

RESEARCH ON BIO PRODUCTION IN HASKOVO REGION

PROJECT EU 2 BIO, FUNDED BY COOPERATION PROGRAMME INTERREG V-A "GREECE-
BULGARIA 2014-2020"



Deliverable 3.1.1. Research on Bio production in
Haskovo Region



Association "Business Center-Maritza"



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INTRODUCTION

This research on Bio (organic) production in Haskovo Region is developed on the project „EURO bio REGION MARITZA EVROS”, with acronym: EU 2 BIO, Subsidy Contract № B6.3a.02 of 13.01.2021. The research is implemented and financed by Cooperation Programme Interreg V-A “Greece-Bulgaria 2014-2020”.

The project aims to ensure the establishment of a cross-border Bio-area for agriculture, stock breeding and aquacultures and secure its sustainable functioning as a pilot model for other organizations and companies in the region and other cross-border regional programmes.

The specific objectives of the project are related to:

- research on the organic agriculture, stock breeding and aquaculture industries in the cross-border region and outline the perspectives and problems for their development.
- investigate and promote in the project’s target regions working sustainable bio-area practices.
- elaborate bio area map suited to the cross-border region's needs, statute and founding documents related to the governance of the area, financial stability plan, 5 year business plan and strategy for structure of the area governing body.
- promote the idea of cross-border bio-area in compliance with the developed map and strategy and involve as many participants as possible in the initiative.
- popularize the bio area activities to the general public to further promote the partner approach in organic -agriculture and increase the cumulative effect of such approach.

The focus of the project and its activities allow a wide range of stakeholders from the cross-border region to improve their skills and knowledge, thus increasing opportunities for the development of organic products in both countries, based on two main approaches:

- Fostering the entrepreneurial culture, thus aiming to influence the rate of formation of new businesses in the field of organic agriculture in the cross-border region;
- Strengthening the factors affecting entrepreneurial success, thus aiming to influence the long-term success of these enterprises in the field of organic farming in the cross-border region.

In this regard, the project envisages the implementation of three main activities - strategic analyses, strategic planning and promotion of the cross-border bio area.

The purpose of the present research is to collect information and other relevant data regarding organic production in Haskovo Region. Experts from all fields participated in the process of preparing and conducting the research. Representatives of agricultural producers, institutions, municipal administrations from the region, the non-governmental sector and the local community were included. Within the framework of the research, data from strategic documents, thematic developments, references, information from producers, processors and traders of agricultural products and food produced organically, etc. were used.



DESIGN OF THE RESEARCH

1. Aims and objectives of the research

The main objectives of the research are:

- to study the organic production in Haskovo Region
- to increase the interest and to focus the attention of the public to organic production, trends in its development and its importance in the development of Haskovo region
- creation of prerequisites for the development of organic production on the territory of Haskovo region.

The main tasks of the research are:

- research on organic production and its regulation in Bulgaria and within the EU
- presentation of the regulatory framework forming the conditions for organic production, as well as trade in organic agricultural products
- collection and presentation of information and other relevant data about organic production in Haskovo region
- analysis of available information regarding the state of organic production in Haskovo region.

2. Object and subject of research

The object of research are agricultural establishments and persons engaged in the production, processing, storage and trade of agricultural products and food produced according to the rules of organic production, including subcontractors.

The subject of research is the state and development of organic production.

ORGANIC AGRICULTURE - ESSENCE AND CHARACTERISTICS

1. Overview of organic agriculture and its characteristics in the EU and Bulgaria



Organic agriculture is an integrated system of agricultural management and food production that combines the best practices in terms of environmental protection, maintains a high degree of biological diversity, preserves natural resources, applies high standards of humane treatment to the animals and production methods, consistent with the preferences of some consumers for products produced using natural substances and processes.

Breeding animals in organic way or organic livestock breeding means breeding animals adapted to local conditions, applying breeding methods close to their natural way of life, which reduce stress and ensure good health. The animals are fed with organically produced feed, the use of growth regulators is prohibited and the application of antibiotics is kept to a minimum. The ratio between the number of animals and cultivated areas is also strictly monitored. It is mandatory to provide enough space for the expression of their natural behavior such as walking and grazing in the open air, etc.



The negative consequences of high-intensity conventional agriculture such as soil degradation, soil erosion, pollution and reduction of biological diversity impose the need for the search for environmentally friendly agricultural practices and environmentally friendly technologies in the development and cultivation of agricultural crops. One of the ways to prevent pollution of biological diversity and an opportunity for sustainable management of natural resources is *organic (biological) production*.

The EU definition of organic agriculture is „holistic production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles, and soil biological activity. It emphasises the use of management practices in preference to the use of off-farm inputs, taking into account that regional conditions require locally adapted systems. This is accomplished by using, where possible, agronomic, biological, and mechanical methods, as opposed to using synthetic materials, to fulfil any specific function within the system.”

Regional/local conditions require agrosystems adapted to the specific region. This is achieved through agronomic, biological and technical methods as opposed to synthetic inputs. Organic farming is a specific method of production that maintains ecological balances and produces products covering the principles of the ecological cycles of plants - animals - soil. It contributes to the sustainable development of the regions, environmental protection and guarantees good conditions for the animals. Organic food is a product of organic agriculture. The production of organic products is carried out in accordance with the requirements of specific standards and is subject to certification bodies. Organic products, which are not food, are obtained by processing organically grown raw materials, and in their production artificial enhancers (colors, preservatives and other chemical elements) must not be used.

The advantages of organic production are related to: production of healthy foods of high technological quality, increase in biological diversity, utilization of natural, local and renewable resources, improvement of soil structure and fertility, protection of groundwater from contamination with nitrates, pesticides, etc., reduction of soil erosion, reduction of energy consumption.

The disadvantages of organic agriculture are related to: insufficiently developed market for organica production, reduction of yields, especially in the first years of transition - the system enters a biological equilibrium, increase in production cost.

The theory states several fundamental elements that are related to:

- health - maintaining and increasing the fertility of the soil, plants, animals and people as a whole;
- ecology - foundation of living ecological systems and cycles, working with them and maintaining them;
- care - managing with a precautionary approach to protect the well-being of current and future generations and the environment.



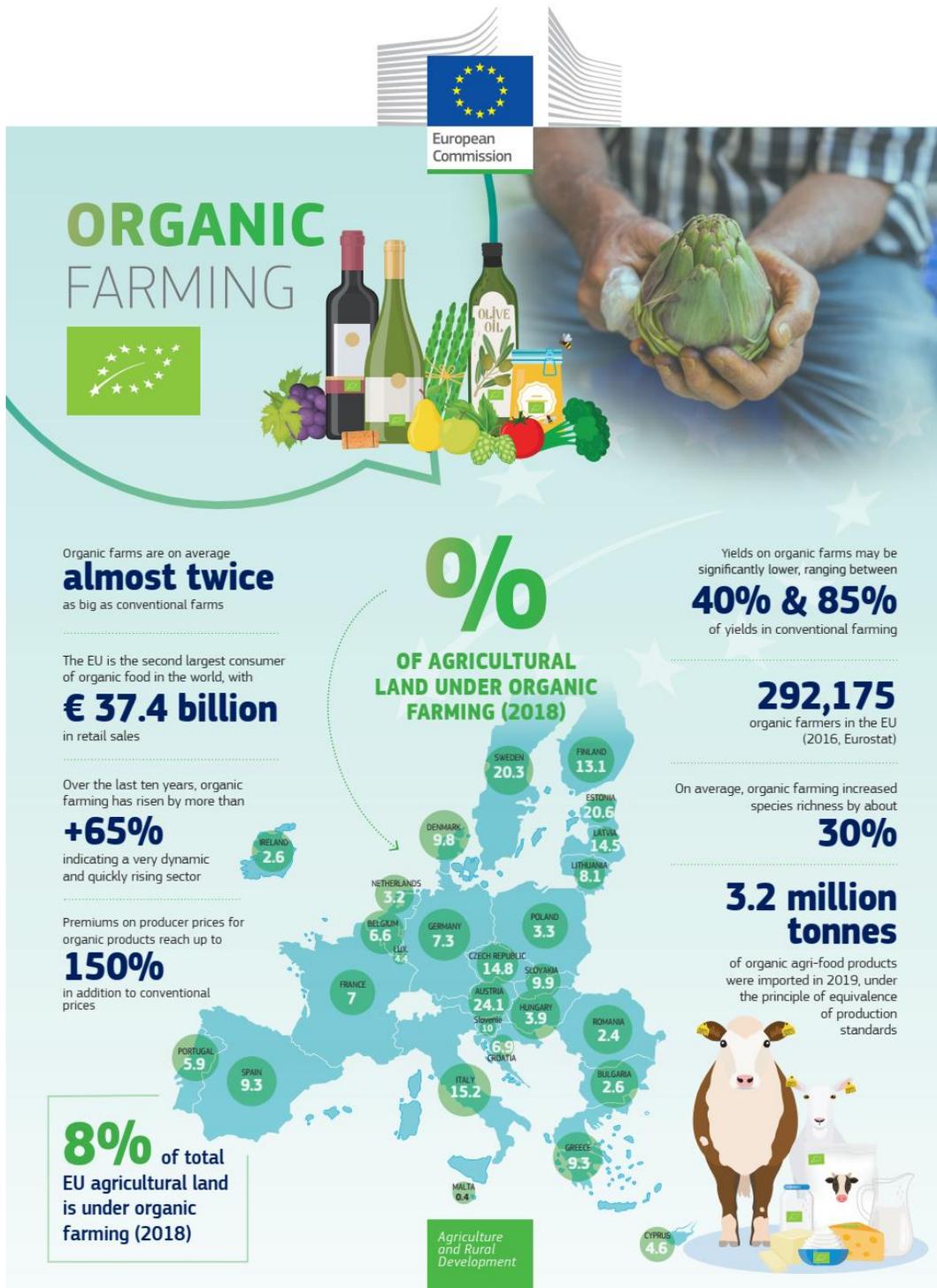
The following few are considered the basic principles of organic agriculture, that are focused on:

- considering the farm as a system that exists in the local ecosystem;
- maintaining balance in the relationships within the farming system, as well as those between the farming system and the surrounding ecosystem;
- preservation of a certain degree of biodiversity in the system;
- stimulation of the biological cycle of the system;
- extracting the maximum benefit from solar energy and reducing the use of all types of external input to the absolute minimum;
- preservation of relations with the surrounding ecosystem.

Organic production should be based on the balanced use of nutrients and organic matter in the soil, efficient use of energy, water, soil, plant and animal resources, diversity of genetic resources, nutrient recycling and market flexibility.

Organic production must be on-farm production adapted to local agro-climatic conditions, breeding of local animal breeds and plant varieties, minimum tillage, mechanical control, crop rotations and minimal negative impact on the natural environment.

FIGURE 1. ORGANIC PRODUCTION IN NUMBERS



Source: European Commission

2. Normative regulation of organic farming

2.1. Regulation within the EU

In 2007, an agreement was reached within the EU Council on Council Regulation 834/2007, which sets out the principles, objectives and general rules of organic production and defines labelling of organic products. This regulation, which is still in force, is complemented by several Commission implementing acts on the production, distribution and marketing of organic products.

All these legislation acts are the legal basis for determining whether certain goods can be sold as organic in the EU, including goods that are imported from outside the Union. The regulations also set out how and when the EU organic logo can be used. There are special additional provisions for aquaculture and wine production.

European Union rules on organic farming cover agricultural products, including aquaculture and yeast. They include every stage of the production process – from the seed to the final processed food product. This means that there are specific regulations that cover a wide variety of products, such as:

- seeds and planting material, such as cuttings, rhizomes, etc., from which plants or crops are grown;
- live products or products that do not need additional processing;
- feed;
- multi-ingredient products or processed agricultural food products;

EU regulations on organic production exclude products from fishing and hunting wild animals, but include the collection of wild plants when certain requirements related to natural habitat conditions are met. There are specific rules for wines and aquaculture.

[COUNCIL REGULATION \(EC\) No 834/2007 of 28 June 2007 on organic production and labelling of organic products and repealing Regulation \(EEC\) No 2092/91](#)

[COMMISSION REGULATION \(EC\) No 889/2008 of 5 September 2008 laying down detailed rules for the implementation of Council Regulation \(EC\) No 834/2007 on organic production and labelling of organic products with regard to organic production, labelling and control](#)

Rules for organic production

Organic production is based on compliance with organic farming rules. These rules aim to promote environmental protection, preserve biodiversity in Europe and build consumer confidence in organic products. The regulations govern all areas of organic production and are based on a number of basic principles such as:



- prohibition of the use of GMOs;
- prohibition of the use of ionizing radiation;
- limiting the use of artificial fertilizers, herbicides and pesticides;
- prohibition of the use of hormones and limiting the use of antibiotics only to cases where this is necessary for the health of the animals.

This means that organic producers must adopt different approaches to maintaining soil fertility and animal and plant health, including:

- crop rotation;
- growing plants that enrich the soil with nitrogen and other green crops to restore soil fertility;
- prohibition of the use of mineral nitrogen fertilizers;
- to reduce the impact of weeds and pests, organic farmers choose resistant varieties and breeds and techniques that promote natural pest control;
- promotion of the animals' natural immunological protection;
- to protect animal health, organic farmers need to prevent overstocking.

Rules regarding animals

Livestock farmers must comply with specific rules if they wish to market their products as organic. The rules include animal welfare and animal nutrition in accordance with their needs and are designed to protect animal health and the environment. They help build public trust by ensuring that organic animals are kept separate from non-organic animals. Some of the rules that apply to breeders:

Compliance with the principles of organic production

- Animals that have been raised in a non-organic way cannot be brought onto farms unless they are intended for breeding, and even then this must only be done in compliance with specific rules.
- Farmers must provide 100% organic feed to their animals in order to market their products as organic.
- Feed must be obtained mainly from the farm where the animals are raised or from farms in the same region.
- Animal cloning and/or embryo transfer is strictly prohibited.
- Growth stimulants and synthetic amino acids are prohibited.
- Young mammals should be fed with natural, if possible, mother's milk.
- Natural methods of reproduction must be used, however artificial insemination is permitted.
- Non-organic feed raw materials of plant origin, feed raw materials of animal and mineral origin, feed additives, certain products used in animal nutrition and processing aids may only be used if they are authorized for use in organic production.

Good condition of the animals

- Animal care staff must have the necessary basic knowledge and skills to meet the health and welfare needs of animals.
- Particular attention should be paid to breeding conditions, breeding practices and stocking density.
- The number of animals should be limited with a view to minimizing pasture depletion, erosion or pollution caused by the animals or by the spread of their manure.
- Animals should, whenever possible, have access to open spaces or pastures.
- The tying and seclusion of animals is prohibited, except for individual animals for a limited period of time and only for reasons related to the safety and welfare of the animals or for reasons of a veterinary nature.
- Hormones or similar substances are not permitted except as a form of therapeutic veterinary treatment for an individual animal.
- When animals are sick, the use of allopathic veterinary medicinal products, including antibiotics, is permitted if necessary and under strictly defined conditions. This is allowed only when the use of phytotherapeutic, homeopathic and other products is inappropriate.
- The use of immunological veterinary medicinal preparations is allowed.

Food chain rules

The rules cover all stages of production, processing and distribution (from primary production to storage, processing, transport, distribution and delivery to the final consumer). This means that all organic products in the EU follow strict rules from farm to fork.

Specific regulations for organic food and feed processing include:

- the separation of the processed organic products in time and place from the non-organic ones;
- a minimum content of organic agricultural ingredients of 95% and strict conditions for the remaining 5%;
- clear rules on labeling and which products can or cannot use the organic logo;
- specific restrictions on substances that can be added to food and feed and a limited list of approved additives and auxiliary substances that are used in organic production.

Permitted substances in organic production

One of the goals of organic production is to reduce the use of external resources. Any substance used in organic agriculture to control plant pests or diseases must be approved in advance by the European Commission.

In addition, specific principles guide the approval of external additives, such as fertilizers, pesticides and food additives, so that only substances and compounds specified as approved in specific legislation can be used for organic products.

Processed foods should be produced primarily from ingredients of agricultural origin (not counting added water and table salt). They may also contain:

- products of microorganisms and enzymes, minerals, trace elements, additives, aromas and processing aids, vitamins, as well as amino acids and other trace elements in food products with a specific nutritional application, as long as they are authorized for use in organic production;
- no substances and technologies are used that restore properties lost during processing and storage, that correct the consequences of careless processing or that can otherwise be misleading regarding the true nature of these products;
- non-organic plant ingredients can only be used if they are allowed in the annexes to the legislation or temporarily allowed by an EU country.

And above all, all substances designated for use in organic farming must comply with horizontal EU rules and then undergo a thorough evaluation and approval by the European Commission for use in organic farming.

Rules on wines, aquaculture and hydroponics

Wine

Specific rules have been defined for the organic production of wine, which are in line with the objectives and principles of organic production.

Organic wine must be made with organic grapes and yeast, but a number of other restrictions apply. They include:

- prohibition of the use of sorbic acid and desulphurisation;
- the level of sulfites in organic wines must be lower than that of their conventional equivalent (depending on the residual sugar content).

[COMMISSION IMPLEMENTING REGULATION \(EU\) No 203/2012 of 8 March 2012 amending Regulation \(EC\) No 889/2008 laying down detailed rules for the implementation of Council Regulation \(EC\) No 834/2007, as regards detailed rules on organic wine](#)

Aquaculture

There are also special rules applicable to the organic aquaculture sector. They follow the same general principles as the regulations for all other organic products, but are tailored to the sector. The main features of the Aquaculture Regulation are:

- strict requirements for the maximum density of cultivation;
- water quality requirements;
- rules that require respect for biodiversity and do not allow induced reproduction through artificial hormones;
- minimization of processing to avoid stress and physical damage;



- provision for the use of organic feed supplemented with fish feed obtained from sustainably managed fisheries;
- there are special regulations for the production of bivalve molluscs and seaweed.

[COMMISSION REGULATION \(EC\) No 710/2009 of 5 August 2009 amending Regulation \(EC\) No 889/2008 laying down detailed rules for the implementation of Council Regulation \(EC\) No 834/2007, as regards laying down detailed rules on organic aquaculture animal and seaweed production, which is no longer in force \(date of end of validity is 31/12/2021\) and is implicitly repealed by COMMISSION IMPLEMENTING REGULATION \(EU\) 2021/1165 of 15 July 2021 authorising certain products and substances for use in organic production and establishing their lists](#)

Hydroponics and Aquaponics

EU rules do not allow hydroponic plants to be marketed as organic. This is due to the fact that organic production is only possible when plants are grown naturally in soil. This rule also applies to plants that are grown in an aquaponics system.

However, fish grown in an aquaponic system can be sold as organic if the relevant organic aquaculture legislation is followed.

Organic Seed Database

All plants or crops sold as organic must be grown from planting material (seeds, rhizomes, etc.) that also meet organic production standards.

However, it is sometimes difficult for farmers to find suitable sources of these seeds. EU countries therefore maintain organic seed databases to better connect farmers with suppliers.

New legislation from 2022

The new organic legislation is expected to enter into force on 1 January 2022, after the Commission proposed to delay its implementation by one year. The rules will reflect the changing nature of this rapidly growing sector. The aim of the new regulation is to ensure fair competition between farmers while preventing fraud and maintaining consumer confidence through the following measures:

- simplifying the production rules by gradually removing a number of exceptions and opt-out clauses;
- strengthening the control system thanks to stricter safeguards and strict checks throughout the supply chain;
- manufacturers from third countries will have to follow the same rules as EU manufacturers;
- organic production rules will cover a wider range of products (e.g. salt, cork, beeswax, mate, vine leaves, palm kernels) and there will be additional production rules (e.g. deer, rabbits and poultry);



- facilitating certification for small farmers thanks to a new group certification system;
- a more unified approach to reducing the risk of accidental pesticide contamination;
- exemptions for production in raised beds in greenhouses will gradually be removed.

[REGULATION \(EU\) 2018/848 of the European Parliament and of the Council of 30 May 2018 on organic production and labelling of organic products and repealing Council Regulation \(EC\) No 834/2007](#)

European Union Action Plan on the future of Organic Production

European Union Action Plan on the future of Organic Production aims to help farmers, distributors and traders in the EU adapt to the changes included in the new regulations. It also made a number of specific recommendations aimed at increasing the effectiveness of EU organic policy.

Some of the recommendations in the action plan are:

- regular surveys among consumers to assess the recognition of the EU logo for organic products;
- providing more assistance to EU countries in combating organic fraud and preventing misuse of the organic logo;
- further cooperation with third countries in an effort to increase opportunities for EU importers and exporters of organic food;
- development of an electronic system for import certification;
- promoting the use of organic food, for example in schools, through green public procurement in the EU.

2.2. National regulation of organic production

At the national level, the rules for organic production are governed by the Law on the Implementation of the Common Organization of the Markets in Agricultural Products of the European Union and Ordinance No. 5 of September 3, 2018 on the implementation of the rules on organic production, labeling and control, and on issuing authorization for control activity for compliance with the rules of organic production, as well as for subsequent official supervision of the control persons, repealing Ordinance No. 1 of February 7, 2013.

Ordinance No. 5 of September 3, 2018 defines the conditions and procedure for applying the rules of organic production of plants, animals and aquaculture, plant and animal products, products from aquaculture and food, their labeling and control over their production and labeling according to the requirements of Council Regulation (EC) No 834/2007 of 28 June 2007 on organic production and labelling of organic products and repealing Regulation (EEC) No 2092/91 (OJ L 189, 20.7.2007) (Council Regulation (EC) No 834/2007) and Commission Regulation (EC) No 889/2008 of 5 September 2008 laying down detailed rules for the implementation of Council Regulation (EC) No 834/2007 on organic production and labelling of organic products with regard to organic production, labelling and control (OJ L 250, 18.9.2008) (Commission Regulation (EC) No 889/2008).

The Ordinance determines the creation and maintenance of an information database of:



- the persons who carry out production, processing, storage and trade of agricultural products and food produced according to the rules of organic production, including subcontractors;
- the persons who carry out compliance control of organic production;
- seed, planting material and potato seeds produced according to the rules of organic production.

The Ordinance regulates the application of rules for the transition to organic production, rules for importing organic products and food from third countries in accordance with the requirements of Commission Regulation (EC) No 1235/2008 of 8 December 2008 laying down detailed rules for implementation of Council Regulation (EC) No 834/2007 as regards the arrangements for imports of organic products from third countries according to Art. 25b of LAW IMPLEMENTING THE COMMON ORGANIZATION OF AGRICULTURAL MARKETS OF THE EUROPEAN UNION (LICOAMEU) (OJ L 334, 12.12.2008) (Commission Regulation (EC) No 1235/2008), issuing a permit for control activities and subsequent official supervision of the activities of the controlling persons, including delegation of tasks to the controlling persons, the composition and functions of the permanent interdepartmental advisory commission on organic production, the official control of organically produced agricultural products and food according to Art. 25a of the LICOAMEU and interaction between institutions having competences in relation to supervision and control in organic production according to Regulation (EC) No. 834/2007.

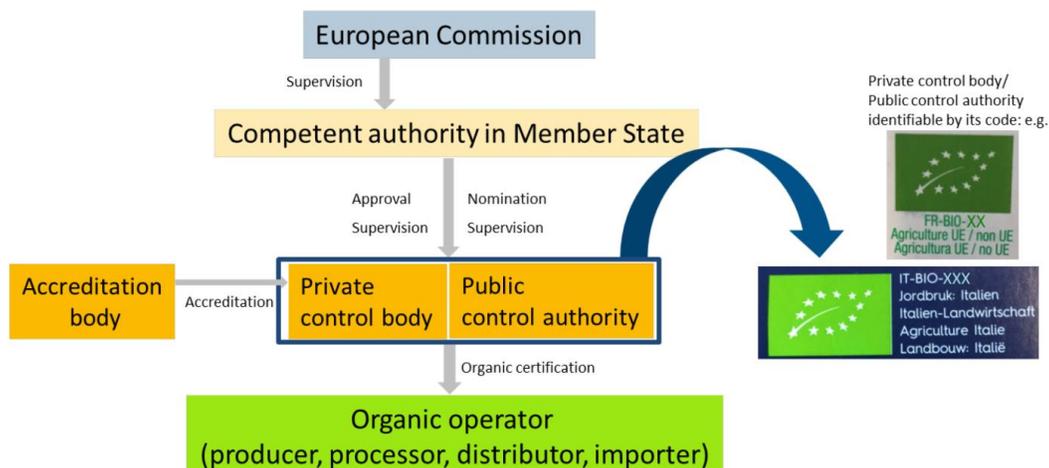
The review of the regulatory documents shows that the Bulgarian legislation defines the criteria that must be met by organic production, with the aim of limiting the possibilities of violating the generally accepted standards and regulations regarding ecological production.

3. Control and certification of organic products

The entire chain from the farm to the final consumer must be controlled and certified by independent and accredited control persons authorized by the Minister of Agriculture and Food to carry out compliance control of organic production.

Private controllers are accredited in accordance with the latest version of the ISO/IEC 17065:2012 standard. The inspections carried out by the accreditation bodies are aimed at the technical competence, independence, impartiality and professional ethics of the supervising persons. Public control bodies do not need to be accredited.

FIGURE 2. CONTROL SYSTEM OF PRODUCTS MADE IN THE EU



Source: EUROPEAN COURT OF AUDITORS

In Bulgaria, there are 16 certifying organizations that have the right to control the compliance of organic production in the country. The following table presents information about them.

TABLE 1. ORGANIZATIONS RECEIVED A PERMIT FROM THE MINISTER OF AGRICULTURE AND FOOD TO CARRY OUT CONTROL FOR ORGANIC PRODUCTION COMPLIANCE

Code	Control organization	Website	License number	Scope
BG-BIO-02	"BALKAN BIOCERT" LTD. UIC/Bulstat-115772457 City of Plovdiv, Municipality of Plovdiv, Plovdiv Region 47, Princess Maria Luisa Blvd., floor 2, apartment 1A, office@balkanbiocert.com, tel.(032) 62 58 88	http://www.balkanbiocert.com	2019-08-23-0024 Date from: 23.08.2019 Date to: 28.02.2023	<ul style="list-style-type: none"> - Processing - Transportation - Plant breeding - Livestock breeding - Import from third countries of organic products - Export to third countries of organic products - Collecting wild plants - Trade and/or storage of organic products

<p>BG- BIO-03</p>	<p>Q CERTIFICATION AD UIC/Bulstat -112598656 City of Plovdiv, Municipality of Plovdiv, Plovdiv Region 42 A, Leonardo da Vinci St. info@qc certification.bg, tel.0896 64 04 81</p>	<p>http://www.qcertification.bg</p>	<p>2020-01-31- 0027 Date from: 29.01.2020 Date to: 29.03.2023</p>	<ul style="list-style-type: none"> - Plant breeding - Collecting wild plants - Transportation - Export to third countries of organic products - Import from third countries of organic products - Trade and/or storage of organic products - Livestock breeding - Processing
<p>BG- BIO-04</p>	<p>"SERES - Certification of environmental standards" LTD. UIC/Bulstat -175207170 city of Sofia, Stolichna Municipality, Sofia (capital) Region 4, Buzludzha St. bulgaria@ceres-cert.com, tel.0878700614</p>	<p>http://www.ceres-cert.com</p>	<p>2020-05-28- 0028 Date from: 28.05.2020 Date to: 02.12.2023</p>	<ul style="list-style-type: none"> - Plant breeding - Collecting wild plants - Import from third countries of organic products - Transportation - Livestock breeding - Export to third countries of organic products - Processing - Trade and/or storage of organic products
<p>BG- BIO-05</p>	<p>LACON - PRIVATE INSTITUTE FOR CERTIFICATION OF ORGANICALLY PRODUCED FOOD PRODUCTS - LTD. UIC/Bulstat -104682688 town of Veliko Tarnovo, Municipality of Veliko Tarnovo, Veliko Tarnovo Region 14, Bulgaria Blvd., entrance A, fl. 3, apartment 6 office@lacon-bg.com, tel.0888 656 327</p>	<p>http://www.lacon-bg.com</p>	<p>2019-01-10- 0010 Date from: 10.01.2019 Date to: 02.12.2022</p>	<ul style="list-style-type: none"> - Export to third countries of organic products - Livestock breeding - Plant breeding - Import from third countries of organic products - Processing - Collecting wild plants - Trade and/or storage of organic products - Transportation

<p>BG- BIO-07</p>	<p>"CONTROL UNION BULGARIA" EOOD UIC/Bulstat -148116122 city of Sofia, Stolichna municipality, Sofia (capital) Region 99, G.S. Rakovski St., floor 7, office 8 and 9 bgcertification@controlunion.com, тел.(052) 605 006, 0882 95 05 53; 888 66 33 53</p>	<p>http://www.controlunion.com</p>	<p>2018-06-11-0011 Date from: 11.06.2018 Date to: 01.01.2022</p>	<ul style="list-style-type: none"> - Trade and/or storage of organic products - Algae and aquaculture animals - Livestock breeding - Export to third countries of organic products - Plant breeding - Collecting wild plants - Processing - Import from third countries of organic products - Transportation
<p>BG- BIO-10</p>	<p>INSTITUTE FOR THE CONTROL OF ORGANIC PRODUCTS BIO HELLAS JOINT STOCK COMPANY UIC/Bulstat -175426883 City of Plovdiv, Municipality of Plovdiv, Plovdiv Region 54, Bogomil St., fl. 1, apt.bulgaria@bio-hellas.gr, тел.(032) 260 656</p>	<p>http://www.bio-hellas.gr</p>	<p>2018-11-02-0012 Date from: 02.11.2018 Date to: 04.11.2022</p>	<ul style="list-style-type: none"> - Processing - Export to third countries of organic products - Transportation - Collecting wild plants - Trade and/or storage of organic products - Import from third countries of organic products - Plant breeding - Livestock breeding - Algae and aquaculture animals
<p>BG- BIO-12</p>	<p>"ECO GROUP ITALY - BULGARIA BRANCH" UIC/Bulstat -201736893 City of Sofia, Municipality Stolichna, Sofia (capital) Region Residential area Iztok, 4 Pierre Degeiter St., bl. 1, app. 29 snezhka.delcheva@ecogruppoitalia.it, tel.0886 738</p>	<p>http://www.ecogruppoitalia.it</p>	<p>2018-06-11-0013 Date from: 11.06.2018 Date to: 12.12.2021</p>	<ul style="list-style-type: none"> - Plant breeding - Trade and/or storage of organic products - Collecting wild plants - Transportation - Processing - Import from third countries of organic products - Livestock breeding - Export to third countries of organic products

	800, 0887 663 669, 0886 800 114			
BG- BIO-14	"SGS BULGARIA" EOOD UIC/Bulstat -000653802 City of Sofia, Municipality Stolichna, Sofia (capital) Region 115 G, Tsarigradsko Shose Blvd., Business Center Megapark, office C, 6th floor sgs_bulgaria@sgs.com, тел.(02) 9 10 15, 0888 774 442	http://www.sgs.com	2020-12-29-0033 Date from: 29.12.2020 Date to: 29.06.2021	<ul style="list-style-type: none"> - Processing - Plant breeding - Trade and/or storage of organic products - Collecting wild plants - Transportation - Import from third countries of organic products - Livestock breeding - Export to third countries of organic products
BG- BIO-15	BULGARCONTROLA AD UIC/Bulstat -831635265 City of Sofia, Municipality Stolichna, Sofia (capital) Region 23 Sitnyakovo Blvd., floor 2 bio@bulgarkontrola.bg, тел.(02) 988 45 41, 0887 59 81 22	http://www.bulgarkontrola.bg	2017-10-20-0016 Date from: 20.10.2017 Date to: 31.05.2021	<ul style="list-style-type: none"> - Import from third countries of organic products - Collecting wild plants - Plant breeding - Processing - Transportation - Trade and/or storage of organic products - Livestock breeding - Export to third countries of organic products

BG- BIO-17	<p>"AGENCY FOR ORGANIC CERTIFICATION" EOOD UIC/Bulstat -203055160 Town of Shumen, Municipality of Shumen, Shumen Region 97, Tsar Osvoboditel St., floor 1, office 26 office@abcbg.net, тел.0877 71 65 68</p>	<p>http://www.abcbg.net</p>	<p>2019-07-18-0018 Date from: 18.07.2019 Date to: 15.01.2023</p>	<ul style="list-style-type: none"> - Plant breeding - Processing - Import from third countries of organic products - Collecting wild plants - Export to third countries of organic products - Transportation - Trade and/or storage of organic products - Livestock breeding
BG- BIO-18	<p>KOSMOCERT certification services – branch UIC/Bulstat -203118625 City of Sofia, Municipality Stolichna, Sofia (capital) Region Residential area Manastirski livadi - East, block 9 B, entrance B, floor 6, apartment 17-B office@cosmocert.bg, tel.(02) 416 52 44</p>	<p>http://www.cosmocert.bg</p>	<p>2018-07-17-0019 Date from: 17.07.2018 Date to: 19.01.2022</p>	<ul style="list-style-type: none"> - Export to third countries of organic products - Collecting wild plants - Livestock breeding - Import from third countries of organic products - Plant breeding - Processing - Transportation - Trade and/or storage of organic products
BG- BIO-19	<p>"MAKOM CERTIFICATION" LTD. UIC/Bulstat -201488864 Town of Veliko Tarnovo, Municipality of Veliko Tarnovo, Veliko Tarnovo Region Bulgaria Blvd. 14B, floor 1 office@makom.bg, tel.(062) 520 677, 088 333 77 32</p>	<p>http://www.makom.bg</p>	<p>2020-05-27-0029 Date from: 27.05.2020 Date to: 23.12.2023</p>	<ul style="list-style-type: none"> - Export to third countries of organic products - Import from third countries of organic products - Livestock breeding - Trade and/or storage of organic products - Transportation - Collecting wild plants - Plant breeding - Processing

BG- BIO-20	<p>"Agro Organic Control" EOOD UIC/Bulstat -203760416 Town of Yambol, Municipality of Yambol, Yambol Region 24 G. S. Rakovski St., floor 1, apartment 2 office@agro-organic.com, tel.0888232422</p>	<p>http://www.agro-organic.com</p>	<p>2020-11-30-0031 Date from: 30.11.2020 Date to: 23.11.2024</p>	<ul style="list-style-type: none"> - Collecting wild plants - Import from third countries of organic products - Livestock breeding - Plant breeding - Export to third countries of organic products - Transportation - Trade and/or storage of organic products - Processing
BG- BIO-21	<p>"Bio Certification" EOOD UIC/Bulstat -203598067 City of Plovdiv, Municipality of Plovdiv, Plovdiv Region, Northern area, 6A Slivnitsa St., fl. 3, office 1 office@biocertification.eu, tel.(032) 21 42 42, (032) 26 42 42, 0888 57 80 47</p>	<p>http://biocertification.eu/</p>	<p>2020-12-23-0034 Date from: 23.12.2020 Date to: 30.11.2024</p>	<ul style="list-style-type: none"> - Processing - Collecting wild plants - Trade and/or storage of organic products - Transportation - Plant breeding - Import from third countries of organic products - Livestock breeding - Export to third countries of organic products
BG- BIO-22	<p>"NUTRAMED" EOOD UIC/Bulstat -201694362 City of Plovdiv, Municipality of Plovdiv, Plovdiv Region, Northern area, 6A Slivnitsa St., fl.6, office 12 nutramed.ltd@gmail.com, tel.0895 66 37 40</p>	<p>http://biocert.nutra-medbg.com</p>	<p>2021-01-19-0035 Date from: 19.01.2021 Date to: 19.01.2025</p>	<ul style="list-style-type: none"> - Import from third countries of organic products - Livestock breeding - Export to third countries of organic products - Processing - Plant breeding - Collecting wild plants - Transportation - Trade and/or storage of organic products

BG- BIO-23	Global Cert Ltd. UIC/Bulstat -204495974 City of Plovdiv, Municipality of Plovdiv, Plovdiv Region 145 Shesti septemvri Blvd., floor 2, apartment 4 globalsert@abv.bg, tel.0884999567	http://globalsert.bg	2021-01-29-0036 Date from: 29.01.2021 Date to: 31.07.2022	<ul style="list-style-type: none"> - Livestock breeding - Export to third countries of organic products - Trade and/or storage of organic products - Transportation - Import from third countries of organic products - Plant breeding - Processing - Collecting wild plants
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Source: Database of producers, processors and traders of organically produced agricultural products and food, Ministry of Agriculture, Food and Forestry

EU control systems for organic production



Source: Commission Regulation (EU) No. 271/2010 of 24 March 2010

The EU logo for organic farming is an indication that a product has been produced in accordance with the applicable EU standards and is subject to the requirements of the control and certification system. For processed products, this means that at least 95% of the ingredients of agricultural origin are organic. Next to the new EU logo for organic products is the code number of the control body, as well as an explanation of whether the agricultural raw materials in the composition of the product are grown in the EU or outside the EU (or both). Individual operators involved in the different

stages of the supply chain have their own procedures for organic products, ranging from simple checks to very complex procedures. These are the main constituents that should ensure that products marked with the EU logo as organic actually meet the applicable standards. The EU has set up a control system where controlling bodies (controllers) carry out inspections of individual operators. These inspections include physical inspections of the production or processing premises, verification of accounting records and sampling of finished products, harvested products, leaves or soil to be tested for the presence of unauthorized substances. Controlling bodies are an essential element of all control and certification systems for organic products. Operators pay for the certificates issued by the controlling bodies. Products manufactured in the EU are subject to different control systems than imported products. The Commission plays an important role in all these systems by supervising the control systems of the Member States and monitoring the participants in the various import regimes.



Control system for products manufactured in the EU

EU Member States can choose whether to set up a private or public control and certification system, or a system that is a combination of both. The majority of Member States have chosen to approve private controllers. Five Member States have designated public controllers, referred to in the legislation as "control authorities", and two have opted for a mixed system. Around 250 controlling organizations and public control authorities are approved across the EU.

Member States must designate one or more competent authorities to be responsible for the approval and supervision of the control bodies and, where necessary, to enforce the measures (including sanctions) provided for non-compliance.

Control system for products imported into the EU

Equivalent third countries

The EU has recognized a number of third countries as applying equivalent organic production rules and control systems. Competent authorities in equivalent third countries should provide guarantees that organic products are produced and operators are inspected in accordance with their standards. The Commission has the right to carry out official controls to check whether the third country's legislation and systems are equivalent to EU rules.

Equivalent control bodies

Imported products from non-equivalent third countries or EFTA countries must be manufactured and inspected to standards that are equivalent to EU rules. For this purpose, the Commission approves private control organizations or public control authorities that certify non-EU organic operators. In this report, they are referred to as equivalent control bodies.

In the case of equivalent control bodies, the Commission acts as a competent authority, which means that it is responsible not only for approving these controllers, but also for monitoring them and, if necessary, withdrawing the approval given (license). The Commission monitors these controllers by reviewing their annual reports and assessment reports issued by the accreditation body. It may also carry out audit visits in order to check the work of the supervised persons.

In the period from December 2017 to July 2018, the European Court of Auditors conducted an audit, and a Special Report was issued in 2019. For the purposes of the audit, visits were made to two Member States: Bulgaria (where the number of farmers developing organic farming has increased sharply in recent years) and the Czech Republic (where organic production occupies a large area). Regarding control and certification, the report makes the following findings and assessments:

- There are improvements in the supervision of the control system for organic products produced in the EU

- There are improvements in the Commission's monitoring of the control systems in the Member States
- In most Member States the control systems are well organized, despite some weaknesses in the supervision of the controlling bodies and at the level of individual inspections.
- In 2014 and 2015, the European Commission audited the Czech Republic and Bulgaria. The Court visited these two Member States and found that they had taken action to improve their control systems. In Bulgaria, however, ongoing weaknesses in the supervision of controlling persons have been identified: The competent authority has not identified some weaknesses during its annual inspections; In relation to the two control bodies visited, there is no evidence that the selection of products to be tested for unauthorized substances is based on a risk assessment as required by the Regulation.
- In Bulgaria, however, additional clarification and appropriate supervision is necessary. It was found that one of the two inspectors visited decided not to apply certain measures specified in the catalog and that both inspectors did not apply the appropriate measure in the presence of unauthorized substances. The competent authority has not reported this in the context of its supervisory activities.
- The exchange of information has improved, but it could be even faster and more extensive
- In Bulgaria, the European Court of Auditors found that the controlling bodies notified the competent authority about certain types of non-compliance with the requirements only in their annual reports. The competent authority did not note these cases during its supervisory activity. It was also found that in the Czech Republic it took inspectors an average of 33 days in 2016 and 55 days in 2017 to report to the competent authority cases of non-compliance affecting the status of certain products as organic.
- In Bulgaria, the controlling bodies do not include information about the origin of the products in their notifications to the competent authority, which does not provide it with the necessary information to decide whether the violation/irregularity should be entered in OFIS or not.
- In Bulgaria, the import of organic products is subject to 100% documentary checks by the food safety authority. However, at the time of the audit, no risk analysis, physical checks or laboratory testing of the imported organic products had been carried out.
- In Bulgaria, the two control bodies visited did not have specific control sheets for importers and instead used the control sheets for "traders", which do not provide for any specific checks related to imports.

4. THE IMPACT OF COVID-19 ON ORGANIC MARKETS. TRENDS IN ORGANIC AGRICULTURE AND ORGANIC PRODUCTION IN BULGARIA

The global pandemic caused by COVID-19 is now in its third year and continues to affect how we live and eat. Issues of personal health and well-being are central to food consumers in order to prevent disease and build personal immunity. Since organic foods do not contain synthetic pesticides, fertilizers, growth enhancers and related agrochemicals, they are considered healthier and safer than conventional foods.

One of the effects of the global pandemic caused by COVID-19 is the huge demand for organic products worldwide. An increase in the demand for such products is also confirmed by the data presented worldwide in the studies carried out on the other activities in the project. In the US, for example, organic food sales increased by 25% in the 17-week period to July 2020. In the UK, organic food sales increased by 18% in the 12-week period to June 2020.

Organic food retailers benefit from emergency measures (lockdown or closure) imposed by national governments. Organic and health food stores are staying open during the crisis, attracting new customers and making more sales. In France, for example, organic food stores report an increase in sales of more than 30% since the beginning of the crisis.

Online retailers reported the highest growth in sales as the pandemic encouraged many people to shop from home. In the UK, analysts predict that online grocery sales will increase by a quarter in 2020. Amazon is widely believed to be the main winner in the current crisis, reporting record sales and profits.

Operators of organic vegetable box schemes are also reporting a jump in sales. The leading operator in this sector reports a 25% increase in sales orders in March 2020 and reports shipments of 55,000 boxes per week.

Online organic food retailers in Asia are also registering such a trend. A leading online retailer in India reported a 30% increase in sales in March 2020.

Another important effect of the global pandemic caused by COVID-19 is that the coronavirus crisis has also led to supply problems. Many organic food companies have international supply networks that have come under pressure. Many of the raw materials used by organic food companies in Europe and North America are produced in other regions. The shutdown disrupted supply chains. For example, India is a major supplier of organic tea, herbs, spices and related ingredients. The emergency measures introduced by the Indian government have halted food processing and exports. Virus outbreaks have caused many companies to think about diversifying their sources.

Given the above, the impact of the global pandemic caused by COVID-19 on the markets for organic products can be summarized in the following directions:

Deglobalization of food supply chains - there is debate over whether COVID-19 has put the brakes on globalization. What is certain, however, is that the pandemic has shown how vulnerable international supply chains are. Supplies of raw materials have been interrupted or disrupted as countries have introduced emergency measures. For example, some countries stopped the export of agricultural products because they imposed a lockdown. The flow of organic ingredients continues to be adversely affected by higher transportation costs and longer delivery times. The current situation with COVID-19 shows that the winners in this crisis



are the companies that have kept their supply chains close to home. Operators who have relied on organic ingredients from other geographic regions are most negatively affected. The future of supply is expected to be more local supply chains, if not regional.

Food security - the pandemic has brought into focus the importance of food security. With existing weaknesses in their supply chains, some national governments have focused on keeping the food supply network moving during the crisis. In the coming years, the expectation is that more governments will invest in local agriculture and food production. Access to safe, sufficient and nutritious food is likely to be high on the political agenda. Organic/bio food production is expected to play an important role in view of the growing acceptance of its and environmental and health benefits. Countries in Asia and Africa, which have traditionally focused on export-oriented organic food industries, will seek to develop domestic markets.

Government support - the above two trends are more likely to be accelerated by government support. National governments are expected to invest more in organic farming to make their food industries more sustainable. Organic farming will also be encouraged as countries look for ways to limit pesticide use and improve soil fertility. As is already clear in the month of May 2020 as part of the European Green Deal the European Commission announced the goal of reaching 25% of organic agricultural land by 2030. The EU Farm to Fork Strategy aims to improve food security in Europe. The strategy plans to reduce the environmental impact of the European food system, reducing the use of chemical pesticides by 50%, the use of hazardous pesticides by 50%, the use of fertilizers by 20% and nutrient losses by 50% by 2030.

Transparency and traceability - the movement towards traceability and transparency in agricultural supply chains is expected to gain momentum. The sourcing of organic ingredients/products is becoming more stringent, the risks of fraud and counterfeiting are increasing. Traceability tools will be used to maintain the integrity of biological products. Blockchain technology is expected to play a key role. One of Europe's major supermarket chains is already using blockchain technology to provide transparency to some of its own-label organic products. The Thai government also plans to use blockchain technology to promote its organic rice in export markets.

Changing consumer behavior - undeniably, COVID-19 has had a huge impact on consumers, changing the way they shop and eat. From the initial panic shopping and stocking up to less frequent shopping and online shopping, the coronavirus is causing a major shift in consumer attitudes and behavior. Sales of organic products are growing during the crisis. However, the demand for plant-based foods, nutritional supplements and natural products is also increasing. Consumers are turning to health and wellness products as they take a closer look at disease prevention and maintenance. A challenge for the industry is to ensure sales of organic products that meet the needs of changing consumer behavior. Sales of organic dairy products have already been affected by the rise of plant-based products. Sales of organic meat may suffer the same fate if consumers do not associate it with healthy ethics and nutrition.

Food retailing - online retailers are the clear winners of the current crisis and are expected to take a larger share of organic food sales in the coming years. Large conventional grocery chains and specialist online organic food retailers are also expected to gain greater market share.



Organic food retailers, especially those in Europe and Asia, must adapt. The growing purchasing power of millennials¹ and generation Z² is expected to accelerate this trend.

Organic foods were first introduced on a large scale in the early 1990s. More than 15 years passed until global sales of organic products reached US\$50 billion in 2008. Ten years later (2018), they surpass the 100 billion USD mark. As COVID-19 changes the way we shop and eat, the next \$150 billion jump could be within the next few years. Currently, demand for organic foods is outpacing supply. Although organic farming is increasing, it is not keeping pace with demand. Organic agricultural land is 75 million hectares, but almost half of it is located in Oceania. In this sense, we cannot speak of general trends that will occur everywhere in the world with the same force, but it is very important to take into account local and regional advantages and markets.

Trends in organic farming and organic production in Bulgaria

The main characteristics of organic production make it an adequate approach to modern realities for the development of high competitiveness and dynamism. The very essence of organic production as a production method based on a new and comprehensive management approach, meeting the requirements of the "farm to table" vision, includes many innovative approaches and opportunities for development in different directions and varieties. Bearing in mind that organic production is a sector that continues to date the positive growth trends of recent years, registered on a European and global scale (both in terms of area and sales), and the fact that it was a main emphasis in a number of legal and strategic documents for the program period 2014-2020, the emphasis is also in the new CAP for the period 2023-2027, as well as due to the growing consumer demand, research goals and tasks are set in the study in relation to its potential to contribute to the sustainable development of rural areas.

In recent years, organic agriculture in Bulgaria is one of the sectors which, in the conditions of crisis, is developing at a rapid pace, with the areas and the number of producers included in a control system constantly increasing. The reasons are related to the very good prerequisites in our country for its development - ecologically preserved areas; awareness and desire of consumers to eat healthy; realized benefits for the environment and rural areas; support for organic producers - as well as the good reception of organic products on foreign markets.

According to the data presented in the IFOAM report for 2020, the area of organic agricultural land in Bulgaria, including the areas in transition, amounts to 116,253 hectares, and according to this indicator, our country ranks 46th out of a total of 170 countries. The table below also presents the data for 2018, 2019 and 2020.

Organic agricultural land for 2018 (hectare)	Organic agricultural land for 2019 (hectare)	Organic agricultural land for 2020 (hectare)	Growth for 2019 (hectare)	Growth for 2019 (%)	Growth for 2020 (hectare)	Growth for 2020 (%)	Growth in 10 years (hectare)	Growth over 10 years (%)
128 583	117 779	116 253	-10 804	-8,4%	-1526	-1,3	91 231	364,6%

¹ Millennials are also known as Generation Y. These are the people born in the period 1980-1995.

² Generation Z – people born in the period 1996 - 2009.

The data in the table show that organic agricultural land in Bulgaria is decreasing consistently in 2019 and 2020, although its overall growth over a 10-year period is maintained.

According to the share of organic areas in the total agricultural land for 2020, Bulgaria ranks 52 out of 164 countries with a share of 2.3%. The data for 2018, 2019 and 2020 are also presented in the table below.

Share of organic areas of total agricultural land 2018 (%)	Share of organic areas of total agricultural land 2019 (%)	Share of organic areas of total agricultural land 2020 (%)
2,56	2,34	2,3

The data in the table show that the share of organic areas from the total agricultural land in Bulgaria is decreasing consistently in 2019 and 2020.

Data on the usability of organic agricultural land in Bulgaria for 2018, 2019 and 2020 are presented in the table below:

Year	Arable crops (hectare)	Perennial crops (hectare)	Permanent pasture (hectare)	Total (hectare)
2018	65 648	29 478	33 713	162 332
2019	63 940	26 486	27 339	117 765
2020	61 249	24 849	30 154	116 252

The data presented in the table above do not show permanent trends of increasing the usability of organic agricultural land in Bulgaria.

The data for the bio-operators in Bulgaria for 2018, 2019 and 2020 are presented in the following table:

Year	Exporters of organic products	Importers of organic products	Processors of organic products	Producers of organic products
2018	4	26	234	6213
2019	2	22	249	5942
2020	2	22	249	5942

The data in the table show that the operators of organic products in Bulgaria are decreasing compared to 2018. It is striking that in general there are too few exporters of organic products - only 4 for 2018 and 2 for the next two years at the expense of importers. Only processors of organic products have increased compared to 2018 by 6.41%. Producers of organic products in Bulgaria have decreased compared to 2018 by 4.36%.

Data on retail sales of organic products, share of sales of organic products from all retail sales, consumption of organic products per capita and export of organic products for Bulgaria for 2018, 2019 and 2020 are presented in the following table:

Year	Organic consumption per capita [€/person]	Organic retail sales [million €]	Organic growth of retail sales (1 year) [%]	Share of organic retail sales [%]
2018	4,11	30	6,5	0,44
2019	4,25	30	0	0,44
2020	5	33,27	10,90	0,44

The data in the table show a minimal growth in organic consumption per capita expressed in euros per person. Retail sales of organic products remained at a relatively the same level in all three years.

The data on the import of organic products in Bulgaria for 2018, 2019 and 2020 are presented in the following table:

Year	Import of organic products [ton]
2018	12 280,60
2019	14 847,12
2020	15 330,70

For 2018, 2019 and 2020, the area of wild areas is 307,020 hectares, for which there is no information about what species there are in these areas.

The number of biological beehives in Bulgaria for 2018, as well as for 2019, is 264,069. The number is the same for 2020. According to this indicator, Bulgaria ranks 3rd out of a total of 62 countries after Brazil with 629,939 and Zambia with 368,274 hives. Bulgaria is followed by Romania with 262,154 hives, France – 245,192, China – 229,084, Italy – 171,094, Spain – 158,050.

Regarding the production volume of organic aquaculture for 2018, Bulgaria reports 2,000 tons, for 2019 - 5,004 tons, and for 2020 - 3,004 tons.

The data on organic crops grown on the territory of Bulgaria for 2018, 2019 and 2020 are presented in the following table:

Cultures	Organic agricultural land (hectares)			Organic agricultural land certified (hectares)			Share of organic agricultural land (%)			Organic agricultural land in transition (hectares)		
	2018	2019	2020	2018	2019	2020	2018	2019	2020	2018	2019	2020
Apples	681	754	705	354	478	500	17,11	18,21	19,8	327	276	205
Apricots	314	333	350	179	244	249	12,31	11,44	19,02	135	89	101
Barley	1678	1682	1919	997	1408	1765	1,62	1,5	1,47	681	275	154
Forest fruits	1429	1602	1215	795	1089	974				634	513	241
Cabbage	15	20	17	8	11	11	0,71	0,99	1,01	6	8	6
Cherries	2716	2342	2257	1484	1698	1727	24,19	19,26	19,24	1232	643	531
Fruits, moderate, other	32	35	55	17	22	45	40	87,5		15	13	9
Fruits, tropical and subtropical, no details	44	36	42	32	32	37				12	4	5
Mix of grain corn and cobs	1362	1818	1124	1135	1686	1052	0,31	0,32	0,19	227	132	72
Grapes, no details	3990	3611	3747	2442	2967	3139				1548	644	608
Linseed (linseed oil)			12			12						
Nectarines	13	1	7	11	1	7	10	0,5	11,67	2		
Nuts, no details	15520	14135	12744	9894	12202	11844				5626	1933	900
Oat flakes	248	224	682	196	175	589	2,19	1,84	5,09	52	49	93
Oilseeds, other	56	183	53	56	165	53	0,79		0,88		17	
Other cereals	1910	1324	1087	1272	1163	1019	66,32	36,47	19,2	638	161	69
Peaches	284	267	248	184	182	171	8,35	8,84	14,17	100	86	78
Pears	171	110	93	80	97	58	30	15,71	18,6	91	13	34
Plums	4211	3259	3261	1402	1923	2148	57,21	40,64	38,05	2808	1336	1113



Research on bio production in Haskovo region

Interreg
Greece-Bulgaria
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European Regional Development Fund



Potatoes	497	537	433	320	405	332	3,52	5,78	4,35	178	132	101
Protein cultures, no details	14579	12380	12245	9028	11154	11038				5551	1227	1208
Pulses	1192	547	375	648	517	373		47,57	34,4	545	30	1
Rapeseed	1280	955	302	1271	948	302	0,7	0,63	0,25	9	7	
Rice	137	137	227	1,25	137	227		1,16	1,84	137		
KoRoot crops, other култури, дъзу	207	3		159	3		34,5	15		48		
Rye	123	142	261	106	123	230	1,48	2,33	4,88	17	19	30
Soy	109	2	905	4,7	2	904		0,05	20,07	109		1
Strawberries	243	216	235	188	166	200	33,29	30,42	31,76	56	50	35
Sunflower seed	7518	9496	8798	6831	8441	8006	0,95	1,16	1,07	687	1056	792
Textile crops, no details	176	383	341	4	8	22				173	375	319
Vegetables, fruits	1125	1250	935	817	1091	823	5,92	6,15	5,64	308	159	118
Vegetables, leafy or stalked	21	56	31	15	34	30	2,56	6,67	3,78	6	22	2
Vegetables, others	69	175	24	55	167	22				14	8	1
Vegetables, tubers and bulbs	592	385	485	479	301	439	10,21	8,89	13,07	113	84	46
Wheat	12218	12519	10250	10488	11129	9523	1,01	1,04	0,85	1730	1390	727

The data in the table show that as of 2020 the biological area is the most with nuts (without specifying species), followed by protein crops (without specifying species) and wheat. The distribution of fully certified organic areas is the same. It is noteworthy that there is no clearly expressed increase in biological areas for all crops, for many of the crops there is even a decrease in biological areas, from which it can be concluded that the tendency to increase biological areas in Bulgaria is very weak for the period 2018- 2020. At the time of preparing the research, there is no official data on the organic areas for 2021. In March 2022, within the framework of the thematic conference of the Agra 2022 exhibition in Plovdiv, the Deputy Minister of Agriculture Ivan Hristanov announced that for 2021, the areas for organic production decreased by 30,000 hectares or from 2.32% bioareas fell to 1.7%. (<https://agri.bg/novini/ministerstvoto-za-edna-noshch-bioploshchite-u-nas-se-stopikha-s-edna-treta>).

Bulgarian agriculture is characterized by favorable soil and climate conditions for the production of agricultural products, including biological ones. Sustainable agriculture is a national priority for Bulgaria, as defined in the National Development Program of Bulgaria 2030, within the development axis "Green and Sustainable Bulgaria". In recent years, there has been an ever-increasing demand for healthy and biologically pure products from consumers. This is due to the fact that more and more people prefer to consume high-quality products that are produced using environmentally friendly methods. Agriculture, as a traditional industry for Bulgaria, is of strategic importance, not only because it ensures food security, creates raw materials for many other industries and sectors of the national economy, but also provides work and income for a significant part of the population in rural areas. At the same time, the sector is among the most dynamically developing in terms of modernization, robotization, digital and digital transformation, also in view of climate and green challenges on a global scale. It is the agricultural sector that is at the center of the circular economy and bio-based societies.

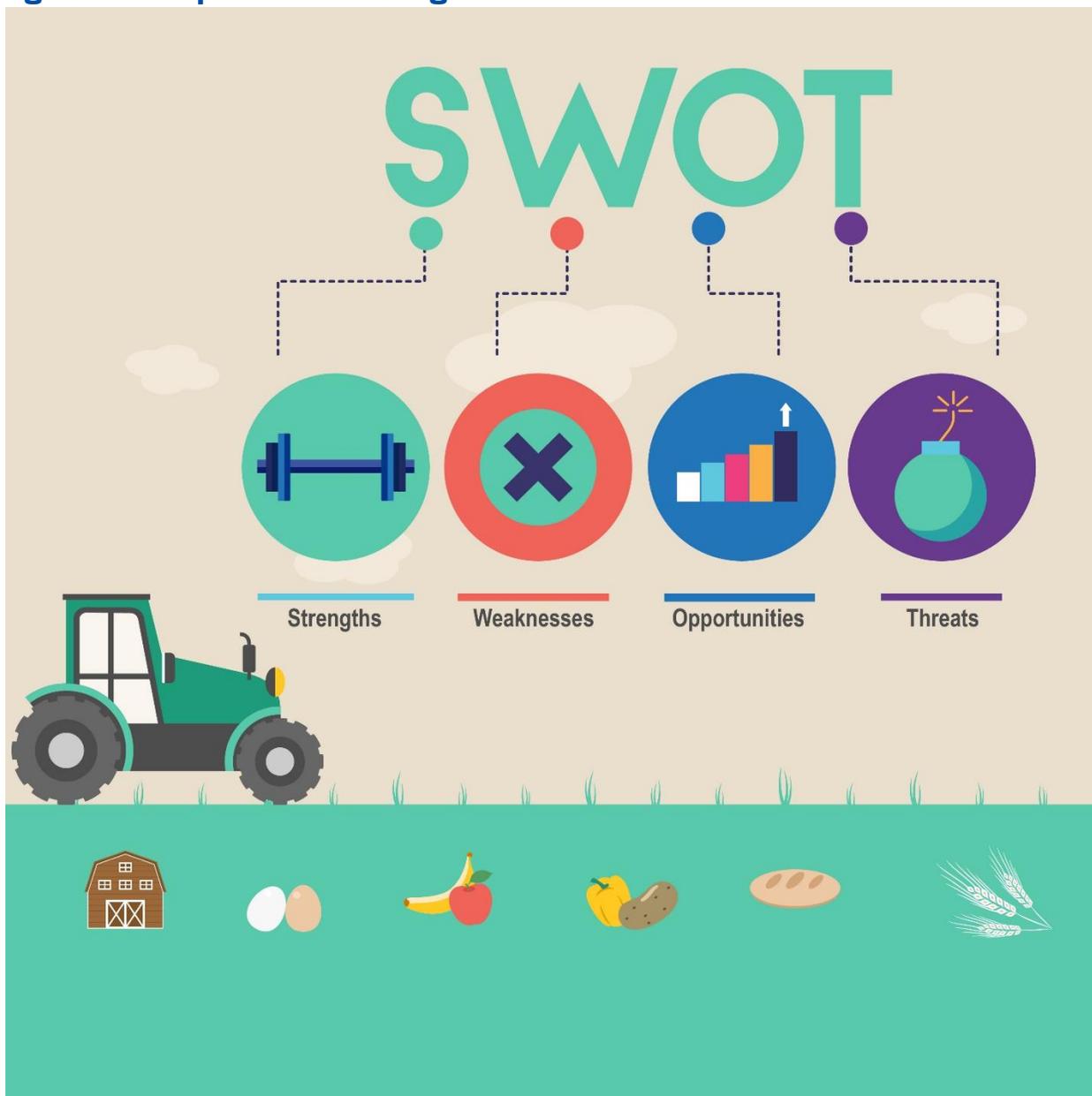


Organic farming is an important priority in the agricultural development policy in the Republic of Bulgaria. It is also one of the highlights of the Common Agricultural Policy for the period 2014-2020, as well as the new CAP for the period 2023-2027. The adopted European standards for ecological and organic production, for food quality, etc., act as indirect regulators of the Community to protect the environment and ensure food safety and animal welfare.

Bulgaria has the most dynamically developing organic production and organic agriculture in the EU in recent years, but the potential that the sector has, related to the favorable climatic conditions and ecologically preserved areas, is not utilized to a sufficient extent. Although in the period 2008-2016 organic operators in Bulgaria grew more than 22 times, and the areas on which organic production methods are applied increased almost 10 times, reaching 160,620 ha or 3.2% of the total used agricultural area in the country, Bulgaria still lags behind by more than two times from the EU average values in terms of areas committed to organic production.

In addition, our country ranks last in the EU in terms of resource productivity - the rate of circular (secondary) use of materials in our economy (for 2016) amounts to only 4.3% compared to the EU average of 11.7%.

5. Presentation of a SWOT analysis of the organic production of agricultural products in Bulgaria



The present SWOT-analysis is based on information from the National Action Plan for the Development of Organic Production and presents a selective breakdown of the strengths and weaknesses of organic agriculture in Bulgaria. In order to carry out an analysis and study of its condition on the territory of Haskovo region, it is necessary to consider the opportunities and threats defined by the Ministry of Agriculture, Food and Forestry. In the presented breakdown, other interpretations and conclusions from various relevant sources - reports, scientific developments, manuals for organic products, presentations, etc. are added, which most accurately summarize the elements included in the SWOT analysis.

5.1. Strengths

- There are environmental benefits - Nitrates reduced by 35-60%, absence of pesticide residues - safe products and food, water protection. Improved bio-physical soil indicators (Higher level of biomass, organic matter, enzyme activity, stability of aggregates, etc.; reduced erosion up to 4 times, increased infiltration) etc.
- Conservation of biodiversity: Organic farming preserves natural habitats and biodiversity by limiting artificial fertilization, reducing the proportion of pasture on farms and stimulating the development of local varieties and breeds;
- Bulgaria has suitable soil and climatic resources for the development of organic agriculture.
- Compared to the small number of organic operators in 2009 (446), by the end of 2019 they were 6,213 according to data from the Research Institute of Organic Agriculture (FiBL)
- According to data from the Research Institute of Organic Agriculture (FiBL), organic areas increased from 12,320 ha in 2009 to 117,779 ha in 2019.
- In 2015, Bulgaria became the leader in Europe in terms of the number of beehives grown in accordance with organic farming methods, which is a prerequisite for expanding the production of organic bee products
- Bulgaria is the largest producer of organic rose and lavender oils in the world. This fact, as well as the growing production of other diverse organic essential oils such as lemon balm oil, strengthens its position as a traditional and sought-after producer of these essential oils. This defines the country as a key producer with traditions in the production of raw materials for organic cosmetics
- In recent years, new sales channels have been established throughout the commercial network;
- The network of specialized stores for organic products and food and specialized forms of marketing is being consolidated;
- Branch organizations of producers, processors and traders of organic products are functioning
- NGOs and consulting organizations with practical experience in applying organic farming technologies are functioning
- There are measures to support organic crop and animal husbandry, as well as organic beekeeping under the Rural Development Program 2014-2020 (Measure 11)

5.2. Weaknesses

- Inefficient production due to relatively small sizes of organic farms and lower average yields compared to equivalent organic crops and products in Europe
- Expansion of the volumes of the registered sites stimulated by the possibility of receiving subsidies, without a real increase in yields
- Declared yields for many of the crops are several times lower than conventional ones, which makes production unprofitable
- Limited production of organic feed

- Small number of processing enterprises for some of the sectors
- Insufficiently qualified workforce in the field of organic production
- There are no guarantees for those who start organic production that there will not be an activity threatening organic farming nearby
- Producers of organic seeds and planting material do not receive special support for this activity, which leads to an underdeveloped market for organic seeds and planting material
- Limited number and capacity of laboratories for testing primary organic agricultural production and processed production
- Insufficient level of application of scientific achievements in organic farms in Bulgaria
- Bulgarian organic farms, for the most part, lag behind technologically
- The majority of organic farmers follow the logic of conventional production and believe that if necessary they can use pesticides and drugs, but allowed for organic production
- There is no built-up integrated network for consultations on organic farming at the national level, which results in the following negative consequences: 1. Small and medium-sized organic producers are looking for advice, training, consultations, but if possible free of charge - from colleagues, from companies selling fertilizers and plant protection preparations, as well as from companies buying their production; 2. Part of the organic farmers expect from the inspectors of the controlling bodies consultation and advice on how to solve a given problem or implement a certain recommendation, and consider this service as part of the payment of the control; 3. Large organic producers pay for professional consultations, including consultants from abroad to solve specific problems and introduce innovations in production; 4. Several educational, scientific and consulting organizations offer advice and training on organic farming at market prices, but the small number of consulted farms does not allow them to constantly improve including their qualifications, because this activity is not their main activity.
- Applied scientific research and technologies for organic production in Bulgaria are not enough, and those that are being developed are not sufficiently popularized among organic farming practitioners. There is a special need for research and modern solutions in the processing of food and beverages, in the production of organic cosmetics. None of the universities and scientific institutes in this area work in the field of organic production and processing.
- Weak connection between science, business and the state, expressed in a lack of synchronization and a common vision for the development of scientific research, organic production and state policies and priorities for the development of agriculture, science and the economy and due to: insufficiently developed skills for applying strategic management and marketing in the field of science; farmers do not participate in determining the research topics of the institutes of the Agricultural Academy and higher education institutions;
- Insufficient use of modern ICT
- Lack of coordination between providers of organic farming consultancy

- The work organization and financing of the Agricultural Academy does not correspond to the needs of organic farming
- Periodic specialized scientific and scientific-applied publications are missing
- Lack of information campaigns aimed at consumers about the benefits and advantages of organic products
- Insufficient consumer-oriented information and popular literature on organic farming issues
- Absence of a state policy for the inclusion of organic products as a mandatory ingredient in the menus of kindergartens, schools, social and health institutions
- There is a lack of sufficient protection of the term "bio"/" organic" by the institutions
- There is a lack of information about the needs of consumers of organic produce
- There is no information on the sales turnover of organic products in the country - Bulgarian and imported
- There is a lack of information on the market realization of organic products produced in Bulgaria outside the country
- There is no promotion strategy in the domestic market
- Higher prices for organic products in Bulgaria, compared to equivalent organic products in other countries, as well as a weak competitive position of organic products compared to equivalent conventional products in the country, due to the small volume of the market, very low quality and imitations of the conventional market
- Practices of realizing organic production as conventional
- There is a lack of clarity and trust in the sector and "bio"/" organic" is not a sufficient guarantee for a product
- The processing of organic products is outside the area of production, even outside the country
- There is no specialized stock market for organic products
- Weak positions of Bulgarian organic products on the foreign market due to: 1. export not of final products but of raw materials; 2. lack of participation in world exhibitions; 3. lack of a strategy for disseminating information to the foreign market; 4. insufficient information on the foreign market of organic products; 5. Lack of confidence in agricultural control caused by the actions of institutions and trust only in certain brands and producers; 6. there is no policy to support exports;
- Prevailing confusion among consumers about what "organic" means. This ambiguity is taken advantage of by many producers who use non-regulated definitions without specific meaning such as "farm", "natural", "homemade" as equivalent to "bio"/"organic" products.
- Lack of association attitudes among producers, which is a barrier to the successful market realization of niche products with a growing market, but looking for larger batch quantities, as an example is e.g. the organic wine market
- There is no practice of using a variety of sales methods, incl. "green sales" (futures transaction), mainly caused by the lack of market incentives at the expense of the incentive to receive subsidies

- There is a lack of consensus on the understanding of the concept of "development" of organic agriculture
- Better targeting of support for the measure(s) promoting organic production is needed, incl. by changing the indicators to measure the results of its/their application.
- The resources available to Organic Production Department of the Ministry of Agriculture, Food and Forestry are extremely insufficient for the tasks it is charged with. It is the weakest link in the entire system
- The created Bioregister, which should provide reliable and complete information and transparency regarding the operators and the control system, as well as efficient interaction between the controlling bodies and the administrative structures, does not fulfill its functions
- The current control system cannot guarantee operators' compliance with organic production rules
- Lack of efficient communication and feedback to controlling bodies on behalf of the persons inspecting the operators (by State Fund Agriculture, Bulgarian Food Safety Agency, etc.)
- Интернет продажбите на биологичните продукти не са включени в системата на контрол
- The availability of support under measure 11, as well as the prioritization of organic producers' projects when applying for investment measures under the Rural Development Program, attracts to the organic sector many farmers without prior knowledge and real interest in the development of organic agriculture. In most cases, these farmers formally fulfill their commitments until their end, or until the end of the monitoring period, and there are many cases of zero effect in relation to the production of organic products
- Non-permanent financing for the presentation of organic products at national exhibitions (lack of security and predictability)

5.3. Opportunities

- Stimulation of bottom-up local economic initiatives and cooperative attitudes
- introduction of local organic products in the food offered in state and municipal facilities, hospitals, schools, military units, etc.
- the Bulgarian organic sector has a number of advantages determined by traditional agricultural practices in the country and the socio-demographic features of rural areas
- There are meat breeds and varieties that can make organic production more profitable
- Expanding the number of producers covered by associations, improving the administrative capacity of the Association of organic producers in order to better inform and connect all stakeholders in the organic sector
- Availability of various raw materials for organic cosmetics, knowledge and experience in the production of cosmetics, high prices and high demand in Bulgaria and Europe
- There are suitable conditions for the development of scientific activity for organic production

- There is seed material for organic seed production
- A large part of the new organic producers are young people who are more open to knowledge and innovation
- The limited financial resource for support is a factor that contributes to organic production to include organic producers who do not rely only on subsidies, have a well-calculated business plan, rely mainly on the market and modern technologies
- Huge demand for healthy and clean products globally is helping the sector
- Creation of independent specialized exchanges for organic produce in large cities
- Considering the growing markets for organic wine in Europe, this market niche can be used to develop the production of organic wine in Bulgaria
- Introduction of programs in universities to provide competent people for the sector
- Linking the environmental policies of the state with organic farming and presenting the benefits of this
- Promotion of exports by supporting participation in exhibitions and organizing visits and bilateral meetings with buyers from other countries
- Motivating traders to allocate space for organic food
- Involvement in funding programs aimed at sustainable development
- There is a real demand for Bulgarian organic products from many European companies
- Establishing and strengthening of ORGANIC administrative unit in the Ministry of Agriculture - establishment of "Organic Production" Directorate with a larger number of employees and good competences to carry out objective and professional audits of the controlling bodies
- Establishment of an Advisory Council on organic agriculture
- More active involvement of organic producers in the decision-making process for the sector
- Inclusion of measures and schemes in the Strategic Plan of Bulgaria, which directly or indirectly stimulate the development of organic production in the country
- Introduction of criteria for the selection of project proposals and introduction of restrictions that ensure a fair and appropriate allocation of funds
- Analysis of state aid funding for disease and pest control programs, quality certification and small processing lines

5.4. Threats

- Strong fragmentation of agricultural properties, incl. and for small farms, which, given the weak processing industry, poor information and transport infrastructure and the lack of an adequate storage and distribution network throughout the country, makes efficient and competitive production difficult
- The underdeveloped processing sector in organic production holds back the development of organic agriculture
- Development incentives within the framework of the 2007-2013 RDP are predominantly short-term and not tied to a long-term commitment to the production and market realization of organic goods - raw materials and processed products



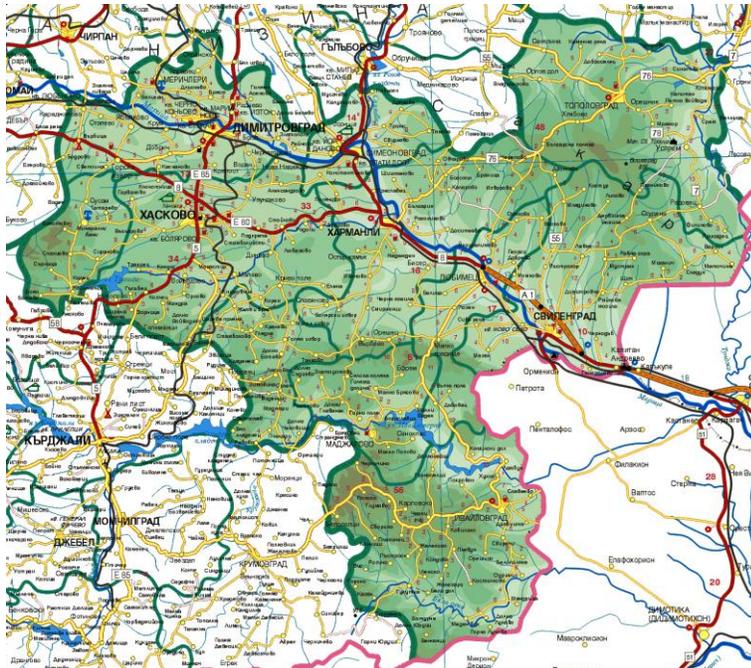
- The main threat remains the motivation of organic producers and the decisive factor for it is the subsidies
- Lack of interest on the part of organic producers in scientific developments and scientific technologies for organic production
- Difficult protection of experimental areas and unscrupulous contamination with chemical substances
- Insufficient research funding
- Collapse of public trust in the organic sector due to scandalous situations
- Lack of trust in control
- The depopulation of rural areas is a threat to the long-term provision of reliable, qualified and committed human resources for organic farming – both for entrepreneurial initiatives and as hired labor
- The low purchasing power of the population, especially in rural areas where organic produce is produced, threatens the development of the market for organic goods in the long term
- Bulgarian organic production exists in an extremely competitive environment of more efficiently produced and cheaper organic imported goods
- Depreciated and in some places non-functioning agricultural infrastructure
- Insufficient administration capacity to respond to the challenges facing the sector and to strengthen consumer confidence in organic products
- The financial support for the ORGANIC sector during the 2021-2027 program period should remain as before only in MEASURE 11 (or its equivalent in the future) at the same or similar levels and conditions
- The financing of consultancy services and professional training for organic producers in the 2021-2027 program period should remain in the same format or under the same conditions as before.



STATUS AND POTENTIAL FOR THE DEVELOPMENT OF ORGANIC PRODUCTION IN HASKOVO REGION

1. Natural and geographical features, agriculture and advantages

1.1. Brief description of Haskovo Region



Haskovo Region is located in the southeastern part of the South Central Region. It includes 261 settlements organized in 11 municipalities: Haskovo, Dimitrovgrad, Harmanli, Simeonovgrad, Svilengrad, Madzharovo, Ivaylovgrad, Lyubimets, Mineralni Bani, Stambolovo and Tropolovgrad with a total area of 5533 km². 225,317 people live in the controlled territory of Haskovo Region as of 31.12.2019, which represents 3.2% of the country's population. 162,659 people live in the ten cities of the region, or 72.2% of the region's population.

The relief of the area is very diverse. The northern and central part is occupied by the Upper Thracian lowland, characterized by extensive riverine lowlands and high groundwater levels, which favor the intensive use of agricultural land. The flat nature of the relief and fertile soils have a positive effect on the development of all branches and sub-branches of agriculture, the construction of irrigation systems and transport arteries. In the south, a large area of the region is occupied by the low branches of the Eastern Rhodopes and the slopes of the Sakar mountain. The Eastern Rhodopes are a unique territory, distinguished by a rich flora and fauna. The strong Mediterranean influence, the geological past of the mountain and the peculiarities of the local way of life and culture have helped to form and preserve diverse habitats, and this has led to an extremely wide biological diversity.

Mineral resources are represented by fuel and energy resources, non-ferrous metal ores and non-metallic minerals. Part of the Maritsa basin is located in Haskovo region, in which the geological reserves of lignite coal represent 18.3% of those of the country. Currently, the mining of lignite in the Haskovo region has been stopped - the old mines are closed and such mining is carried out only from mines outside the region. In recent years, the mining of lead-zinc ores has been discontinued, but at the same time a deposit of gold-bearing ores has been developed.



The sources of non-mineral fossils are of greater economic importance. The area has proven large reserves of non-metallic mineral resources: limestone, marbled limestones, andesites, dolomites, rhyolites and rock-facing materials (gneiss schists) and clays. Limestones have the greatest importance and reserves, the production of which has increased in recent years, both for the needs of the cement industry and as a raw material for the desulfurization facilities in the "Maritsa East" TPP. Mining of minerals for general and road construction (marbled limestones, andesites, dolomites, rhyolites) and especially of gneiss schists in Ivaylovgrad area is also growing.

Water resources are formed mainly due to the outflow of the Maritsa River and its tributaries - Harmanliyska, Varbitsa and Byala Reka. This water runoff represents 5.8% of the country's river runoff without the Danube River. Another source for the formation of the water resource potential is underground groundwater, which represents 7.3% of its total quantitative volume for the country.

There are several mineral springs on the territory of the region - near the village of Mineralni Bani, the town of Merichleri, the village of Troyan, the municipality of Simeonovgrad and others.

Among the industrial branches with traditions are machine building for the food industry, the production of air conditioning and refrigeration techniques, metal cutting machines and others. Chemical industry has traditionally been represented on the territory of Dimitrovgrad municipality. The furniture, footwear, leather and food industries are also developed in the region. Wine production is developing rapidly.

Small and medium-sized enterprises in Haskovo region play an important role in accelerating economic processes and optimizing the production structure of the regional economy. Most of them operate in the field of services and trade, followed by tailoring, knitting companies, those for the production of bread and bakery products, meat and milk processing workshops and others.

Agriculture is one of the leading industries for Haskovo region and creates employment for a large part of the population. The region has extremely favorable soil and climate conditions for the development of crop production. A wide variety of agricultural crops are grown, among them: wheat, barley, corn. The most widely grown among the technical crops are sunflower, cotton and tobacco., there are extremely favorable conditions for the cultivation of arrays of perennial crops in Haskovo region - strawberries, raspberries, sour cherries, cherries, apricots, peaches and others.

Traditionally, vineyards are grown in the region. The region is known for the good varieties "Merlot", "Cabernet Sauvignon", "Pamid" and "Bolgar". The several wine centers on the territory of the region attract the followers of the so-called "wine tourism". The livestock breeding sub-sector is developed exclusively in the private sector. Cows, sheep, goats and pigs are mainly raised. In recent years, there has been a significant increase in farms for breeding ducks, etc.

1.2. Demographic characteristics of the region

In 2021, the trend of decreasing population in Haskovo region continues. According to NSI data, as of 07.09.2021 (18th census of the population and the housing stock in Bulgaria), the population of the region was 211,565 people, and according to data from the Regional Development Strategy 2014-2020, as of 01.02.2011, the population was 246,238 people. During the ten-year period between the two censuses, a population decrease of 34,673 or 14.1% was registered. This shows that the population of the region decreased by an average of 3 467,3 people per year.

Also striking is the rapid rate of population decline. Compared to 2020, as of 31.12.2021, the population decreased by 3,356 people, or by 1.5%. There are 102,165 (48.3%) men in the region, and 109,400 (51.7%) women, or 943 men for every 1,000 women in the region.

With regard to the age structure of the population, for the purposes of this research, the following table is presented, which distributes the population in the region in different age groups, considered by the statistics as of 07.09.2021.

TABLE 2. POPULATION IN HASKOVO REGION BY AGE AND GENDER

AGE GROUPS	(number)		
	TOTAL	MEN	WOMEN
Total	211565	102165	109400
0 - 4	8721	4433	4288
5 - 9	10158	5230	4928
10 - 14	11094	5667	5427
15 - 19	9733	5045	4688
20 - 24	8071	4273	3798
25 - 29	8504	4413	4091
30 - 34	11095	5783	5312
35 - 39	12783	6704	6079
40 - 44	14748	7620	7128
45 - 49	15862	8244	7618
50 - 54	15183	7656	7527
55 - 59	15613	7652	7961
60 - 64	16717	7949	8768
65 - 69	16423	7432	8991
70 - 74	14476	6020	8456
75 - 79	10006	3851	6155
80 - 84	6850	2408	4442
85+	5528	1785	3743

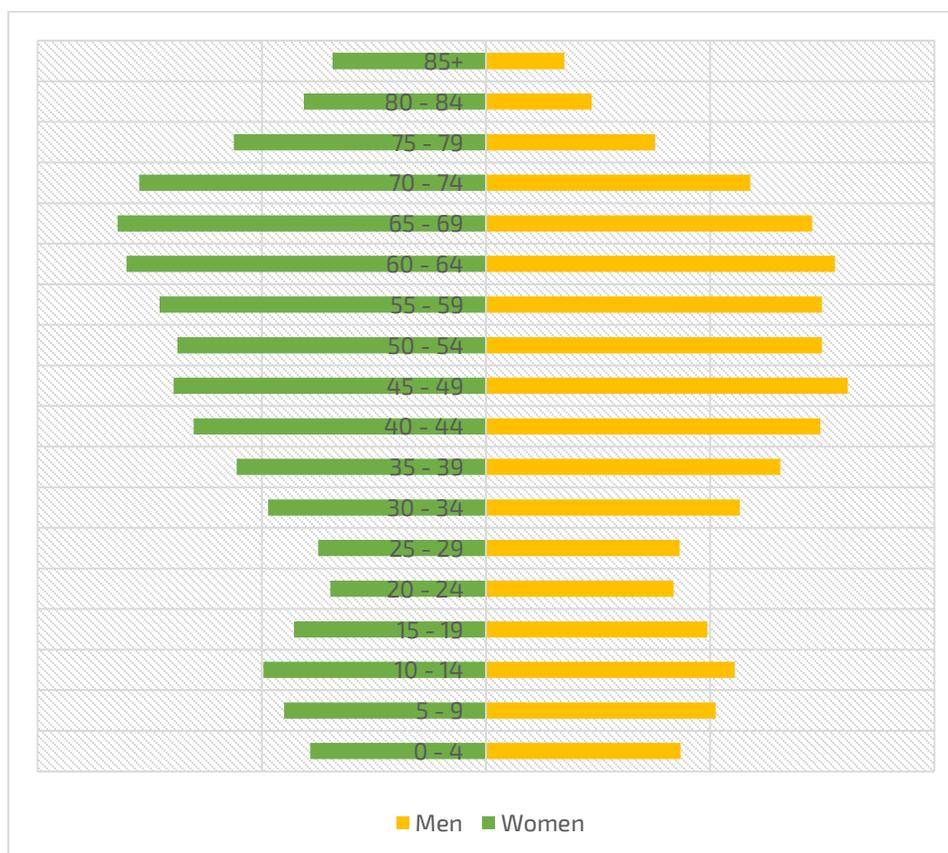
In relation to the gender structure of the population, the data from the census of the population and the housing stock in Bulgaria in 2021 indicate that the difference between the number of men /102,165/ and the number of women /109,400/ is 7,235. For comparison, the difference between the number of women and men in 2011 in Haskovo Region was 5,618 and in general

the tendency at the national level for a correlation between the greater number of women and the negative natural increase is preserved.

The characteristics of the gender-age structure of the population of Haskovo region as of 07.09.2021 /number of people falling into different age groups and their distribution by gender/ are reflected by means of the gender-age pyramid of the population presented below.

The gender-age pyramid best represents the characteristics of the population in Haskovo region - the narrow structure at the base of the so-called pyramid and the narrowing at the top speaks of the low birth rate and death rate, which also characterizes the negative natural increase. Characteristic of the gender-age structure of the population in the region is the convex part of the pyramid in the age groups /60-64/, /65-69/, which emphasizes the age structure of the population, characteristic of the whole country, and in terms of gender, the left part of the figure highlights the greater number of women in the municipality.

FIGURE 3. THE GENDER-AGE PYRAMID OF THE POPULATION IN HASKOVO REGION AS OF 07.09.2021.



The population of working age as of 31.12.2021 in Haskovo region is 127,891 people, which is 58.a% of the population of the region, with men being 68,215 and women - 59,676. The number

of the working-age population in the region in 2021 is decreasing by 1,636 people, or by 1.3% compared to the previous year.

The population over working age is 5,134 people, which represents 26.4% of the total population in the region.

TABLE 3. POPULATION UNDER, WORKING AND OVER WORKING AGE IN HASKOVO REGION IN THE PERIOD 2013-2021

	2013	2014	2015	2016	2017	2018	2019	2020	2021
Under working age	34 631	35 090	35 438	35 256	35 566	35 304	34 853	34 600	34 244
In working age	144 239	141 871	140 267	137 826	135 551	132 908	130 561	129 527	127 891
Over working age	60 442	60 703	60 678	60 333	60 159	59 929	59 903	59 498	58 134

The average age of the population in the region at the end of 2020 was 45.0 years, with an average age for the country of 44.0 years. For men, the average age is 43.2, and for women - 46.8 years.

At the end of 2021, there are 261 inhabited places in Haskovo region - 10 towns and 251 villages. As of 31.12.2021, 71.7% of the region's population lives in cities, and 28.3% - in villages. The main factors that influence changes in the number and structures of the population are demographic processes - birth rate, death rate and migration.

Through the data presented below, the labor market and income of the population in the district is considered, namely:

- In 2021, the economically active persons aged 15 - 64 were 93.4 thousand, or 67.5% of the population of the same age.
- The total number of employed persons reaches 95.6 thousand, or 50.3% of the population aged 15 and over.
- Employed persons aged 15 - 64 are 91.9 thousand.
- The employment rate for the population aged 15-64 is 66.3% (71.6% for men and 60.8% for women).
- The employment rate for the 55-64 age group reached 63.6%.
- Economically inactive persons aged 15 - 64 are 45.1 thousand, of which 19.4 thousand are men and 25.7 thousand are women.
- The number of employed persons with higher education is 19.2 thousand, with secondary education - 61.1 thousand and with primary and lower education - 11.6 thousand.
- The employment rate for persons with higher education is 84.0%, for persons with secondary education - 74.5% and for persons with primary and lower education - 34.6%.

The table below presents information on the number of persons employed in the region in 2021 and the average annual salary, distributed by economic sector. The data show that in 2021 the number of employed persons amounted to 49.758 people. Most of them are employed in the manufacturing sector. This highlights the specification of the economy in the area, which leads the manufacturing industry for this indicator. In the structure of persons employed in economic activities in the Haskovo region, the relative share of those employed by employment and service legal relationship in the activities "Trade, repair of cars and motorcycles" is large - 16.96%. Regarding the "AGRICULTURE, FORESTRY AND FISHERIES" sector, it is noted that the employed persons in the sector form 5.14% of all employed persons in the region. The long-standing traditions of Haskovo region and the regional specialization in some of the municipalities and the economic expectations for the agriculture sector do not correspond to such an extent with the indicated data on employed persons. The "AGRICULTURE, FORESTRY AND FISHERIES" sector is in 7th place in terms of the number of employed persons in the region in 2021. Regarding the average annual salary, it could be noticed that the salary in the sector is below the average for the region.

TABLE 4. EMPLOYED PERSONS IN 2021 UNDER AN EMPLOYMENT OR SERVICE LEGAL RELATION BY ECONOMIC ACTIVITIES IN HASKOVO REGION

	Persons employed under employment and service legal relation	Average annual salary of employees
	<i>average annual number</i>	<i>leva</i>
TOTAL	49 758	12 906
AGRICULTURE, FORESTRY AND FISHERIES	2 559	10 573
EXTRACTION INDUSTRY	33	8 968
PROCESSING INDUSTRY	13 811	13 123
PRODUCTION AND DISTRIBUTION OF ELECTRICAL AND HEAT ENERGY AND OF GAS FUELS	535	23 803
DELIVERY OF WATER; SEWERAGE, WASTE MANAGEMENT AND RECOVERY SERVICES	1 385	10 898
CONSTRUCTION	2 066	9 871
TRADE; CAR AND MOTORCYCLE REPAIR	8 438	9 508
TRANSPORTATION, STORAGE AND POSTS	3 693	9 385
HOTELS AND RESTAURANTS	1 979	8 601
CREATION AND DISSEMINATION OF INFORMATION AND CREATIVE PRODUCTS; TELECOMMUNICATIONS	399	22 354
FINANCE AND INSURANCE ACTIVITIES	544	15 640
REAL ESTATE OPERATIONS	237	12 915
PROFESSIONAL ACTIVITIES AND SCIENTIFIC RESEARCH	583	9 111
ADMINISTRATIVE AND AUXILIARY ACTIVITIES	1 326	9 247
STATE GOVERNMENT	2 677	17 778
EDUCATION	4 462	19 434
HUMAN HEALTH CARE AND SOCIAL WORK	3 434	18 905

CULTURE, SPORTS AND ENTERTAINMENT	1 104	9 729
OTHER ACTIVITIES	493	9 375

According to preliminary data of the National Statistical Institute (NSI) in Haskovo region, the employed persons by the end of June 2022 decreased by 208, or by 0.4% compared to the end of March 2020, reaching 48.3 thousand. In the structure of employed persons in economic activities, the largest relative share of employed persons is in the activities "Processing industry" - 27.3%, "Trade; car and motorcycle repair" - 18.4% and "Education" with 9.2%. At the end of June 2022, persons employed under employment and service legal relationships decreased by 2865, or by 5.6% compared to the same period of the previous year. The average gross monthly salary in Haskovo region for April 2022 is 1,191 BGN, for May -1,155 BGN and for June -1,142 BGN. In the second quarter of 2022, the average monthly salary increased compared to the first quarter of 2022 by 8.1%, reaching 1,163 BGN. For the public sector, the average monthly salary is 1,517 BGN, and for the private sector -1,030 BGN.

1.3. Economic characteristics of the region

According to the final data of the National Statistical Institute for 2021, a total of 11,528 non-financial enterprises operating in Haskovo region submitted an annual report on their activities, or 2.2% less than 2020. Micro-enterprises (up to 9 employees) have the largest relative share of all enterprises - 93.8%. Small enterprises (from 10 to 49 employees) are 5.2%, medium enterprises (from 50 to 249 employees) - 0.9%, and large enterprises (over 250 employees) - 0.1% of the total number of enterprises. With the highest relative share of enterprises for 2021 is the sector "Trade; car and motorcycle repair" - 44.3% of the total number of reported enterprises, followed by sectors "Processing industry" - 10.3% and "Transportation, storage and posts" - 6.5%. The final financial result of the enterprises in the district for 2021 is a profit of BGN 490.5 million. There are 8,646 enterprises that ended the financial year with a profit; 1,792 with a loss, and 1,090 with a zero financial result.

The following table presents the main economic indicators of non-financial enterprises in 2021:

TABLE 5. MAIN ECONOMIC INDICATORS OF NON-FINANCIAL ENTERPRISES IN 2021 BY GROUPS ACCORDING TO THE NUMBER OF PERSONS EMPLOYED IN THEM IN HASKOVO REGION

	Enterprises - no.	Employed persons - no.	Net sales revenue - thousand BGN	Fixed tangible assets - thousand BGN
SOUTH CENTRAL REGION	72520	365355	53546300	16450131
HASKOVO REGION	11528	45201	4867878	310456

The data show that in 2021 there was a decline with 2.2% in the total number of enterprises in the region compared to 2020. But with regard to the employed persons, the NSI data shows that in 2021 the employed persons in the enterprises on the territory of the region are 1% more compared to the previous year.

In 2021, non-financial enterprises in Haskovo region realized net sales revenues of BGN 4,851 million, or 19.3% more compared to the previous year. With the largest share of net sales revenue is the sector "Trade; car and motorcycle repair" - 40.7% of the total revenue for the region. In the "Processing Industry" sector, this share is 27.9%, and in the "Transportation, storage and posts" sector - 7.4%. In 2021, non-financial enterprises operating in Haskovo region produced output worth BGN 3,206 million, or 21.6% more than in 2020. The relative share of production in the "Processing industry" sector is 40.5% of the total production. They are followed by the "Trade; car and motorcycle repair" sector - 11.9% and the "Transportation, storage and posts" - 11.2%. The number of persons employed in non-financial enterprises in the region is 45,201, which is 1% more compared to the previous year. The "Trade; car and motorcycle repair" sector has the highest relative share - 28.6% of the total number of employees in the area, followed by the "Processing Industry" - 27.6%. 43.3% of those employed in the region work in micro-enterprises, in small enterprises - 25.8%, in medium-sized enterprises - 21.8%, and in large enterprises - 9.1%.

From the data presented, it is clear that even in recent years, the trend of an economic profile, characterized by high shares in the economic results of enterprises from the "Trade; car and motorcycle repair" sector and "Manufacturing industry" sector has been maintained in the region.

TABLE 6. MAIN INDICATORS CHARACTERIZING THE ECONOMIC DEVELOPMENT OF HASKOVO REGION

		2014	2015	2016	2017	2018	2019	2020	2021
Foreign direct investments in non-financial enterprises as of 31.12.	thousands of euros	61324.2	105335.0	120400.1	102671.3	182792.6	183054.0	178231.6	136242.2
Costs for the acquisition of Fixed Tangible Assets	thousands of leva	321235	288296	225640	254085	273136	253566	275136	310456
Turnover	thousands of leva	3551766	3683965	3688061	3846205	4159594	4282474	4097266	4867878
Produced output	thousands of leva	2458607	2568950	2443909	2604912	2874098	2888235	2637153	3206399
Value added by factor costs	thousands of leva	680569	771620	818031	849511	905724	953910	964028	990813

Relative share of enterprises with up to 9 employees in the total number of enterprises for the region	percent	93.2	93.0	93.4	93.4	93.5	93.7	94,0	93,8
Relative share of enterprises with 10-49 employees in the total number of enterprises for the region	percent	5.7	5.8	5.6	5.5	5.4	5.3	5,1	5,2
Relative share of enterprises with 50-249 employees in the total number of enterprises for the region	percent	1.0	1.1	1.0	1.0	1.0	0.9	0,8	0,9
Relative share of enterprises with more than 250 employees in the total number of enterprises for the region	percent	0.1	0.1	0.1	0.1	0.1	0.1	0,1	0,1

In 2021, according to NSI data, foreign direct investments in enterprises from the non-financial sector in Haskovo region amounted to 136,242,200 euros. For the period 2014-2019, growth and a tendency to increase the amount of foreign direct investments are reported. The data for 2020, where the global pandemic of COVID-19 inflicted heavy losses on the economic development of the region and the country, point to a decrease in foreign investment, which is carried over into 2021. .

Between 2014 and 2018, cumulative foreign direct investment almost quadrupled, but remained at an extremely low level of €801/capita. The costs for the acquisition of fixed

tangible assets are also low, reaching BGN 1,197/person in 2018, which is a minimal increase from the average of about BGN 1,100/person for the period 2013–2017. Despite the growth in the last year, the region does not cope well with the absorption of funds from the European funds, and as of June 15, 2021, the value of the sums paid to beneficiaries under the operational programs is BGN 1,435/person (compared to BGN 2,217/person in the country). The municipality of Svilengrad absorbs the most funds within the district. There is a distinct tendency to create more enterprises in the district, and in 2018 their number reached 53 per 1,000 people.

Haskovo is the region with the lowest GDP per capita in Southern Bulgaria after Sliven, and in 2019 it was only BGN 9.0 thousand/capita (at BGN 17.2 thousand in the country). The average annual gross salary of those employed under labor and service legal relationships is increasing, but is the third lowest in the country at BGN 10.6 thousand (compared to BGN 15.2 thousand in the country). However, incomes remain close to average values, although they are also relatively low. In 2019, the average annual income per person from the household increased to BGN 5.7 thousand (compared to BGN 6.0 thousand in the country). These indicators determine the relatively high levels of poverty in the district. 23.8% of the population lives with material deprivation (compared to 19.9% in the country), and 30.9% lives below the poverty line (compared to 22.6% in the country).

The differences in economic development are to a large extent explained by the structure and characteristics of the workforce. The areas where high technology break through most easily are also those where there are the most graduates, and in "industrial" areas workers with secondary and vocational education predominate. However, there are visible economic problems in the areas where people with primary and lower education make up a significant part of the workforce - in 2019 they exceeded 20% in Sliven, Kardzhali, Haskovo, Yambol and Pazardzhik.

FIGURE 4. EDUCATIONAL STRUCTURE OF THE LABOR FORCE, 2019, %



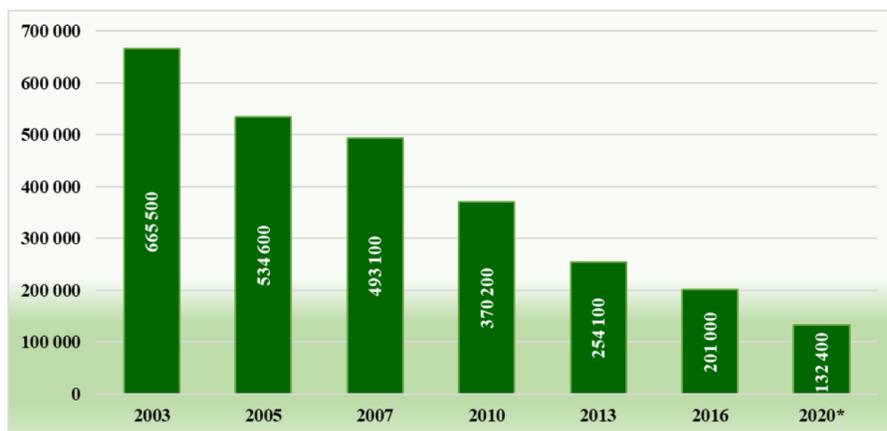
Source: NSI, Institute for Market Economics, Regional Profiles

2. Analysis and assessment of the state of agriculture in Haskovo region

The present part of the analysis reviews the available data at the time of development of this report by NSI, Regional Directorate "Agriculture" - Haskovo, etc. In 2020, a census of agricultural establishments was carried out, according to national and European legislation, for which only preliminary results are available for the country. According to these data, the general decrease in the number of agricultural establishments was accompanied by an increase in the used agricultural area (UAA) and the average size of the UAA, as well as an increase in the average number of animals kept on the farms. The reduction in the number of agricultural establishments and their consolidation is a process observed in all EU member states.

According to preliminary data from the 2020 census, the number of agricultural establishments meeting the threshold criteria specified in the Law on the Census of Agricultural Holdings in the Republic of Bulgaria in 2020 is 132,400 (Figure 5), which is with 64% less than their number reported in the 2010 census.

FIGURE 5. NUMBER OF AGRICULTURAL ESTABLISHMENTS BY YEAR



The largest number of agricultural establishments is in Blagoevgrad and Plovdiv regions, respectively 10.2% and 8.2% of the total number of holdings in the country in 2020. The smallest number of agricultural establishments is in Gabrovo region and Sofia region (capital) - 1.0% and 0.5%, respectively. Haskovo region is categorized in the interval 4.2% - 6.8% of the total number of establishments in the country in 2020. Kardzhali, Smolyan and Pazardzhik regions in South Central Region also fall in this category along with Haskovo (FIGURE 6).

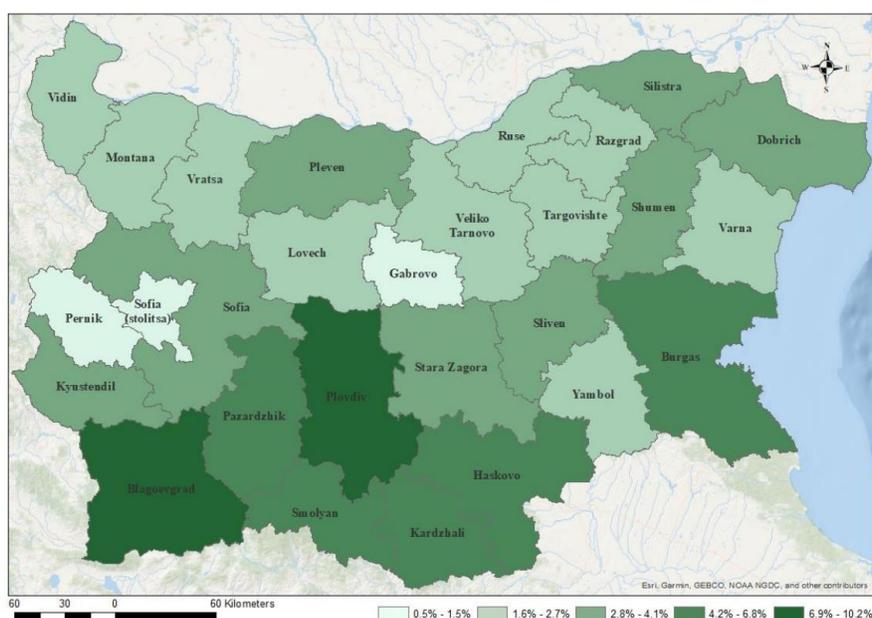
According to the preliminary results of the census in Haskovo region, the used agricultural area represents a relative share of between 23% and 37.9% of the total area of the region in 2020.

In 2020, the cultivated open land in Bulgaria is 3,318,600 ha. Cereal crops account for 60% of open-air arable land, and technical crops - 31%. The tendency towards an increase of cereal crops in the area is maintained and in 2020 they are with 11% more compared to 2010 and with

24% more compared to 2003. Of the cereal crops, the relative share of wheat remains the largest, and from the technical ones - of the sunflower.

In 2020, there are about 71,500 livestock farms breeding farm animals, birds and bee colonies. About 31,000 farms breed 608,600 cattle, 12,000 farms breed 244,000 goats, 22,000 farms breed 1,276,800 sheep, and just over 3,000 farms breed 642,000 pigs. The number of cattle in 2020 increased by 6% compared to 2010. In 2020, the average number of farm animals was significantly higher compared to previous periods. The average number of bred cattle reaches 20 per cattle farm, goats – up to 21, sheep – up to 58, and pigs – up to 190.

FIGURE 6. DISTRIBUTION OF AGRICULTURAL ESTABLISHMENTS BY LOCATION



Agriculture in Haskovo region is defined as a traditional activity for the population. Its development over time is determined by the good qualities of the soil and the favorable agro-climatic conditions. The following table presents the main area indicators by type in the period 2017-2021. The data from the final results for the employment and use of the territory of Bulgaria show that in the considered 5-year period there was an increase in the area with agricultural purpose in the district by 5,536 ha. The area with agricultural purpose (AAP) consists of arable land, permanent plantations, permanently grassed areas with agricultural use (including high mountain pastures and grassed areas with low productive potential), family gardens and agricultural lands that have not been cultivated for more than five years. In the period 2020-2021, there is a decrease in the area with agricultural purpose by 772 ha. However, the used agricultural area (UAA) is rising in 2021 compared to previous years. The used agricultural area in 2021 has the highest relative share in the considered period of the total area with agricultural purpose - 97.1%. In 2021, UAA, representing arable land occupied by cereals (including feed), oil crops, technical crops, vegetables and greenhouses, meadows and

annual feed (without corn) and fallow lands, maintains its share compared to previous years, and increased by 1,061 ha compared to 2020.

TABLE 7. AREA WITH AGRICULTURAL PURPOSE BY TYPE IN THE PERIOD 2017 – 2021 IN HASKOVO REGION

	Total (hectares)	Used agricultural area (hectares)	Arable land (hectares)	Permanent plantations (hectares)	Permanently grassed areas and meadows - orchards (hectares)	Family gardens (hectares)
2017	230 303	220 013	136 991	12 811	70 110	101
2018	231 336	221 875	138 049	12 411	71 313	102
2019	234 820	226 157	137 590	12 536	75 929	102
2020	236 611	227 949	137 564	13 145	77 138	102
2021	235 839	229 010	138 609	13 351	76 948	102

Plant breeding, as a branch, produces a larger share of the total agricultural production in the region. Cereal, technical and feed crops are represented mostly. Vegetables are also grown; permanent plantations - vineyards, fruit species, etc. The main types of cultivated crops in the period 2017-2021 are presented in the following table.

TABLE 8. AREA WITH AGRICULTURAL PURPOSE IN 2019 BY GROUPS OF CULTURES IN HASKOVO REGION

	Cereal crops (incl. for feed)	Oil crops	Technical crops	Vegetables and greenhouses	Meadows and annual feed (without corn)	Fallow lands	Family gardens	Permanently grassed areas and meadows - orchards	Permanent plantations	Used agricultural area
2017	60 022	44 386	7 465	7 969	7 465	9 684	101	70 110	12 811	220 013
2018	63 277	43 337	5 188	10 275	8 444	7 528	102	71 313	12 411	221 875
2019	60 234	45 659	4 892	9 071	9 376	8357	102	75 929	12 536	226 157
2020	61 038	47 179	4 484	6 216	10 394	8 254	102	77 138	13 145	227 949
2021	63 393	48 819	4 790	5 300	8 153	8 153	102	76 948	13 351	229 010

Used agricultural area (UAA) is formed by arable land, permanent plantations, seed plots, permanently grassed areas and family gardens. Cultivated land includes areas where crop rotation is applied, temporary meadows with wheat and leguminous grasses, fallows and greenhouses. It is noteworthy that almost half of the structure of arable land (46%) in the



region is formed by cereals (incl. for feed), incl. wheat, barley, rye and triticale, oats, corn and other grains. 35% of the arable land is occupied by sunflower and other oil crops. In the considered period, there was a decline in technical crops (tobacco and other industrial crops). Vegetables and greenhouses take a small share - 3.82%, representing potatoes, peas, beans, broad beans, lentils and other pulses, fresh vegetables without green beans and green peas, and greenhouses. Trench and other annual feed crops, legume meadows and wheat meadows occupy 5.88% of the total cultivated land in the region. The fallows have the same occupancy rate for 2021.

Plant breeding shows a significant preponderance over animal breeding, and the nomenclature of cultivated crops is largely determined by the climatic conditions and relief, and the traditions are related to the cultivation of wheat, barley, sunflower, corn. Of the technical crops, cotton and tobacco are the most cultivated. In the entire Haskovo region, there are extremely favorable conditions for the cultivation of arrays of perennial crops - strawberries, raspberries, sour cherries, cherries, apricots, peaches, apples and almonds. The conditions in the region are also suitable for the production of grapes. Tobacco is a traditional technical crop, although it occupies a minimal share of the arable land in the region. In recent years, there has been a lasting interest from Turkish and Greek entrepreneurs in the production of mushrooms - a product with great export potential. From the data for the region, based on the total by municipalities, it can be concluded that there is a certain territorial distribution of the individual groups of agricultural crops. This is dictated by the climatic and soil characteristics, as well as by the possibility of collective farming of agricultural areas. A sharp boundary is observed in the prevailing cultures in the plain and mountainous part of the region. In general, the municipalities of Dimitrovgrad, Haskovo, Harmanli, Simeonovgrad are dominant in the cultivation of cereals. The municipalities of Lyubimets, Svilengrad, Harmanli, and Dimitrovgrad are leaders in vegetable production and the cultivation of perennials. The cultivation of oriental tobacco has traditions in the region, and it is mainly represented in the semi-mountainous parts of the municipalities - Stambolovo, Mineralni Bani, Ivaylovgrad, Topolovgrad, Svilengrad and Haskovo.

Livestock breeding in Haskovo Region is extremely concentrated in the private sector and is characterized by a high relative share of small farms. Cattle, pigs and poultry are raised in the plain areas of the region, and sheep and goats are raised in the semi-mountainous areas.

2.1. Crop production

The development of the present research takes into account the availability of information, which differs depending on the institution that publishes it. In this section, information from the Report on the activity of the Regional Directorate "Agriculture" - Haskovo for the period January 1 - December 31, 2021 will be considered, which differs from the statistical information available in the Ministry of Agriculture.

The total area of agricultural lands according to the Map of the restored property (MRP) in Haskovo Region is 3,124,194 decares, incl. arable land 2,278,278 decares.

The balance of agricultural land according to data from MRP - 3,124,194 decares. Cultivable land according to data of operational information 1,187,003 decares and according to data from

the Integrated Administration and Control System (IACS) – 1,882,579 decares of those requested for support under direct payments for 2021.

TABLE 9. AGRICULTURAL LAND AREA

Agricultural land area				
Municipality	Number Lands	Area of Agricultural land (daa)	Arable land (daa)	Requested areas in IACS (daa)
1	2	3	4	6
Dimitrovgrad	27	399701	350564	285328
Ivaylovgrad	50	278 309	129 790	71805,1
Lyubimets	10	182338	159179	106511,2
Madzharovo	19	68 019	38 623	29411,8
Mineralni bani	11	169110	53792	48525,4
Svilengrad	24	444 037	329 302	255005,1
Simeonovgrad	9	139015	75763	40935,6
Stambolovo	24	181 367	140 634	42871,5
Topolovgrad	21	410645	327050	159470,8
Harmanli	24	401139	326887	288440,2
Haskovo	36	450 514	346 694	475488,4
Total	255	3124194	2278278	1803793,1

The main types of cultivated crops are: wheat, barley, rapeseed, corn for grain, sunflower, pepper, tomatoes, watermelons and tobacco - oriental.

Regarding fall crops, it is noticeable that the areas sown with them in 2021 are more compared to those in 2020, according to data from the Regional Directorate of Agriculture - Haskovo. In 2021, wheat predominated, with 554,870 decares sown, which is 8.3% more than the sown area in 2020. In the period 2017-2021, no lasting trend can be drawn regarding the sown area with autumn wheat.

TABLE 10. Main types of cultivated crops - areas - fall crops in the period 2017-2021

Fall crops	2017	2018	2019	2020	2021
Wheat	424 634	518 727	463 459	512 136	554 870
Barley	53 456	77 357	54 533	42 496	38 419
Rapeseed	45 070	88 248	49 127	80 807	92 140

TABLE 11. Average yields kg/daa of fall crops in the period 2017-2021

Fall crops	2017 г.	2018 г.	2019 г.	2020 г.	2021 г.
Wheat	458	353	413	425	528
Barley	444	302	400	450	521
Rapeseed	174	223	279	256	250

Data on yields from fall crops show that in 2021 they are higher than those in 2020. In 2021, on the territory of the Haskovo region, 91 decares of wheat were burned in the municipalities of Simeonovgrad, Mineralni Bani and Topolovgrad. In the past year, failed areas were registered as a result of an adverse climatic event - hail in the municipalities of Lyubimets and Madzharovo. In the municipality of Lyubimets, 71.7 decares of wheat have failed, and in the municipality of Madzharovo - 398.5 decares of wheat and 40 decares of barley.

The data for spring crops from the Regional Directorate of Agriculture - Haskovo show that in the 2020/2021 year, the areas sown with oilseed sunflowers decreased, at the expense of autumn sunflowers, where an increase in areas was observed. A reduction in the areas with vegetables is also observed.

TABLE 12. Main types of cultivated crops - areas - spring crops in the period 2017-2021

Spring crops	2017 г.	2018 г.	2019 г.	2020 г.	2021 г.
Corn for grain	20150	11465	17100	15551	16684
Oilseed sunflower	369350	354052	429517	400130	392545
Pepper	3080	1689	3235	2585	2267
Tomatoes	2280	2338	3773	2346	2195
Watermelons	8250	8800	7754	9364	8528
Tobacco - oriental	6774	11210	7390	8328	7537

The data for the year 2021 of the Regional Directorate "Agriculture" - Haskovo for areas with fruitful perennial crops in decares show that the largest share is occupied by wine vineyards. The following table presents the data on permanent plantations in the period 2017-2021.

TABLE 13. Areas with permanent plantations in Haskovo region in the period 2017-2021

Permanent plantations	2017	2018	2019	2020	2021
Apples	1529	1437	1385	1326	1274
Peaches	344	674	401	947	947
Plums	1125	1498	2921	3896	3946
Cherries	1371	1598	1757	2448	2438
Wine vineyards	77007	73816	75562	61269	56290
Dessert vines	10519	8031	8012	5624	5624

In the event of adverse climatic conditions - hail, in the municipality of Lyubimets, a total of 153 decares of wine vineyards have failed 100%.

2.2. Livestock breeding

The number of registered farm animals in 2021 compared to 2020 has generally decreased. A positive trend of increasing the number of beekeepers registered as agricultural farmers continues, with their number from 23,076 in 2018 to 23,864 in 2019r. The Ministry of Agriculture, through the State Fund "Agriculture", annually supports the sector by including it in various European and national schemes.

TABLE 14. Number of registered animals according to Ordinance No. 3 of 29.01.1999 for 2019, 2020 and 2021

No, in order	Animal species	2019	2020	2021
1	Cattle and buffaloes - total *	42625	41172	41503
2	including dairy cows *	13348	12181	1209
3	including buffalo cows *	1177	1182	1319
4	Sheep - total	74322	67821	65862
5	including sheep - dairy *	65036	58333	55980
6	Goats - total	17233	15682	14735
7	including goats – mothers *	16141	14578	13979
8	Pigs - total	54397	151160	23818
9	including pigs – mothers*	13164	13628	2088

10	Birds - total	391148	407158	364900
11	including laying hens	84714	119482	114862
12	including broilers	41139	36732	36235
13	Bee families	23864	24097	24039

2.3. Data from the Register of Agricultural Establishments (farmers)

The Register of Agricultural Establishments serves to collect information about farmers and their activities with the aim of:

1. control over the use of agricultural land;
2. collecting information on the crops grown during the relevant economic year and the areas occupied by them, as well as on the animals bred;
3. supporting farmers and rural development;
4. implementation of the direct payment schemes.

According to the data of the Haskovo Regional Directorate of Agriculture, regarding the number of farmers, the following information is presented:

TABLE 15. Distribution of farmers by number, form and used agricultural area in the period 2014 – 2021

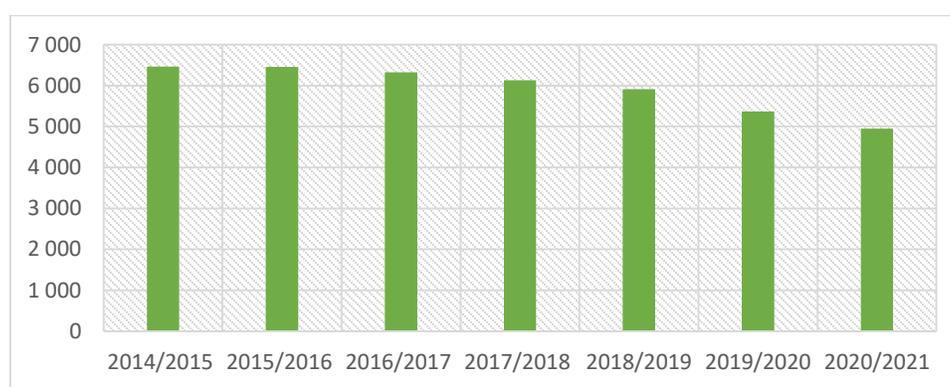
Economic year	Number of registered agricultural establishments	Used agricultural area (ha)	Natural persons no.	Legal persons no.
2014/2015	6 465	136 565	6 057	408
2015/2016	6 453	156 888	6 026	427
2016/2017	6 324	164 449	5 903	421
2017/2018	6 128	172 794	5 706	421
2018/2019	5 914	186 218	5 477	437
2019/2020	5 366	185 193	4 930	436
2020/2021	4 946	192 708	4 496	450

The data show that the total number of registered farmers in the 2020/2021 business year has decreased by 420 compared to the data for the previous year. In the last 2 years, in a situation of a global pandemic, the data show a greater growth in the reduction of farmers, compared to previous years. The negative consequences of the pandemic also affect the Agriculture sector, and the results of these impacts will be statistically registered in the coming years. In addition, there are ongoing natural trends related to land consolidation as well as demographic collapse especially in rural areas where much of the agricultural production is concentrated. As a whole,

a tendency of decreasing number of registered farmers and its strengthening in the period after 2020 can be deduced. The data on the used agricultural area shows that in the period 2014-2015 to 2020-2021 there is an increase, despite the decreasing number of registered farmers. In 2021, the majority (90.9%) of agricultural producers in the region are natural persons.

The following figure presents the trend for the decreasing number of registered agricultural establishments in the period 2014/2015 – 2020/2021.

FIGURE 7. Registered agricultural establishments in the period 2014/2015 – 2020/2021 in Haskovo region



Regarding the distribution of arable lands to the number of registered arable lands, it is striking that in the economic year 2020/2021, farmers with a total area of 1 to 10 ha were registered with the largest share. The trend is similar in the previous years in the considered period. This confirms the presence of small and medium-sized farms in relation to the size of arable land in Haskovo region. There are 715 registered farmers with a total area of more than 50 ha. However, in the considered period this group demonstrates an increase in the number of registered farmers by 71.9% in 2020/2021 compared to 2014/2015 data.

TABLE 16. Distribution of registered farmers by land in the period 2014-2021

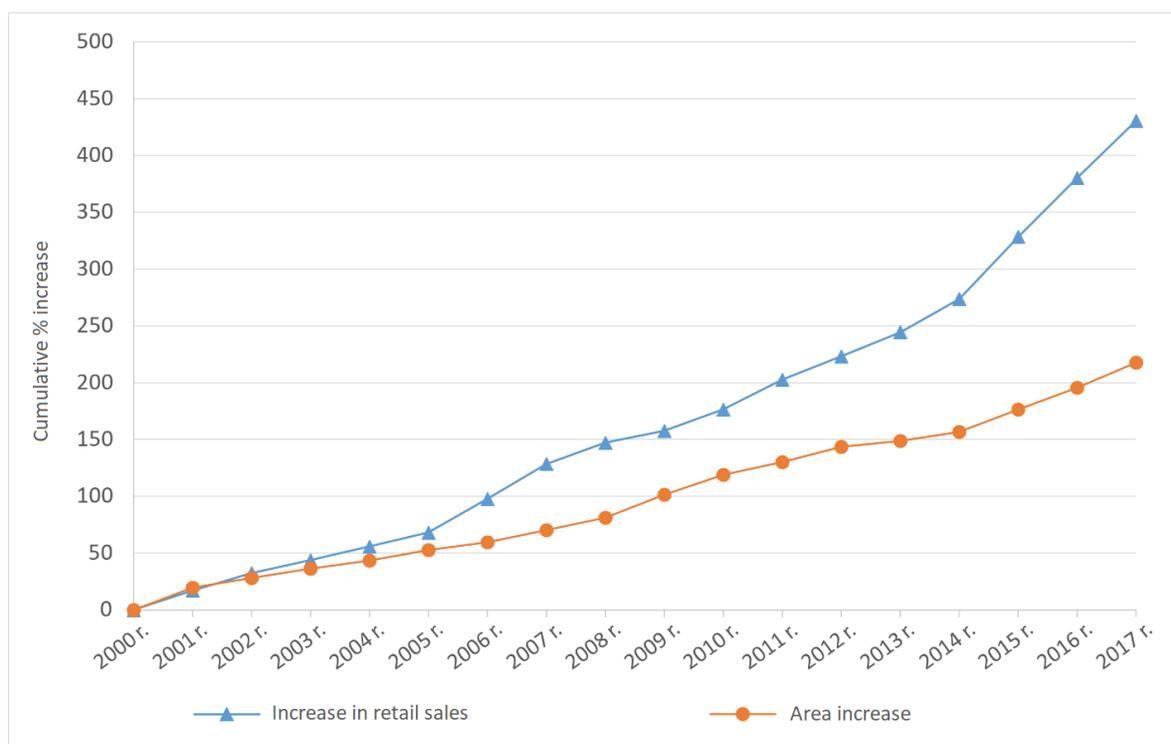
Economic year	Number of registered farmers with total land of less than 0.1 ha	Number of registered farmers with total land from 0,1 to 1 ha	Number of registered farmers with total land from 1 to 10 ha	Number of registered farmers with total land from 10 to 50 ha	Number of registered farmers with total land from over 50 ha
2014/2015	228	1 010	2 204	672	416
2015/2016	228	904	2 056	810	514
2016/2017	246	726	2 006	920	577
2017/2018	249	656	1 889	1 040	612
2018/2019	243	512	1 797	1 193	662
2019/2020	235	561	1 659	1 219	675
2020/2021	196	589	1 581	1 218	715

3. Research and analysis of the state of organic production in Haskovo region

Before considering the state of organic production in Haskovo region, it is necessary to present an analysis of its state in Europe and Bulgaria in order to assess the general trends and challenges that play an important role in forming an idea of the territorial dimensions of organic production within the framework of Haskovo region.

The organic production sector in the EU has developed rapidly in recent years, as measured by the used agricultural area, the number of operators and the market share. The total area of arable land used for organic farming in the EU increased from 9.1 million hectares in 2010 to 12 million hectares in 2016, an increase of 33%. In 2016, the share of arable land in the EU allocated to organic production was 6.7%. During the same period, the volume of retail sales of organic products grew from €18.1 billion to €30.7 billion, an increase of 69%.

FIGURE 8. EUROPE: CUMULATIVE INCREASE IN ORGANIC PRODUCTION AREA AND RETAIL SALES 2000-2017



Organic aquaculture has also grown rapidly since the introduction of EU rules in 2009. The sector covers producers in the agriculture and aquaculture sector, as well as their suppliers, food producers and distributors, all of whom meet strict rules. The overall challenge for the organic farming sector is to ensure sustainable growth in supply and demand while maintaining consumer confidence. It is essential to ensure the reliability of the scheme and its added value in the long term.



On the other hand, there is the question of the quality of organic products. For example, in 2021, a large-scale scientific study "Pesticides and pesticide-related products in the air in Germany" conducted in Germany shows that pollution with pesticides and substances is of enormous proportions. The study authors looked for pesticides in the ambient air at 69 locations across Germany using passive air samplers and ventilation filter pads. In 2019, they collected samples, which they tested for more than 500 active substances. They found one hundred and nine (109) substances, including 28 that are not approved for use in Germany. They identified between one and 36 substances at each sampling site, including in places like national parks and forests. No one expects the presence of pesticides there, for example on the highest mountain peak in the Harz National Park (13 substances) and in the Bavarian Forest (6 substances). Glyphosate was detected in every sample. Chlorothalonil, metolachlor, pendimethalin, terbuthylazine, prothioconazole-desthio, dimethenamide, prosulfocarb, flufenacet, tebuconazole, aclonifen, chloroflurenol, hexachlorobenzene (HCB), and γ -hexachlorocyclohexane (γ -HCH) were detected in more than half of the passive air samples. The filter pads also contain boscalid. The statistical analysis showed that the landscape and the intensity of agriculture are the main factors that influence the number of detected substances in the atmospheric air. Location, such as protected areas or organic farming regions, had only a small effect on the number of substances registered. The authors conclude that airborne pesticides are widespread in Germany, which is of particular concern for glyphosate, pendimethalin and prosulfocarb.

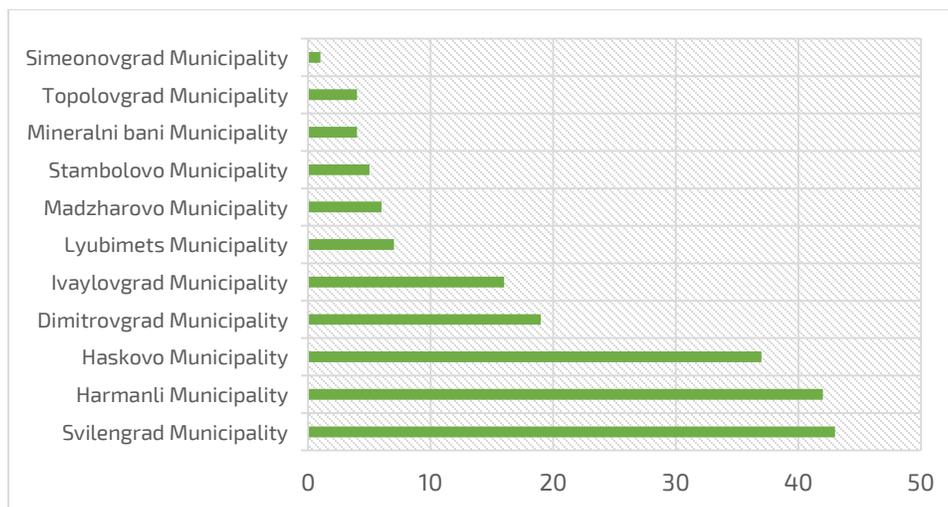
In Bulgaria, there is also a tendency for expansion in the sector, with many agricultural producers turning to organic production in recent years, as well as more and more consumers looking for healthy and not contaminated with artificial fertilizers and other chemical ingredients production. The motivation of both producers and consumers is a consequence of concern for the ecological balance of the earth and for people's health. Organic production is applied with success in Bulgaria and in recent years it is one of the sectors that has seen growth in terms of areas, animals and the number of operators involved in a control system. Since 2020, the global COVID-19 pandemic and its consequences have certainly had a negative impact on both organic producers and consumers. The high prices of organic products create prerequisites for inaccessibility in a situation of inflation and economic crisis. The results of these trends and assumptions in the sector would be reported with objective statistics at a later stage.

After the state of the organic production sector in Europe and Bulgaria has been reviewed in summary, the present part of the analysis will examine the state of organic production in Haskovo region. For the purposes of the research, data from the Electronic Register of producers, processors and traders of agricultural products and food produced in an organic way as of June, 2023, as well as data from the electronic system of the State Agricultural Fund for payments for organic agriculture, were used.

According to the data for 2021 r. **in Haskovo region 184 operators applied for and received funds for organic crop production and organic livestock production. The municipality of Svilengrad has the largest number of organic producers who have received European funds – 43**, followed by Harmanli and Haskovo, where 42 and 37 are registered, respectively. The

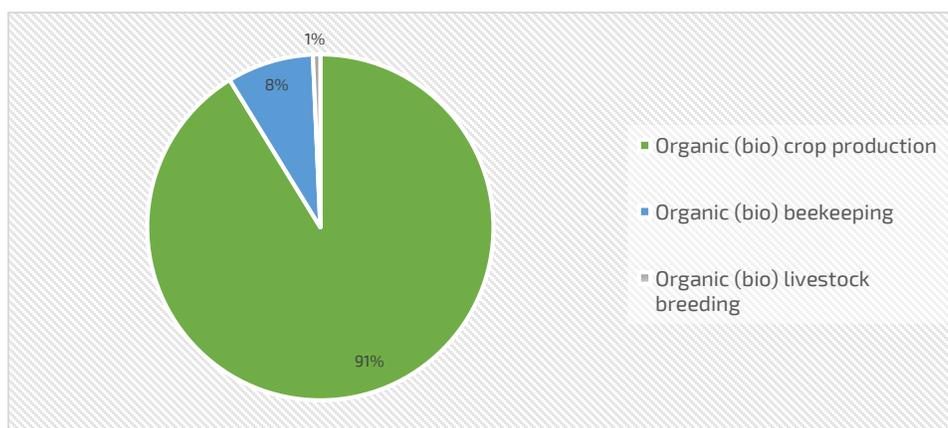
municipality of Simeonovgrad where there is one organic producer, have the fewest registered operators who have received grants.

FIGURE 9. Distribution of the number of operators by municipalities in Haskovo region who received funds for organic farming in 2021



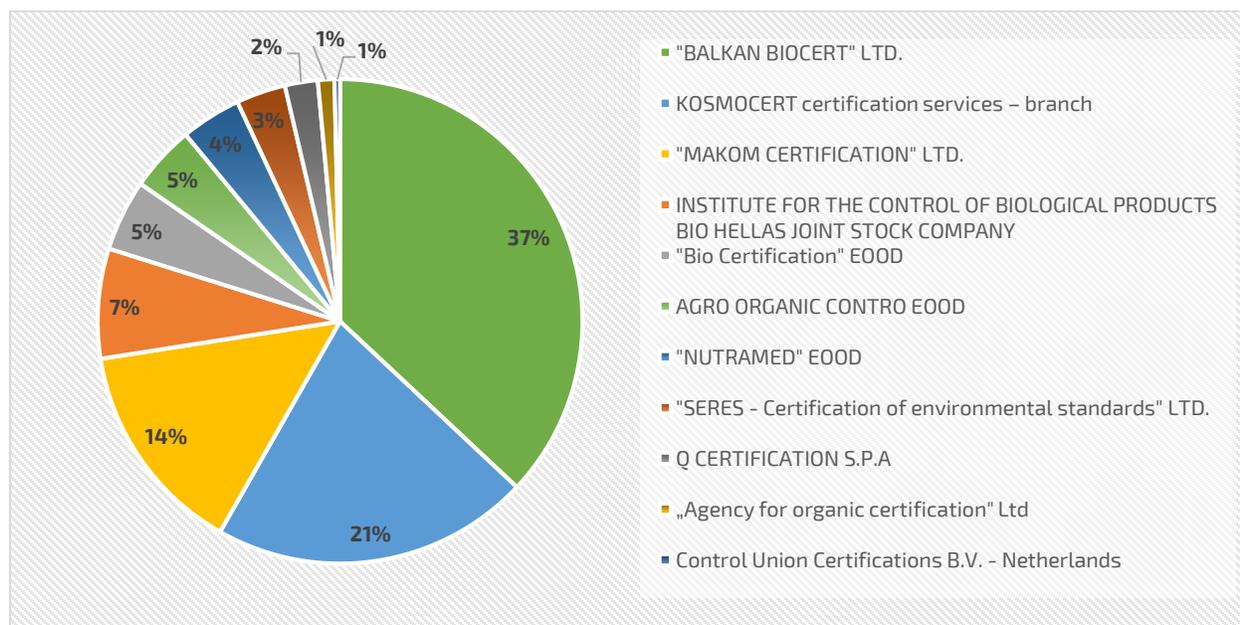
With regard to the amount of funds received in the region, it can be concluded that **91,23 % of the payments are for organic crop production**, which is formed as a trend and from the data in the Electronic Register of producers, processors and traders of agricultural products and foods produced in an organic manner. **The total amount of funds received by organic producers in the region for 2021 amounts to BGN 2 674 469,95.** Of these, 0,69 % (BGN 18 463,29) were received for organic livestock breeding, and 8,08% or BGN 216 214,25 for organic beekeeping. That is, on average, 1 organic operator in 2021 received BGN 14 535,16 for his activity. When distributed by municipality, Harmanli municipality received the most funds for organic crop production and organic beekeeping.

FIGURE 10. Distribution of funds received in Haskovo region for organic production in 2021 by type of activity



The control of compliance with the rules of organic production is carried out on the basis of a contract between an operator and a controlling body. The organic producers in Haskovo region have used the capabilities of **11 controlling entities, with the largest number of contracts concluded with the operators in the control system in the organic production in Haskovo region (101 contracts – 37%) being the controlling entity "BALKAN BIOCERT" OOD with headquarters in the city of Plovdiv.** The following figure shows the ratio of the occupied share in the control of organic production in Haskovo region.

FIGURE 11. Contracts concluded with controlling bodies in Haskovo region



According to the database of producers, processors and traders of agricultural products and food produced in an organic way, **as of January 2023 there are 273 certified and registered operators in Haskovo region.** On the territory of the region, 82.8% of the registered operators are individuals, and 17.2% (47 operators) are legal entities. The analysis of their territorial distribution shows that the largest number of registered organic producers, processors or traders is **in the municipality of Haskovo - 66, and the Municipality of Svilengrad takes second place with 62 operators. The third place is for the Municipality of Harmanli (14.65%), where 40 organic producers, processors and traders of agricultural products and food produced in an organic way are registered. As of January, 2023, the fewest organic producers in Haskovo district are in the Municipality of Simeonovgrad - three agricultural producers. In the Municipality of Stolichna, 1 organic producer is registered, operating on the territory of Haskovo region with a workplace in the village of Mezek, municipality of Svilengrad - Katarzhina Estate EOOD with the main activity - production of wine from grapes.**

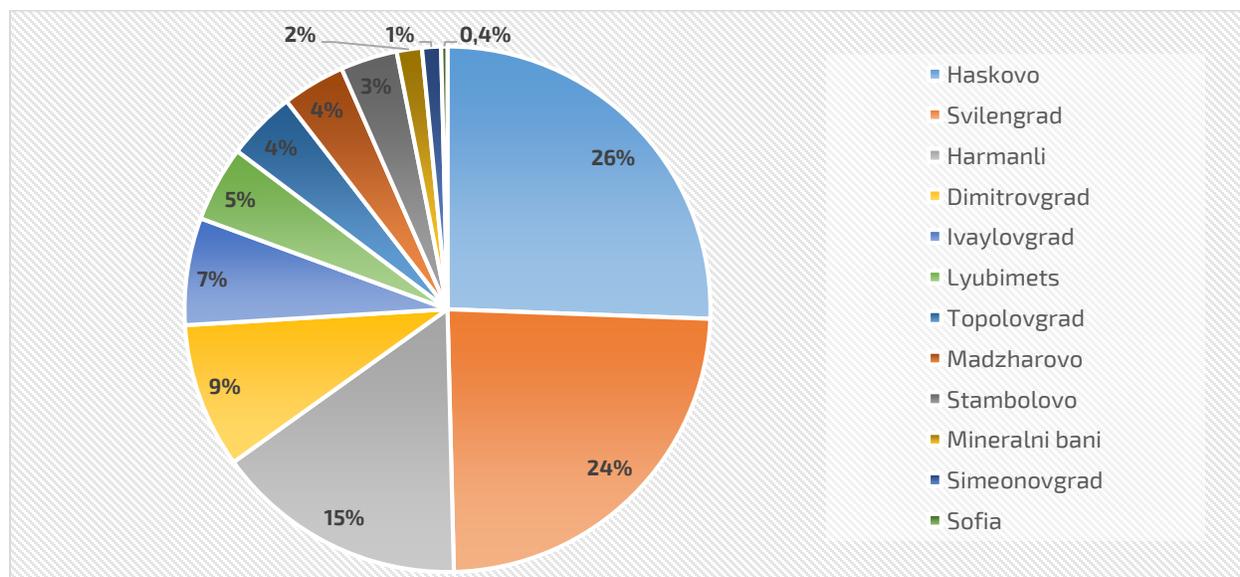
It should be clarified here that for the purposes of this territorial distribution, the available data on the registration of the natural person - farmer or legal entity - operator were used. That is,

there are producers whose workplaces are not on the territory of the municipality in which they are registered, and there are also those who operate outside the territory of the region - e.g. in Stara Zagora Region and Plovdiv Region.

The picture of organic production in the region is interesting in terms of the criterion "certified organic areas" - according to this indicator, the Municipality of Madzharovo takes the first place in the region, where 34.8% of the organic areas in Haskovo region are certified, according to available data. The second place is for the Municipality of Svilengrad with 24.7%, followed by the Municipality of Harmanli and the Municipality of Haskovo, with 18.7% and 12.3%, respectively. In these four municipalities, more than 90% of the certified organic areas in the region are located.

The following can be concluded regarding the organic production produced in Haskovo region: the Municipality of Svilengrad has the largest amount of organic production in the region – 1,336.36 tons in 2022, followed by the municipality of Harmanli with 1,336.26 tons. Together, the two municipalities form more than 60% of organic production in 2022 in Haskovo region. The smallest quantities were registered with the Municipality of Simeonovgrad - 7.07 tons.

FIGURE 12. Registered producers, processors and traders of agricultural products and food produced organically in Haskovo region as of January, 2023

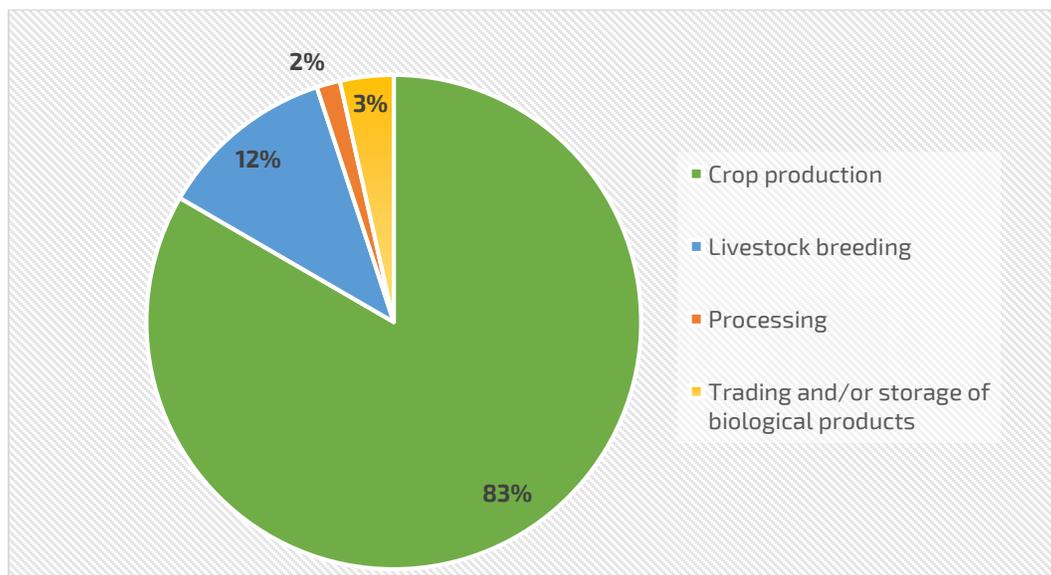


According to the data of the Electronic Register of the Ministry of Agriculture and Food, the predominant branch of agriculture in the region is organic crop production (83.4%). With a 11.6% share in the structure of organic production in Haskovo region is livestock breeding, which is mainly associated with beekeeping. A few farmers breed cattle and buffaloes. There are 7 processing operators registered in the municipalities of Madzharovo, Haskovo, Sofia and Dimitrovgrad. These are: Blagovesta Vasilieva Sole Trader (Processing and preservation of meat and production of meat products), Kavel Invest Ltd. (Production of other food

products); Katarzyina Estate EOOD (Production of grape wine), Mlechni produkri Trakiya EOOD (Milk and dairy products), TERRA DIVINE LTD (Production of grape wine), Hristo Georgiev (Production of other food products) and Yugoplod AD (Production of other foodstuffs). According to the available information, the processing organic operators in the district are engaged in: meat cuts; canned meat and vegetables; meat preparations (minced meat; raw sausage); raw-dried delicacies and sausages; pasta made from organic spelt, organic wheat and organic rye; hazelnut butter and frozen wild garlic. With a **3,5% share is „Trading and/or storage of organic products“** represented by GRANI HELLAS Ltd, Kavel Invest EOOD, MLECHNI PRODUKTI TRAKIYA EOOD, Citi-M EOOD Weekend Ltd., HAI BIO YADKI LTD, located in the municipalities of Svilengrad, Haskovo , Harmanli, Dimitrovgrad. According to the available data from the Register - the trade and/or storage of organic products in the district is related to: corn; sunflower; hard wheat; oilseed rape; organic coffee; organic coffee capsules; red wine; rose; organic cow yellow cheese; organic cow cheese; organic cow yogurt; organic pasteurized cow's milk; organic honey; organic broths; organic purees; organic infant and transitional foods; hazelnut; hazelnut tahini and hazelnut flour.

The total number of certified sub-activities in the region is 457, with which 273 operators (individuals and legal entities) are involved. For 15 out of 273 registered operators, information on their registration by settlements and information on workplaces could not be found. And for a total of 46 operators, there is no information about the specific certified activities. All this is due to the fact that for some there is no published certificate, including information about the certified activities and location of the operator. For other operators, there are certificates in which, due to the General Data Protection Regulation (GDPR), they deleted data on the location of the workplaces and the place of registration, which are associated with the possible identification of the natural persons - operators.

FIGURE 13. Certified activities of producers, processors and traders of agricultural products and food produced organically in Haskovo region as of January, 2023



Regarding **the quality of agricultural products and foods**, produced organically in Haskovo region, the analysis shows that 74.7% of the operators in the organic production control system have products certified as **organic**. **25,3%** are **the products in transition** in Haskovo region. In 67 of the registered activities in the region, both organic products and products in transition are certified at the same time, which represents 14% of the organic production.

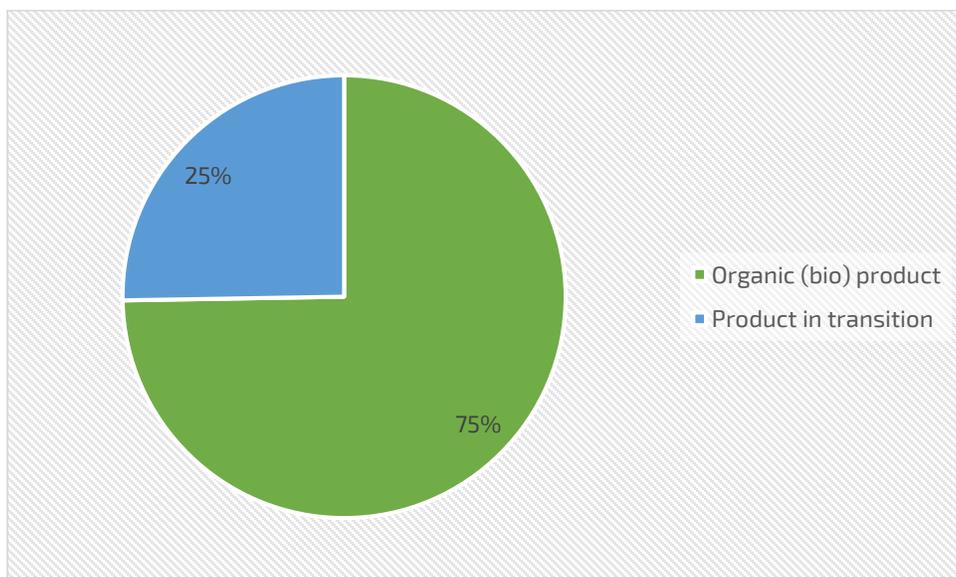
The definition of the transition period is related to the fact that any farm that wishes to produce organically must go through **a process known as "transition"**. During this period, organic production methods must be used, but the resulting produce cannot be sold as organic. The duration of this transition period depends on the type of organic products produced:

- 3 years for gardens with perennial fruits from shrubs, trees and vines,
- 12 months for grazing of pigs and poultry,
- 2 years for annual crops for the grazing of terrestrial ruminants.

Accordingly, all crops grown during the period of transition to organic production must originate from organic seeds.

By 2023 r. 3/4 of the produced products and food and areas in the control system are **organic**, which demonstrates the greater share of producers working for a longer period in this field.

FIGURE 14. The quality of agricultural products and food produced organically in Haskovo region as of January, 2023



The analysis of the most frequently certified activities by the controlling bodies within Haskovo region, presented in **figure 15**, show the first **12 activities**, that prevail in the structure of organic production in the region. **The largest is the number of the operators on the territory of the region which grow plums, walnuts and almonds, forming 28.2% of the total certified activities. Beekeeping and the production of honey and bee products has a predominant**

share (88,4%) of livestock breeding. It ranks 2nd in the distribution of certified activities in the region.

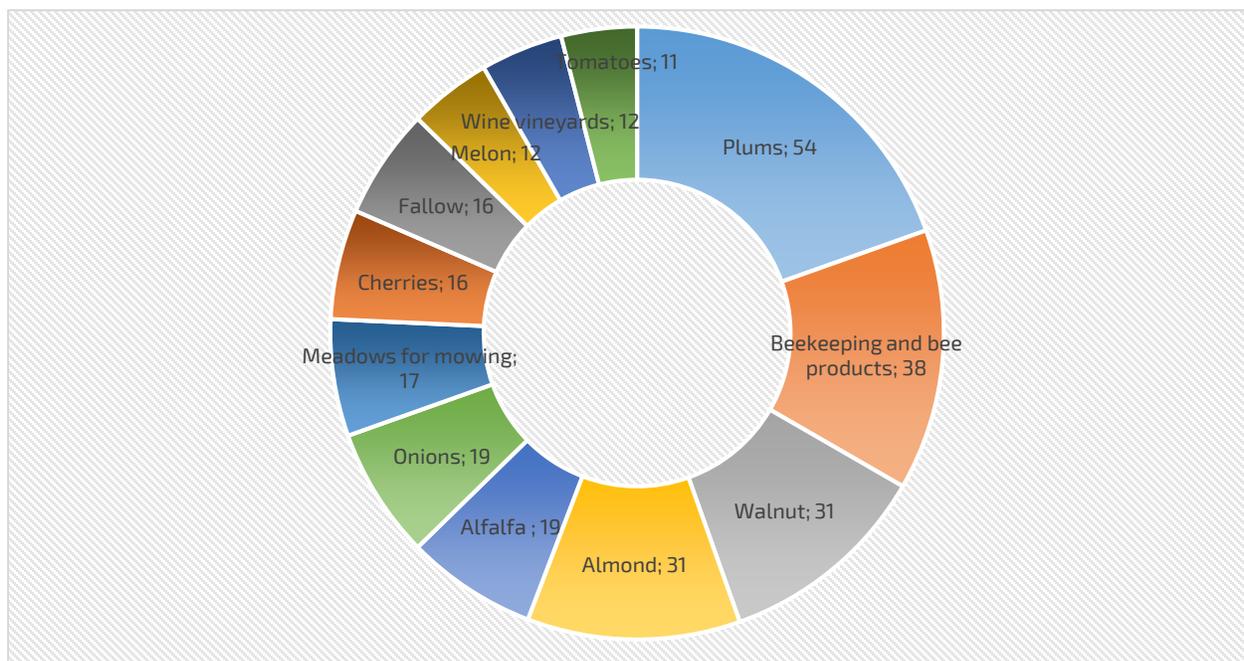
Lucerne and onion registered operators are with 19 certified activities each.

Fallows, which are maintained plowed and weed-free lands that have not been seeded with anything throughout the growing season, are certified by 16 producers.

The wine vineyards, making up the structure-determining branch of the regional economy - wine production also occupy a significant share in the organic productions by number - 12 producers.

Table 17 below presents all the certified activities on the territory of Haskovo region, related to agricultural products and foods produced in an organic way. **The organic operators work/grow in 74 types of sub-activities/production on the territory of the region. On average, 2 types of sub-activities are allocated to each producer/processor or trader.** In general, the concentration of organically grown crops at the expense of processing and trade is impressive, which demonstrates the well-established structure in agriculture and the presence of more producers than traders and processors.

FIGURE 15. "Top 12" by number of certified activities and production by organic producers in Haskovo region as of January, 2023



Of course, the presence of activities that are not related to the production of products and food reaching the final consumer of organic produce is also impressive, e.g. fallows, mowing meadows, lucerne, pastures, etc. Some of these activities have an agrotechnical significance, enriching the soil with sodium, calcium and other useful substances, or are primarily aimed at improving low-productive natural meadows and pastures, creating grass fields in feed and

specialized field crop rotations, weeding fallow lands and reclamation of areas used for industrial purposes, or are used for harvesting hay/hay by mowing, etc. The share of this type of activities is about 20% of the certified activities by the operators.

TABLE 17. Certified activities on the territory of Haskovo region in the field of organic production as of January, 2023

No	Certified activity	Type of certified sub-activity	Number of operators with similar sub-activity	Area (ha)	Quantity produced (tons) by 2022	Number of animal units/ Number of bee families
1	Crop production	Plums	54	163,87	135,73	-
2	Livestock breeding	Beekeeping and bee products	38	-	74,41	5342
3	Crop production	Walnut	31	378,28	58,39	-
4	Crop production	Almond	31	160,15	26,82	-
5	Crop production	Alfalfa	19	254,95	357,73	-
6	Crop production	Onions	19	60,28	418,64	-
7	Crop production	Meadows for mowing	17	255,74	406,88	-
8	Crop production	Cherries	16	32,02	86,00	-
9	Crop production	Fallow	16	33,90	-	-
10	Crop production	Melon	12	51,98	283,30	-
11	Crop production	Wine vineyards	12	115,13	280,23	-
12	Crop production	Tomatoes	11	18,80	179,05	-
13	Crop production	White thistle	8	276,47	134,17	-
14	Crop production	Hazelnut	7	36,91	8,83	-
15	Trading and/or storage of biological products	Trade and/or storage of organic products	7	-	-	-
16	Crop production	Soft wheat – winter	6	239,12	569,46	-
17	Crop production	Spinach	6	7,14	7,84	-
18	Trading and/or storage of biological products	Other food products	5	-	-	-
19	Crop production	Permanent or temporary pastures for animal grazing (pastures and grazing lands)	5	1473,66	93,96	-
20	Crop production	Potatoes, including seed production	4	6,99	68,10	-
21	Crop production	Pumpkins	4	40,48	79,97	-
22	Crop production	Green peas	4	74,79	38,45	-
23	Processing	Production of other food products	3	-	-	-
24	Crop production	Oats	3	13,93	11,68	-
25	Crop production	Apricots	3	2,70	8,02	-
26	Crop production	Coriander	3	79,06	58,60	-
27	Crop production	Permanently grassed areas (pastures and grazing lands)	3	148,24	147,81	-
28	Crop production	Dessert grapes	3	7,57	17,20	-
29	Processing	Production of wine from grapes	2	-	-	-
30	Livestock breeding	Cattle	2	-	25,76	638
31	Livestock breeding	Cattle and buffaloes for slaughter	2	-	45,70	751
32	Crop production	Single grain spelt	2	24,71	24,10	-
33	Crop production	Apples	2	7,38	75,50	-
34	Crop production	Pears	2	6,88	67,70	-
35	Crop production	Peaches	2	2,13	0,20	-
36	Crop production	Sour cherries	2	7,33	14,78	-
37	Crop production	Figs	2	0,59	0,05	-
38	Crop production	Aronia	2	5,11	21,00	-
39	Trading and/or storage of biological products	Milk and milk products	2	-	-	-
40	Crop production	Lotus (genus)	2	7,95	19,39	-
41	Crop production	Watermelons	2	9,44	150,00	-
42	Crop production	Greenhouse tomatoes	2	0,39	27,00	-
43	Crop production	Cucumbers	2	5,84	62,10	-
44	Processing	Processing and canning of meat and production of meat products	1	-	-	-

45	Processing	Production of milk and milk products	1	-	-	-
46	Crop production	Spelt	1	4,53	6,80	-
47	Crop production	Millet	1	1,21	1,50	-
48	Crop production	Peaches / Nectarines	1	2,05	14,00	-
49	Crop production	Nectarines	1	0,94	5,00	-
50	Trading and/or storage of biological products	Fruits and vegetables	1	-	-	-
51	Trading and/or storage of biological products	Wine	1	-	-	-
52	Crop production	Winter rapeseed	1	92,99	136,39	-
53	Crop production	Sunflower	1	44,35	66,86	-
54	Crop production	Oilseed flax	1	28,48	18,00	-
55	Crop production	Sesame	1	3,12	0,50	-
56	Crop production	Others	1			-
57	Crop production	Lavender	1	36,94		-
58	Crop production	Wormwood	1	0,56	0,13	-
59	Crop production	Rosehip	1	4,30	0,82	-
60	Crop production	Other medicinal and aromatic crops	1	0,40	0,02	-
61	Crop production	Clover	1	6,68	3,94	-
62	Crop production	Other cereals and protein crops	1			-
63	Crop production	Pea forage - winter	1	9,05	8,80	-
64	Crop production	Forage peas-spring	1	21,85	16,00	-
65	Crop production	Vetch	1	3,62	0,50	-
66	Crop production	Lettuces	1		0,03	-
67	Crop production	Cucumbers - field	1	3,29	2,13	-
68	Crop production	Cucumbers outdoors	1	20,10	48,00	-
69	Crop production	Pepper	1	1,00	7,00	-
70	Crop production	Zucchini	1		1,80	-
71	Crop production	Sweet potato	1			-
72	Crop production	Parsnip	1		0,45	-
73	Crop production	Other vegetable crops	1		0,09	-
74	Livestock breeding	Buffalo	1		13,30	-

According to the available data from the published certificates of the 273 organic producers, the certified area, both organic and in transition, amounts to 4,295.36 ha. This represents approximately 2% of the cultivated area in the region. The ten certified types of activities with the largest area in the region are as follows:

- Permanent or temporary pastures for grazing animals (pastures and grazing lands): 1,473.66 ha
- Walnut: 378.28 ha
- White thistle: 276,47 ha
- Mowing meadows: 255,74 ha
- Lucerne: 254,95 ha
- Soft wheat – winter: 239,12 ha
- Plums: 163,87 ha
- Almond: 160,15 ha
- Permanently grassed areas (pastures and grazing lands): 148,24 ha
- Wine vineyards: 115,13 ha

The distribution of the certified organic areas by municipalities is as follows:

- Municipality of Madzharovo: 1493,24 ha
- Municipality of Svilengrad: 1059,12 ha
- Municipality of Harmanli: 804,63 ha



- Municipality of Haskovo: 526,86 ha
- Municipality of Ivaylovgrad: 117,90 ha
- Municipality of Stambolovo: 88,92 ha
- Municipality of Lyubimets: 69,98 ha
- Municipality of Dimitrovgrad: 64,68 ha
- Municipality of Topolovgrad: 42,41 ha
- Municipality of Mineralbi bani: 25,74 ha
- Municipality of Simeonovgrad: 2,52 ha

The picture of the certified sub-activities according to the information on the quantity produced in 2022 is different. Of course, this depends on the productivity of the respective type of culture, seasonality, the necessary area for their cultivation, etc. According to the analysis, 4,436.58 tons of organic products were produced in the region in 2022. The 10 certified sub-activities with the highest volume of organic production in 2022 are as follows:

- Soft wheat – winter: 569,46 tons
- Onion: 418,64 tons
- Mowing meadows: 406,88 tons
- Lucerne: 357,73 tons
- Melons: 283,30 tons
- Wine vineyards: 280,23 tons
- Tomatoes: 179,05 tons
- Watermelons: 150 tons
- Permanently grassed areas (pastures and grazing lands): 147,81 tons
- Rapeseed-winter: 136,39 tons
- Plums: 135,73 tons
- White thistle: 134,17 tons

For the livestock sector, the following can be inferred according to available data:

- The production of the "livestock" sector amounted to 159.16 tons of organic product;
- the most organic operators in the region are in the "Beekeeping and bee products" sub-activity
- the largest amount of organic product produced in 2022 is in the sub-activity "Beekeeping and bee products" - 74.41 tons.
- In the sub-activity "Cattle and buffalo for slaughter" and "cattle breeding" 71.46 tons of organic product was produced in 2022.
- 13.3 tons is the amount certified as organic buffalo milk
- The largest number of animal units are registered in the sub-activity "Beekeeping and bee products": 5,342 bee families
- 751 animal units are certified in the sub-activity "A2000B Cattle and buffaloes for slaughter", and in the sub-activity "A2000B Cattle" - 638 animal units

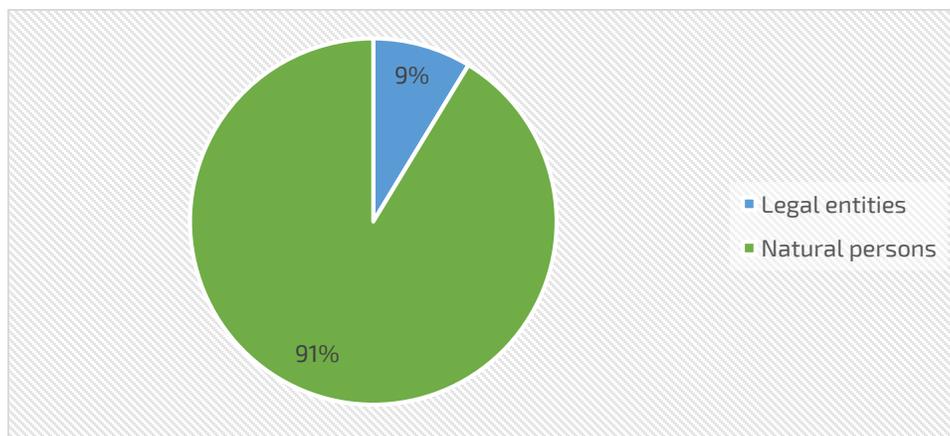
Below in the analysis, data is presented, distributed by territorial principle – the municipalities in the region, respectively with information on the producers, processors and traders of

agricultural products and food produced in an organic way in them, the produced production and controlled territory. It is important to clarify that the source of this part of the research is the database of producers, processors and traders of organically produced agricultural products and food, where information on certified areas and production is not available for every organic producer, because each certification body operates with a different form of certificate and documents. In this regard, it is possible to obtain a distortion of the results regarding certified territories and products such as organic or products in transition. The source of information is limited in time horizon (January, 2023), because every producer, processor and trader has the opportunity to register/re-register on a certain date, respectively the data for the registered producers, processors and traders of agricultural products and food, who have up-to-date certificates for the specified period.

3.1. Dimitrovgrad Municipality

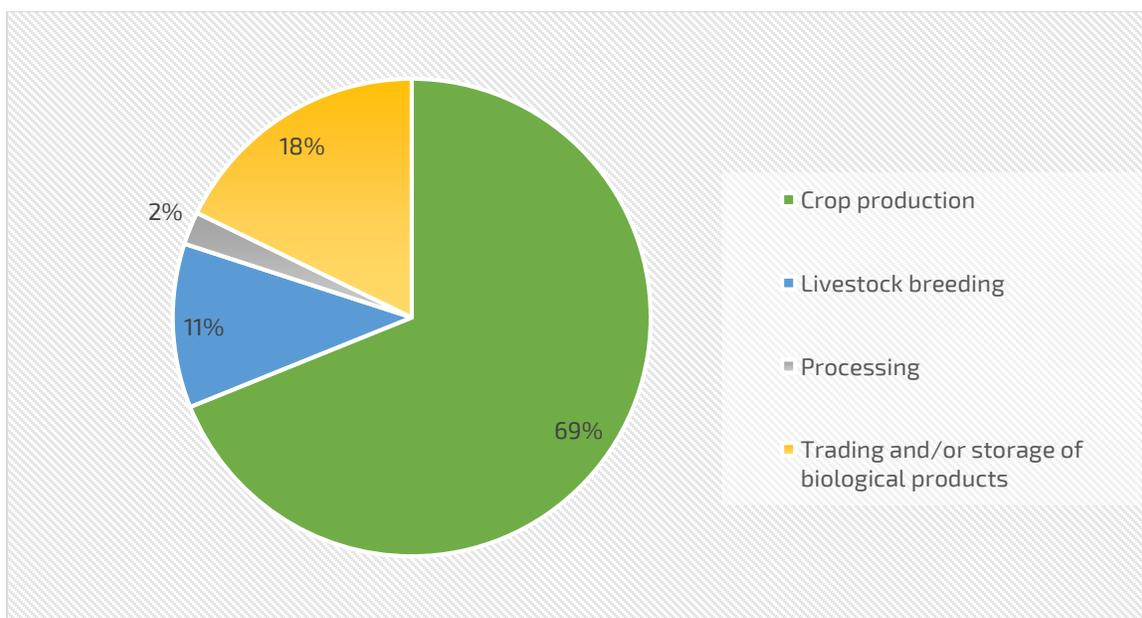
23 producers, traders and processors of agricultural products and food produced organically are registered on the territory of the Municipality of Dimitrovgrad, with which the municipality ranks 4th in Haskovo region in terms of the number of operators registered in the municipality. The majority of operators are natural persons (farmers). There are only 2 legal entities operating on the territory of the municipality - HAI BIO YADKI LTD and Weekend Ltd. Of the 23 operators in Dimitrovgrad, only 1 is registered in the village of Krepost. The available information about the producers' workplaces shows that they mainly work on the territory of Dimitrovgrad Municipality, but also on the territory of Stambolovo Municipality. The main locations where the certified organic areas are located are: the town of Dimitrovgrad, the village of Kasnakovo, the village of Bryast, the village of Voden, the village of Zdravets, the village of Krepost, the village of Popovets, Stambolovo Municipality and the village of Zimovina, Stambolovo Municipality. Of course, according to the nature of the collected data, this represents a snapshot in the electronic register and another picture is possible in a subsequent period after the reference one.

FIGURE 16. Producers and traders of organically produced agricultural products and food in Dimitrovgrad municipality according to their legal form



There are 45 certified sub-activities on the territory of the municipality, maintaining the trend at regional level for a higher share of producers in the field of crop production. 68,9% is the share of crop production in the mix of certified activities in Dimitrovgrad municipality. With the smallest share is the processing of agricultural products and foods produced in a organic way, where only 1 farmer (individual) works in the field of processing. Organic livestock breeding in the municipality of Dimitrovgrad is mainly related to beekeeping, respectively the production of honey and bee products. The following figure presents the data on the certified activities on the territory of Dimitrovgrad Municipality.

FIGURE 17. Certified activities on the territory of Dimitrovgrad Municipality

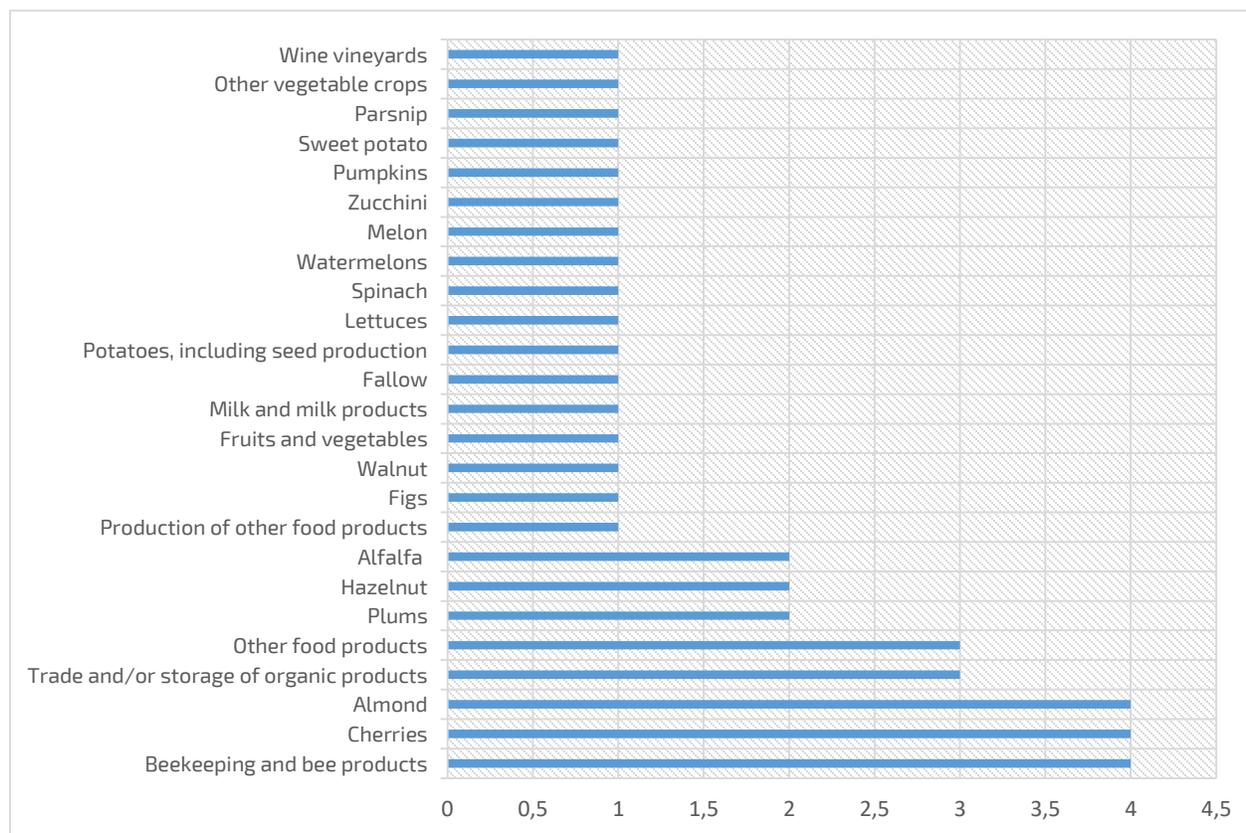


Most of the organic producers in Dimitrovgrad municipality breed bees, cherries and almonds, which forms 26,7% of the total number of organic activities grown/performed. 4 are the farmers who grow cherries, 4 are also those who in 2022/2023 r. grow almond, and 4 producers are also registered with production of honey and bee products. According to the available data, the total value of the certified areas in Dimitrovgrad Municipality is 64.68 ha. According to the data from the certificates for organic land as of 2022, it is clear that the largest area in the municipality of Dimitrovgrad is occupied by hazelnuts - 22.01 ha with production in the amount of 7.25 tons. In second place is the land occupied by almonds - 16.81 ha, and in third - cherries with 14.44 ha.

The total production reported in the certificates of the organic producers in 2022 in Dimitrovgrad amounts to 148.89 tons. The best yield in 2022 is reported for: the cultivation of cherries - 57.15 tons; watermelons – 31 tons; potatoes, including seed production – 16 tons; bee products – 13.86 tons and lucerne, where a quantity of 10.62 tons was produced.

Regarding livestock breeding on the territory of Dimitrovgrad municipality in 2022, the data from the Register shows breeding of 710 bee families are.

FIGURE 18. Distribution of the number of certified types of sub-activities by producers, processors and traders of agricultural products and food produced organically in Dimitrovgrad Municipality



In the field of trade and/or storage of organic products in Dimitrovgrad Municipality, the following production is realized: organic honey; hazelnut; hazelnut tahini; organic broths; organic purees; (organic baby foods and transitional foods); hazelnut flour; organic cow yellow cheese; organic cow cheese; organic cow yogurt; organic pasteurized cow's milk.

The following table presents the available data for the certified territory with agricultural products and food produced in an organic way, as well as the produced/grown production as of 2022, incl. the number of animal units in the "livestock" sector as of January, 2023. These data are derived from the certificates, which include information on the relevant categories of data.

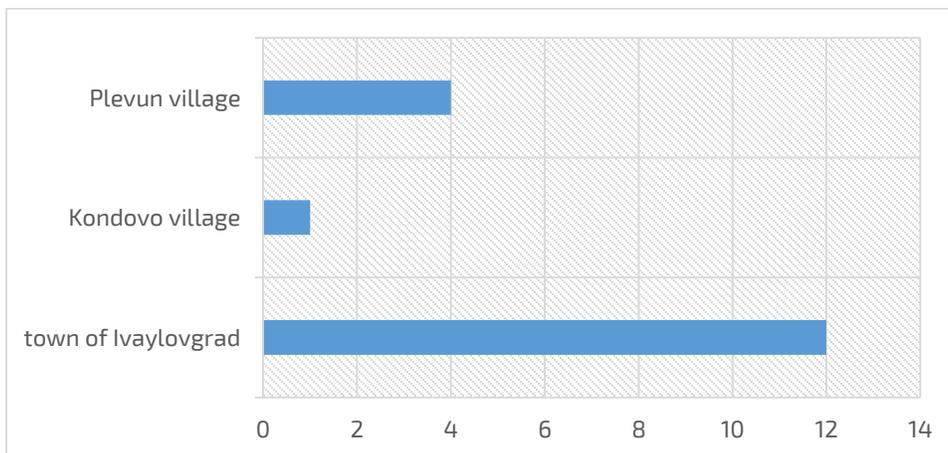
TABLE 18. Area, amount of production/number of animal units for organic producers in Dimitrovgrad Municipality

Certified activity	Type of certified sub-activity	Number of operators with similar sub-activity	Area (ha)	Quantity produced (tons) by 2022	Number of animal units/ Number of bee families
Livestock breeding	Beekeeping and bee products	4	-	13,86	710,00
Crop production	Cherries	4	14,44	57,15	-
Crop production	Almond	4	16,81	2,85	-
Trading and/or storage of biological products	Trade and/or storage of organic products	3	-	-	-
Trading and/or storage of biological products	Other food products	3	-	-	-
Crop production	Plums	2	2,74	3,06	-
Crop production	Hazelnut	2	22,01	7,25	-
Crop production	Alfalfa	2	4,38	10,62	-
Processing	Production of other food products	1	-	-	-
Crop production	Figs	1	0,35	0,05	-
Crop production	Walnut	1	2,16	0,08	-
Trading and/or storage of biological products	Fruits and vegetables	1	-	-	-
Trading and/or storage of biological products	Milk and milk products	1	-	-	-
Crop production	Fallow	1	1,25	-	-
Crop production	Potatoes, including seed production	1	-	16	-
Crop production	Lettuces	1	-	0,03	-
Crop production	Spinach	1	-	0,45	-
Crop production	Watermelons	1	-	31	-
Crop production	Melon	1	-	0,15	-
Crop production	Zucchini	1	-	1,8	-
Crop production	Pumpkins	1	-	1,5	-
Crop production	Sweet potato	1	-	-	-
Crop production	Parsnip	1	-	0,45	-
Crop production	Other vegetable crops	1	-	0,09	-
Crop production	Wine vineyards	1	0,54	2,5	-

3.2. Ivaylovgrad Municipality

17 producers of agricultural products and food produced in an organic way are registered on the territory of Ivaylovgrad Municipality, which ranks it in the 5th place in Haskovo region in terms of the number of operators registered in the municipalities. The majority of operators are natural persons (farmers). There are only 3 legal entities operating on the territory of the municipality - Ahrida Bio EOOD, ISHMINA EOOD and SP ENERGY EOOD. The following figure presents data on the registrations of 17 operators in the municipality of Ivaylovgrad. 4 of the operators are registered in the village of Plevun, 1 is registered in the village of Kondovo, and the remaining 12 are registered in the municipal center.

FIGURE 19. Producers of agricultural products and food produced organically in Ivaylovgrad Municipality by registered settlements



The available information on the producers' workplaces, presented in figure 20, shows a diverse picture – the certified sites of the organic producers from Ivaylovgrad are located in 8 settlements.

FIGURE 20. Information on workplaces of registered producers on the territory of Ivaylovgrad Municipality

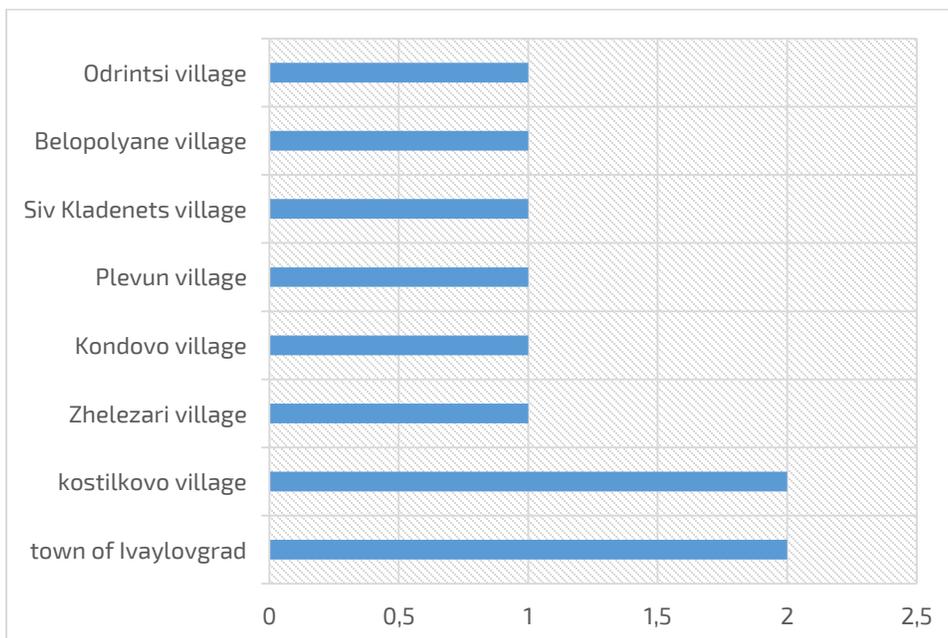
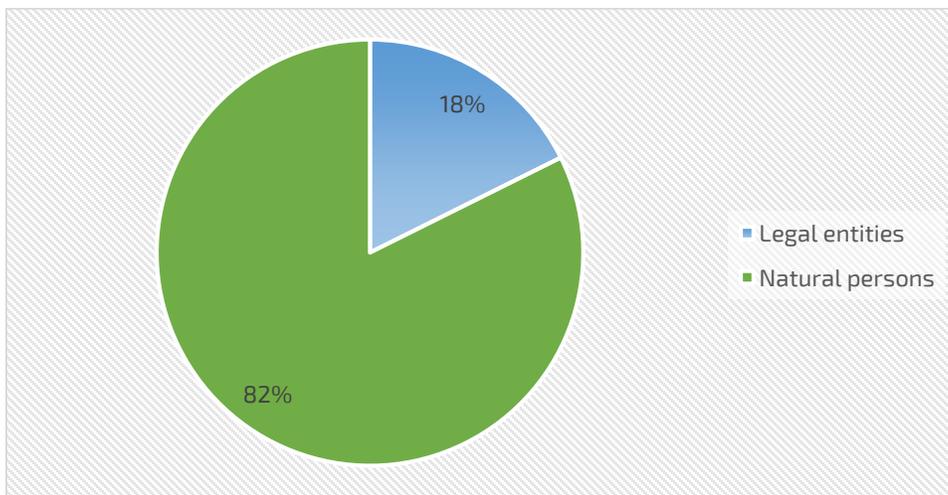
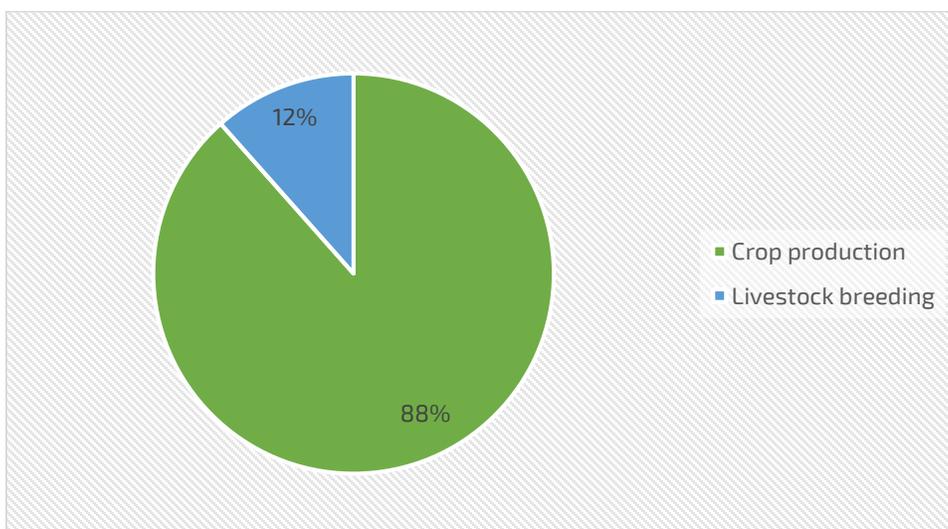


FIGURE 21. Producers and traders of agricultural products and food produced organically in Ivaylovgrad Municipality according to their legal form



There are 26 sub-activities on the territory of the municipality, and the share of producers in the field of crop production unequivocally confirms the crop profile of organic production in the municipality of Ivaylovgrad. Only 11,5% is the share of livestock breeding in the mix of certified activities in the municipality of Ivaylovgrad. It is related only to beekeeping, respectively the production of honey and bee products. Regarding the quality of agricultural products and foods produced organically in the municipality of Ivaylovgrad, the data show that more than $\frac{3}{4}$ of the products are organic, and 18% are those in transition.

FIGURE 22. Certified activities on the territory of Ivaylovgrad Municipality



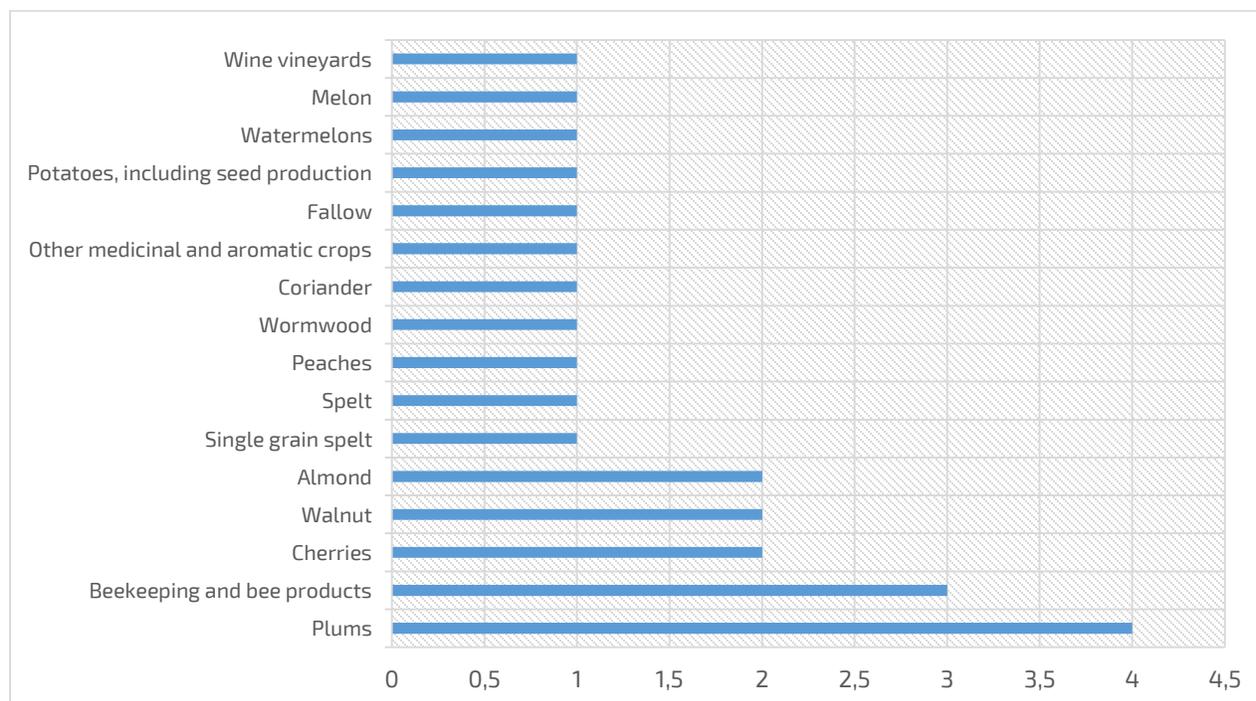
In the municipality of Ivaylovgrad the most organic producers grow plums, breed bees, grow cherries, walnuts and almonds, which forms 50% of the total number of cultivated/performed organic sub-activities. The most operators – 4 produce plums. 3 are also those who in 2022

breed bees and produce bee products. There are 2 operators with areas planted with cherries, walnuts and almonds.

117.9 ha in total are the areas with organic production on the territory of the municipality of Ivaylovgrad. According to the available data on the certified area by 2022, it is clear that the largest area in the municipality of Ivaylovgrad from the certified organic territories is occupied by coriander – 42.52 ha. In second place in terms of certified areas are the wine vineyards – 20.72 ha, representing traditional culture and activity for the municipality..

In 2022, according to the available information, a total of 288.65 tons of organic production is reported in the certificates of those registered in the municipality. 70% of this production is related to the production of watermelons - 119 tons. In second place is the production of wine vineyards in the amount of 62 tons.

FIGURE 23. Distribution of the number of certified types of activities by the producers of agricultural products and food produced organically in the municipality of Ivaylovgrad



The following table presents the certified territory with organically produced agricultural products and food, as well as the produced/grown production as of 2022, for which data is available in the electronic register for organic production. These data are derived from the published certificates of conformity of organic farms, which include information on the relevant categories of data.

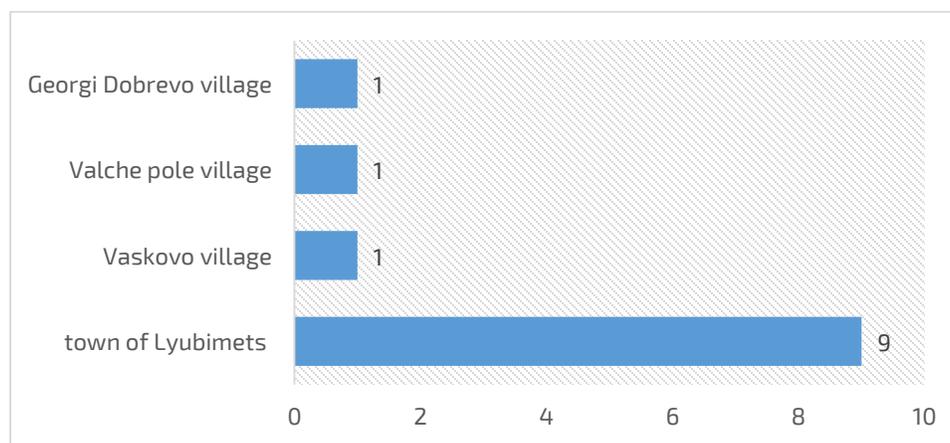
TABLE 19. Area, amount of production/number of animal units for organic producers in Ivaylovgrad municipality

Certified activity	Type of certified sub-activity	Number of operators with similar sub-activity	Area (ha)	Quantity produced (tons) as of 2022	Number of animal units/ Number of bee families
Crop production	Plums	4	6,57	18,50	-
Livestock breeding	Beekeeping and bee products	3	-	3,05	130
Crop production	Cherries	2	4,37	11,60	-
Crop production	Walnut	2	3,29	0,50	-
Crop production	Almond	2	4,23	0,55	-
Crop production	Single grain spelt	1	8,54	4,10	-
Crop production	Spelt	1	4,53	6,80	-
Crop production	Peaches	1	1,43	-	-
Crop production	Wormwood	1	0,56	0,13	-
Crop production	Coriander	1	42,52	40,9	-
Crop production	Other medicinal and aromatic crops	1	0,4	0,02	-
Crop production	Fallow	1	6,52	-	-
Crop production	Potatoes, including seed production	1	3,55	16,00	-
Crop production	Watermelons	1	9,44	119	-
Crop production	Melon	1	1,23	5,5	-
Crop production	Wine vineyards	1	20,72	62	-

3.3. Lyubimnets Municipality

12 producers of agricultural products and food produced in an organic way are registered in the Municipality of Lyubimets, which ranks it in 6th place in Haskovo region in terms of the number of operators registered in the municipalities. There are no registered processors and traders of certified organic produce in the municipality. Over 80% of the operators are natural persons (farmers). 2 are the legal entities operating on the territory of the municipality - BIONUTS OOD, growing hazelnuts, walnuts and Novi Sakar EOOD, growing wine vineyards. The following figure presents data on the registrations of 12 operators in the municipality of Lyubimets.

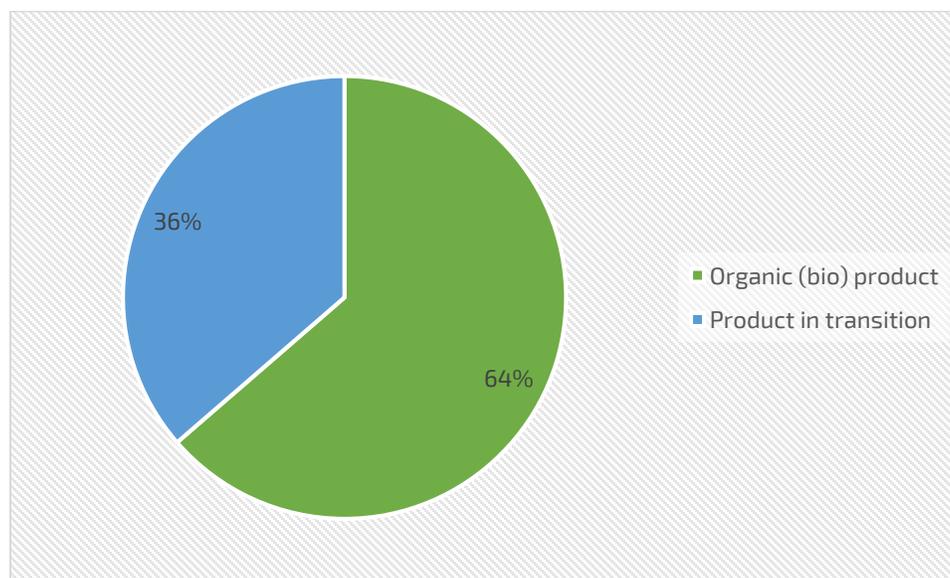
FIGURE 24. Producers of agricultural products and food produced organically in Lyubimets Municipality by registered settlements



The available information on the producers' workplaces shows the concentration of organic producers in the town of Lyubimets. There are also two workplaces in the villages of Georgi Dobrevo, Vaskoco and Vulche pole.

There are 16 certified sub-activities on the territory of the municipality, and the share of producers in the field of crop production underlines the crop profile of organic production in the municipality of Lyubimets. 12,5% is the share of livestock breeding in the mix of certified sub-activities in Lyubimets municipality. It is related to beekeeping, respectively the production of honey and bee products, which is engaged in by two farmers. Regarding the quality of agricultural products and food produced organically in the municipality of Lyubimets, the data show that, in contrast to the municipalities of Ivaylovgrad and Dimitrovgrad and other municipalities, here the share of products in transition is greater and, accordingly, a longer period of time is needed for reaching the organic status of the production in Lyubimets. 36 % of certified products and territories are in transition to organic production.

FIGURE 25. Quality of agricultural products and food produced organically in the municipality of Lyubimets

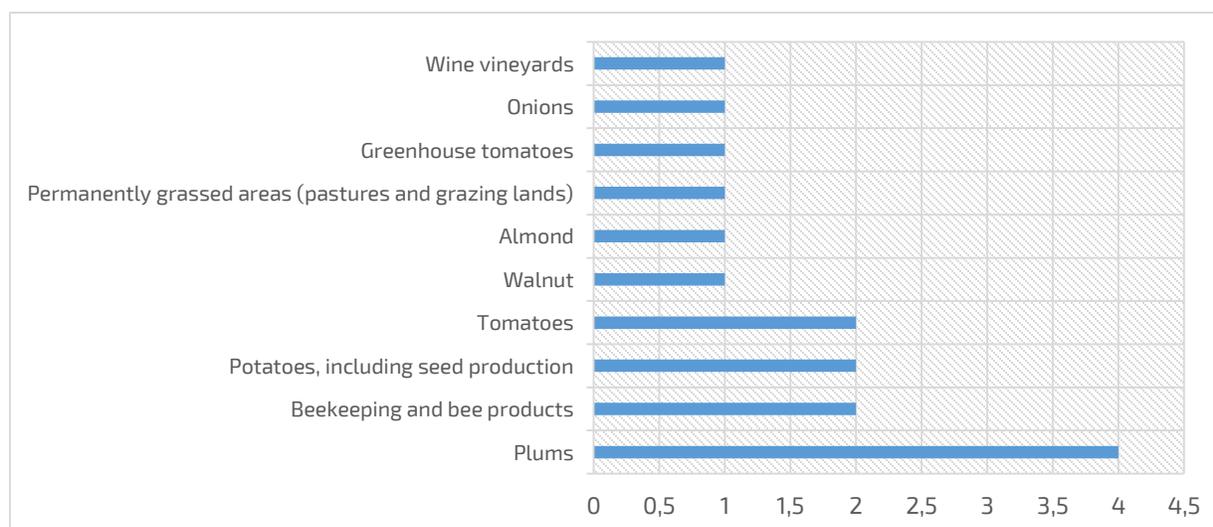


Regarding certified production, in the municipality of Lyubimets, the most organic producers grow plums, bees, potatoes and tomatoes, which forms 62,5% of the total number of organic sub-activities. The largest number of operators grow plums – 4. There are two who in 2022 are raising bees and producing bee products. Two operators each are reported in the sub-activities "production of potatoes, including seed production" and "tomatoes". The trend at regional level for the smaller number of livestock farmers is maintained.

From the available data on the certified area as of 2022, it is clear that walnuts have the largest area in Lyubimets municipality - 24 ha, followed by wine vineyards - 16.52 ha. The total certified area in the municipality of Lyubimets amounts to 69.98 ha. The smallest territory is reported under the sub-activity "permanently grassed areas (pastures and grazing lands)" - 0.27 ha.

With regard to the produced production, from the available data it is clear that the total amount of organic product produced in the municipality of Lyubimets in 2022 is 136.62 tons, with which the municipality of Lyubimets ranks 7th in the district. With the largest production in 2022 in the municipality is the activity "Potatoes, including seed production" - 36.10 tons, followed by the production of tomatoes - 32.8 and the production of tomatoes - greenhouse (26 tons).

FIGURE 26. Distribution of the number of certified types of sub- activities by the producers of agricultural products and food produced organically in the municipality of Lyubimets



The following table presents the certified territory with organically produced agricultural products and foods, as well as the production/grown production in 2022, for which there is data available in the electronic register for organic production as of January, 2023. These data are derived from the published certificates of conformity of organic farms, which include information on the relevant categories of data.

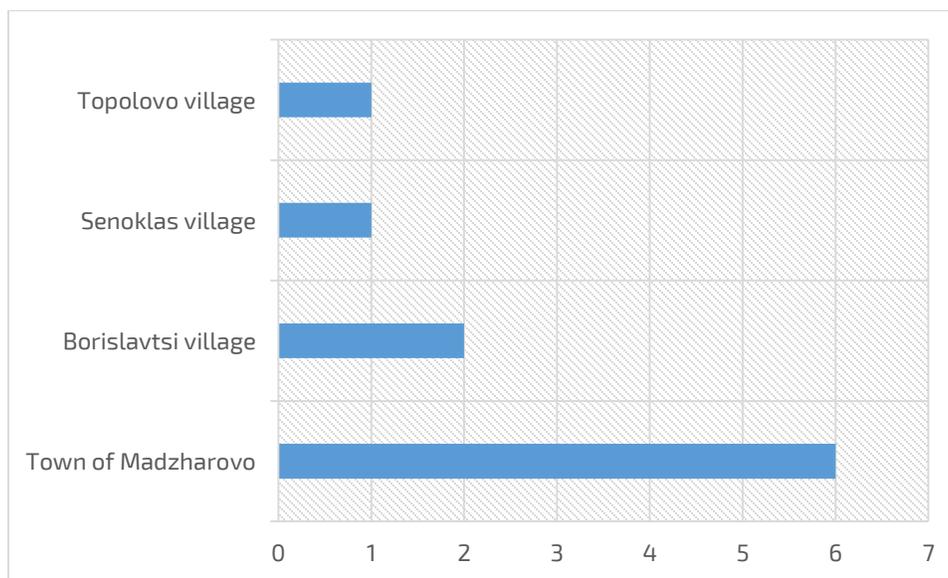
TABLE 20. Area, amount of production/number of animal units for organic producers in Lyubimets municipality

Certified activity	Type of certified sub-activity	Number of operators with similar sub-activity	Area (ha)	Quantity produced (tons) by 2022	Number of animal units/ Number of bee families
Crop production	Plums	4	7,14	17,92	-
Livestock breeding	Beekeeping and bee products	2	-	4,50	480
Crop production	Potatoes, including seed production	2	3,44	36,10	-
Crop production	Tomatoes	2	5,06	32,80	-
Crop production	Walnut	1	24,00	-	-
Crop production	Almond	1	7,77	-	-
Crop production	Permanently grassed areas (pastures and grazing lands)	1	0,27	-	-
Crop production	Greenhouse tomatoes	1	0,30	26,00	-
Crop production	Onions	1	2,48	17,5	-
Crop production	Wine vineyards	1	19,52	1,8	-

3.4. Madzharovo Municipality

The municipality of Madzharovo, along with the municipalities of Simeonovgrad, Mineralni Bani and Stambolovo, is at the bottom of the municipalities in the region in terms of the number of registered organic producers. This fact can be related to the negative demographic characteristics in the municipality, as well as the lack of economic growth and development in recent years. 9 producers and 1 processor (10 operators in total) of agricultural products and food produced organically are registered on the territory of Madzharovo Municipality, which ranks it in the 8th place in Haskovo region in terms of the number of operators registered in the municipalities. There are no registered traders of certified organic produce in the municipality. Regarding the profile of the operator in relation to its legal form, the data show that 8 are natural persons - agricultural producers, and 2 are legal entities. The legal entities operating on the territory of the municipality are Hive Ltd., growing white thistle and clover, as well as Blagovesta Vasilieva Sole trader, engaged in processing and canning of meat and production of meat products (incl. meat cuts; canned meat and vegetables; meat preparations - minced meat; raw sausage; raw-dried delicacies and sausages). The following figure presents data on the registrations of the ten operators in the municipality of Madzharovo.

FIGURE 27. Producers and processors of agricultural products and food produced organically in Madzharovo Municipality by registered settlements



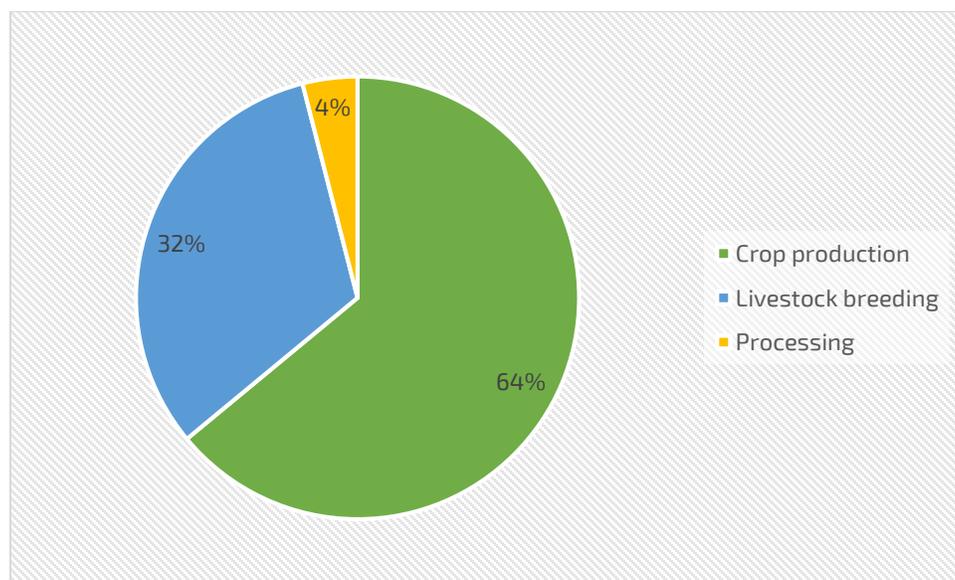
In the register, there is information available only for 4 workplaces of agricultural producers - the village of Borislavtsi, the town of Madzharovo, the village of Efrem and the village of Senoklas.

There are 25 certified sub-activities on the territory of the municipality. 16 of them are related to plant breeding, 8 to animal breeding and there is 1 processor working in the field of meat processing and canning and production of meat products. Livestock breeding in the municipality of Madzharovo is better developed compared to other municipalities in the region

in terms of the relative weight of the industry. Livestock breeding in the municipality is mainly associated with breeding of cattle and buffaloes for slaughter, breeding of bee colonies and, accordingly, the production of honey. There is also sub-activity here related to the processing and canning of meat and the production of meat products, which is most likely related to the production of local organic operators.

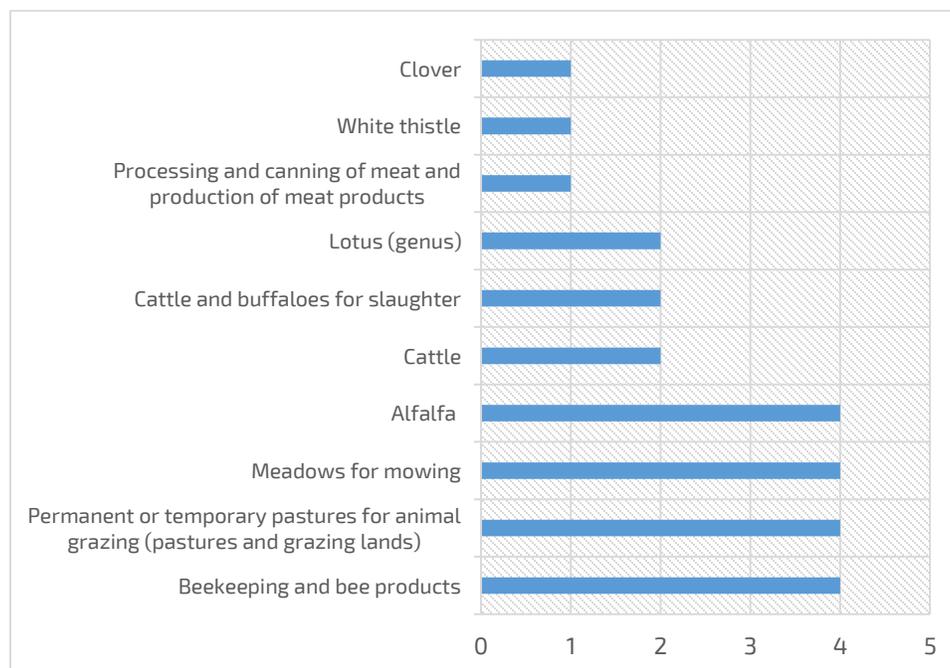
Regarding the quality of agricultural products and food produced organically in the municipality of Madzharovo, the data show that almost 70% of the products are organic, and the remaining 30% are those in transition.

FIGURE 28. Certified activities on the territory of Madzharovo Municipality



In the Municipality of Madzharovo, the most certified organic sub-activities are related to: permanent or temporary pastures for animal grazing (pastures and land for grazing), meadows for mowing, lucerne and beekeeping, which form 64% of the total of the organic sub-activities grown/performed. These activities are mainly related to the breeding of animals and the provision of organic territories for animal grazing, lucerne, etc. Next, the largest number of organic producers are engaged in breeding buffaloes and cattle, as well as birdsfoot deervetch.

FIGURE 29. Distribution by the number of certified types of sub- activities by the producers of agricultural products and food produced organically in Madzharovo municipality



Since the public documents of the various controlling bodies certifying organic production on the territory of the region contain a different amount of information, no clear trend can be deduced in terms of the areas and the amount of production. However, a review of the data available in the case of the municipality of Madzharovo was made and it is presented in the following table:

TABLE 21. Area, amount of production/number of animal units for organic producers in Madzharovo municipality

Certified activity	Type of certified sub-activity	Number of operators with similar sub-activity	Area (ha)	Quantity produced (tons) by 2022	Number of animal units/ Number of bee families
Livestock breeding	Beekeeping and bee products	4	-	5,80	485
Crop production	Permanent or temporary pastures for animal grazing (pastures and grazing lands)	4	1317,17	93,86	-
Crop production	Meadows for mowing	4	124,85	362,41	-
Crop production	Alfalfa	4	35,14	96,02	-
Livestock breeding	Cattle	2	-	25,76	638
Livestock breeding	Cattle and buffaloes for slaughter	2	-	45,70	751
Crop production	Lotus (genus)	2	7,95	19,39	-
Processing	Processing and canning of meat and production of meat products	1	-	-	-
Crop production	White thistle	1	1,45	0,20	-
Crop production	Clover	1	6,68	3,94	-



It is clear from the data that as of January, 2023, the total organic certified area is 1493.24 ha. 88% of this territory is associated with permanent or temporary pastures for animal grazing. With the least certified areas is sub-activity "P0000-12 Clover". In terms of the amount of production, data indicate that in 2022 the most organic production is in meadow hay, lucerne and production from permanent or temporary pastures for animal grazing. In 2022, more than 71 tons of organic products are reported under the sub-activity "breeding of buffaloes and cattle". The production of white thistle was recorded with the least production. For the livestock sector in 2022, the data indicates the presence of 751 buffaloes and cattle, 638 cattle and 485 bee colonies.

3.5. Mineralni bani Municipality

In Mineralni Bani Municipality 4 producers of agricultural products and food produced organically are registered, with which it ranks second to last in Haskovo region in terms of the number of operators registered in the municipalities. There are no registered processors and traders of certified organic produce in the municipality. One operator is a legal entity, operating on the territory of the municipality - Toplikos-2008 EOOD, growing walnuts in the village of Karamantsi.

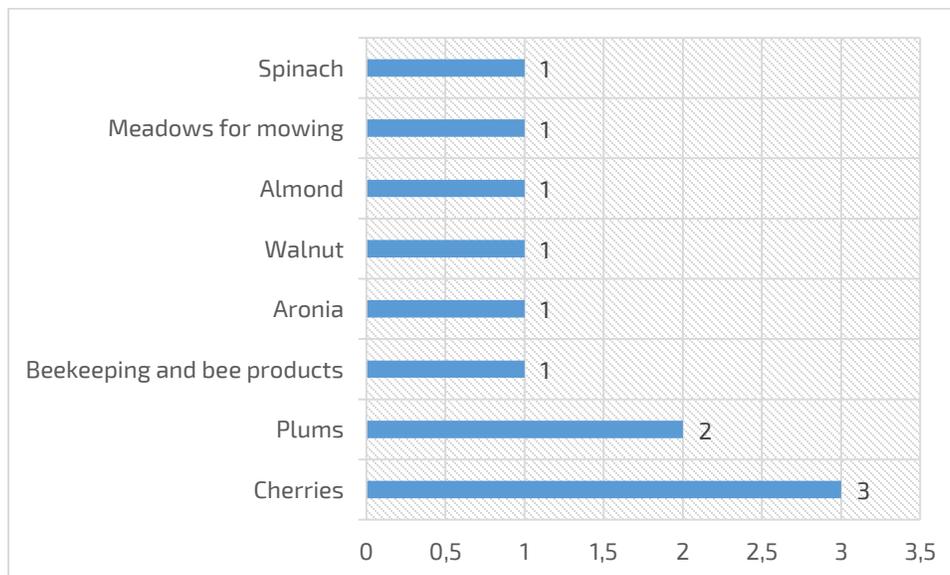
According to data from the electronic register, as of January 2023, three of the registered organic producers are in the territory of the village of Karamantsi, and the other is registered in the municipal center - the village of Mineralni Bani. The workplaces of the registered organic operators in the municipality are located in the lands of the villages: Karamantsi, Sarnitsa, Kolets and Bryastovo.

Organic producers in the municipality have certified 11 sub-activities. Of these, only 1 sub-activity is related to beekeeping and the production of honey and bee products.

Regarding the quality of agricultural products and food produced organically in the municipality of Mineralni Bani, the data show that there is a preponderance in favor of organic products. Only 1 of the certified products is in "transition to organic production".

Regarding the certified production - in the municipality of Mineralni bani, the most organic producers grow cherries and plums. From the available data on the certified area and the amount of output produced by 2022, it is clear that cherries have the largest area in the municipality of Mineralni bani with certified organic products - 8.11 ha., for which in 2022 the certifying authorities report the production in the amount of 11.75 tons. This is also the largest registered production in the municipality according to available data. In second place in terms of area is the production of walnuts - 5.73 ha, where the production is significantly smaller - 0.8 tons by 2022.

FIGURE 30. Distribution of the number of certified types of sub- activities by the producers of agricultural products and food produced organically in Mineralni Bani Municipality



The following table presents the available data from the published certificates as of January 2023, which include information on the relevant categories of data..

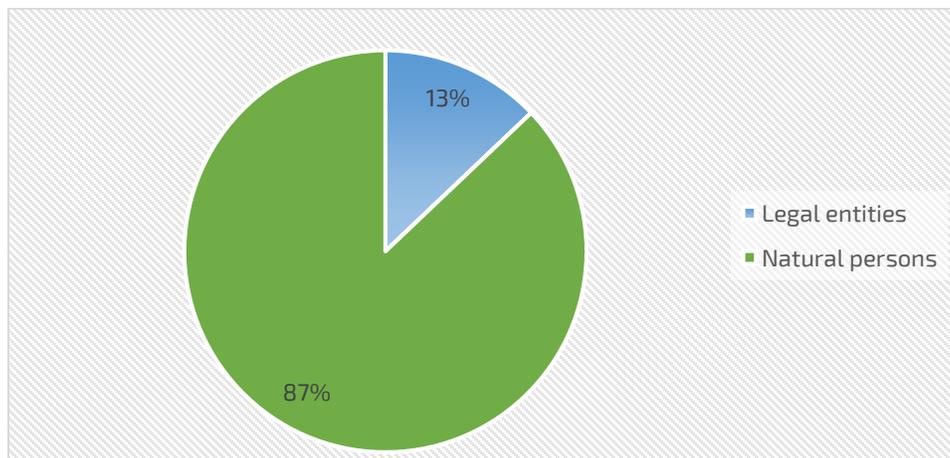
ТАБЛИЦА 22. Площ, количество произведена продукция/брой животински единици при биологичните производители в община Минерални бани

Certified activity	Type of certified sub-activity	Number of operators with similar sub-activity	Area (ha)	Quantity produced (tons) by 2022	Number of animal units/ Number of bee families
Crop production	Cherries	3	8,11	11,75	-
Crop production	Plums	2	1,92	2,90	-
Livestock breeding	Beekeeping and bee products	1	-	0,01	1
Crop production	Aronia	1	2,13	1,00	-
Crop production	Walnut	1	5,73	0,80	-
Crop production	Almond	1	0,37	-	-
Crop production	Meadows for mowing	1	4,44	2,79	-
Crop production	Spinach	1	3,04	3,04	-

3.6. Svilengrad Municipality

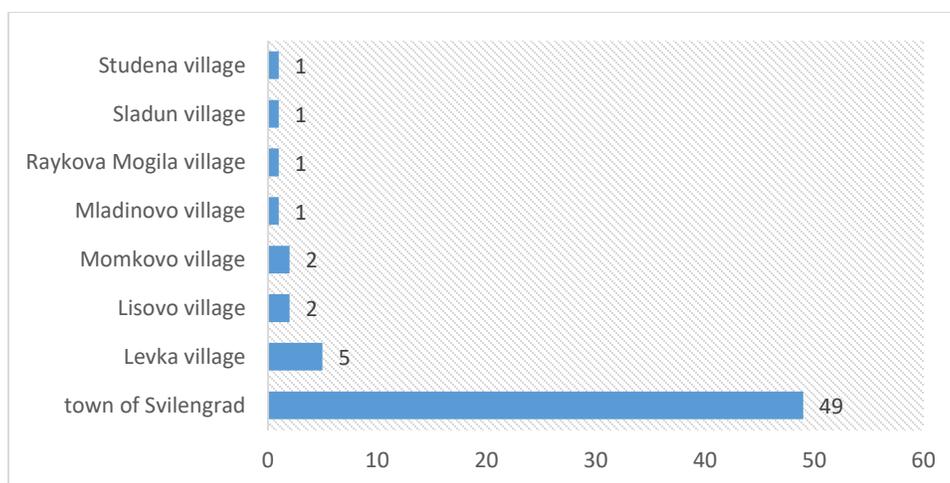
In second place in terms of the number of registered operators in the register of producers, processors and traders of agricultural products and food produced in an organic way as of January 2023 is the territory of the municipality of Svilengrad (61 are producers and 1 is a trader - a total of 62 operators). The predominant share of operators are natural persons (farmers) - 54. 8 are legal entities operating on the territory of the municipality - BIO 2014 EOOD, Grani Ellas EOOD, ECO NUTS LTD., Eno Land EOOD, Thracian nuts – Mitko Lambov Sole trader, Agricultural Cooperative Ekosludun, Idea Deya Ltd. and Teodoshev-2014 EOOD.

FIGURE 31. Producers and traders of agricultural products and food produced organically in the municipality of Svilengrad according to their legal form



The distribution of operators in the municipality of Svilengrad by registration by settlement is presented in the following figure. The data shows the concentration of registered operators in the municipal center - the town of Svilengrad. Five producers are registered in the village of Levka, and two each in the villages of Lisovo and Momkovo. In the other settlements, according to the register, there is 1 operator registered each. It is interesting that in the village of Lisovo where there are 4 residents according to 2021 NSI population census and housing fund, there are two registered producers - 1 producer of almonds and 1 producer of certified plums, onions, apricots, almonds and meadows for mowing.

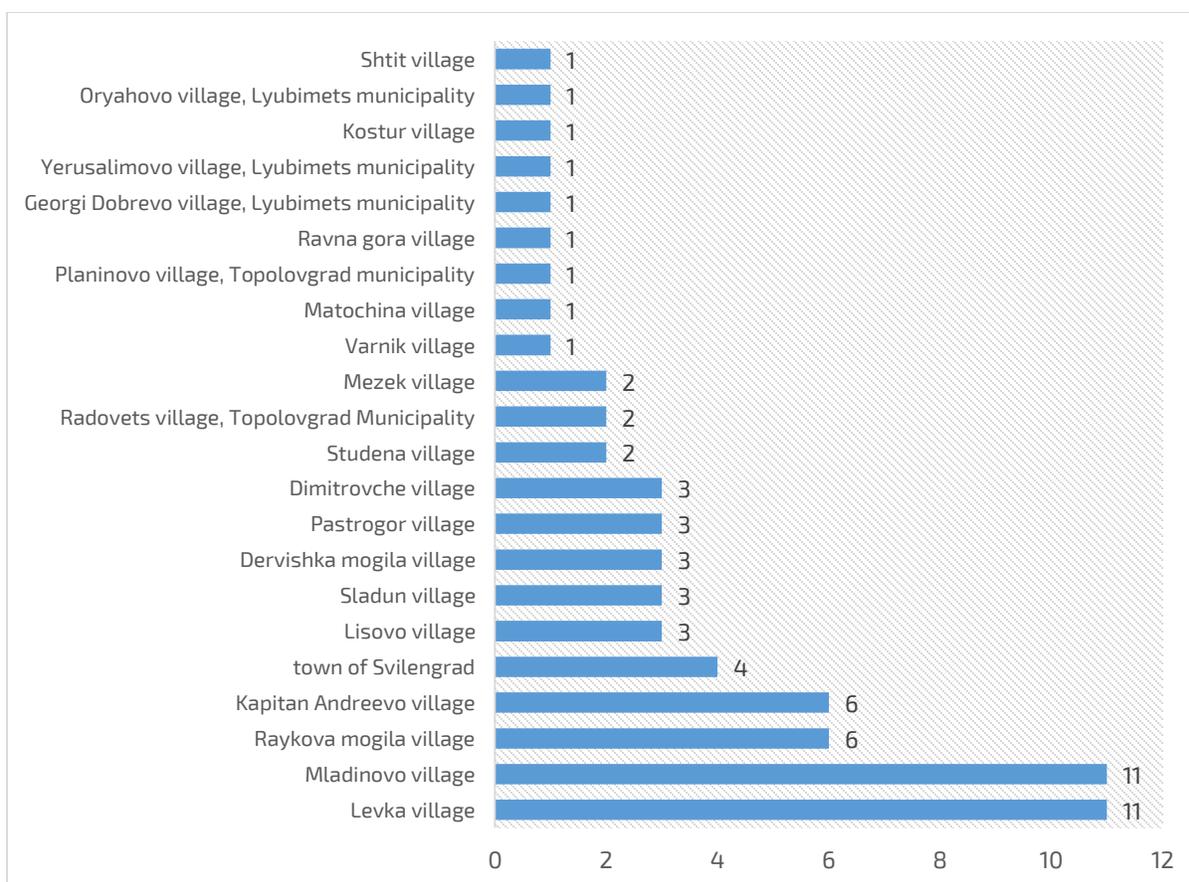
FIGURE 32. Producers, processors and traders of agricultural products and food produced organically in Svilengrad Municipality by registered settlements



According to the data presented in the figure below, two settlements are clearly outlined, in the lands of which there is a concentration of organic producers - the village of Levka and the village of Mladinovo, where a total of 22 operators grow organic products. There are also settlements outside the municipality of Svilengrad, on the lands of which the workplaces of

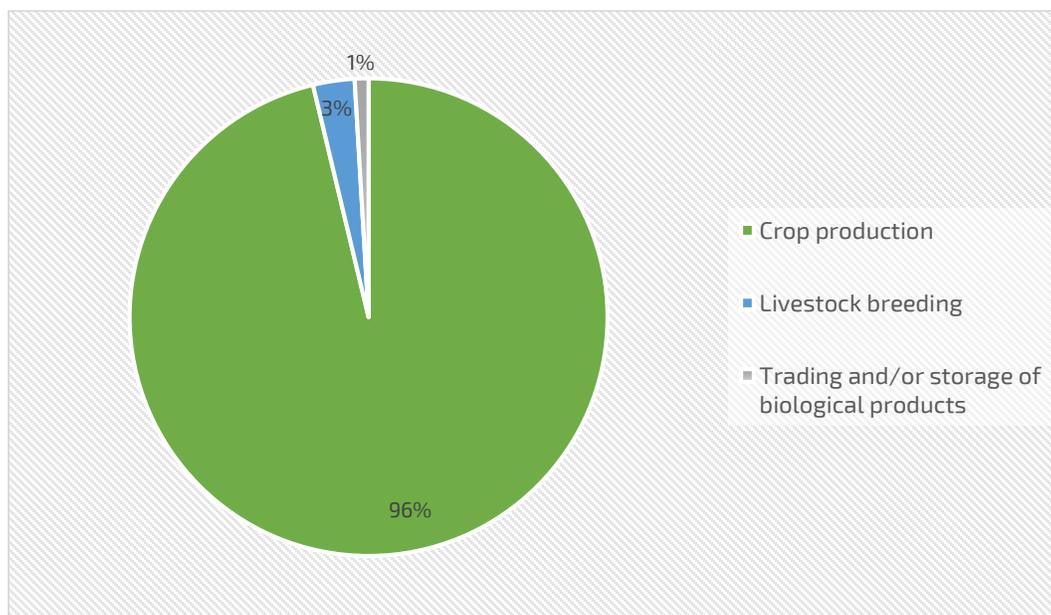
operators registered in Svilengrad are located - two villages in the municipality of Topolovgrad - the village of Radovets and the village of Planinovo, as well as 3 villages in the municipality of Lyubimets - the village of Georgi Dobrevo, Yerushalimovo village and Oryahovo village.

FIGURE 33. Information on workplaces of registered producers on the territory of Svilengrad Municipality



There are 107 certified sub-activities on the territory of the municipality, maintaining the trend at regional level for a predominant share of producers in the field of crop production. 96.3% is the share of crop production in the mix of certified sub-activities in the municipality of Svilengrad. With the smallest share is "Trading and/or storage of organic products", where only 1 legal entity (Grani Ellas EOOD) works with organic sunflower, corn, hard wheat and rapeseed. Organic livestock breeding in the municipality of Svilengrad is related to beekeeping, respectively the production of bee products in the villages of Levka and Mezek and the town of Svilengrad. The following figure presents the data on the certified activities on the territory of the municipality of Svilengrad.

FIGURE 34. Certified activities on the territory of Svilengrad Municipality



Regarding the certified production - in the municipality of Svilengrad, the most organic producers grow onions, almonds, walnuts and plums, which forms 36.5% of the total number of cultivated/performed organic sub-activities. 16 are the producers growing onions, 12 are also those growing almonds in 2022. 11 are the operators with areas sown with walnuts and 9 are the operators with plum cultivation. Sixth place in number is occupied by fallows and melons.

The available data on the certified area show that for 2022 1,059.12 ha of areas were certified as organic/in transition, with which the municipality of Svilengrad ranks second in terms of organic areas in the organic production control system. According to the available data, as of 2022, it is clear that the largest area in the municipality of Svilengrad from the certified organic territories is occupied by white thistle - 275.02 ha, where the production for 2022 amounts to 133.98 tons. In second place are permanently grassed areas (pastures and grazing lands) - 147.97 ha with 147.81 tons of production. In third place are walnuts with 129.11 ha. The areas with almonds are 81.39 ha, and the lands sown with green peas are 58.12 ha. According to the available data from the published certificates, figs have the smallest share in the organic areas in Svilengrad - 0.24 ha.

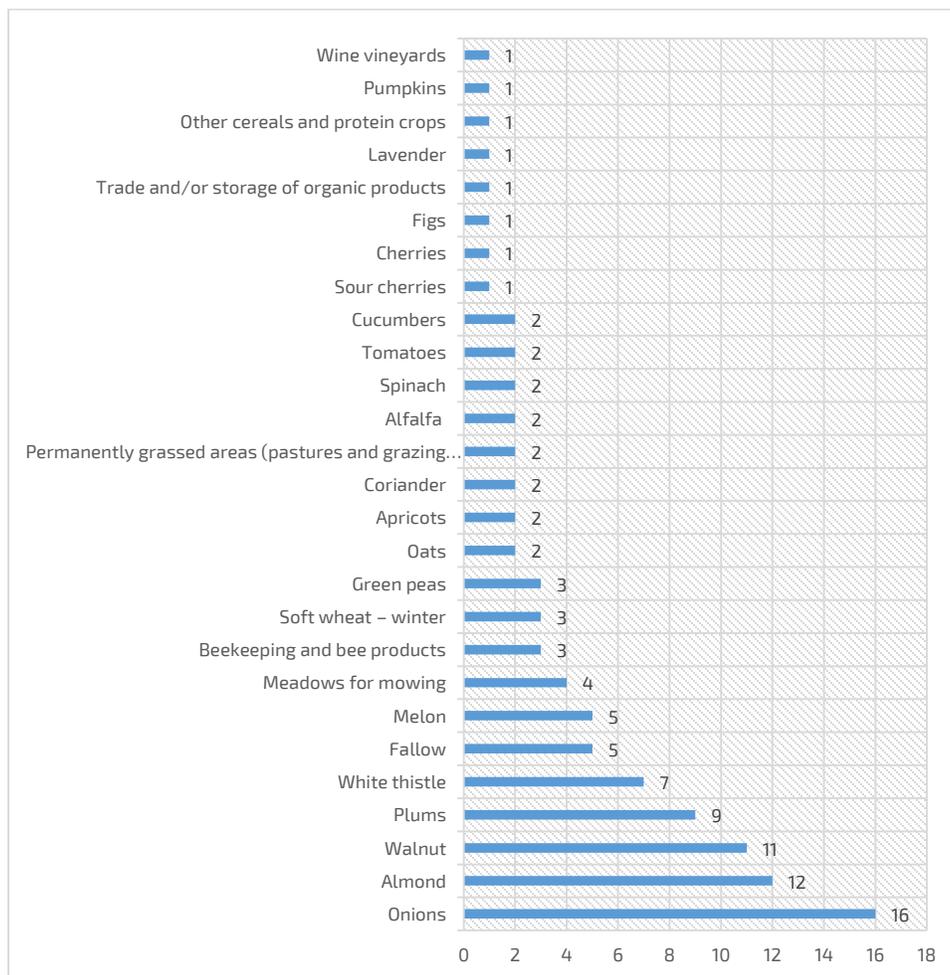
The total amount of organic products produced in 2022 by organic operators registered in the municipality of Svilengrad is 1336.36 tons. With this, the municipality of Svilengrad ranks first among the municipalities in the Haskovo region in terms of the indicator "amount of organic product produced". 30.14% is the share in 2022 of the organic products produced by operators in Svilengrad in the regional organic mix. According to the available data, the sub-activities "V4000-8 Onion", "V3000-4 Melon", "J0000-1 Permanently grassed areas (pastures and grazing lands)" and "I5000-15 White thistle" were reported with the best yields. Onion

producers harvested 367.09 tons on 53.68 ha of land, followed by melon producers - 261.95 tons on 46.89 ha of land. In third place, according to the available data, permanently grassed areas (pastures and grazing lands) are ranked - 147.81 tons. The amount of white thistle harvested in 2022 ranks fourth in terms of the amount of harvest in the municipality of Svilengrad - 133.98 tons per 275.02 ha of agricultural land.

In the case of "livestock breeding" activity in 2022 on the territory of the municipality of Svilengrad, there is data from the Register on the cultivation of 599 bee families and, accordingly, 12.3 tonnes of organic output produced.

Regarding the cultivation of wine vineyards and the production of wine, which occupy a traditional part of agriculture in this area - the data show that for 2022, 22.26 ha of areas were certified and 50 tons of organic production, consisting mainly of merlot, Mavrud and Cabernet Sauvignon.

FIGURE 35. Distribution of the number of certified types of sub- activities by the producers, processors and traders of agricultural products and food produced organically in Svilengrad municipality



The following table presents the available data from the published certificates as of January 2023. This data is derived from the certificates that include information on the relevant categories of data.

TABLE 23. Area, amount of production/number of animal units for organic producers in the municipality of Svilengrad

Certified activity	Type of certified sub-activity	Number of operators with similar sub-activity	Area (ha)	Quantity produced (tons) by 2022	Number of animal units/ Number of bee families
Crop production	Onions	16	53,68	367,09	-
Crop production	Almond	12	81,39	17,965	-
Crop production	Walnut	11	129,11	24,196	-
Crop production	Plums	9	13,57	27,32	-
Crop production	White thistle	7	275,02	133,98	-
Crop production	Fallow	5	18,76	-	-
Crop production	Melon	5	46,89	261,95	-
Crop production	Meadows for mowing	4	38,77	12,23	-
Livestock breeding	Beekeeping and bee products	3	-	12,30	599,00
Crop production	Soft wheat – winter	3	42,11	68,67	-
Crop production	Green peas	3	58,12	31,93	-
Crop production	Oats	2	9,13	4,68	-
Crop production	Apricots	2	2,41	8,01	-
Crop production	Coriander	2	36,54	17,70	-
Crop production	Permanently grassed areas (pastures and grazing lands)	2	147,97	147,81	-
Crop production	Alfalfa	2	31,60	41,84	-
Crop production	Spinach	2	2,08	2,00	-
Crop production	Tomatoes	2	2,59	33,30	-
Crop production	Cucumbers	2	5,84	62,10	-
Crop production	Sour cherries	1	0,91	1,3	-
Crop production	Cherries	1	0,82	2,00	-
Crop production	Figs	1	0,24	-	-
Trading and/or storage of biological products	Trade and/or storage of organic products	1	-	-	-
Crop production	Lavender	1	36,94	-	-
Crop production	Other cereals and protein crops	1	-	-	-
Crop production	Pumpkins	1	2,37	7,99	-
Crop production	Wine vineyards	1	22,26	50	-

3.7. Simeonovgrad Municipality

3 are the registered producers of agricultural products and food produced organically in Simeonovgrad Municipality, which puts the municipality in last place in Haskovo region in terms of the number of operators registered in the municipality. There are no registered processors and traders of certified organic produce in the municipality. The three organic productions are presented by natural persons operating on the territory of the municipality - Galya Asenova, growing plums, Georgi Petrov - growing honey and bee products and Dobromir Mazgalov, raising bees and producing bee products.

Organic producers in the municipality have certified 1 sub-activity in “crop production” – plums and 2 in “livestock breeding” - beekeeping and bee products. Plum production in the

municipality is certified as "organic" and "in transition to organic production". Beekeeping in Simeonovgrad is entirely "organic". The following table presents the main indicators of area, produced quantities in 2022 and number of bee colonies.

TABLE 24. Area, amount of production/number of animal units for organic producers in Simeonovgrad municipality

Certified activity	Type of certified sub-activity	Number of operators with similar sub-activity	Area (ha)	Quantity produced (tons) by 2022	Number of animal units/ Number of bee families
Crop production	Plums	1	2,52	0,02	-
Livestock breeding	Beekeeping and bee products	2	-	7,05	209,00

3.8. Stambolovo Municipality

9 are the registered producers of agricultural products and food produced organically in Stambolovo Municipality, which places the municipality in 9th place in Haskovo region in terms of the number of operators registered in the municipality. There are no registered processors and traders of certified organic produce in the municipality. Four organic productions are legal entities operating on the territory of the municipality - AGRAPLAM EOOD, growing; Bio Leader 8 EOOD - growing cherry and wine vineyards and manages mowing meadows in the villages of Dolno Botevo and Popovets; CHZP-GUNER SERBEST Sole Trader and Trakeya EOOD - certified in the cultivation of coft wheat and Trakeya EOOD, growing oilseed linseed.

According to data from the electronic register, as of January 2023, 4 organic producers were registered on the territory of the village of Stambolovo, 3 in the village of Rabovo and one each in the villages of Zhulti Bryag and Maluk Izvor.

Organic producers in the municipality have certified 18 sub-activities, of which 17 are sub-activities related to crop production. 1 sub-activity is related to beekeeping and the production of honey and bee products.

Plant-growing profile of organic production in the region is also highlighted in the municipality of Stambolovo.

Regarding the quality of agricultural products and food produced in an organic way in the municipality of Stambolovo, the data show that there is a preponderance in favor of organic products. 30% of certified products and territories are "in transition".

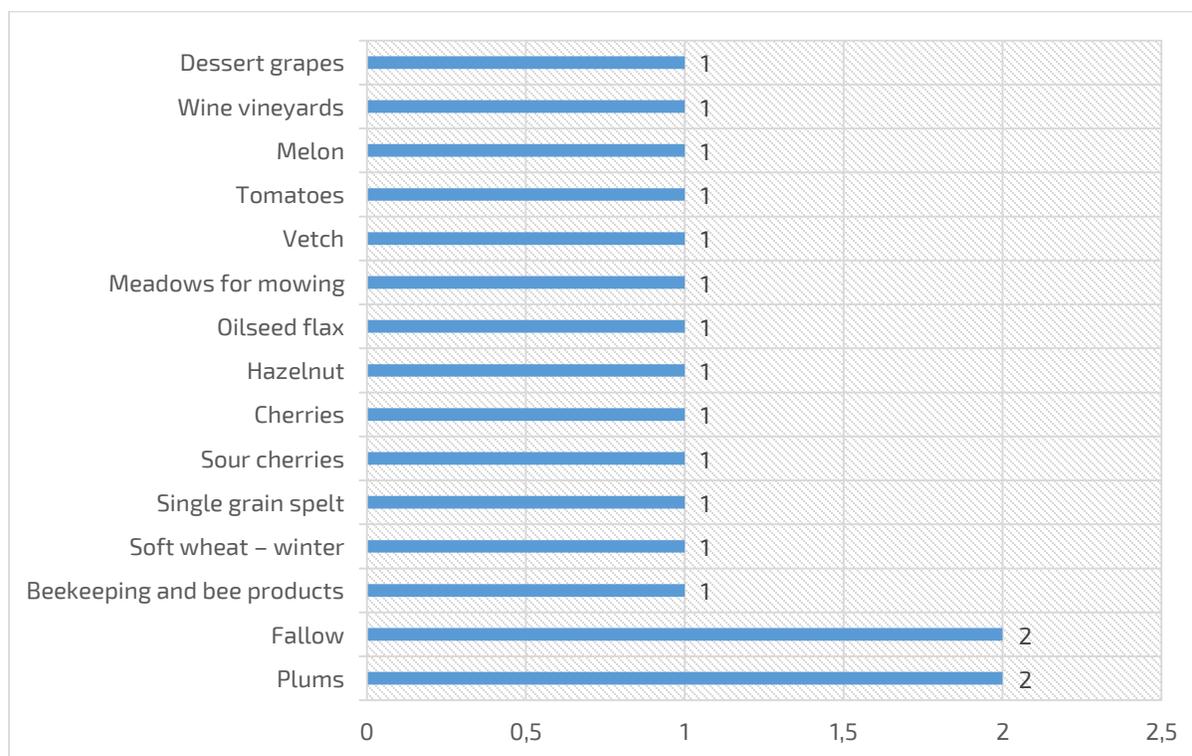
The profile of organic production in the municipality of Stambolovo is relatively diverse, with only two sub-activities having two organic producers each - plums and fallow. One producer is engaged in the maintenance/production/cultivation of organic: beekeeping and bee products; soft wheat-winter; single grain spelt; sour cherries; cherries; hazelnut; oilseed linseed; meadows for mowing; vetch; tomatoes; melons; wine vineyards; dessert grapes.

The total certified organic area in the municipality of Stambolovo amounts to 88.92 ha, which ranks it sixth in terms of "organic area" in Haskovo region. From the available data on the

certified area and the produced quantities of production as of 2022, it is clear that the largest area in the municipality of Stambolovo is oilseed linseed - 28.48 ha, for which in 2022 the certifying authorities report production in the amount of 18 tons. In second place in terms of area are the areas with single grain spelt - 16.17 ha. The mowing meadows occupy 12.70 ha of the total organic certified area in the municipality. The area occupied by hazelnuts is comparatively smaller - 6.85 ha, and the production, respectively - 1.5 tons. The territories with tomatoes and dessert grapes occupy the smallest part of the organic areas in the municipality of Stambolovo - respectively 0.44 ha and 0,34 ha, with their production being 4.2 tons and 0.4 tons.

In terms of the quantities produced, the best yield in 2022 is reported for the cultivation of single-grain spelt and wine vines - 20 tons respectively, followed by the cultivation of oil linseed - 18 tons. These three crops form 64.1% of reported organic yields in 2022.

FIGURE 36. Distribution of the number of certified types of sub- activities by the producers of agricultural products and food produced organically in Stambolovo Municipality



The following table presents the available data from the published certificates as of January, 2023. These data are derived from the certificates, which include information on the relevant categories of data.

TABLE 25. Area, amount of production/number of animal units for organic producers in Stambolovo Municipality

Certified activity	Type of certified sub-activity	Number of operators with similar sub-activity	Area (ha)	Quantity produced (tons) by 2022	Number of animal units/ Number of bee families
Crop production	Plums	2	3,58	5,41	-
Crop production	Fallow	2	1,8	-	-
Livestock breeding	Beekeeping and bee products	1	-	0,35	165
Crop production	Soft wheat – winter	1	0,47	1,20	-
Crop production	Single grain spelt	1	16,17	20,00	-
Crop production	Sour cherries	1	6,42	13,48	-
Crop production	Cherries	1	1,04	1,30	-
Crop production	Hazelnut	1	6,85	1,50	-
Crop production	Oilseed flax	1	28,48	18,00	-
Crop production	Meadows for mowing	1	12,70	-	-
Crop production	Vetch	1	3,62	0,5	-
Crop production	Tomatoes	1	0,44	4,2	-
Crop production	Melon	1	0,63	4,2	-
Crop production	Wine vineyards	1	6,38	20	-
Crop production	Dessert grapes	1	0,34	0,4	-

3.9. Topolovgrad Municipality

In the municipality of Topolovgrad, the number of registered operators in the register of producers, processors and traders of agricultural products and food produced in an organic way as of January, 2023 is 11. 3 of them are natural persons (agricultural producers), and 8 are traders in the sense of the Commercial Law – BIO RONIKO EOOD, VALSINYA EOOD, G S AGROSTART EOOD, EVROLES – 85 EOOD, ELISEY AGRO EOOD, ELKO E 1 EOOD, Atanas Atanasov – A.A Sole trader and M SOLAR 2 EOOD.

The distribution of operators in the municipality of Topolovgrad by registration according to settlements shows a concentration in the municipal center - the town of Topolovgrad, where 7 operators are registered. Two operators are registered in the village of Bulgarska Polyana, and one each in the villages of Kamenna reka and Orlov dol.

According to the data available in the register, the workplaces of organic producers in the municipality of Topolovgrad are located in the village of Hlyabovo, the village of Mramor and the village of Oreshnik.

The total area certified as organic in the municipality of Topolovgrad is 42.41 ha, which places the municipality in 9th place in the district. Over 70% of this territory is sown with alfalfa. The least certified area is for the laying of millet - 1.21 ha.

In terms of the volume of organic production in 2022, a total of 66.56 tons of product were reported, with lucerne again having a significant share - 37.6%.

In the "livestock" sector, 1 sub-activity "A6710R Beekeeping and bee products" was recorded with 2.50 tons of production in 264 registered bee families.

Oats, onions, and plums are also grown in the "crop growing" sector.

The following table presents the available data from the published certificates as of January 2023.

TABLE 26. Area, amount of production/number of animal units for organic producers in Topolovgrad Municipality

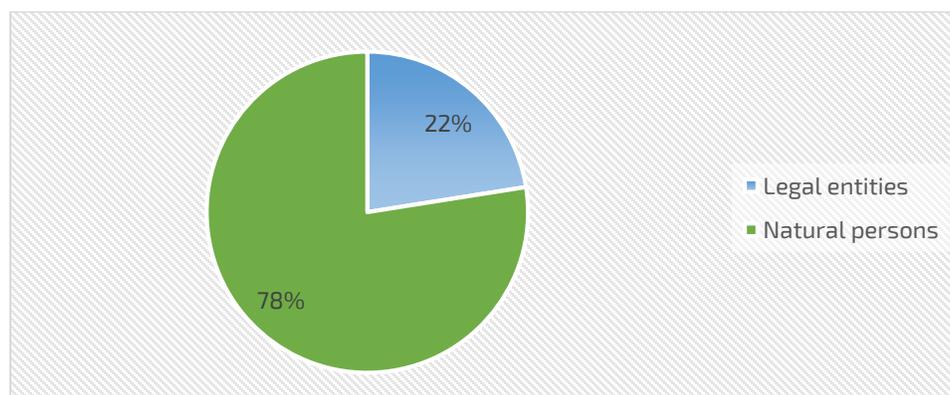
Certified activity	Type of certified sub-activity	Number of operators with similar sub-activity	Area (ha)	Quantity produced (tons) by 2022	Number of animal units/ Number of bee families
Livestock breeding	Beekeeping and bee products	1	-	2,50	264
Crop production	Oats	1	4,80	7,00	-
Crop production	Millet	1	1,21	1,50	-
Crop production	Plums	1	2,50	6,51	-
Crop production	Alfalfa	1	29,78	25,00	-
Crop production	Onions	1	4,12	24,05	-

3.10. Harmanli Municipality

Harmanli Municipality ranks 3rd among the municipalities in Haskovo region in terms of the number of operators registered on its territory in the register of producers, processors and traders of agricultural products and food produced organically as of January, 2023. The top three (the municipalities of Svilengrad, Haskovo and Harmanli) form over 65% of the total number of registered organic producers/processors/traders in the region. I.e. it can be concluded that these three municipalities have the most favorable conditions for the development of organic agriculture.

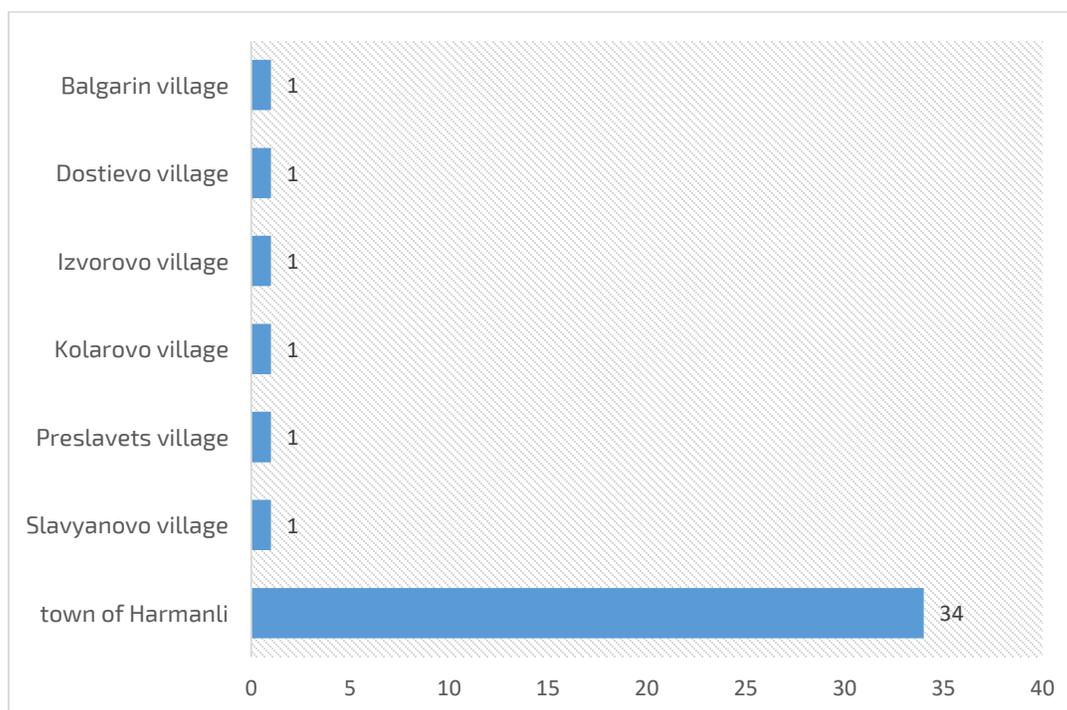
In Harmanli municipality, 31 natural persons (agriculture producers) and 9 legal persons (40 operators in total) are registered. Among the legal entities are: Bulgarian wine industry SA, Dionisus Ltd., Lin EOOD, New farmers EOOD, Premium Energy Ltd., Prima tour Ltd., City-M Ltd., STIV-AGROFINANS EOOD and SHISHMANOVO AGRO LTD., growing walnuts, lucerne, forage peas - winter, pumpkins, wine vines, and field cucumbers. There is one company (City-M EOOD) operating in the field of trade and/or storage of organic products - organic coffee and organic coffee capsules.

FIGURE 37. Producers and traders of organically produced agricultural products and food in Harmanli Municipality according to their legal form



The distribution of operators in Harmanli Municipality by registration and settlements is presented in the following figure.

FIGURE 38. Producers, processors and traders of agricultural products and food produced organically in Harmanli Municipality by settlements of the registration



The predominant share is registered in the town of Harmanli – 34 operators. The remaining 6 operators are distributed in the villages of Slavyanovo, Preslavets, Коларово, Izvorovo, Dostievo and Bulgarin.

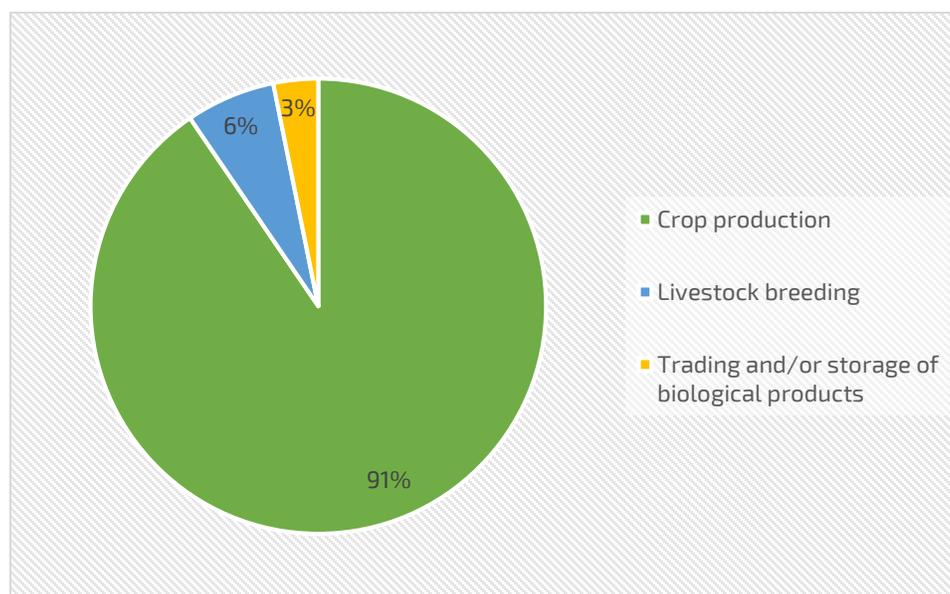
A real picture of the geographical location of the organic productions is also presented by the information on the workplaces of the registered producers. Out of 40 operators, information is available for 21, for which the following can be deduced:

- the largest number of registered workplaces is on the territory of the villages of Bulgarin and Izvorovo;
- in 1 municipality outside the Haskovo region, there is a workplace of an operator from Harmanli - the village of Glavan, municipality of Galabovo;
- The other settlements where there are registered workplaces are: village of Nadezhden, town of Simeonovgrad, village of Shishmanovo, village of Biser, village of Rogozinovo, village of Dostievo, village of Dripchevo, village of Oster Kamak, village of Preslavets, Smyrnentsi village and Harmanli town.

On the territory of the municipality, there are 63 certified sub-activities, maintaining the trend at regional level for a predominant share of producers in "crop production" sector. 90,5% is the

share of crop production in the mix of certified activities in Harmanli municipality. With the smallest share is "Trading and/or storage of organic products", where only 1 operator - City-M Ltd. trades and/or stocks organic coffee and organic coffee capsules. Organic animal breeding in the municipality of Harmanli is related to beekeeping, respectively the production of honey and bee products. The following figure presents the data on the certified activities on the territory of Harmanli municipality.

FIGURE 39. Certified activities on the territory of Harmanli Municipality



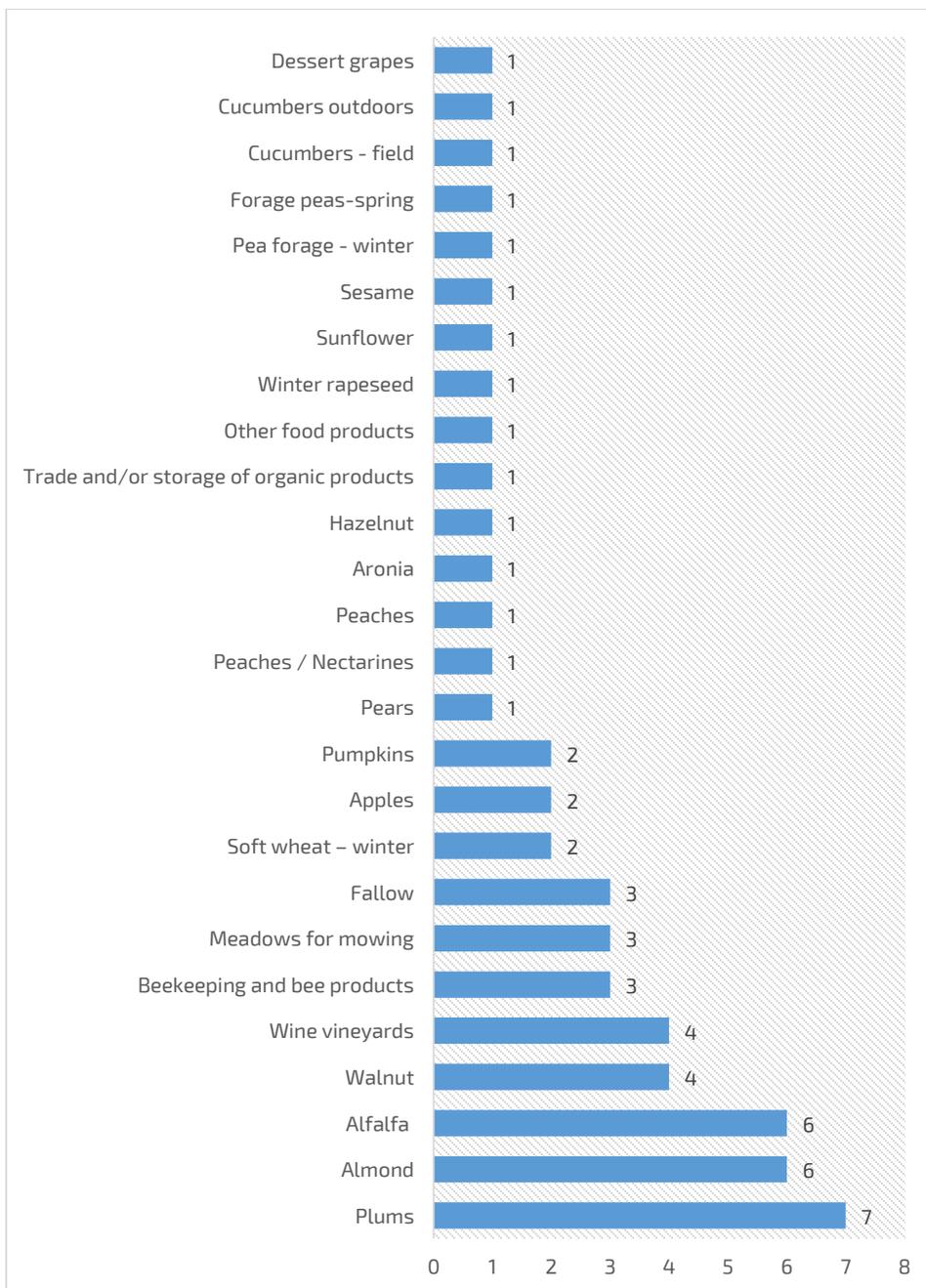
In terms of certified production in Harmanli Municipality, the largest number of the organic producers grow plums, almonds and lucerne (30,2%). 7 are the producers growing plums, 6 are growing almonds and 6 - lucerne. In general, the mix of organic products in the municipality of Harmanli is diverse. It includes both fruits, vegetables, cereals, oil-bearing plants and wine vines characteristic of the area. Soft winter wheat is distinguished by the largest area for the cultivation of organic products, for which two producers grow on 196.54 ha, and for 2022, 499.59 tons were produced. These are also the largest area and yield indicators in the municipality of Harmanli, reflected in the available certificates. The total area certified as organic in the municipality is 804.63 ha with the amount of organic output produced - 1336.26 tons. In terms of area indicators, alfalfa, grown on 138 ha, as well as winter rapeseed, grown on 92.99 ha, are also impressive.

In terms of organic production in 2022, the "top 5" include: soft winter wheat (499.59 t), lucerne (150.35 t), winter rapeseed (136.39 t), wine grapes (99.30 t.) and apples (75.50 t.). The smallest amount of organic yield is recorded for hazelnuts - 0.08 tons.

With regard to livestock breeding in 2022, on the territory of Harmanli municipality, there are data on the cultivation of 56 bee families, and for 2022, a yield of 3.50 tons of organic honey was recorded.

Regarding the cultivation of wine vineyards and the production of wine, which occupy a traditional share in agriculture in this area - the available data show that for 2022 28.81 ha of land and 99.30 tons of organic produce were certified.

FIGURE 40. Distribution of the number of certified types of sub- activities by the producers, processors and traders of agricultural products and food produced organically in Harmanli Municipality



The following table presents the available data from the published certificates as of January, 2023 incl. the number of animal units in the "livestock" sector. These data are derived from the certificates, which include information on the relevant categories of data.

TABLE 27. Area, amount of production/number of animal units for organic producers in Harmanli municipality

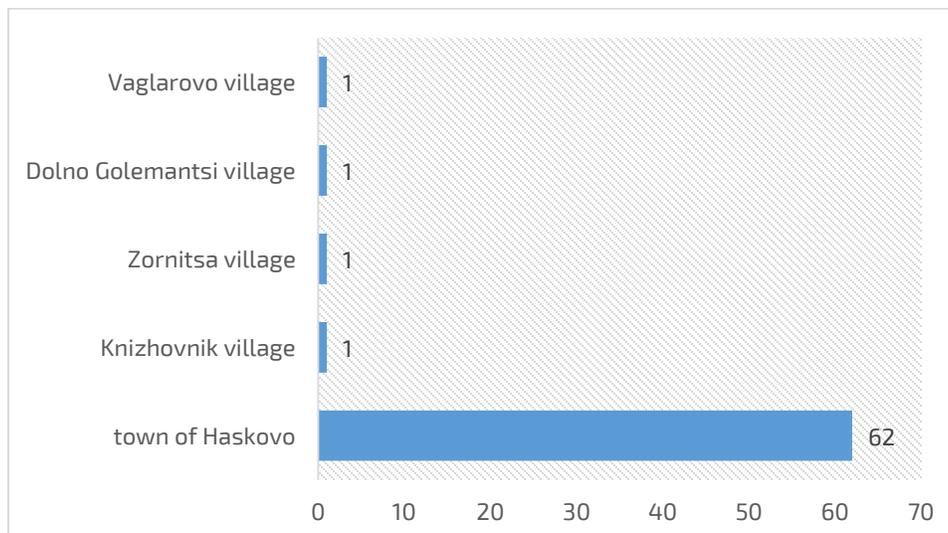
Certified activity	Type of certified sub-activity	Number of operators with similar sub-activity	Area (ha)	Quantity produced (tons) by 2022	Number of animal units/ Number of bee families
Crop production	Plums	7	8,25	13,80	-
Crop production	Almond	6	41,52	3,88	-
Crop production	Alfalfa	6	138,00	150,35	-
Crop production	Walnut	4	71,86	2,50	-
Crop production	Wine vineyards	4	28,81	99,30	-
Livestock breeding	Beekeeping and bee products	3	-	3,50	56
Crop production	Meadows for mowing	3	58,16	22,90	-
Crop production	Fallow	3	2,96	-	-
Crop production	Soft wheat – winter	2	196,54	499,59	-
Crop production	Apples	2	7,38	75,50	-
Crop production	Pumpkins	2	38,11	70,48	-
Crop production	Pears	1	6,70	67,50	-
Crop production	Peaches / Nectarines	1	2,05	14,00	-
Crop production	Peaches	1	0,70	0,2	-
Crop production	Aronia	1	2,98	20,00	-
Crop production	Hazelnut	1	0,28	0,08	-
Trading and/or storage of biological products	Trade and/or storage of organic products	1	-	-	-
Trading and/or storage of biological products	Other food products	1	-	-	-
Crop production	Winter rapeseed	1	92,99	136,39	-
Crop production	Sunflower	1	44,35	66,86	-
Crop production	Sesame	1	3,12	0,50	-
Crop production	Pea forage - winter	1	9,05	8,80	-
Crop production	Forage peas-spring	1	21,85	16	-
Crop production	Cucumbers - field	1	3,29	2,13	-
Crop production	Cucumbers outdoors	1	20,1	48	-
Crop production	Dessert grapes	1	5,59	14	-

3.11. Haskovo Municipality

66 producers of agricultural products and foods produced in an organic way are registered on the territory of the Haskovo Municipality, which places it in the 1st place in Haskovo region in terms of the number of operators registered in the municipalities. There are four registered processor and three traders of certified organic produce in the municipality.

The following figure presents data on the registrations of the 66 operators in the municipality of Haskovo. There is 1 operator each registered in the following villages: Vaglarovo, Dolno Golemantsi; Zornitsa and и Knizhovnik. The remaining 62 are registered in the municipal center.

FIGURE 41. Producers of agricultural products and food produced organically in the Municipality of Haskovo by settlement of registration

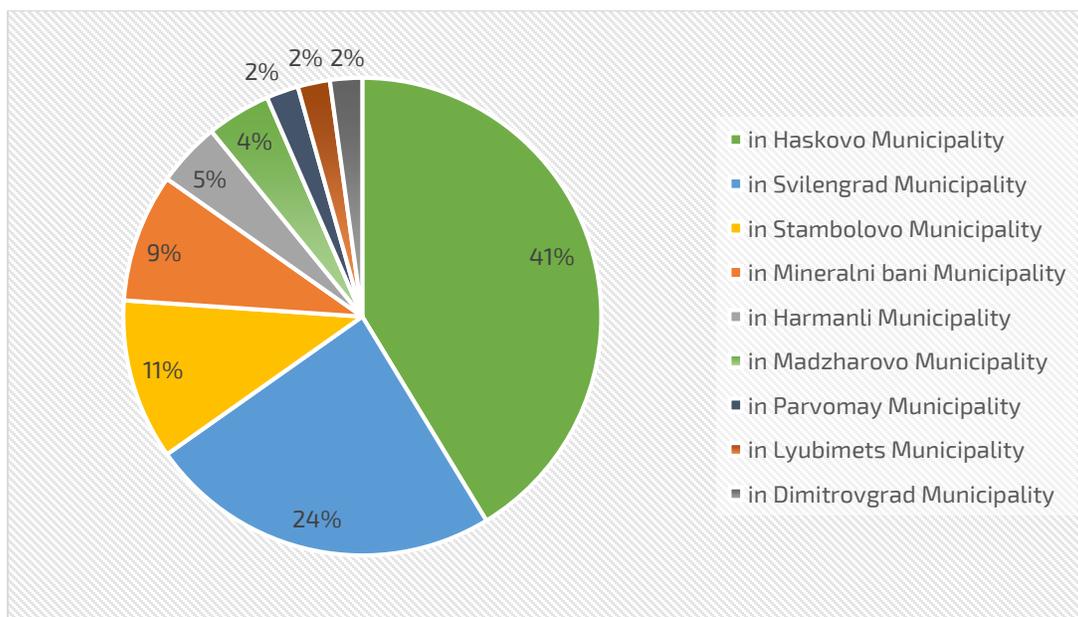


The available information on the workplaces of the producers, presented in figure 42 shows the following picture– 19 are the certified sites (workplaces) located in Haskovo municipality; 11 of the registered organic producers in the municipality of Haskovo carry out their activities at workplaces in the municipality of Svilengrad; 5 in the municipality of Stambolovo; 4 in the municipality of Mineralni bani; the operators in Harmanli and Madzharovo have 2 workplaces each; and one in the municipalities of Dimitrovgrad, Luybimets, and Parvomay, Plovdiv region. The settlements on which territory the registered organic sub-activities are carried out are:

- Lisovo village, Svilengrad municipality
- the village of Uzundzhovo, Haskovo municipality
- the village of Zhalti Bryag, Stambolovo municipality
- Zornitsa village, Haskovo municipality
- the village of Kolets, Mineralni bani municipality
- town of Madzharovo, municipality of Madzharovo
- the village of Georgi Dobrevo, Luybimets municipality
- the village of Vaglarovo, Haskovo municipality
- the village of Golemantsi, Haskovo municipality
- the village of Gorno Bryastovo, Mineralni bani municipality
- the village of Dolno Beleva, Dimitrovgrad municipality
- the village of Dolno Botevo, Stambolovo municipality
- the village of Elena, Haskovo municipality
- the village of Iskra, Parvomay municipality, Plovdiv region
- the village of Knizhovnik, Haskovo municipality
- the village of Kozlets, Haskovo municipality
- the village of Sirakovo, Mineralni bani municipality
- the village of Конуш, общ. Haskovo municipality

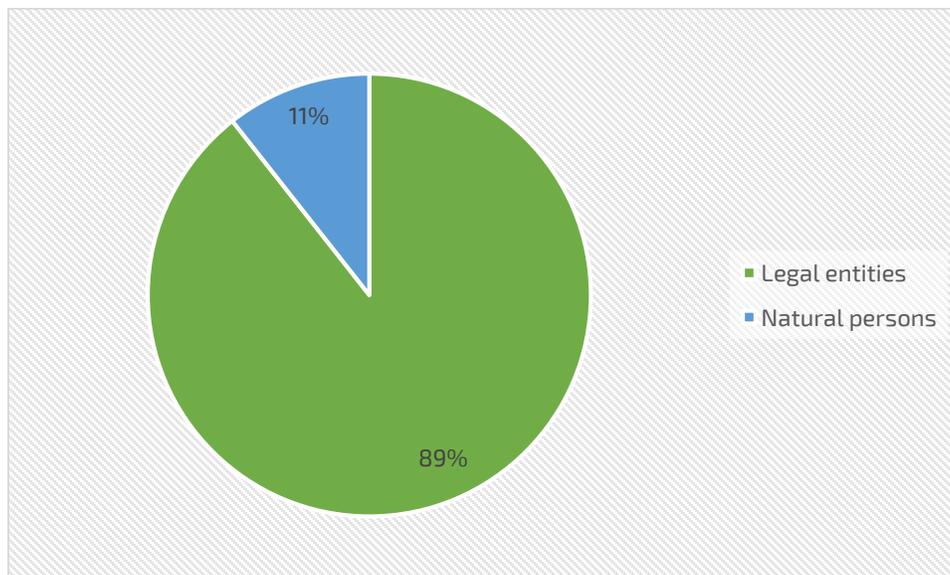
- the village of Malevo, Haskovo municipality
- the village of Polyanovo, Harmanli municipality
- c the village of Popovets, Syambolovo municipality
- the village of Pustrogor, Svilengrad municipality
- the village of Raikova Mogila, Svilengrad municipality
- the village of Rodopi, Haskovo municipality
- the village of Senoklas, Madzharovo municipality
- the village of Siva reka, Svilengrad municipality
- the village of Spahievo, Mineralni bani municipality
- the village of Trakiets, Haskovo municipality
- the village of Cherepovo, Harmanli municipality
- town of Svilengrad, Svilengrad municipality

FIGURE 42. Information on workplaces of registered producers in Haskovo Municipality



On the territory of the municipality, 59 natural persons and 7 legal entities are registered. The legal entities are: ART FRAGRANCES EOOD, KAVEL INVEST LTD., MLECHNI PRODUKTI TRAKIYA EOOD, TERRA DIVINE LTD; "Fruit garden" Ltd., HOLDING SAKARCI and YUGOPLD AD. These enterprises operate in the field of crop production, trading and/or storage of organic products and processing of organic products. The processing is mainly related to the production of organic spelt, organic wheat and organic rye (KAVEL INVEST LTD.), production of grape wine (Terra Divine Ltd.), production of milk and dairy products (MLECHNI PRODUKTI TRAKIYA EOOD) and production of frozen wild garlic (YUGOPLD AD). The organic trade is related to pasta, dairy products and wine. Crop production among legal entities is represented by the production of walnuts, plums, almonds and green peas.

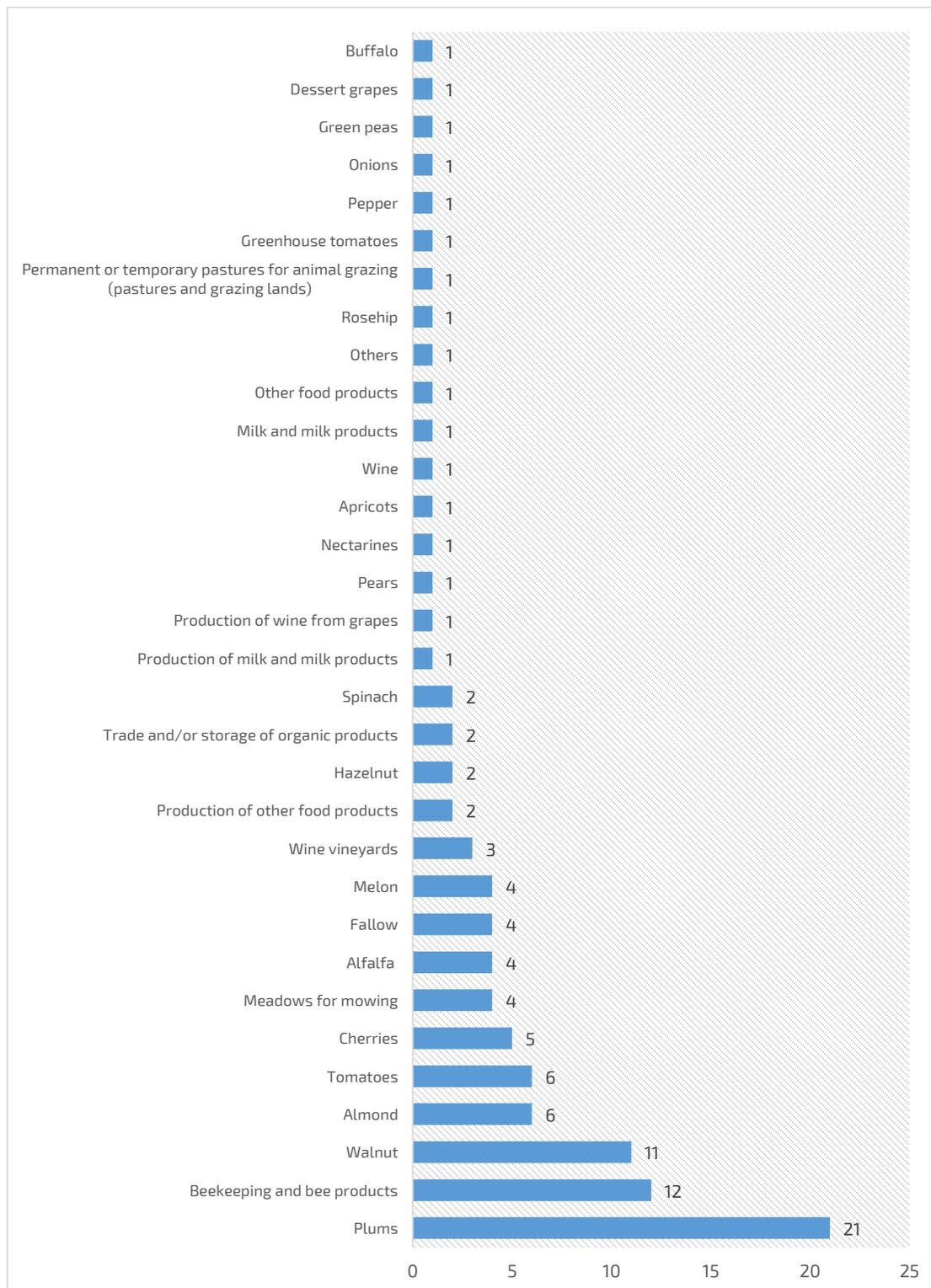
FIGURE 43. Producers and traders of organically produced agricultural products and food in Haskovo municipality according to their legal form



In the municipality of Haskovo, there are a total of 107 registered certified sub-activities, distributed in 32 types of products/activities, with the share of producers in the "crop production" sector strengthening the plant-growing profile of organic production in the municipality of Haskovo. Only 12.2% is the share of livestock breeding in the mix of certified activities in Haskovo municipality. It is mainly related to beekeeping, respectively the production of honey and bee products. There is one organic producer of buffalo milk in the municipality. Regarding the quality of agricultural products and foods produced organically in Haskovo municipality, the data show that 76.3% of the products are organic, and 23.7% are those in transition.

Regarding the certified production - in Haskovo municipality, the largest number of organic producers grow plums - 19.6% of the total number of organic activities grown/performed. They are followed by producers of honey and bee products - 11.2%, and registered organic producers of walnuts - 10.3%. The following figure presents the certified sub-activities in the municipality, distributed by specific type of culture/activity.

FIGURE 44. Certified types of sub- activities of the producers, processors and traders of agricultural products and food produced organically in Haskovo municipality



The total certified organic area of the municipality is 526.86 ha, which puts Haskovo on the fourth place among all municipalities in the region in terms of organic areas. According to the available data on the certified area as of January 2023, it is clear that the largest area in Haskovo municipality with the certified organic territories is occupied by permanent or temporary pastures for animal grazing (pastures and grazing lands) - 205.78 ha. The area with walnuts ranks second in terms of territory size - 142.13 ha. The third place is occupied by the areas with plums - 114.23 ha. The top three in area indicators form over 78% of the total certified organic areas in the municipality. The least areas are reported for the cultivation of greenhouse tomatoes - 0.09 ha.

The total quantity of certified organic production of the operators registered in the municipality of Haskovo amounts to 347.15 tons. The highest yield in 2022 is reported for the cultivation of tomatoes - 108.75 tons, followed by the yield from wine vineyards - 44.6 tons, plums - 40.23 tons, lucerne - 33.90 tons and walnuts - 30.31 tons. The following table presents the certified territory with organically produced agricultural products and food, as well as the produced/grown output in 2022, for which there is data available in the electronic register for organic production as of January 2023. These data are derived from the published certificates of conformity of organic farms, which include information on the relevant categories of data.

TABLE 28. Area, amount of production/number of animal units for organic producers in Haskovo municipality

Certified activity	Type of certified sub-activity	Number of operators with similar sub-activity	Area (ha)	Quantity produced (tons) by 2022	Number of animal units/ Number of bee families
Crop production	Plums	21	114,2299	40,228	-
Livestock breeding	Beekeeping and bee products	12	-	18,41	1733,00
Crop production	Walnut	11	142,13	30,31	-
Crop production	Almond	6	15,83	1,58	-
Crop production	Tomatoes	6	10,71	108,75	-
Crop production	Cherries	5	3,24	2,20	-
Crop production	Meadows for mowing	4	16,82	6,55	-
Crop production	Alfalfa	4	16,05	33,90	-
Crop production	Fallow	4	2,61	-	-
Crop production	Melon	4	3,23	11,50	-
Crop production	Wine vineyards	3	16,90	44,63	-
Processing	Production of other food products	2	-	-	-
Crop production	Hazelnut	2	-	-	-
Trading and/or storage of biological products	Trade and/or storage of organic products	2	-	-	-
Crop production	Spinach	2	2,02	2,35	-
Processing	Production of milk and milk products	1	-	-	-
Processing	Production of wine from grapes	1	-	-	-
Crop production	Pears	1	0,18	0,20	-
Crop production	Nectarines	1	0,94	5	-
Crop production	Apricots	1	0,29	0,01	-
Trading and/or storage of biological products	Wine	1	-	-	-
Trading and/or storage of biological products	Milk and milk products	1	-	-	-



Trading and/or storage of biological products	Other food products	1	-	-	-
Crop production	Others	1			-
Crop production	Rosehip	1	4,30	0,82	-
Crop production	Permanent or temporary pastures for animal grazing (pastures and grazing lands)	1	156,49	0,10	-
Crop production	Greenhouse tomatoes	1	0,09	1	-
Crop production	Pepper	1	1	7	-
Crop production	Onions	1	1,49	10	-
Crop production	Green peas	1	16,67	6,52	-
Crop production	Dessert grapes	1	1,64	2,8	-
Livestock breeding	Buffalo	1		13,3	-

USED SOURCES

- EC, https://ec.europa.eu/info/food-farming-fisheries/farming/organic-farming_bg
- Special Report No. 04 of the European Court of Auditors (according to Article 287, paragraph 4, second subparagraph of the TFEU)
- EUROSTAT, Statistics on organic production
- Statistics for Agriculture, forestry and fisheries, Statistical books, Eurostat, 2019, 2020
- The Research Institute of Organic Agriculture (FiBL)
- Ministry of Agriculture
- NSI
- Database of producers, processors and traders of agricultural products and foods produced in an organic way, Ministry of Agriculture, <https://bioreg.mzh.government.bg/>
- State fund "Agriculture", System for electronic services <https://seu.dfz.bg/seu/f?p=727:8000:::NO:>
- National action plan for the development of organic production
- Development of organic agriculture in Bulgaria, Ministry of Agriculture, Sofia, 2014
- Report "Analysis of the State of Agriculture and the Food Industry", May 2019, Agricultural Academy, Institute of Agrarian Economics
- Regional strategy for the development of the Haskovo region 2014-2020