the 2020 edition, for the first time, there was a special location of organic products. The aim was to inform consumers in this country that in the Republic of Moldova there are organic products and that these are manufactured by our Moldovans.

**BioFach** – Cereals, wines, fruits, nuts, teas, oil and other local organic agricultural food products were presented to approximately 50 000 visitors of the largest international exhibition of organic products **BioFach 2020**, which takes place in Nuremberg, Germany. It is the third consecutive year when the members of the Association “Moldova Organic Value Chain Alliance”, the most representative business association in the organic sector in the Republic of Moldova, was participating in this international trade fair dedicated to certified organic products. Almost 3300 exhibitors from over 140 countries around the world participate in BioFach annually. The exhibition takes place in the second half of February. All products exhibited at Biofach must comply with the European Regulation on organic farming.

**EcoLocal „Farmers’ Market”** is founded by a group of volunteers and local producers, who willing to contribute to the welfare of the local population. The market supports local food businesses, certified organic farmers and producers, artisanal and traditional processors who market their products in an authentic format. The market is held weekly, 4 times a month, on Saturdays between 9.00 – 13.00.

**The EcoLocal market was established based on the following principles:**

- To provide local ecologic products and high quality local handicrafts.
- To educate consumers and promote the benefits of local, organic and other food products that would support the local economy.
- To encourage more local producers to go to certified organic farming system
- To develop on the basis of non-profit activity, with the support of participants, partners, state institutions and of donors support in the field.



**IarmarEco** – the Fair of Ecological Opportunities and Social Entrepreneurship – is a social and cultural event that brings together main actors of environmental and social world of Moldova. It is a unique combination of a fair, facilitated networking and interactive presentations / lectures on the topic of ecological and social activism in Moldova. The goal of IarmarEco is to inform the public about the possibilities of changing the daily routine to a more active, healthy and conscious – overall, sustainable – lifestyle. Moreover, the fair helps the representatives of environmental sphere (environmental NGOs, enterprises, companies, state institutions) develop a common vision and communicate it to the public, as well as introduce the concept of green & social entrepreneurship.

The impact of IarmarEco is much larger than the impressions, skills and products acquired by its visitors: the event has a mission of building trust among NGOs, public, entrepreneurs and state institutions, the process that leads to emergence of new ideas leading to sustainable development of our country, and their implementation.





# SUSTAINABLE ORGANIC FARMING

As the world population and food production demands rise, keeping agricultural soils and landscapes healthy and productive are of paramount importance to sustaining local and global food security and the flow of ecosystem services to society. The global population, expected to reach 9.7 billion people by 2050, will put additional pressure on the available land area and resources for agricultural production. Sustainable production intensification for food security is a major challenge to both industrialized and developing countries. We focus on the results from long-term multi-factorial experiments involving tillage practices, crop rotations and fertilization to study the interactions amongst the treatments in the context of sustainable production intensification and maintenance of soil mulch cover with crop biomass and cover crops, and diversified cropping's involving annuals and perennials.

Moldova is the country of the Chernozem - a black-colored soil containing a high percentage of humus (4% to 16%) and high percentages of phosphoric acids, phosphorus, and ammonia. Chernozem is very fertile and can produce high agricultural yields with its high moisture storage

capacity. Analyzing the situation in the history of Moldova, we see that in 1877: the organic matter level in the Chernozem of Moldova was 5,7%, in 1960: 3,7% and in 2007: 3,2%. Currently, Moldova does not have a sustainable production plan that would allow practicing a circular agriculture model (livestock + farming) that should contribute to the positive balance of organic matter in the soil.

## The basic principles for a healthy soil:

- the level and availability of minerals: N, P, K, S, Mg, Ca, Na
- microelements: Fe, Zn, Cu, Co, B, Mo, Se, Si
- Organic Matter: Humus, Soil Life, CEC (clay humus):
  - Yearly need: 3000-4000 kg/ha to keep the organic balance sustainable
  - between 600-1800 kg comes from crop rest

## Additional need by:

- Manure (Table 16)
- compost (Table 17)
- green manure crops (Table 18)

Table 16 Manure/Litter analysis

Manure	d.s.%	o.s.%	N-total	N-mineral	N-ammonium	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	Na <sub>2</sub> O
Cattle	8.5	6.4	4.1	2.0	2.1	1.7	5.8	1.2	0.7
Pig-fattening	9.3	4.3	7.1	4.6	2.5	4.6	5.8	1.5	1.2
Pigs-sows	6.7	2.5	5.0	3.3	1.7	3.5	4.9	1.4	0.9
Litter									
Cattle	19.4	15.2	5.3	0.9	4.4	2.8	6.1	2.2	1.0
Pigs	26.0	15.3	7.9	2.6	5.3	7.9	8.5	2.5	0.9
Chicken	57.3	41.6	25.6	2.5	23.1	19.6	15.5	5.5	1.7
Sheep	27.6	19.5	8.8	2.0	6.8	4.5	15.6	2.7	2.5
Goats	29.1	17.4	9.9	2.4	7.5	5.3	12.8	4.0	1.9

### Compost benefits:

- compost will create soil life: worms, bacteria, etc: they create a soil with more water binding, more oxygen in the soil.
- this gives a much better development of the roots of the crop, its improving the efficiency of the available minerals and micro elements.
- it gives the crop a better resistance against diseases.
- besides organic matter compost gives minerals and micro-elements to the soil.

Table 17 Compost analysis results (in the north region of Moldova)

	pH	DM	OM in DM	C:N	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	SO <sub>3</sub>	Zn	Cu	B	Fe
Ideal	5,0-8,5	50-60%	50-60%	<20									
Good French grape compost		50-60%	50-80%		12-16	7-11	20-30	2-4					
Apple mark compost	9,3	66%	12%	6,7	5,7	10,2	21,1	14,0	4,5	0,1	0,0	0,1	15,0
Sugar beet pulp compost	9,6	52%	17%	7,2	7,1	6,8	19,5	12,0	6,5	0,1	0,0	0,1	12,2
Grape compost	9,1	57%	17%	8,9	7,2	6,1	18,4	11,0	5,8	0,1	0,0	0,1	12,0

Table 18 Green Manure Crops analysis

Crop	d.s.yield in kg/ha (when crop 100% success)	Effect on Organic Matter, in kg/ha When crop is 100% succes	When 75% in kg / ha	When 50% in kg / ha	When 25% in kg / ha
Bladrammenas	3900	850	638	425	213
English ryegrass	4200	1150	863	575	288
Yellow mustard	3900	850	638	425	213
Italian ryegrass	4500	1080	810	540	270
Red Clover	4300	1165	874	583	290
White Clover	3300	900	675	450	225
Wikke	3000	645	484	323	161
Winter Rye	1600	850	638	425	213

## INSECTICIDES AND NEMATOCIDES

*After assessment and agreement by the inspection and certification bodies in the field of organic farming and organic agri-food products*

Trade name, preparation, content of the active substance, manufacturer, number and date of registration, toxicity group	Consumption norm of the product (l/ha, kg/ha)	Crop
Arthrobotrys oligospora		
Nematofagină-BL (titer not less than 3 million spores/g) «Institute of Genetics, Physiology and Plant Protection», Republic of Moldova 08-2-0944 02.12.2011 IV	100-150 g/m²	Vegetable (greenhouse)
	2,0-5,0 g/plantă	
	100-150 g/m²	
Bacillus thuringiensis var. Kurstaki		
Foray 48 B (2,2%) “Valent Bio Sciences Corporation”, SUA 08-3-0068 04.04.2012 IV	1,5-2,0	In forestry
Verticillium lecanii		
Verticilină granulară - BL powder, (titer not less than 3 billion spores/g) “Institute of Genetics, Physiology and Plant Protection”, Republic of Moldova 08-2-0945 02.12.2011 IV	17-70	Cucumbers (greenhouse)
Granulosis virus		
Virin-CP powder, (titer 3 billion granules/g) “Institute of Genetics, Physiology and Plant Protection”, Republic of Moldova 08-1-0946 02.12.2011 IV	0,1-0,3	Apple
Granulosis virus + Nuclear Polyhedrosis Virus		
Virin ABB-3 powder, (titer 6 billion granules (polyhedra)/g) “Institute of Genetics, Physiology and Plant Protection”, Republic of Moldova 08-1-0947 02.12.2011 IV	0,1-0,2	Orchards, forest crops and decorative plants, recreation areas

Harmful organism		Directions for use, period and limits of use	The term of last treatment until harvest (Maximum number of treatments)	Deadline for work in the field to perform manual work (mechanized)
Scientific name	Popular name			
<i>Meloidogyne incognita</i>	Root-knot nematodes	Incorporation into the soil 2-3 weeks before planting, at the attack of more than 70% of meloidogenesis	- (1)	- (-)
		Burying in the pit under the plant at planting		
		Incorporation under the furrow during the vegetation period	- (3)	
Tortricidae, Geometridae, Operopthera brumata	Moth, geometer moths, winter moth	By spraying by the plane	- (1)	- (1)
<i>Trialeurodes vaporariorum</i>	glasshouse whitefly (larvae)	By spraying during the vegetation season. Up to 8 treatments with an interval of 7-12 days	- (2-8)	- (-)
<i>Cydia pomonella</i>	Codling moth	By spraying during the vegetation season (2-3 sprays every 5-7 days for each generation)	- (4-6)	- (-)
<i>Hyphantria cunea</i>	Fall webworm	By spraying during the vegetation period (2-3 sprays every 5-7 days for each generation)	- (4-6)	- (-)



Trade name, preparation, content of the active substance, manufacturer, number and date of registration, toxicity group	Consumption norm of the product (l/ha, kg/ha)	Crop
<b>Virin - OS</b> powder, (titer 3 billion granules (polyhedra)/g) "Institute of Genetics, Physiology and Plant Protection", Republic of Moldova 08-1-0948 02.12.2011 IV	0,2-0,3	Cereals, vegetables, cucurbits, sugar beet, flowers, medicinal herbs
<b>Virusul poliedrozei nucleare</b>		
<b>Virin-MB</b> powder, (titer 1 billion polyhedra/g) "Institute of Genetics, Physiology and Plant Protection", Republic of Moldova 08-1-0949 02.12.2011 IV	0,1-0,2	Cabbage, other vegetables, sugar beet
<b>Virin-HS-2</b> powder, (titer 7 billion polyhedra/g) "Institute of Genetics, Physiology and Plant Protection", Republic of Moldova 08-1-0950 02.12.2011 IV	0,15-0,3	Tomatoes, other vegetable crops, sugar beet
<b>Virin HS-P</b> paste, (titer 6 billion polyhedra/g) "Institute of Genetics, Physiology and Plant Protection", Republic of Moldova 08-1-0363 12.02.2015 IV	0,15	Tomatoes

Harmful organism		Directions for use, period and limits of use	The term of last treatment until harvest (Maximum number of treatments)	Deadline for work in the field to perform manual work (mechanized)
Scientific name	Popular name			
<i>Agrotis segetum</i> , <i>Agrotis exclamationis</i> ,  <i>Authographa gamma</i>	turnip moth, heart and dart,  silver Y (larvae of ages I-III)	By spraying during the vegetation season	- (1)	- (-)
<i>Mamestra brassicae</i>	<b>Cabbage moth</b> (larvae of ages I-II)	By spraying during the vegetation season.	- (1-2)	- (-)
<i>Heliothis armigera</i>	cotton bollworm, corn earworm, or Old World (African) bollworm (larvae of ages I-II)	By spraying during the vegetation season. (2 sprays every 8-10 days for each generation)	- (4-6)	- (-)
<i>Heliothis armigera</i>	cotton bollworm, corn earworm, or Old World (African) bollworm (larvae of ages I-II)	By spraying during the vegetation season.	- (2)	3 (1)

## BACTERICIDES AND FUNGICIDES

*After assessment and agreement by the inspection and certification bodies in the field of organic farming and organic agri-food products*

Trade name, preparation, content of the active substance, manufacturer, number and date of registration, toxicity group	Consumption norm of the product (l/ha, kg/ha)	Crop
<b>Rizoplan</b> (titer not less than 2 billion cells / ml) "Institute of Genetics, Physiology and Plant Protection", Republic of Moldova 08-2-0970 22.12.2011 IV	0,5 kg/t	Wheat, barley
<b>Rizoplan</b> (titer 5 billion cells / ml) "Institute of Genetics, Physiology and Plant Protection", Republic of Moldova 08-2-0971 22.12.2011 IV	20 ml/kg	Cabbage
	0,3 l/ha	Cabbage
	1,0 l/t	Potato
	20 ml/m <sup>2</sup>	Tobacco
<b>Pseudomonas fluorescens CR-330D</b>		
<b>Paurin</b> (title not less than 10 billion. cells/ml) "Institute of Genetics, Physiology and Plant Protection", Republic of Moldova 08-2-0401 16.04.2015 IV	2 ml to 10 l water	Grapevine (roots when planted in natural substrate then in vitro)
	200 ml to 100 l water	Grapevine (green cuttings)
	3,0 l to 1 ton of water	Grapevine (cuttings of European varieties on their own roots)
	3,0 l/ha	Grapevine (grafted parts)

Harmful organism		Directions for use, period and limits of use	The term of last treatment until harvest (Maximum number of treatments)	Deadline for work in the field to perform manual work (mechanized)
Scientific name	Popular name			
<i>Fusarium spp.</i> , <i>Bipolaris spp.</i> , <i>Helminthosporium spp.</i> , <i>Ophiobolus graminis</i>	Root rot	Semi-dry treatment of seeds 1-2 days before sowing. The consumption norm of the prepared solution - 10 l/ton	- (1)	- (-)
<i>Olpidium brassicae</i> , <i>Pythium de baryanum</i> , <i>Rhizoctonia solani</i> , <i>Xanthomonas campestris</i> , <i>Erwinia carotovora</i>	Blackening and rot of the seedling, bacteriosis	Seeds treatment	- (1)	- (-)
<i>Xanthomonas campestris</i> , <i>Erwinia carotovora</i>	bacteriosis	By spraying during the vegetation period at the appearance of the first symptoms of the disease. The next treatment - every 20 days	- (-)	
-	Reduction of disease manifestation	The tubers treatment 7 days before planting. The consumption norm of the prepared solution - 10 l / t	- (1)	
<i>Pseudomonas tabaci</i> , <i>Olpidium brassicae</i> , <i>Olpidium nicotianae</i> , <i>Pythium de baryanum</i>	Tobacco wild fire, root and stem rot	Treatment of seedlings in the “ears” phase before planting	- (2-3)	
<i>Agrobacterium tumefaciens</i>	Crown gall	Prophylactic measures. Wetting the root system for 3-5 seconds, treatment of the substrate	- (-)	- (-)
		Cuttings soaking in the solution for 10-15 min., before planting into the substrate		
		Cuts soaking in the solution for 15-30 min before layering		
		Soaking the grafted site in solution for 5-10 sec, before paraffining and layering		



Trade name, preparation, content of the active substance, manufacturer, number and date of registration, toxicity group	Consumption norm of the product (l/ha, kg/ha)	Crop
	3,0 l/t	Grapevine (local lesions after cutting)
		Grapevine (cuttings)
	3,0 l/ha for vineyards of 1-4 years old	Grapevine (stem)
	5,0 l/ha	Grapevine (stem and branches with tumors)
	5,0 l/ha	Grapevine (scrap cuttings)
<b>Trichoderma harzianum</b>		
Trihodermină Th-7F-BL (titer not less than 15 billion spores/g) "Institute of Genetics, Physiology and Plant Protection", Republic of Moldova 08-2-0951 02.12.2011 IV	0,5-1,0 g/pot	Vegetable crops
	12-15 g/m <sup>2</sup> (120-150 kg/ha)	Vegetable crops, Greens
	1,5-3,0 g/plant 30-60 kg/ha	Vegetable crops, carnations
	2,0-5,0	Vegetable crops, decorative plants

Harmful organism		Directions for use, period and limits of use	The term of last treatment until harvest (Maximum number of treatments)	Deadline for work in the field to perform manual work (mechanized)
Scientific name	Popular name			
		By spraying the injured parts as a result of cutting (removal of superficial roots), but not later than 24 hours		
		Soaking the root system for 30-45 days before planting, avoiding the sunlight action		
		By spraying the stems before bleeding (water oozing from a cut spur) in spring		
		By thoroughly washing the surface of the multiannual wood before the beginning of the vine bleeding		
		Soaking the scrap cuttings in the solution for 1-2 hours before planting		
<i>Sclerotinia sclerotiorum</i> , <i>Pythium de baryanum</i> , <i>Rhizoctonia solani</i>	White mold, Root rot	Incorporation into the soil and manure mixture in a pot	- (1)	- (-)
<i>Sclerotinia sclerotiorum</i> , <i>Pythium de baryanum</i> , <i>Rhizoctonia solani</i>	White mold, Root rot	Field spreading with subsequent incorporation to the depth of seed incorporation		
<i>Pythium de baryanum</i> , <i>Rhizoctonia solani</i> , <i>Fusarium spp.</i>	Root rot, Fusarium	Putting in each hole		
		When planting the plants soak in clay mud and cow dung with trichodermin addition		
		By plants spraying with prepared solution. Consumption norm of the prepared solution is 0.3-0.5 l/plant (2-3 treatments with 1 month interval)	- (2-3)	
<i>Sclerotinia sclerotiorum</i> , <i>Botrytis cinerea</i> , <i>Ascochyta hortorum</i>	White mold, botrytis bunch rot, ascochyta	By spraying during the vegetation season. The first spraying after planting, the next 2-3 sprayings to 10-12 days with the consumption rate of the prepared solution 700-2000 l / ha		

Trade name, preparation, content of the active substance, manufacturer, number and date of registration, toxicity group	Consumption norm of the product (l/ha, kg/ha)	Crop
	1,0	Vegetable crops
	20 ml/m <sup>2</sup>	Tabacoo
<b>Trichoderma lignorum M-10</b>		
<b>Trihodermină BL</b> , dry, (titer not less than 15 billion spores/g) “Institute of Genetics, Physiology and Plant Protection”, Republic of Moldova 08-2-0952 02.12.2011 IV	5,0-6,0 g/kg	Vegetable crops, tabacoo (greenhouse)
	15-20 g/m <sup>2</sup> (120-150 kg/ha)	
	0,5-1,0 g/under the plant in the pot	
	4,0-8,0 g/m <sup>2</sup>	
	1,25-1,5 g/plant	

Harmful organism		Directions for use, period and limits of use	The term of last treatment until harvest (Maximum number of treatments)	Deadline for work in the field to perform manual work (mechanized)
Scientific name	Popular name			
<i>Sclerotinia sclerotiorum</i>	White mold	At the onset of symptoms - lubrication of the affected parts with paste, containing 10-30% trihodermin	- (1)	
<i>Thielaviopsis basicola</i>	Black root and steam rot	Treatment of plants in the «ear» phase and seedling before emergence	- (2)	
<i>Pythium de baryanum</i> , <i>Rhizoctonia solani</i> , <i>Sclerotinia sclerotiorum</i> , <i>Botrytis cinerea</i> , <i>Fusarium spp.</i> , <i>Verticillium albo-atrum</i> , <i>Ascochyta hortorum</i>	Root rot,	Seed dusting	- (1)	- (-)
	White mold, botrytis bunch rot, Fusarium, Verticillium, Ascochyta	Incorporation into the soil before sowing		
		Introduction into the pot with peat and manure, and plant seedlings		
		By spraying during the vegetation period (2-3 treatments with an interval of 10-12 days)	- (2-3)	
<i>Pythium de baryanum</i> , <i>Rhizoctonia solani</i> , <i>Sclerotinia sclerotiorum</i> , <i>Botrytis cinerea</i> , <i>Fusarium spp.</i> , <i>Verticillium albo-atrum</i> , <i>Ascochyta hortorum</i>	Root rot, white mold, botrytis bunch rot, Fusarium, Verticillium, Ascochyta	By spraying the plants with the prepared solution of 0,5%. The consumption norm of the prepared solution 0,25-0,3 l/plant	- (3)	- (-)



## CHEMICAL AND VEGETABLE PRODUCTS

### ACARICIDES

*After assessment and agreement by the inspection and certification bodies in the field of organic farming and organic agri-food products*

Trade name, preparation, content of the active substance, manufacturer, number and date of registration, toxicity group	Consumption norm of the product (l/ha, kg/ha)	Crop
<b>Pelecol</b> (490 g/l) “Institute of Genetics, Physiology and Plant Protection”, Republic of Moldova 01-0849 27.04.2011 IV/IV	8,0-10,0	Cucumbers (greenhouse)
		Tomatoes (greenhouse)
<b>Sulfur</b>		
<b>Wettable sulfur powder</b> (800 g/kg) 02-0847 23.03.2011 -/III	2,0-5,0	Field crops
	10,0-20,0	Fruit trees
	5,0-10,0	Fruit bushes (except gooseberry)
	10,0-16,0	Grapevine
	10,0	All species of medicinal plants
<b>Thiovit Jet 80 WG</b> (800 g/kg) “Syngenta Crop Protection AG”, <i>Switzerland</i> 02-0199 31.05.2013 IV/III	8,0-12,5	Grapevine
<b>Note:</b> Sulfur-containing products are applied at the temperature limit of 16..26 °C		

Harmful organism		Directions for use, period and limits of use	The term of last treatment until harvest (Maximum number of treatments)	Deadline for work in the field to perform manual work (mechanized)
Scientific name	Popular name			
<i>Trialeurodes vaporariorum</i> , <i>Aphis gossypii</i>	glasshouse whitefly, cotton aphid, melon aphid and melon and cotton aphid	By spraying during the vegetation season	- (2)	- (-)
<i>Tetranychus urticae</i>	red spider mite and two-spotted spider mite			
<i>Trialeurodes vaporariorum</i> , <i>Aphididae</i>	glasshouse whitefly, plant lice			
<i>Tetranychidae</i>	Mites	By spraying during the vegetation season	1 (5)	4 (1)
<i>Tetranychidae</i> , <i>Eriophyidae</i>	Mites			
<i>Tetranychidae</i> , <i>Eriophyidae</i>	Mites			
<i>Tetranychidae</i> , <i>Eriophyidae</i>	Mites			
<i>Tetranychidae</i> , <i>Bryobiidae</i>	Mites		1 (1)	
<i>Tetranychus urticae</i>	red spider mite and two-spotted spider mite	By spraying during the vegetation season	28 (4)	7 (3)

## FUNGICIDES

*After assessment and agreement by the inspection and certification bodies in the field of organic farming and organic agri-food products*

Trade name, preparation, content of the active substance, manufacturer, number and date of registration, toxicity group	Consumption norm of the product (l/ha, kg/ha)	Crop
<b>Recol</b> (15 g/l) "Institute of Genetics, Physiology and Plant Protection", Republic of Moldova 02-0866 22.06.2011 IV/IV	6,0-8,0	Cucumbers, melon
	8,0	Vine grape (tolerant varieties)
		Apple
<b>Copper oxychloride</b>		
<b>Abiga-Pic, VS</b> (400 g/l) OOO TD "Selhozhimia", Russia 02-0305 25.06.2014 III/III	5,0-7,0	Grapevine
<b>Cuprumax 50 WP</b> (840 g/kg) "Spiess-Urania Chemicals GmbH", Germany 02-0033 13.02.2012 III/III	3,0-3,5	Apple
	2,5-3,0	Grapevine
		Potato
<b>Copper oxychloride 90 WP</b> (900 g/kg) 02-0844 23.03.2011 III/III		Tomatoes
	2,4-3,2	Potato
		Tomatoes
		Sugar beet
	2,4	Cucumbers
	2,4	Onion (except for onions for greens)
	4,0-6,0	Hop
		Grapevine
		Plum tree, Apricot tree, cherry

Harmful organism		Directions for use, period and limits of use	The term of last treatment until harvest (Maximum number of treatments)	Deadline for work in the field to perform manual work (mechanized)
Scientific name	Popular name			
<i>Sphaerotheca fuliginea</i>	Powdery mildew	By spraying during the vegetation season	10 (3-4)	- (-)
<i>Uncinula necator</i>	Powdery mildew			
<i>Podosphaera leucotricha</i>	Powdery mildew		10 (3-5)	
<i>Plasmopara viticola</i>	Downy mildew	By spraying during the vegetation season	30 (2-3)	3 (1)
<i>Venturia inaequalis</i>	Apple scab	By spraying during the vegetation season	20 (4)	3 (1)
<i>Plasmopara viticola</i>	Downy mildew		20 (3)	7 (3)
<i>Phytophthora infestans</i> , <i>Alternaria</i>	Downy mildew, Early blight		20 (2)	
<i>Solani</i>			20 (2-3)	
<i>Phytophthora infestans</i> , <i>Alternaria solani</i>	Downy mildew, Early blight	By spraying during the vegetation season	20 (3)	3 (1)
<i>Phytophthora infestans</i> , <i>Alternaria solani</i> , <i>Cladosporium fulvum</i>	Downy mildew, Early blight, Brown spot		20 (4)	
<i>Cercospora beticola</i>	<i>Cercospora beticola</i>		20 (2)	
<i>Pseudoperono-spora cubensis</i> ,	Downy mildew			
<i>Colletotrichum lagenarium</i> , <i>Pseudomonas lachrymans</i>	anthracnose, bacteriosis	By spraying during the vegetation season		3 (1)
<i>Peronospora destructor</i>	Downy mildew		20 (3)	
<i>Pseudoperono-spora humuli</i>	Downy mildew		20 (4)	
<i>Plasmopara viticola</i> , <i>Gloeosporium ampelophagum</i>	Downy mildew, anthracnose			
<i>Clasterosporium carpophilum</i> , <i>Coccomyces hiemalis</i> , <i>Monilia cinerea</i> , <i>Monilia laxa</i>	Clasterosporium,  cocomicosis, fruit rot, moniliosis			



Trade name, preparation, content of the active substance, manufacturer, number and date of registration, toxicity group	Consumption norm of the product (l/ha, kg/ha)	Crop
		Peach
		Apple, pear
Sulfur		
KUMULUS DF (800 g/kg) "BASF SE", Germany 02-0863 27.04.2011 IV/III	3,0-6,0	Apple
		Grapevine
Microthiol Special Disperss (800 g/kg) "UPL Europe Ltd", Great Britain 02-0335 23.12.2014 IV/III	3,0-5,0	Apple
	3,0-4,0	Grapevine
Wettable sulfur powder (800 g/kg) 02-0847 23.03.2011 -/III	8,0-16,0	Fruit trees
	9,0-12,0	Grapevine
	3,0-4,0	Blueberry
		Gooseberry (varieties with sulfur resistance)
	4,0-6,0	Sugar beet
	2,0-4,0	Cucumbers (open field and greenhouse)
	3,0-4,0	Watermelon, melon
Thiovit Jet 80 WG (800 g/kg) "Syngenta Crop Protection AG", Switzerland 02-0199 31.05.2013 IV/III	3,0-4,0	Grapevine
	2,0	Cucumbers
	7,5	Apple
Sulfostar 800 SC (800 g/l) "Rolfes Agri (Pty) Ltd ", South Africa, "Agchem Africa (Pty) Ltd", South Africa 19-02-20-02-0474 20.02.2019 IV/IV	3,0-6,0	Grapevine
	4,0-5,0	Apple
Note: Sulfur-containing products are applied at the temperature limits of +16...+26°C		

Harmful organism		Directions for use, period and limits of use	The term of last treatment until harvest (Maximum number of treatments)	Deadline for work in the field to perform manual work (mechanized)
Scientific name	Popular name			
<i>Taphrina deformans</i>	Leaf curl	By spraying trees in spring, from bud swelling to budding and autumn, after leaf fall	20 (2)	
<i>Venturia inaequalis</i> , <i>Venturia pirina</i> , <i>Monilia fructigena</i>	Scab, moniliosis or fruit rot	By spraying during the vegetation season		
<i>Podosphaera leucotricha</i>	Powdery mildew	By spraying during the vegetation season	4 (4)	4 (1)
<i>Uncinula necator</i>	Powdery mildew			
<i>Podosphaera leucotricha</i>	Powdery mildew	By spraying during the vegetation season	4 (4)	4 (1)
<i>Uncinula necator</i>	Powdery mildew			
<i>Podosphaera leucotricha</i> , <i>Sphaerotheca pannosa</i>	Powdery mildew	By spraying during the vegetation season	1 (6)	4 (1)
<i>Uncinula necator</i>	Powdery mildew		1 (3)	
<i>Microsphaera grossulariae</i>	Powdery mildew			
<i>Sphaerotheca mors-uvae</i>	Powdery mildew			
<i>Erysiphe betae</i>	Powdery mildew		1 (5)	1 (1)
<i>Sphaerotheca fuliginea</i>	Powdery mildew			
<i>Sphaerotheca fuliginea</i> , <i>Colletotrichum lagenarium</i> , <i>Ascochyta cucumeris</i>	Powdery mildew anthracnose ascochyta		1 (4)	4 (1)
<i>Uncinula necator</i>	Powdery mildew	By spraying during the vegetation season	4 (5)	4 (1)
<i>Sphaerotheca fuliginea</i>	Powdery mildew		3 (2)	1 (1)
<i>Podosphaera leucotricha</i>	Powdery mildew		5 (2)	
<i>Uncinula necator</i>	Powdery mildew	By spraying during the vegetation season	7 (3)	7 (3)
<i>Podosphaera leucotricha</i>	Powdery mildew		7 (3-4)	

Trade name, preparation, content of the active substance, manufacturer, number and date of registration, toxicity group	Consumption norm of the product (l/ha, kg/ha)	Crop
<b>Copper sulphate</b>		
<b>Funecol</b> (79 g/l) "Institute of Genetics, Physiology and Plant Protection", Republic of Moldova 02-0854 27.04.2011 III/IV	4,0	Apple
	3,0-4,0	Grapevine
		Tomatoes
		Cucumbers
<b>Copper sulphate</b> (980-991) g/kg 02-0843 23.03.2011 III/III	4,0	Peach
	25,0-30,0	Apple, pear, quince
	10,0-20,0	Apricot tree, cherry, Plum tree
		Peach
		Apple, pear, quince
	10,0-15,0	Grapevine
	8,0-10,0	Blueberry, gooseberries
	6,0	Potato
	6,0-8,0	Tomatoes (open field and greenhouse)
	3,0-6,0	Cucumbers (open field and greenhouse)
	3,0	Melon, Watermelon
	6,0-8,0	Sugar beet, table sugar, fodder beet
		Onion (except onions for greens)

Note: Copper sulphate is used in the form of Bordeaux mixture

Harmful organism		Directions for use, period and limits of use	The term of last treatment until harvest (Maximum number of treatments)	Deadline for work in the field to perform manual work (mechanized)
Scientific name	Popular name			
<i>Venturia inaequalis</i>	Scab	By spraying during the vegetation season	28 (3-5)	7 (3)
<i>Plasmopara viticola</i>	Downy mildew		20 (3-4)	
<i>Alternaria solani</i>	Early blight			
<i>Pseudoperono-spora cubensis</i>	Downy mildew			
<i>Taphrina deformans</i>	Peach leaf curl	By spraying trees in spring, from bud swelling to budding and autumn, after leaf fall	28 (2)	
<i>Venturia inaequalis</i> , <i>Venturia pirina</i> , <i>Monilia fructigena</i> , <i>Phyllosticta spp.</i>	Scab, monilia disease, Phyllosticta	By spraying in early spring until and during the bud opening	- (1)	3 (1)
<i>Monilia laxa</i> , <i>Monilia cinerea</i> , <i>Coccomyces hiemalis</i> , <i>Clasterosporium carpophilum</i>	Monilia disease, Fruit rot,  yellow leaf shothole disease	By spraying in early spring and late autumn	- (2)	
<i>Taphrina deformans</i>	Leaf curl			
<i>Venturia inaequalis</i> , <i>Venturia pirina</i> , <i>Monilia fructigena</i> , <i>Phyllosticta spp.</i>	Scab, monilia disease brown rot, Phyllosticta	By spraying during the vegetation season	15 (5)	
<i>Plasmopara viticola</i> , <i>Gloeosporium ampelophagum</i>	Downy mildew, Anthracnose		25 (6)	
<i>Gloeosporium ribis</i> , <i>Septoria ribis</i> , <i>Cronartium ribicola</i>	Anthracnose, Septoria, blueberryului rust		15 (3)	
<i>Phytophthora infestans</i> , <i>Alternaria solani</i>	Downy mildew, Early blight		15 (4)	
<i>Phytophthora infestans</i> , <i>Alternaria solani</i> , <i>Septoria lycopersici</i>	Downy mildew, Early blight, Septoria		8 (4)	
<i>Colletotrichum lagenarium</i> , <i>Pseudoperono-spora cubensis</i> , <i>Ascochyta cucumeris</i> , <i>Pseudomonas lachrymans</i>	Anthracnose, downy mildew, ascochyta, bacteriosis		5 (3)	
<i>Colletotrichum lagenarium</i> , <i>Pseudoperono-spora cubensis</i> , <i>Ascochyta cucumeris</i> , <i>Pseudomonas lachrymans</i>	Anthracnose, downy mildew, ascochyta, bacteriosis		20 (3)	
<i>Cercospora beticola</i>	<i>Cercospora beticola</i>		15 (3)	
<i>Peronospora destructor</i> , <i>Botrytis allii</i> , <i>Puccinia spp.</i> , <i>Melampsora spp.</i>	Downy mildew, botrytis bunch rot,  Rust			



Trade name, preparation, content of the active substance, manufacturer, number and date of registration, toxicity group	Consumption norm of the product (l/ha, kg/ha)	Crop
<b>Copper sulphate neutralized with Ca hydroxide</b>		
<b>Bouillie Bordelaise</b> (770 g/kg) "UPL Europe Ltd", <i>Great Britain</i> 02-0336 23.12.2014 III/-	8,0-10,0	Apple
	5,0	Grapevine
	4,0	Tomatoes
		Potato
	10,0-12,0	Peach
		Almond
<b>Tribasic copper sulphate</b>		
<b>Caldo Bordoles 25 Valles</b> (770 g/kg) "IQV", <i>Spain</i> 02-0035 13.02.2012 IV/III	5,0-7,5	Grapevine
<b>Copflo Super, SC</b> (320 g/l) "Rolfes Agri (Pty) Ltd ", <i>South Africa</i> , "Agchem Africa (Pty) Ltd", <i>South Africa</i> 19-02-20-02-0475 20.02.2019 III/IV	3,0	Tomatoes
	4,0-5,0	Apple
	3,0-5,0 + <b>Aqua Right 5 (SAS)</b> - 100 ml/100 l water + <b>Aquastic (SAS)</b> -50 ml/ 100 l water	Grapevine
	7,0	Peach
<b>Melaleuca alternifolia Oil</b>		
<b>Timorex Gold, EC</b> (238 g/l) "Biomor Israel Ltd", <i>Israel</i> 02-0475 03.12.2008 IV/-	6,0	Grapevine

Harmful organism		Directions for use, period and limits of use	The term of last treatment until harvest (Maximum number of treatments)	Deadline for work in the field to perform manual work (mechanized)
Scientific name	Popular name			
<i>Venturia inaequalis</i> , <i>Xanthomonas</i> spp., <i>Pseudomonas</i> spp., <i>Monilia fructigena</i>	Apple scab bacteriosis, monilia disease	By spraying during the vegetation season	28 (2)	3 (1)
<i>Plasmopara viticola</i>	Downy mildew		28 (4-5)	
<i>Phytophthora infestans</i> , <i>Alternaria solani</i> , <i>Xanthomonas vesicatoria</i>	Downy mildew, Early blight, Bacterial leaf spot and shothole disease		10 (3-4)	
<i>Phytophthora infestans</i> , <i>Alternaria solani</i>	Downy mildew, Early blight		15 (2-3)	7 (3)
<i>Taphrina deformans</i>	Leaf curl	By spraying trees in spring, from bud swelling to budding and autumn, after leaf fall	4 (1-2)	
<i>Taphrina deformans</i> , <i>Clasterosporium carpophilum</i>	Leaf curl, Clasterosporium	By spraying during the vegetation season		
<i>Plasmopara viticola</i>	Downy mildew	By spraying during the vegetation season	25 (3-4)	3 (1)
<i>Phytophthora infestans</i> , <i>Alternaria solani</i>	Downy mildew, Early blight	By spraying during the vegetation season	25 (3)	7 (3)
<i>Venturia inaequalis</i>	Scab		15 (2-3)	
<i>Plasmopara viticola</i>	Downy mildew	By spraying during the vegetation season <b>Aqua Right 5 (SAS)</b> - it is added before all the components of the mixture. <b>Aquastic (SAS)</b> - it is added the last one to the spray solution	25 (3-4)	3 (1)
<i>Taphrina deformans</i>	Leaf curl	By spraying in spring, from swelling of buds to budding; in autumn after the fall of the leaves	- (2)	7 (3)
<i>Uncinula necator</i>	Powdery mildew	By spraying during the vegetation season	- (3)	7 (3)

## SEX PHEROMONES

After assessment and agreement by the inspection and certification bodies in the field of organic farming and organic agri-food products

Trade name, manufacturer, number and date of registration	Name of the active substance	Consumption norm, Dose/ 3-5 ha	Crop	Harmful organism	
				Popular name	Scientific name
<b>ArmiGALI</b> "Institute of Genetics, Physiology and Plant Protection", Republic of Moldova 09-0887 22.09.2011	(Z)-9-hexadecenal + (Z)-11-hexadecenal	2,0 mg	Maize, Vegetable crops, Cotton	cotton bollworm, corn earworm	<i>Heliothis armigera</i>
<b>FeroBRAS</b> "Institute of Genetics, Physiology and Plant Protection", Republic of Moldova 09-0888 22.09.2011	(Z)-11-acetat de hexadecen-1-il	1,0 mg	Cabbage	cabbage moth	<i>Mamestra brassicae</i>
<b>FeroFUN</b> "Institute of Genetics, Physiology and Plant Protection", Republic of Moldova 09-0889 22.09.2011	(Z)-8-acetat de dodecen-1-il	0,3 mg	Plum tree	plum fruit moth	<i>Cydia funebrana</i>
<b>FeroMOL</b> "Institute of Genetics, Physiology and Plant Protection", Republic of Moldova 09-0890 22.09.2011	(Z)-8-acetat de dodecen-1-il + (E)-8-acetat de dodecen-1-il + dodecan-1-ol	3,6 mg	Peach, Apricot tree	Fruit moth	<i>Grapholitha molesta</i>
<b>FeroORAN</b> "Institute of Genetics, Physiology and Plant Protection", Republic of Moldova 09-0891 22.09.2011	(Z)-9-acetat de tetradecen-1-il + (Z)-11-acetat de tetradecen-1-il	1,0 mg	Apple	Summer fruit tortrix	<i>Adoxophyes orana</i>
<b>FeroPOD</b> "Institute of Genetics, Physiology and Plant Protection", Republic of Moldova 09-0892 22.09.2011	(Z)-11-acetat de tetradecen-1-il	1,0 mg	Apple	Large fruit-tree tortrix	<i>Archips podana</i>
<b>FeroROS</b> "Institute of Genetics, Physiology and Plant Protection", Republic of Moldova 09-0893 22.09.2011	(Z)-11-acetat de tetradecen-1-il + (Z)-11-tetradecen-1-ol	1,0 mg	Apple	Rose tortrix	<i>Archips rosana</i>

Trade name, manufacturer, number and date of registration	Name of the active substance	Consumption norm, Dose/ 3-5 ha	Crop	Harmful organism	
				Popular name	Scientific name
<b>FeroSEG</b> "Institute of Genetics, Physiology and Plant Protection", Republic of Moldova 09-0894 22.09.2011	(Z)-5-acetat de decen-1-il + (Z)-5-acetat de tetradecen-1-il + (Z)-7-acetat de dodecen-1-il + (Z)-9-acetat de tetradecen-1-il	0,1 mg	Field crops	Turnip moth	<i>Agrotis segetum</i>
<b>Grozdemon</b> "Institute of Genetics, Physiology and Plant Protection", Republic of Moldova 09-0895 22.09.2011	(E/Z)-7,9-acetat de dodecadien-1-il	0,8-1,0 mg	Grapevine	European grapevine moth	<i>Lobesia botrana</i>
<b>Merenol</b> "Institute of Genetics, Physiology and Plant Protection", Republic of Moldova 09-0896 22.09.2011	(E/E)-8,10- dodecadien-1-ol	0,8 mg	Apple	Codling moth	<i>Cydia pomonella</i>
<b>Operculat</b> "Institute of Genetics, Physiology and Plant Protection", Republic of Moldova 09-0898 22.09.2011	(Z/Z/Z)-4,7,10-acetat de tridecatien-1-il	0,1 mg	Potato	Potato tuber moth or tobacco splitworm	<i>Phthorimaea operculella</i>
<b>Pernicil</b> "Institute of Genetics, Physiology and Plant Protection", Republic of Moldova 09-0899 22.09.2011	Propionat de (Z)- 3,7-demetil- 2,7-octadien-1-il	0,1 mg	Apple	San Jose Scale	<i>Quadraspidiotus perniciosus</i>
<b>RAK 3+4</b> "BASF SE", Germany 09-0968 22.12.2011 IV/-	(E,E)-8,10- dodecadien-1-ol >140 - <225 mg + (Z)-11-acetat de tetradecen-1-il >160-<250 mg)	700 pcs/ha	Apple	Codling moth, Archips rosana, summer fruit tortrix, barred fruit- tree tortrix	<i>Cydia pomonella</i> , <i>Archips rosana</i> , <i>Adoxophyes orana</i> , <i>Pandemus ribeana</i>

## SURFACE ACTIVE SUBSTANCES (surfactants)

*After assessment and agreement by the inspection and certification bodies in the field of organic farming and organic agri-food products*

Trade name, product's form, content of the active substance, manufacturer, number and date of registration, toxicity group	The norm of consumption of the prepared solution (l/ha, kg/ha, l/t, kg/t)	Crop	Purpose
<b>Di-1-p-mentenă</b>			
<b>MultiMastr</b> (960 g/l) <i>"Aventro, Sarl", Switzerland</i> 11-0387 11.03.2015 IV	1,0	Rape	Adjuvant
	0,8	Pea for beans	
	0,5	Apple	
<b>Spodnam 554 EC</b> (554 g/l) <i>"Nufarm GmbH &amp; Co. KG", Austria</i> 11-0402 16.04.2015 IV	1,2	Rape	Adjuvant
<b>Vapor Gard</b> (960 g/l) <i>"Aventro, Sarl", Switzerland</i> 11-0477 03.12.2008 IV	1,0%	Apple, Plum tree	Adjuvant-antitranspirant
	1,0-1,5%	Cucumbers	Adjuvant-antitranspirant
	1,0-1,5%	Potato	
	1,0 %	Tomatoes	



Mode, period and limits of use	The term of last treatment until harvest (Maximum number of treatments)	Deadline for work in the field to perform manual work (mechanized)
By spraying 3 weeks before the start of harvest, when the plants and siliceous are light green	21 (1)	- (-)
By spraying the culture at approx. 50% yellow-green pods	- (1)	
It is used in admixture with fungicides authorized for use in organic agri-food production	The waiting time for the used fungicide will be extended by 10 days	According to the fungicide term with which it will be used in the mixture
By spraying 3 weeks before the start of harvest, when the plants and siliceous are light green	21 (1)	- (-)
A treatment of the leaves during the vegetation period with about 4 weeks until harvest. The consumption norm of the prepared solution - 800-1000 l/ha	- (1)	- (-)
Treatments of the leaves during the vegetation period: 1st - treatment for the formation of 50-60% of the leaf area; 2nd - as needed with the interval of 4 weeks after the first. The consumption norm of the prepared solution - 400-600 l/ha	- (1-2)	- (-)
A treatment of the leaves before closing the rows. The consumption norm of the prepared solution - 400-600 l/ha	- (1)	
A treatment of the leaves of the seedling in greenhouses a few hours before planting in the field, or a foliar treatment a few hours after seedling planting in the field. The consumption norm of the prepared solution - 300-400 l/ha		

## FERTILIZERS

*After assessment and agreement by the inspection and certification bodies in the field of organic farming and organic agri-food products*

Trade name, country of origin, manufacturer, registration number	Chemical composition (% , g/l, g/kg)
<b>Azoter</b> "AZOTER, s.r.o.", Slovak Republic F-0209 18.03.2016	1.1.1.1.1 Azotobacter croococcum – $1,54 \times 10^{10}$ cells/1 ml 1.1.1.1.2 Azospirillum brasiliense – $2,08 \times 10^9$ cells/1 ml Bacterium megatherium – $1,58 \times 10^8$ cells/1 ml
<b>Azoter SC</b> 1.1.1.1.3 "AZOTER,s.r.o.", Slovak Republic 1.1.1.1.4 1.1.1.1.5 17-01-18-F-0015 1.1.1.1.6 18.01.2017	Azotobacter croococcum – $2 \times 10^9$ germ cells/cm <sup>3</sup> Bacterium megatherium – $1,5 \times 10^8$ germ cells/cm <sup>3</sup> Coniothyrium minitans – $1,5 \times 10^3$ germ cells/cm <sup>3</sup>
<b>Azoter F</b> "AZOTER,s.r.o.", Slovak Republic 17-01-18-F-0014 18.01.2017	Azotobacter croococcum – $2 \times 10^9$ germ cells/cm <sup>3</sup> Azospirillum brasiliense $2 \times 10^9$ germ cells/cm <sup>3</sup> Bacterium megatherium – $1,5 \times 10^8$ germ cells/cm <sup>3</sup> Trichoderma atroviride - $2 \times 10^6$ germ cells/cm <sup>3</sup>
<b>Bioenergy LT</b> (Bioenergy LTazofix; Bioenergy LT Bactoforce; Bioenergy LT Fosfix; Bioenergy LT Ruinex; Bioenergy LT MaxProlin) UAB "Bioenergy", Lithuania, "Proteh-Agro" SRL, Republic of Moldova 20-02-20-F-0195 20.02.2020	<b>Bioenergy LTazofix</b> Azotobacter vunelandii MVY – 010 - $1,1 \times 10^9$ viable cells/ml <b>Bioenergy LT Bactoforce</b> Bacillus mojavensis MVY – 007 - $1,1 \times 10^9$ viable cells/ml <b>Bioenergy LT Fosfix</b> Bacillus megaterium MVY – 007 - $1,1 \times 10^9$ viable cells/ml <b>Bioenergy LT Ruinex</b> Bacillus mojavensis MVY – 007 - $1,1 \times 10^9$ viable cells/ml Bacillus megaterium MVY – 001 - $1,1 \times 10^9$ viable cells/ml Bacillus amyloliquefaciens MVY – 008 Thrichoderma viridae MVY – 021 - $1,1 \times 10^7$ viable cells/ml <b>Bioenergy LT MaxProlin</b> Aminoacid L- $\alpha$ prolin – 99,5%
<b>Blackjak</b> "Sofbey S.A.", Switzerland, F- 0149 17.08.2016	<b>Macroelements:</b> N (total) – 1-2% Humic acids – 19-21% Fulvic acids – 3-5% Organic substances – 27-30%
<b>Demolution</b> "GREEN RESEARCH, S.L.", Spain F – 0214 14.04.2016	Macroelements(%): S – 68 Microelements (%): Zn – 0,5
<b>Ecolit</b> "Eco-Consult" SRL, Republic of Moldova 20-02-20-F-0194 20.02.2020	Humic acids – 120-130 g/l; Fulvic acids - 80-100 g/l
<b>Eutrofit</b> "AGM" SRL, Italy F – 0236 22.06.2016	<b>Macroelements:</b> N (total) – 4% Organic N – 3,6% Ammoniacal N – 0,4% <b>Microelements:</b> B – 0,035% Fe – 0,0624%

Crop	Consumption norm (l,ha, kg/ha)	Mode, period and limits of use	Maximum number of treatments
Fruit trees, vegetables, wheat, barley, corn, sunflower, potato, sugar beet, soybeans, peas, grapevine			
Fruit trees, vegetables, wheat, barley, corn, sunflower, potato, sugar beet, soybeans, peas, grapevine			
Fruit trees, vegetables, wheat, barley, corn, sunflower, potato, sugar beet, soybeans, peas, grapevine			
Fruit trees, vegetables, wheat, barley, corn, sunflower, potato, rape, sugar beet, soybeans, peas, grapevine			
Cereal crops, fruit trees, vegetables (open field and greenhouses), vegetables for beans and pods, technical crops, corn, strawberry, grapevine, flowers and decorative plants			
Wheat, sunflower, corn, soybean			
Soybean	3,0	Two treatments of the leaves: Ist – at the branching; IInd – at the budding phase	2
Corn		Two treatments of the leaves: 1st – in the phase of 3-4 leaves; 2nd – in the phase of 6-8 leaves;	2
Sunflower		Two treatments of the leaves: 1st – in the phase of 2-3 pairs of leaves; 2nd – in the phase of 4-5 pairs of leaves;	2
Fruit trees, cereal crops, grapevine			

Trade name, country of origin, manufacturer, registration number	Chemical composition (% , g/l, g/kg)
<b>Extrasol</b> (titer not less than 2.5 billion bacteria/ml) "Research Institute for Agricultural Microbiology", <i>Russia</i> F-0260 26.10.2016	Rizosphere bacterial strains extracted from healthy roots of plants. Arthrobacter mysores 7, Flavobacterium sp. L 30, Agrobacterium radiobacter 10, Agrobacterium radiobacter 204, Azomonas agilis 12, Bacillus subtilis, 4-13, Pseudomonas fluorescens 2137, Azospirillum lipoferum 137
<b>Fertileader</b> (Fertileader Tonic) "Timac Agro", <i>France</i> , SC "Timac Agro România SRL", <i>Romania</i> F – 080 14.04.2016	Microelements (%): Cu – 4,8; Mn – 7,7
<b>Geolife</b> (Geolife Ampelos Humificant; Geolife Kopros B; Geolife Kopros C; Geolife Carpos Humificant; Geolife Sporos Humificant; Geolife Kipos Humificant; Geolife Fylo-bio Leaf Fertilizer) "Bioma SA", <i>Switzerland</i> 18-03-29-F-0103 29.03.2018	<b>Geolife Ampelos Humificant</b> The package 1: Betaine – 500 mg/kg, Choline – 600 mg/kg, Vitamins: A (700'000 IE/kg), D <sub>3</sub> (7'000 IE/kg), E (660 IE/kg), C (660 mg/kg), B <sub>1</sub> (58 mg/kg), B <sub>2</sub> (24 mg/kg), K (12 mg/kg). The package 2: <i>Bacillus subtilis, Bacillus licheniformis, Bacillus amyloliquefaciens, Bacillus pumilus, Bacillus megaterium, Aspergillus oryzae, Glomus intraradices, Glomus clarum, Glomus aggregatum, Glomus mosseae, Pseudomonas fluorescens, Trichoderma viridae, Trichoderma harzianum, Streptomyces, Glomus mosseae, Pseudomonas fluorescens, Trichoderma viridae, Trichoderma harzianum, Streptomyces lydicus, Paecilomyces lilacinus, Rhizobium leguminosarum, Azotobacter chroococcum, Frateuria aurantia.</i> Enzymes: Cellulase. The package 3: <i>Arthrospira maxima, Arthrospira platensis, Ascophyllum nodosum</i>
	<b>Geolife Kopros B</b> The package 1: Betaine – 500 mg/kg, Choline – 600 mg/kg, Vitamins: A (700'000 IE/kg), D <sub>3</sub> (7'000 IE/kg), E (660 IE/kg), C (660 mg/kg), B <sub>1</sub> (58 mg/kg), B <sub>2</sub> (24 mg/kg), K (12 mg/kg). The package 2: <i>Bacillus subtilis, Bacillus licheniformis, Bacillus amyloliquefaciens, Bacillus pumilus, Bacillus megaterium, Aspergillus oryzae, Nitrosomonas eutropha, Nitrobacter winogradskyi, Bacillus thuringiensis v. israeliensis, Bacillus thuringiensis v. kurstaki, Rhodopseudomonas palustris, Thiobacillus denitrificans, Pseudomonas fluorescens, Streptomyces lydicus, Cellulomonas fimi.</i> Enzymes: Cellulase, amylase, protease, xylanase, B-glucanase, hemicellulase, lipase The package 3: <i>Arthrospira maxima, Arthrospira platensis, Ascophyllum nodosum</i>

Crop	Consumption norm (l,ha, kg/ha)	Mode, period and limits of use	Maximum number of treatments
Tobacco, sugar beet	2,0	In accordance with accepted recommendations for use	
Cereals, corn, onions, carrots			
Grapevine			
Cereals, vegetables			



Trade name, country of origin, manufacturer, registration number	Chemical composition (% , g/l, g/kg)
	<p><b>Geolife Kopros C</b></p> <p>The package 1: Betaine – 500 mg/kg, Choline – 600 mg/kg, Vitamins: A (700'000 IE/kg), D<sub>3</sub> (7'000 IE/kg), E (660 IE/kg), C (660 mq/kg), B<sub>1</sub> (58 mg/kg), B<sub>2</sub> (24 mg/kg), K (12 mg/kg)</p> <p>The package 2: <i>Bacillus subtilis, Bacillus licheniformis, Bacillus amyloliquefaciens, Bacillus pumilus, Bacillus megaterium, Aspergillus oryzae, Lactobacillus plantarum, Bifidobacterium bifidus, Lactobacillus acidophilus, Nitrosomonas eutropha, Nitrobacter winogradskyi, Bacillus thuringiensis v. israeliensis, Bacillus thuringiensis v. kurstaki, Rhodopseudomonas palustris, Thiobacillus denitrificans, Streptomyces lydicus, Pseudomonas fluorescens, Cellulomonas fimi.</i> Enzymes: Cellulase, amylase, protease, xylanase, B-glucanase, hemicellulase, lipase.</p> <p>The package 3: <i>Arthrospira maxima, Arthrospira platensis, Ascophyllum nodosum</i></p>
	<p><b>Geolife Sporos Humificant</b></p> <p>The package 1: Betaine – 500 mg/kg, Choline – 600 mg/kg, Vitamins: A (700'000 IE/kg), D<sub>3</sub> (7'000 IE/kg), C (660 mq/kg), B<sub>1</sub> (58 mg/kg), B<sub>2</sub> (24 mg/kg), K<sub>3</sub> (12 mg/kg).</p> <p>The package 2: <i>Bacillus subtilis, Bacillus licheniformis, Bacillus amyloliquefaciens, Bacillus pumilus, Bacillus megaterium, Aspergillus oryzae, Glomus intraradices, Glomus clarum, Glomus aggregatum, Glomus mosseae, Bacillus Thuringiensis v. israeliensis, Bacillus sphaericum, Azotobacter chroococcum, Rhizobium leguminosarum Frateuria aurantia, Paecilomyces lilacinus.</i> Enzymes: Cellulase.</p> <p>The package 3: <i>Arthrospira maxima, Arthrospira platensis, Ascophyllum nodosum</i></p>
	<p><b>Geolife Kipos Humificant</b></p> <p>The package 1: Betaine – 500 mg/kg, Choline – 600 mg/kg, Vitamins: A (700'000 IE/kg), D<sub>3</sub> (7'000 IE/kg), C (660 mq/kg), B<sub>1</sub> (58 mg/kg), B<sub>2</sub> (24 mg/kg), K<sub>3</sub> (12 mg/kg).</p> <p>The package 2: <i>Bacillus subtilis, Bacillus licheniformis, Bacillus amyloliquefaciens, Bacillus pumilus, Bacillus megaterium, Aspergillus oryzae, Glomus intraradices, Glomus clarum, Glomus aggregatum, Glomus mosseae, Pseudomonas fluorescens, Trichoderma vidirae, Trichoderma harzianum, Paecilomyces lilacinus, Rhizobium leguminosarum, Frateuria aurantia, Azotobacter chroococcum.</i> Enzymes: Cellulase, amylase, protease, xylanase, B-glucanase, hemicellulase, lipase.</p> <p>The package 3: <i>Arthrospira maxima, Arthrospira platensis, Ascophyllum nodosum</i></p>
	<p><b>Geolife Fylo-Bio Leaf Fertilizer</b></p> <p>Macroelements (%): N(total) – 32,33; Organic nitrogen – 32,33; P<sub>2</sub>O<sub>5</sub> – 0,64; K<sub>2</sub>O – 7,2; MgO – 12,26; CaO – 8,02 Organic carbon (%) – 41,66 <i>Ascophyllum nodosum</i></p>

Crop	Consumption norm (l,ha, kg/ha)	Mode, period and limits of use	Maximum number of treatments
Fruit trees			
Cereals, corn, soybeans, sugar beet			
Vegetable crops (open field), pumpkins, potato, onion			
Field crops, vegetable crops (greenhouse)			

Trade name, country of origin, manufacturer, registration number	Chemical composition (% , g/l, g/kg)
<b>Humifield, WG</b> (560-720) g/kg "Humitech GmbH", Germany, "Asca Trade LLP", Great Britain 06-0941 19.07.2018 IV/IV	Potassium salt of humic acids – 560-720 g/kg
<b>Hyt</b> (Hyt A; Hyt B) "Agrinos AS", Norway, „Agrinos Microbial Production Facility", USA, "Agrinos Bioderpac S.A. de C.V.", Mexico 18-02-07-F-0086 07.02.2018	<b>Hyt A</b> <i>Azotobacter vinelandii</i> – $1,5 \times 10^7$ cells germinative/ml <i>Clostridium pasteurianum</i> – $1,5 \times 10^7$ cells germinative/ml <b>Hyt B</b> Amino acids – 4% Chitin, chitosan, glucosamine – 4%
<b>Lebosol</b> (Lebosol-Bor; Lebosol-Calcium; Lebosol-Copper 350 SC; Lebosol –Mangan 500 SC; Lebosol-Molybdenum; Lebosol-Zinc 700 SC) "Lebosol Dunger GmbH", Germany F-0199 01.06.2016	<b>Lebosol –Bor</b> Microelements (%): B – 11; <b>Lebosol-Calcium</b> Macroelements (%): Ca – 16,7 <b>Lebosol-Cooper<sup>350</sup> SC</b> Microelements (%): Cu – 24,2 <b>Lebosol –Mangan<sup>500</sup> SC</b> Microelements (%): Mn – 27,9 <b>Lebosol-Molybdenum</b> Microelements (%): Mo – 15,6 <b>Lebosol-Zinc 700 SC</b> Microelements (%): Zn – 40,0
<b>Lignogumat de K, marca AM</b> OOO "Lignogu-mat", Russia F-0166 19.11.2014	<b>Macroelements:</b> MgO – 0,1-1,2 g/kg; <b>Microelements:</b> Fe – 0,1-2,0 g/kg; Cu – 0,1-1,2 g/kg; Co – 0,1-1,2 g/kg; B – 0,1-1,5 g/kg; Mo – 0,05-1,15 g/kg; Zn – 0,1-1,2 g/kg; Salts of humic acids (organic), 800-900 g/kg

Crop	Consumption norm (l,ha, kg/ha)	Mode, period and limits of use	Maximum number of treatments
Wheat, barley	0,05-0,06	Intensifying the process of plant growth and development. Three treatments of the leaves: 1st – in the tillering phase; 2nd – at the steam extention 3rd – grain filling stage	- (3)
0,15-0,2	Apple	Six treatments of the leaves: 1st – before flowering; 2nd – after flowering; the following – 10-14 days interval between treatments	- (6)
	Grapevine	Six treatments of the leaves: 1st – at the emerging of 4-5 leaves; 2nd – before flowering; 3rd – after flowering; 4th – 14 days after the 3rd 5th – at the beginning of the grapes coloring; 6th – 14 days after the 5th	
Fruit trees, cereals, vegetables (open and protected field), legumes for grains, technical crops, heterogeneous, fodder crops, sugar beet, potato, corn			
Fruit trees, vegetables, cereals, fruit bushes, grapevine, potato, corn, sugar beet, sunflower			
Fruit trees, vegetables, fruit bushes, grapevine			
Cereal crops, corn, sunflower, grapevine			
Fruit trees, vegetables, cereals, fruit bushes, grapevine, potato, rape, sugar beet			
Vegetable crops, sugar beet, sunflower			
Fruit trees, vegetables, cereals, fruit bushes, grapevine, corn, hop, sunflower			
Sown tomatoes	0,06-0,09	3 treatments: 1st – soaking the seeds for 12-24 hours before sowing in 0,05% solution. Consumption of the prepared solution – 3.0 l/kg of seeds (1.5 gr/3 l of water); 2nd – treatment of plants in the field, in the phase of 3-4 leaves, with a solution of 0,02% -0,03%; 3rd – plants treatment in the field, with the interval of 7-10 days, with a solution of 0,02% -0,03%. The norm of the prepared solution – 300 l/ha	3

Trade name, country of origin, manufacturer, registration number	Chemical composition (% , g/l, g/kg)
<b>Orgazot</b> "AGM" SRL, <i>Italy</i> F – 0240 22.06.2016	Macroelements (%): Organic nitrogen – 13 Microelements (%): Fe – 0,15; Zn – 0,002
<b>Rokohumin</b> "Rokosan s.r.o.", <i>Slovak Republic</i> F – 0210 14.04.2016	Macroelements (%): N – 5; P <sub>2</sub> O <sub>5</sub> – 3; K <sub>2</sub> O – 3; S – 0,5 Microelements (%): B – 0,01; Cu – 0,03; Fe – 0,03; Mn – 0,03; Alte – 5,0
<b>Segador</b> "GREEN RESEARCH, S.L.", <i>Spain</i> F – 0213 14.04.2016	Macroelements (%): P – 25,5 Microelements (%): Zn – 0,2
<b>Terra-Sorb foliar</b> "Bioiberica" S.A., <i>Spain</i> , "Aventro, Sarl.", <i>Switzerland</i> F-0205 23.12.2015	<b>Macroelements:</b> N – 2,1% <b>Microelements:</b> B – 0,019% Mn – 0,046% Zn – 0,067% Total amino acids – 12.0%, including free amino acids – 9.3%



Crop	Consumption norm (l,ha, kg/ha)	Mode, period and limits of use	Maximum number of treatments
Potato	0,15	3 treatments: 1st – treatment of tubers before planting with 0.5% solution (50 gr/10 l water). Consumption of the prepared solution – 10 l/100 kg of tubers; 2nd – treatment of plants at a height of 8-12 cm with a solution of 0,05%; 3rd -treatment of plants during the buttoning period with 0,05% solution. The norm of the prepared solution – 300 l/ha	3
Apple (nursery)	0,06-0,15	Soaking or spraying the seedlings before planting with 0,05% solution (5 gr.to 10 l of water)	1
Apple	0,06-0,15	3 treatments during the vegetation period: 1st – at the beginning of flowering; 2nd and 3rd – at an interval of 10-15 days between treatments. The norm of the prepared solution – 800 l water/ha	3
Grapevine	5 gr la 10 L water	Treatment of planting material: Soaking or spraying the planting material before planting with 0,05% solution	1
	150 g/ha	4 treatments during the vegetation period: 2 extraradicular treatments until flowering and 2 after. The norm of the prepared solution – 800 l water/ha	4
Fruit trees, cereals, grapevine			
Wheat, soybeans, potato, rape, sunflower, corn			
Wheat, sunflower, corn, soybeans			
Rape	2,0	By spraying the seeds in autumn when the air temperature during the day reaches the level of + 5° .. + 10 °C and/or early spring at the vegetation beginning	1-2
Sugar beet	2,0 + potassium-magnesium – 3,0	A treatment of the leaves 3-4 weeks before harvest	1
	2,0	2 treatments of the leaves 1st – in 6-8 leaves phase of the crop; 2nd – before rows closing the	2

## GROWTH REGULATOR

Trade name, product form, content of the active substance, manufacturer, number and date of registration, toxicity group	The consumption norm of the product to be used (l/ha, kg/ha, l/t, kg/t)	Crop	Developed for
<b>Auxin + cytokinin</b>			
<b>Kelpak, SL</b> (11 + 0,03) mg/l "Fader Alliance Ltd.", <i>Great Britain</i> ,	2,0-2,5	Sunflower	Growth regulator
TOV "Agroflex", <i>Ukraine</i> 06-0155 28.02.2013 IV/III	3,5-4,0  2,0-2,5	Soybean	

## TREATMENT OF WAREHOUSE AND STORED PRODUCTS

Trade name, products form, content, holder of the approval, country, number and date of registration, hazard category for acute oral toxicity of the active substance	The consumption norm of the product to be used (ml/m <sup>2</sup> , ml/t, g/m <sup>3</sup> )	Crop, the object to be treated
<b>Diacellite Nutri</b> (86%) "EURO-Diatomite", <i>Switzerland</i> , "SEEMA Minerals & Metals", <i>India</i> 18-10-12-10-0380 12.10.2018 IV/-	200 g/t	Cereal grains, corn, sunflower
	15 g/m <sup>2</sup>	Empty warehouses

Mode, period and limits of use	Term of last treatment until harvest (maximum number of treatments)	Deadline for work in the field, manual work (mechanized)
Two treatments: 1st - in 4-6 leaves phase of the crop; 2nd - 14 days after the first treatment	- (2)	7 (3)
Two treatments: 1st - in 3-5 leaves phase of the crop; 2nd - 14 days after the first treatment (before flowering)		

Harmful organism	Mode, period and limits of use	Pause interval before harvest (Maximum number of treatments)
Pests of stored products	By powdering the grains before storing them in silos or bags	-
	By uniform manual powdering with a sieve in the empty warehouses, after cleaning	-

# IMPRINTS

## Authors

Boris Boincean

Alexei Micu

Victoria Ceban

On behalf of Moldova Organic Value Chain Alliance (MOVCA) team.

## Proofreading

Cristina Colun

## Translation from Romanian

Cristina Colun

## Layout & typesetting

Natalia Dorogan

## Photo origin

MOVCA personal archive

[www.agrobiznes.md](http://www.agrobiznes.md)

## Source of information

[www.madrm.gov.md](http://www.madrm.gov.md)

Atlas of Organic Agriculture in the Republic of Moldova 2019

[www.agrobiznes.md](http://www.agrobiznes.md)



## Disclaimer

This Bulletin is published in 2020 within the project Institutional support within organic agriculture in the Republic of Moldova implemented by the Central Institute for Supervising and Testing in Agriculture (ÚKZÚZ).