# Development of Organic Farming in Bulgaria – Highlights

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## Abstract

Organic farming (OF) is one of the sectors that best meets the objectives of the Common Agricultural Policy (CAP) and the Rural Development Program (RDP) – economic efficiency, environmental protection and social responsibility. The evolution of the sector can be linked to major drivers such as the support provided to the sector, market developments as well as a "facilitating" environment (extension services, vocational training, agronomic research, etc.). This study has the aim to give a contemporary picture of Bulgarian organic farming – its development from the 2007 till nowadays; to underline some problems and to raise attention on some possible future scenarios. Analysis is based on the data from Eurostat and MAFF, the methods used are quantitative and qualitative research methods, comparative analysis. Among all that can be done for supporting and promoting OF the most important is to implement declared policy priority in favor of OF, improve the dialogue between organic farmers and institutions, developing a national strategy (plan) for OF. Support for OF must be continuous, not accidental. The study envisages also the possible consequences (effects) of an increase in areas with organic farming by 25% by 2030, as part of the Green Deal policy.

***Key words:*** Organic Farming; share; comparison; support; prospects; effects

## Развитие на биологичното земеделие в България – акценти

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## Резюме

Биологичното земеделие (БЗ) е един от секторите, които най-добре отговарят на целите на Общата селскостопанска политика (ОСП) и Програмата за развитие на селските райони (ПРСР) – за икономическа ефективност, опазване на околната среда и социална отговорност. Развитието на сектора се свързва с основни двигатели като: подкрепата, предоставяна на сектора; развитието на пазара; както и „улесняваща“ среда (консултантски услуги, професионално обучение, агрономически изследвания и др.).

Това изследване има за цел да даде съвременна картина на българското биологично земеделие – неговото развитие от 2007 г. до днес; да подчертае някои проблеми и да насочи вниманието към някои възможни бъдещи сценарии. Анализът се основава на данните от Евростат и МЗХГ, като са използвани количествени и качествени изследователски методи, сравнителен анализ. Сред всичко, ко-

ето може да се направи за подпомагане и популяризиране на БЗ, най-важното е прилагането на декларирания приоритет на политиката в полза на БЗ, подобряване на диалога между биологичните фермери и институциите, разработване на национална стратегия (план) за БЗ. Поддръжката за БЗ трябва да бъде непрекъсната, а не случайна и епизодична. Проучването разглежда и евентуалните възможни последици (ефекти) от увеличаване на площите с биологично земеделие с 25% до 2030 г., като част от политиката за зелена сделка.

***Ключови думи:*** биологично земеделие; дял; сравнение; подпомагане; перспективи; ефекти

## Introduction

Organic farming is one of the sectors that best meets the objectives of the Common Agricultural Policy (CAP) and the Rural Development Program (RDP) – economic efficiency, environmental protection and social responsibility. Sustainable agricultural production must be able to combine modern science and innovation with respect for nature and biodiversity. Organic farming is built on such principles, while supporting economically viable livelihoods in rural communities and thus supporting rural development and the fight against poverty and hunger – i.e. provides benefits to farmers and rural communities; maintains soil health in a sustainable way, controls pests and weeds without using expensive chemical pesticides that can harm soil, water, ecosystems and the health of farmers and consumers. Increasing biodiversity, attracting beneficial insects, crop rotation and the introduction of local, affordable techniques are all applications of organic farming that help protect soil, water, climate and health. That is why the problems of OF stay in the light of contemporary agrarian policy.

This study has the aim to give a contemporary picture of Bulgarian organic farming – its development from the 2007 till nowadays; to underline some problems and to raise attention on some possible future scenarios.

## Material and Methods

This paper presents in synthesis the most important facts and results concerning OF in Bulgaria during the period from 2007 till 2017.

Quantitative and qualitative analysis, as well as comparative analisys is based on the data from Eurostat and MAFF. Analysis includes area under OF, share of this area in utilised agricultural area, number of animals raised under organic methods, organic production, operators in OF, support for OF.

## Results and Discussions

In the last few years, organic farming has been one of the sectors that is developing rapidly at a time of crisis, with the area and number of operators included in the control system constantly increasing. The reasons are related to the very good prerequisites for the development of organic farming in our country – ecologically preserved areas; consumer awareness and desire to eat healthily; perceived benefits for the environment and rural areas; supporting organic producers under the RDP and the efforts of the Ministry of Agriculture, Food and Forestry in partnership with businesses and NGOs in the sector to promote the benefits for producers and consumers of this type of products and food.

The organic sector in Bulgaria has been rapidly developing during the past years. According to Eurostat data, Bulgaria had in 2017 a total area of 136 618 ha (2016 – 160 620 hectares) of cultivated as organic, up 13 646 ha. In 2017 the organic area in Bulgaria has increased 10 times compared to 2007. For example, Romania has an increase of only 2 times.

The above absolute figures tell us only part of the story. Although this is a big increase, the whole organic area represents only 2.72% of to-

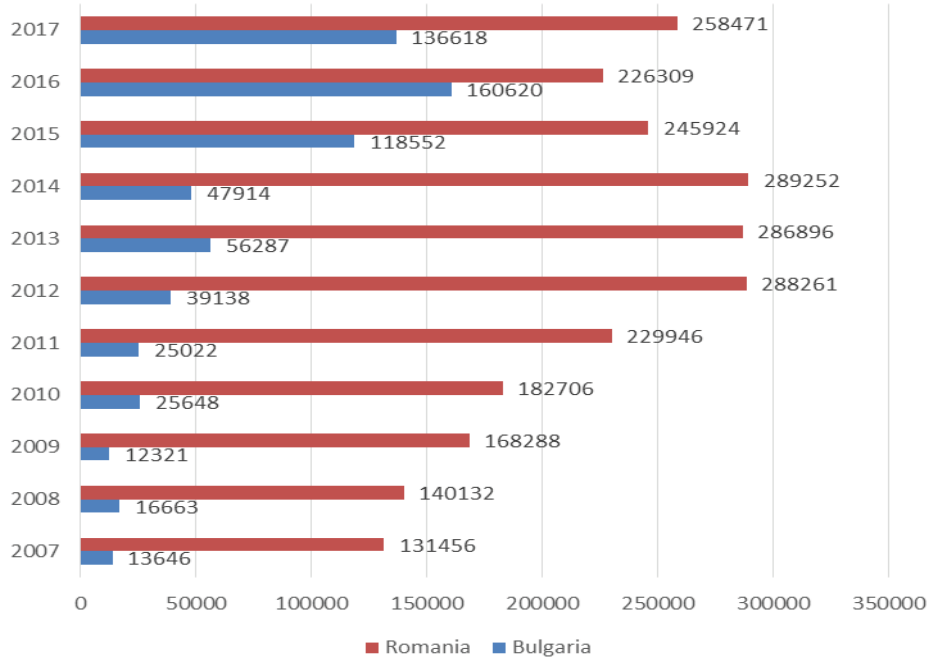


Fig. 1. Total fully converted and in conversion to of area in Bulgaria and Romania, ha
*Source: Eurostat.*

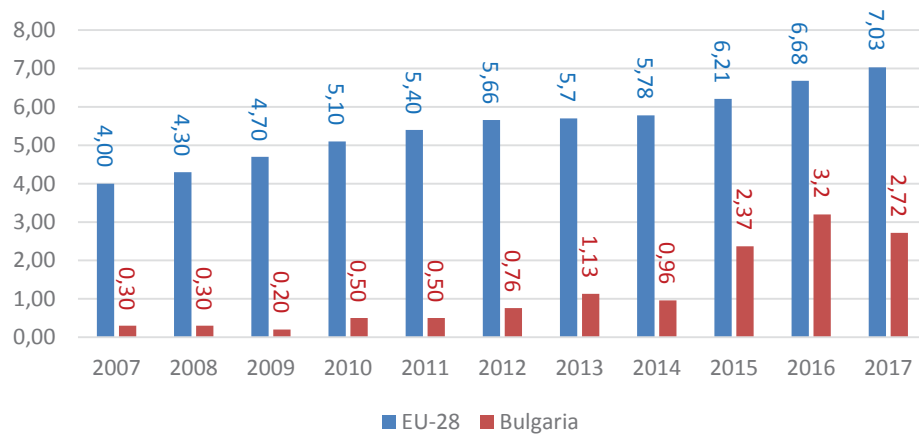


Fig. 2. Share of areas in total utilized agricultural area (UAA), %
*Source: Eurostat.*

tal utilized agricultural area (UAA) in Bulgaria (in EU – 7.03%). However, the rate of increase of the share of OF in total UAA is sluggish for our country – 9 times.

Bulgaria stays at 25 place for this indicator, and in addition the evolution shows that the situation is worsening – in 2018 we moved to place 26. From the table bellow in yellow are the countries which keep or worsen their place in ranking.

It is very interesting to point-out another indicator – the share of in-conversion area in total organic farming area. The observation of the share of in-conversion area within the total area of the organic sector (in-conversion and certified organic areas) provides an indication of the growth potential of the sector for the next few years.

In about half of EU–28 countries, the areas in conversion in last three years are between 10 and

**Table 1.** Area under OF, % of UAA

| | 2017 | Place | 2018 | Place |
|---|---|---|---|---|
| EU (28 countries) | 7.03 | | 7.5 | |
| Belgium | 6.28 | 17 | 6.56 | 17 |
| **Bulgaria** | **2.72** | **25** | **2.56** | **26** |
| Czechia | 14.09 | 5 | 14.76 | 5 |
| Denmark | 8.6 | 11 | 9.75 | 10 |
| Germany | 6.82 | 15 | 7.34 | 14 |
| Estonia | 20.01 | 2 | 20.98 | 2 |
| Ireland | 1.66 | 27 | 2.63 | 25 |
| Greece | 7.96 | 13 | 9.32 | 11 |
| Spain | 8.73 | 10 | 9.28 | 12 |
| France | 5.99 | 18 | 7.01 | 15 |
| Croatia | 6.46 | 16 | 6.94 | 16 |
| Italy | 14.67 | 4 | 15.17 | 4 |
| Cyprus | 4.61 | 19 | 4.55 | 19 |
| Latvia | 13.92 | 6 | 14.47 | 6 |
| Lithuania | 7.98 | 12 | 8.13 | 13 |
| Luxembourg | 4.15 | 20 | 4.39 | 20 |
| Hungary | 3.73 | 21 | 3.92 | 21 |
| Malta | 0.35 | 28 | 0.41 | 28 |
| Netherlands | 3.31 | 23 | 3.5 | 22 |
| Austria | 23.37 | 1 | 24.08 | 1 |
| Poland | 3.41 | 22 | 3.33 | 23 |
| Portugal | 7.04 | 14 | 5.93 | 18 |
| Romania | 1.93 | 26 | 2.43 | 27 |
| Slovenia | 9.6 | 9 | 10.01 | 8 |
| Slovakia | 9.9 | 8 | 9.85 | 9 |
| Finland | 11.41 | 7 | 13.09 | 7 |
| Sweden | 19.16 | 3 | 20.29 | 3 |
| United Kingdom | 2.85 | 24 | 2.64 | 24 |

*Source: Eurostat.*

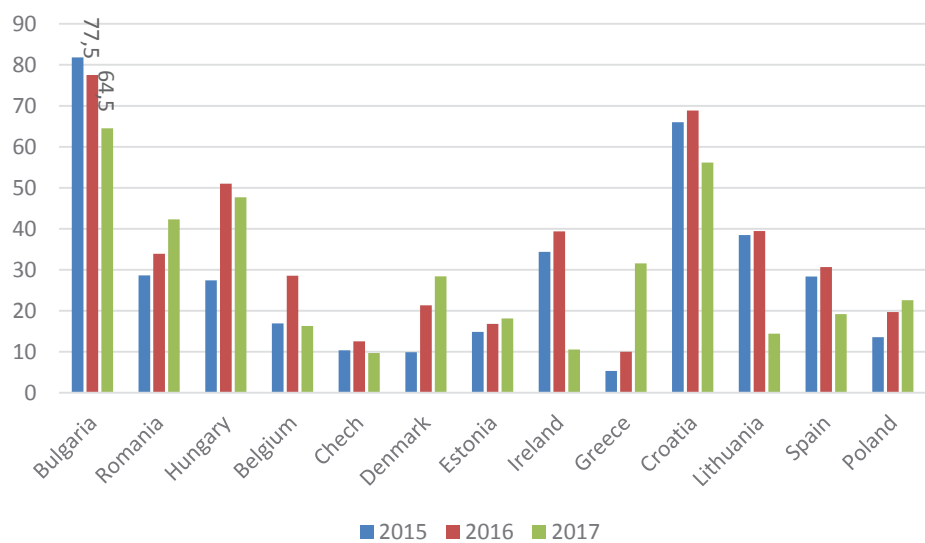


Fig. 3. Share of the in-conversion area in total organic area
*Source: Eurostat.*

30% from all organic areas**.** In Bulgaria it is between 60 and 82% (highest in the EU–28) – followed by Croatia, Malta, Lithuania, Romania, Spain and Poland. The increase of land in conversion guarantees a significant increase of Bulgarian organic products in domestic and export markets.

The presented data are indicative that the share of OF in UAA is still small and that there is a need for further support and promotion of OF in our country in order to increase this share and reach the EU average level. But also the data shows that OF in Bulgaria is a promising farming practice.

The evolution of the total certified organic farming area should be considered together with the evolution of the number of holdings active in this sector, which gives an idea about the interest of agricultural producers and other operators in this sector. Next graph shows the change of the number of organic holdings for the studied years.

Of the total number of operators, producers seem to take the lead. When analyzing the number of organic holdings in comparison to the total number of holdings in Bulgarian agriculture, a diverging trend is observed. Available data shows that the number of organic farms is increasing while there is a consolidation of conventional agricultural holdings in the country. For example, total number of farms (conventional and organic) in 2007 was 493 140; in 2013 – 254 140; while the number of organic farms in 2007 was 240; in 2013 – 3 123, or 1.2% of all holdings in Bulgaria.

The same trend can be observed for EU–28. As organic farms represent less than 5% of all holdings, the FSS (farm structure survey) surveys are not stratified according to organic/non organic criteria. According to the latest FSS, there were 184 900 organic farms (i.e. holdings with organic area and/or organic animals) in 2013. These represented 2% of total farms (conventional and organic) in the EU–28.

On the basis of available data, one interpretation would be that the number of producers in the organic sector has been overall on an increasing trend. For the period 2007–2017 the number of operators in OF in Bulgaria grew more than 18 times. Producers tend to remain in organic farming rather than heavily leaving this type of production. Explanation is that farmers make a substantial investment during the two years of conversion period foreseen by the Organic farming Regulation, during which, in spite of higher costs associated with organic farming, the production is sold as conventional and returns can be expected only once they certified as organic.

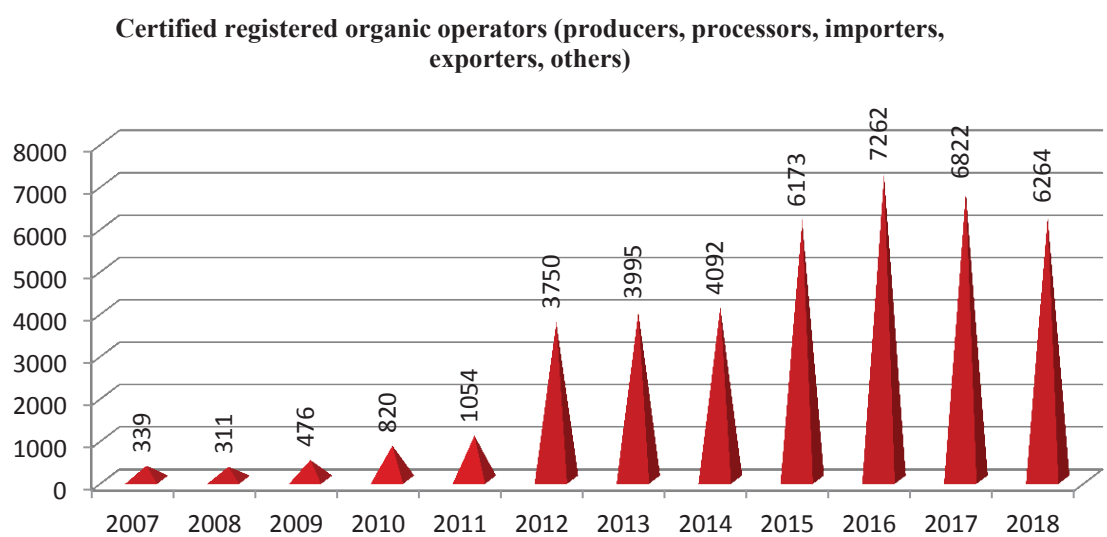


Fig. 4. Certified registered organic operators in Bulgaria

*Source: Eurostat.*

The average size of organic holdings appears larger than the average size of conventional holdings across the EU–28 and in Bulgaria. Organic farms tend overall to be bigger than conventional farms. The average area of organic holdings in the EU–28 amounted to 47 ha in 2013 (37 ha organic compared to 13 ha for conventional farms (EU–27, 2007). In Bulgaria in 2007 the average area of organic holdings was 56 ha (6.2 ha for all holdings); in 2013 – 18 ha (14.9 ha for all holdings); in 2016 – 23 ha. Detailed comparisons of organic and conventional farms operating in the same sector and with similar size present in the European Farm Accountancy Data Network (FADN) seem to confirm that organic farming is more labour intensive for certain types of production. This would be due to the fact that organic farms have limitations in using inputs and agricultural practices which make it more labour intensive.

Another important aspect is the type of production (arable crops and orchard as well as animal) of organic farms. The choice of the type of production depends on various factors – the technical aspects related to organic production, the structure of consumer demand, subsidies.

The most significant is the share of areas occupied by permanent meadows and pastures, perennials and industrial crops (essential oils, medicinal plants and spices).

Permanent pastures are often eligible for agri-environmental organic payments and easier and less risky to convert to the organic sector than the other types of crops (e.g. arable crops). This could lead to a bias towards the development of organic permanent pastures.

**Table 2.** Main crops in OF, %

| Year | 2010 | 2016 |
|---|---|---|
| Field crops cereals, green fodders and industrial crops | 55% | 40% |
| Perennial crops (orchards, berries, vineyards) | 23% | 22% |
| Meadows and pastures | 14% | 29% |
| Others | 8% | 9% |

*Source: Eurostat.*

The compensatory area support, in combination with the provided priority support under the investment measures and the higher intensity of the financial assistance are an incentive for farmers to switch to organic production, as a result of which both the areas in the control system and the number of organic producers increase repeatedly in the period 2007–2017.

The sector of organic animal husbandry in our country is developing at a slower pace, compared to crop production, but stable. As shown in the graphs below, for Bulgaria sheep, cattle, goats and bee families have the greatest weight in organic livestock.

Potential for organic livestock and honey share increase – slow but firm increase: Sheep – from 1690 in 2007 to 25959 in 2017, or 15 times; Cattle – from 395 in 2007 to 10400 in 2017 or 26 times; Goats from 1058 to 9023 or 8.5 times. Certified bee population and honey production: 35747 beehives and 998 tons organic honey in 2007; 250 434 bee hives in 2017 and 3760 tons organic honey in 2017. The data unequivocally show that there is potential for growth of the livestock sector in OF in our country. However, there are some problems - processing plants are insufficient for some sectors, such as meat processing and grain processing; for other sectors, the processing capacities of the products are insufficiently loaded. Targeted support for the processing of primary organic livestock production is not enough. That is why the added value of this type of production is either not realized or is exported abroad. Logistics and connections between producers and processors are also difficult, and transport distances are also an obstacle. In this regard, it is necessary to make efforts by everyone in the chain so that the primary production is not exported from OF and it is not sold as conventional.

Due to insufficient data on certain aspects of organic production and of the organic food chain (in particular sales and trade) a complete picture of the sector is at this point in time unavailable. However, the data shows that Bulgaria is the world's leading export of organic oilseed rose and lavender.

The development of organic area in Bulgaria should also be seen in the light of the support

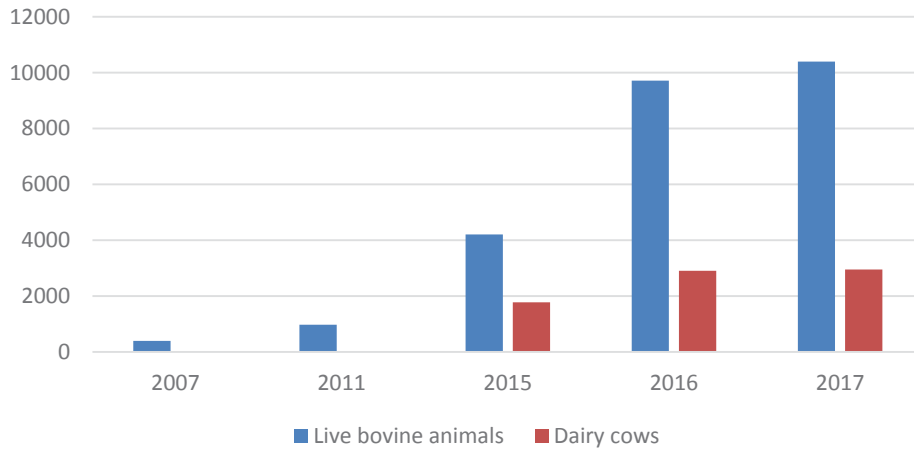


Fig. 5. Live bovine animals, inc. dairy cows
*Source: Eurostat.*

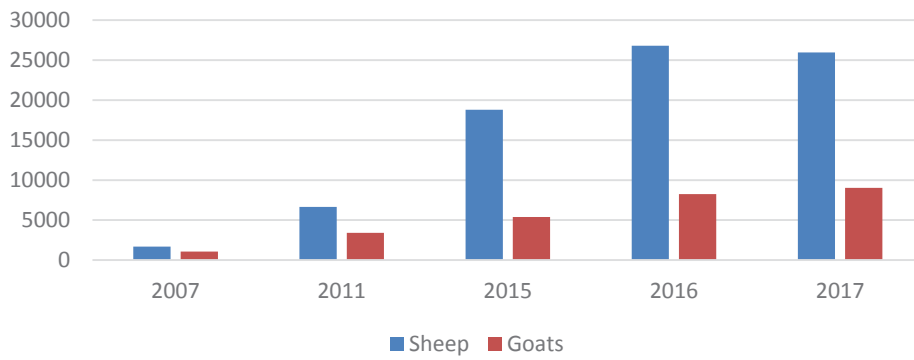


Fig. 6. Sheep and goats
*Source: Eurostat.*

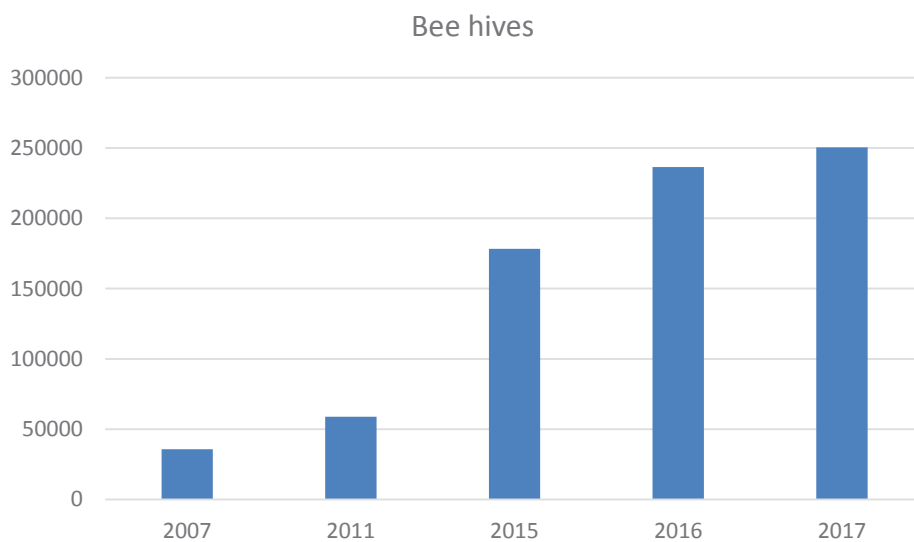


Fig. 7. Bee hives, number
*Source: Eurostat.*

provided for this farming practice through rural development (National and CAP support). Organic farming is supported through the Second Pillar of the Common Agricultural Policy (CAP) which covers rural development. Since there was no specific measure for organic farming in the rural development programming period 2007–2013, OF was supported via the measure 214 "Agri-environment payments", which contributed to the development of rural areas and provided environmental services. These payments encouraged farmers to adopt production methods which were compatible with the sustainable use of environment, landscape and natural resources and with the preservation of genetic resources. The payments included "horizontal" elements, such as organic farming (organic crop production), organic grassland management and organic fruit production. The OF sub-measure supported farmers who grow organic crops and organic beekeeping, but not livestock. OF also was indirectly supported by Measure 121 "Modernization of agricultural holdings"; Measure 142 "Setting up producers' organizations"; Measure 111 "Vocational training, information and dissemination of scientific knowledge" and Measure 114 "Use of advisory services by farmers and forest owners".

For the 2014–2020 period, the Regulation on support for rural development through the European Agricultural Fund for Rural Development (EAFRD), introduced a specific measure for organic farming, which also supports raising organic livestock (in Bulgaria – Measure 11).

Subsidies are step in the right direction – they help organic farmers to sustain, organize, promote their production and to find better markets. The goal of payments for the conversion to or maintenance of organic farming is to encourage farmers to participate in such schemes in order to answer society's increasing demand for the use of environmentally friendly farm practices.

The compensatory payments provided in the OF are of great help to producers and represent a significant incentive for their involvement in organic production. The goals, priorities and measures in the field of OF, provided in the NDP Bulgaria 2020 are further developed in the Program of the Government for Stable Development of the Republic of Bulgaria for the period 2014–2018 and the Program for Management of the Government of the Republic of Bulgaria for the period 2017–2021. However, the national programs targets in the field of OF are not measurable because no quantitative measures are specified for the programming period 2014–2020,

**Table 3.** Compensatory payments, Euro/ha or number/year

| Main crops/Farm animals | In conversion | Fully converted |
|---|---|---|
| Meadows and pastures | 128 | 112 |
| Field crops, including fodder | 284 | 168 |
| Perennials - fruit, vines and roses | 736 | 557 |
| Aromatic and medicinal plants | 515 | 405 |
| Vegetables, incl. cult. mushrooms and potatoes | 575 | 399 |
| Bee hives | 35 | 25 |
| Dairy cows and buffaloes | 230 | 77 |
| Cows and buffaloes for meat | 160 | 63 |
| Sheep, goats | 122 | 90 |

*Source: MAFF.*

which makes it difficult to monitor the real effect of the measure.

## Possible consequences (effects) of an increase in areas with organic farming (OF) by 25% by 2030

For further development of OF in Bulgaria of great importance is to develop a national strategy for the promotion of organically grown products. It is in line with the objectives arising from the farm-to-table strategy and the Biodiversity Strategy, which are directly linked to agriculture and largely covered by the specific objectives of the future CAP and the indicators set for assessing its implementation. One of the six objectives (targets) for a "green deal", in the recommendations of the EC to all members of the EU, related to the agricultural sector, is to achieve 25% of the area under organic farming from the UAA by 2030 or 1,255,680 ha (from 136,618 ha in 2017 = 2.72% of the UAA).

The increase of the areas with organic production in our country to 25% by 2030 seems achievable if the current rates of increase of the areas are maintained (for 2007–2017 they have increased 10 times – from 0.3% to 3% share of UAA). So far, Bulgaria ranks 25th in the EU on this indicator, compared to the EU average of 7.03% (data for 2017).

The increase of the areas with OF will depend on a number of factors, first of all on the implemented policy for support, encouragement and promotion of the sector. The expected effects will have economic, social and environmental aspects.

The increase of the areas with organic production in our country to 25% by 2030 will affect the production, yields and the structure of crops (output), and will impact on prices, incomes, employment, the share of agriculture in the economy, the number of and the structure of farms.

1. Production of agricultural goods – the production of some conventional agricultural goods will be reduced due to the reduction of the areas with conventional agriculture at the expense of those with organic. However, the production of organic products will increase, which is in line with the EC Strategy "From farm to fork" for a fair, healthy and environmentally friendly food system (such as organic production) and the Green Deal. In general, the yields of most crops in OF are lower than those of the conventional due to the non-use of chemical fertilizers and pesticides, which will contribute to a reduction in production, production capacity and hence – perhaps a reduction in the share of overall agriculture in the economy.

On the other hand, depending on what will be grown in the increased areas and subsequently whether the marketing and market of the produced organic products will be effectively organized, whether they will be processed or exported as raw materials – will depend whether the increased areas with OF will contribute to the increase of the added value or not.

2. The structure of the crops – if the areas with OF are increased at the expense of, for example, the pastures, then there will be no problem with the yields and with the change of the volume and assortment of the production. However, if the areas with OF increase at the expense of arable land, then there would be a problem – the land taken from other crops would lead to a reduction in production so far, as well as would disrupt the production structure of crops. Therefore, this process must be carefully managed.

3. Employment – OF in most of its subsectors requires the involvement of more labor than conventional. This is mainly due to the using more labor (workers) in OF – primarily related to the fight against weeds and pests, harvesting and preparation of products for the market. Therefore, increasing the area with OF would lead to higher employment, which would have not only an economic effect (providing and increasing income), but also social (related to the retention of labor in rural areas and their revitalization).

4. Ecological effect – increasing the area with OF would alleviate some negative impacts of intensive agriculture on the environment, people and climate (soil, air and water pollution, expulsion of birds and animals from their natural habitats and disturbance of biodiversity, damage to biodiversity, human and animal health), thus contributing to the maintenance of natural goods and services for future generations.

5. The prices of some agricultural goods would be indirectly affected. This process can be seen in two-ways – on the one hand, the prices of organic products are higher than those of conventional products; on the other hand OF has the potential to develop local, low cost/investment ecotechnologies for food production.

6. Another possible effect is related to the farms – OF is characterized by relatively smaller farms compared to the conventional one, therefore the increase of the areas with OF to ¼ from UAA will lead to a change in the structure of the farms in our country, by increasing the number of small and medium ones.

7. The effect related to the provision and supply of sufficient quantities of clean, tasty and healthy food from OF, as well as the other side of this process – an increase in informed demand for organic products from consumers would be significant.

## Conclusions

OF is a promising agricultural practice, good for future generations, for society and for the environment;

The certified areas for growing organic products in our country in the last 11 years have increased 10 times;

The large share of the areas in transition to OF is an indicator of the constantly growing interest of agricultural producers in OF;

The sector of organic animal husbandry in our country is developing at a slower, but stable rate than in crop production;

There is a strong dependence of organic producers on RDP payments;

Lack of well-developed links and logistics between producers, processors and traders; lack of targeted support for the processing of primary organic livestock products;

Comprehensive official statistics remain necessary for any future analysis of this sector in Bulgaria.

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