Interreg
Balkan-Mediterranean
AGROLABS

PROJECT "AGROFOOD INNOVATION CLUSTERS"

WITH ACRONYM "AGROLABS"

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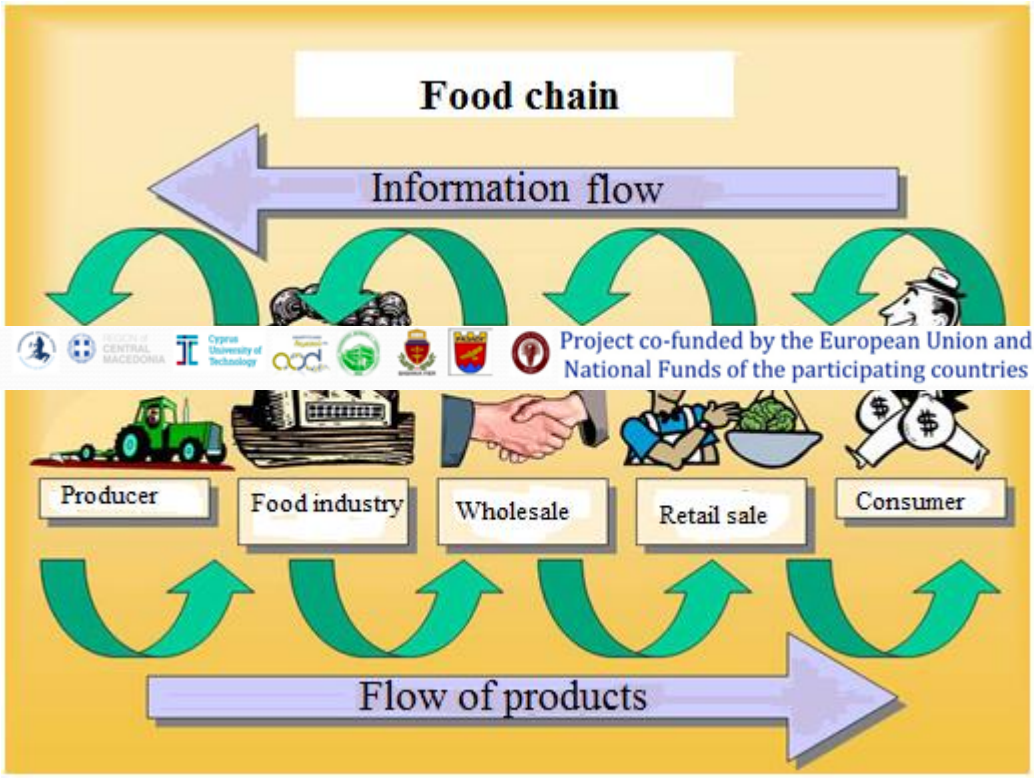

REPORT

Diagnosis of the Agrofood Value Chain Studies

in Blagoevgrad region

SOFIA, 2018

Project co-funded by the European Union and National Funds of the participating countries

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LIST OF ABBREVIATIONS USED

AFC	Agro-food chain
BSOAEC	Bulgarian survey for observation of the agricultural and economic conjuncture
GDP	Gross domestic product
GVA	Gross value added
BNB	Bulgarian National Bank
AWU	Annual work units
TFA	Tangible fixed assets
VAT	Value added tax
EU	European Union
UAA	Utilized agricultural area
SMEs	Small and Medium Sized Enterprises
MAFF	Ministry of Agriculture, Food and Forestry
NSI	National Statistical Institute
RDA	Regional Directorate "Agriculture"
HRDOP	Human Resources Development Operational Program
CAP	Common agricultural policy
RDP	Rural development program
AAU	Areas of agricultural use
DFI	Direct foreign investments
IPI	Idustrial production index
WTO	World Trade Organization
FAO	Food and Agriculture Organization of the United Nations
FI	Food industry
SWR	South-West Region

I. INTRODUCTION

1. Subject, aim and task of the investigation

The subject of this work is to carry out a detailed analysis of the current state of the food industry (FI) in the agricultural sector of Blagoevgrad. This will be implemented by identifying the local agricultural plant and animal produce in the area, the obtained primary and processed produce, its realization on the local and international market as well as its contribution to the local and national economy according to its volume and financial aspects.

The aim of the analysis is to establish the condition and trends of development of the Agro-food chain (AFC) in the region, to determine the importance and location of the sector in the local and national economy.

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This work is part of a sub-regional project **„AgroFood Innovation Clusters", acronym "AgroLabs"**, among Greece, Cyprus, Albania and Bulgaria. Its task is to support the production of the agro-food sector in the analyzed field by exploring the possibilities of creating a common cluster that offers communication links, knowledge sharing, scientific and consultancy support and solutions to support small and medium-sized enterprises (SMEs) and producers to promote their production on local and international markets.

2. Methodology of the diagnostic study

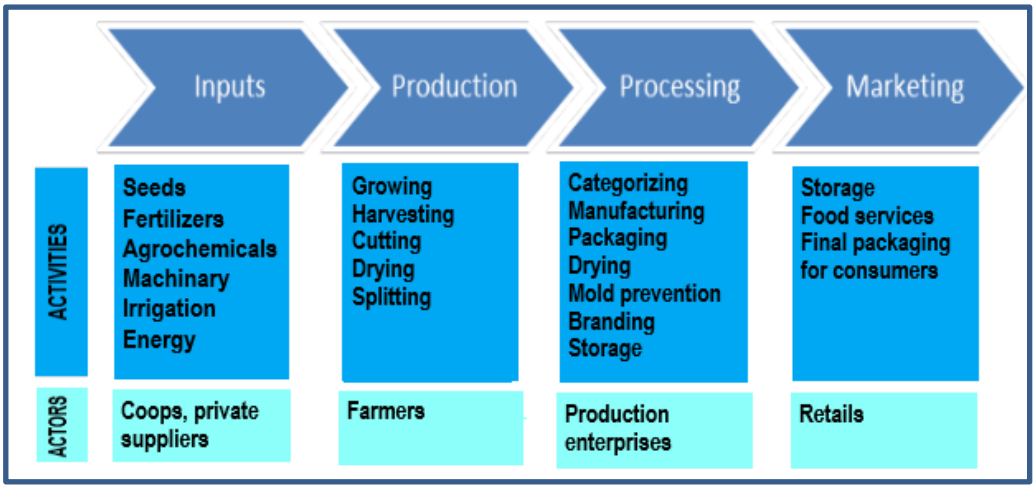
The methodology for the diagnostic study was introduced by the lead partner of the project development - Greece. The methodology that has to be followed includes diagnostics of the food industry chain in the analyzed area, using available literature and statistics data, identifying local stakeholders, field surveys, and workshops with experts and key stakeholders. There will be used secondary data, such as focus group surveys, bureau-analyzes, published surveys on the Internet, to respond to the needs of stakeholders and identify the strengths and weaknesses of the current situation.

The purpose of the bureau-analysis is to collect data, mainly on statistics, for the local production and its potential. Such parameters include the number and description of the goods produced, the volume of produce, the value and cost of produce, past production development data, assessments of future trends. This data needs to be further processed and presented as a percentage compared to the local and international level. An important part of the following data assessment is a review of the current and the previous legislation, which limits or promotes certain areas, productions, etc.

3. Approach and opportunities for Agro-Food chain efficiency as part of the Food Industry and state economy.

Food chains can be considered as **interrelated activities in the agricultural food production - from production to processing, trade, distribution and consumption**. (Fig. 1)

Figure 1. Mmain scheme of the Agro-food chain with itse formal operators



At each stage of this food supply chain, current practices can be adapted to become more effective. Such efficiency increase can be achieved by changing existing farming practices and / or processing of food products at minimum or no cost.

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On the other hand, the agro-food chain can be analyzed from different perspectives, such as **socio-economic, operational, institutional, business, etc.**

For example, the socio-economic aspect of the Agro-food chain is in its essence to bring together economically and socially interested parties to carry out certain coordinated activities or services. The chain includes suppliers of raw materials and services, producers of agricultural goods (primary producers), processors (secondary producers), distribution of goods and products, transport, logistics and other support services (financing). These joining and aggregation (cooperation) processes can be extremely unequal as some powerful operators (with economic or political power) could dominate and expand their influence on weaker, smaller operators who have less influence in the decision-making process.

The agro-food chain can also be analyzed from an operational point of view as an institutional agreement on strategic planning, policy management, dialogue and consensus among stakeholders, or as a public procurement contract where the government, the private sector and civil society establish short- and long-term goals.

The agri-food chain can also have a very useful role in improving the competitiveness of operators by considering as "added value chain", "supply chain" or "clusters". For example, the supply chain refers to a business strategy based on a system of organizations, people, technology, activities, information, and resources that allows the product to be provided by the supplier to the customer or user. On the other hand, "clusters" are defined as a geographic agglomeration (merging) of competing and associated enterprises, implemented to improve the growth and profitability of production. Cluster and chain concepts are not mutually exclusive as one cluster is part of the food chain.

In this way, the concept of the food chain can be used in a variety of circumstances, depending on the overall context that determines their scope and usefulness.

From a business point of view, chains can be used as a tool for regulating relationships and arrangements between private organizations, improving business conditions, business outcomes and stakeholder relationships. In this sense, the agriculture food chain has a clearly defined place in time and space, which corresponds to specific market conditions or processes. The use of food chains as instruments for regulating the relations between private stakeholders should be based on a general interest in achieving greater transparency in commercial deals and a balanced dialogue between the stakeholders involved in these processes. When agricultural chains are used in this context and all stakeholders are involved, using them as a business tool facilitates the inclusion of smaller players in business deals. This creates opportunities to improve the income of the weakest operators in the chain and encourages large commercial companies to implement policies of social and environmental responsibility. In this way, chains can be seen as instruments to achieve greater equity and participation.

In conclusion, agro-food chains are tools that can help finding new solutions, as their great advantage is the ability to unite together all stakeholders and provide a mechanism to improve competitiveness while promoting property sustainability and environmental protection. In addition, chains provide opportunities to strengthen human relationships in seeking common and permanent solutions.

II. DEVELOPMENT OF THE FOOD INDUSTRY IN BULGARIA

The food industry is a major economic sector, a share of the light industry, which deals with the processing of primary agricultural products and food, beverage and food additives production (flavours, colourants,

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flavorings and preservatives). The bulk of raw materials for the agro-food industry is produced through agriculture.

Food industry is traditionally a highly developed branch with a significant place in the economy and export of the country. Between 2006 and 2013, the food industry developed faster than other industries.

The significance of the food industry for the development of the national economy is evident from the fact that the FI has a share of 10.1% in the total industrial production of the country and 22.4% of that of the processing industry (according to NSI data for 2010). The employed in food industry (for the same period) are 94 457 or 4.36% of the employees in Bulgaria.

1. Changes in the status and trends of the three main sub-sectors (food, drinks, tobacco products) for the period 2009-2013, established through an analysis of changes in international trade

The gathered information for this purpose is processed and displayed graphically using tables and graphs.

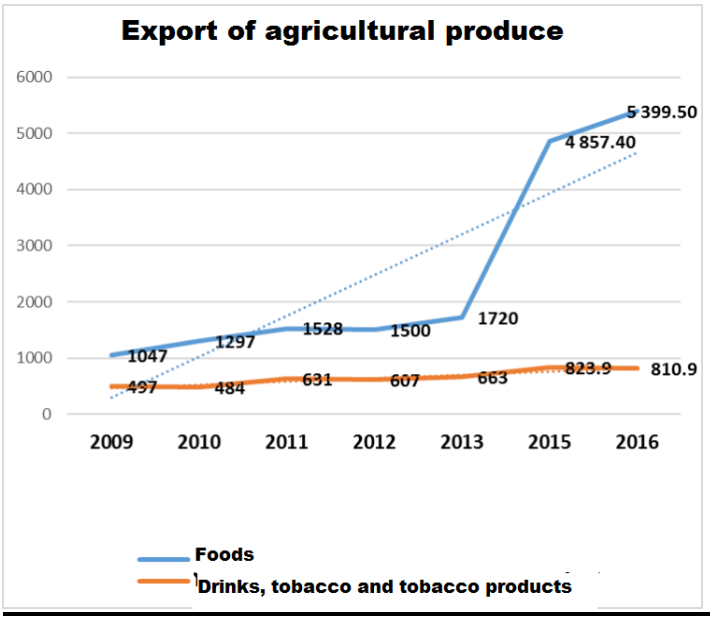
In Tabl. 1 and Fig. 2 are illustrated the changes and trends of FI development for a 7-year period (2009-2016), according to the factor "exports of the main branches of food, drinks, tobacco and tobacco products", in financial terms.

Table 1. Export (in $ M) of agricultural produce for the period 2009-2016

	Export by main groups of FI ($ M)						
	2009	**2010**	**2011**	**2012**	**2013**	**2015**	**2016**
Food	**1047**	**1297**	**1528**	**1500**	**1720**	**4857.4**	**5399.5**
Drinks, tobacco and tobacco products	**497**	**484**	**631**	**607**	**663**	**823.9**	**810.9**

Source: NSI

Figure 2. Export (in $ M) of agricultural produce for the period 2009-2016



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Source: NSI

Data shown in Tab. 1 and Fig. 2 give an idea of the value of the food products exported during the recent years by the food industry by main groups. It appears that **the sub-branch "Food" forms the bulk of the sector's export**. **There is a trend of an export increase over the period considered - from $ 1,047 M in 2009 to $ 5,399 M in 2016. Second in importance** for formation the value of FI export is the **subdivision "Drinks and Tobacco and Tobacco Products"**. There is also an **increase in the value of exports, from $ 497 M in 2009 to $ 810.9 M in 2016.**

For determining the results of a national economy or a certain sector, it is important to establish the amount of net exports or so-called **trade balance**. It is formed as the difference between realized exports and imports for a specific period.

The calculation results for determining the amount of the trade balance of the FI indicate that the amount of the realized imports exceeds that of the exports during the whole period considered. As a result, a negative external trade balance of the food industry in Bulgaria is formed.

The sub-sectoral numbers show that this negative trend is due to the negative balances of sub-sectors "Food" and "Drinks", as "Tobacco and tobacco products" sub-sector can not compensate them despite the increasing tendency of the amount of realized external trade balance through the years. It is important to note that there are significant fluctuations in the net exports of the industry.

In 2009, the trade balance of the food industry amounted to $ 238 M, the following year - 2010 was down to $ 98 M but a large negative external trade balance was again generated in 2011 and 2012 ($ 224 M and $ 192 M, respectively). During the last concerned year, 2013, the negative external trade balance of the sector decreased again, reaching a minimum of $ 67 M. This good result is due to the significant growth in the export volume of both "Food" and "Tobacco and tobacco products" sub-sectors.

Tab. 2 and Fig. 3 illustrate the changes and trends in the development of the FI for a five-year period (2009-2013), according to the factor "**export**" of the main sectors - food, drinks, tobacco products, in percentage.

Table 2. Export of agricultural produce as a percentage of the total export of Bulgaria for the period 2009-2016

Year / Sector	Export of FI -% of the total export of Bulgaria				
	2009	2010	2011	2012	2013
Food	6.41	6.31	5.40	5.63	5.84
Drinks	0.68	0.60	0.58	0.60	0.53
Tobacco Tobacco products	2.36	1.75	1.55	1.67	1.72

Source: International Trade Centre

Figure 3. Export of agricultural produce as a percentage of the total export of Bulgaria for the period 2009-2016.

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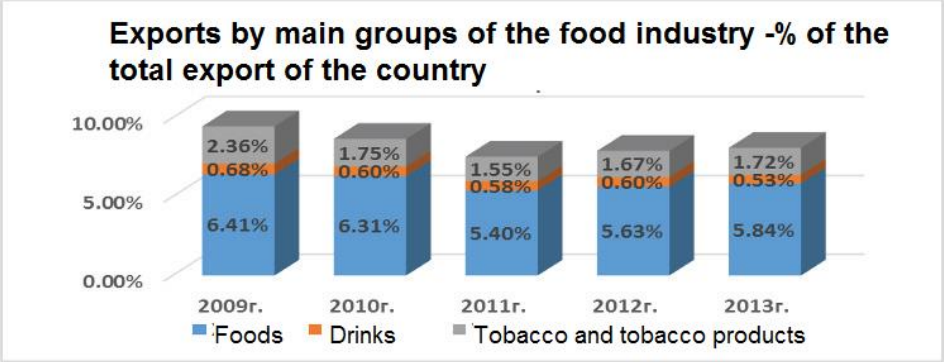

Conclusions

Calculation results, presented in Table. 2 and the accompanying graph (Fig. 3) show that the volume of exported goods produced by the food industry decreased as a share of Bulgaria's total export. Specifically, in 2009, exports of food and drinks amounted 9.45% of the total export of the country. In 2010, export is 8.66% of the national, and in 2011 decreases to 7.53%. There is a slight increase in the next two years - in 2012 the share of export is 7.90% and in 2013 - 8.09%.

In 2013, the food industry produced output (at current prices) for BGN 9.6 billions. Its share in the total industrial production of the country increased significantly compared to 2006- from 13.6% to 15.3%.

The export of FI goods is growing more intensively than the country's total, as a result of which its share in the total export for the period 2006-2012 increases from 4.9% to 6.4%.

Total export to the EU for the considered period have grown significantly more slowly, as a result of **food industry increased share in the national export to the EU market from 5.7% to 8.6%.**

2. Foreign trade turnover with agricultural products

With EU accession, over the period 2007-2016, the volume of agrarian trade is growing significantly, as export of agricultural products outpaces the import. This development demonstrates the effects of integrating Bulgarian agriculture into the global and European economy. The liberalization of the economy and trade from the country's membership in the World Trade Organization (WTO) in 1996 and the country's full membership in the EU since 2007 are the political events that create the framework for the development of the export and import of agricultural goods.

The balance (Fig. 4) of trade with agricultural goods during all the years of the period is positive, except in 2007 when the harvest is extremely low. The excess of export over import of agricultural goods over the years is growing, with an average value about EUR 1 billion. The structure of agricultural export is dominated by unprocessed products and agricultural raw materials, which in recent years account for about 60% of agricultural products and food export. At the same time, unprocessed products account for about 45% of all agricultural import. In the structure of imports meat, dairy products, eggs and drinks take the leading part, while in export - grain, oilseeds and tobacco. It turns out that the bulk of gross agricultural output is destined for export (about 65% of total output), which is explained by the imbalance in production due to the excess in certain productions and the tangible deficit in other. The growing rate of agricultural export (with EU membership) shows that the growth of cereal-oil crops leads to more export incentives than to the development of domestic processing and consumption.

Figure 4. Foreign trade turnover with agricultural products

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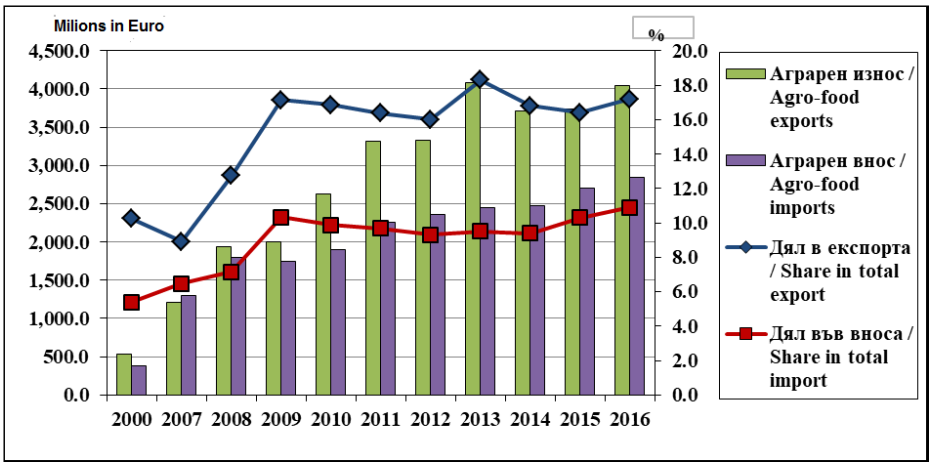

Source: NSI and Eurostat

Trade with agricultural goods is of great importance for the country's economy due to its high share in the foreign trade turnover and in the formation of the trade balance. The share of agrarian import and export untill 2007 is relatively constant, but in the years of EU membership it increases. In 2016 the export reaches 17% of the country's total exports, and agricultural import amounts about 11%. At these levels of export, Bulgarian agriculture ranks among the most important sectors of the economy and contributes to reducing the negative trade balance of the country. It is characterized by high export orientation, which shows the comparative competitiveness of the trade sector and is the only way to achieve growth in terms of limited domestic consumption.

3. Added value by cost and employment factors, value added, efficiency and cost-effectiveness of production, productivity of labor costs for the period 2006-2012

During the analyzed period, the development of FI is stable and more dynamic than the other sectors of industry and the economy of the country (Tabl. 3). Modernization and intensification of production has been carried out.

Table 3. Added value by cost and employment factors

Indicators	2006	2007	2008	2009	2010	2011	2012
Added value – BGN M	**1179.0**	**1554.9**	**1683.4**	**1611.4**	**1807.6**	**1740.7**	**1855.1**
Dynamics, 2006=100	**100.0**	**131.9**	**142.8**	**136.7**	**153.3**	**147.6**	**157.3**
Relative share in:							
Economy -%	**2.9**	**3.6**	**3.6**	**3.6**	**4.0**	**3.8**	**2.8**
Industry -%	**12.4**	**14.7**	**15.6**	**16.2**	**18.4**	**16.4**	**17.6**
Employed, thousands	**116.0**	**115.1**	**110.5**	**109.6**	**87.6**	**103.0**	**103.0**

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Dynamics, 2006=100	**100**	**99.2**	**95.3**	**94.5**	**75.5**	**88.8**	**83.9**
Relative share in:							
Economy -%	**3.2**	**3.1**	**2.9**	**2.9**	**2.4**	**2.9**	**2.8**
Industry -%	**14.3**	**13.8**	**13.0**	**14.3**	**12.2**	**14.5**	**13.9**

Source: NSI Assoc. Prof. Slavcho PetrovPh.D., Assoc. Prof. Nona Malamova Ph. D.

Sectors that are not directly related to the agricultural production and processing of raw materials and use finished and semi-finished products (flour, sugar, cocoa, oils, milk, cream, essences, sweet, nuts etc.) increase the contributions to the economy of FI.

The three sectors with the largest and rising contribution to the economy of the FI, assessed by their share in the structure of employees, the value of production, value added, tangible fixed assets (TFA) and investments are: production and processing of meat without ready meals; manufacture of bakery and pasta and manufacture of other food products (Table 4).

Table 4. Share of sectors in the economy FI in 2012 hired, output, value added in %

Types of production	Hired	Produce	Value added	TFA	Investments
Food production	82.6	71.6	71.4	68.0	68.0
Production and processing of meat	17.4	19.3	13.3	12.0	9.9
Processing and preserving of fish and other aquatic animals	1.4	0.7	0.9	0.8	0.7
Processing and preserving of fruit and vegetables	7.4	5.3	6.9	6.9 8.4	8.5
Production of vegetable and animal oils and fats	2.5	6.2	5.8	4.6	7.4
Production of milk and dairy products	9.2	8.6	7.8	8.3	8.7
Production of mill products, starch	3.6	7.5	6.0	7.3	8.8
Production of bakery and pasta	29.2	10.5	15.1	12.7	11.4
Production of other food products	10.1	9.8	13.3	11.3	8.9
Production of ready animal feed	1.8	3.6	2.4	2.7	3.8
Production of beverages	14.1	17.2	21.6	25.0	25.9
Production of tobacco products	3.3	11.2	7.0	7.0	6.1
Production of food, beverages and tobacco	100.0	100.0	100.0	100.0	100.0

Source:NSI

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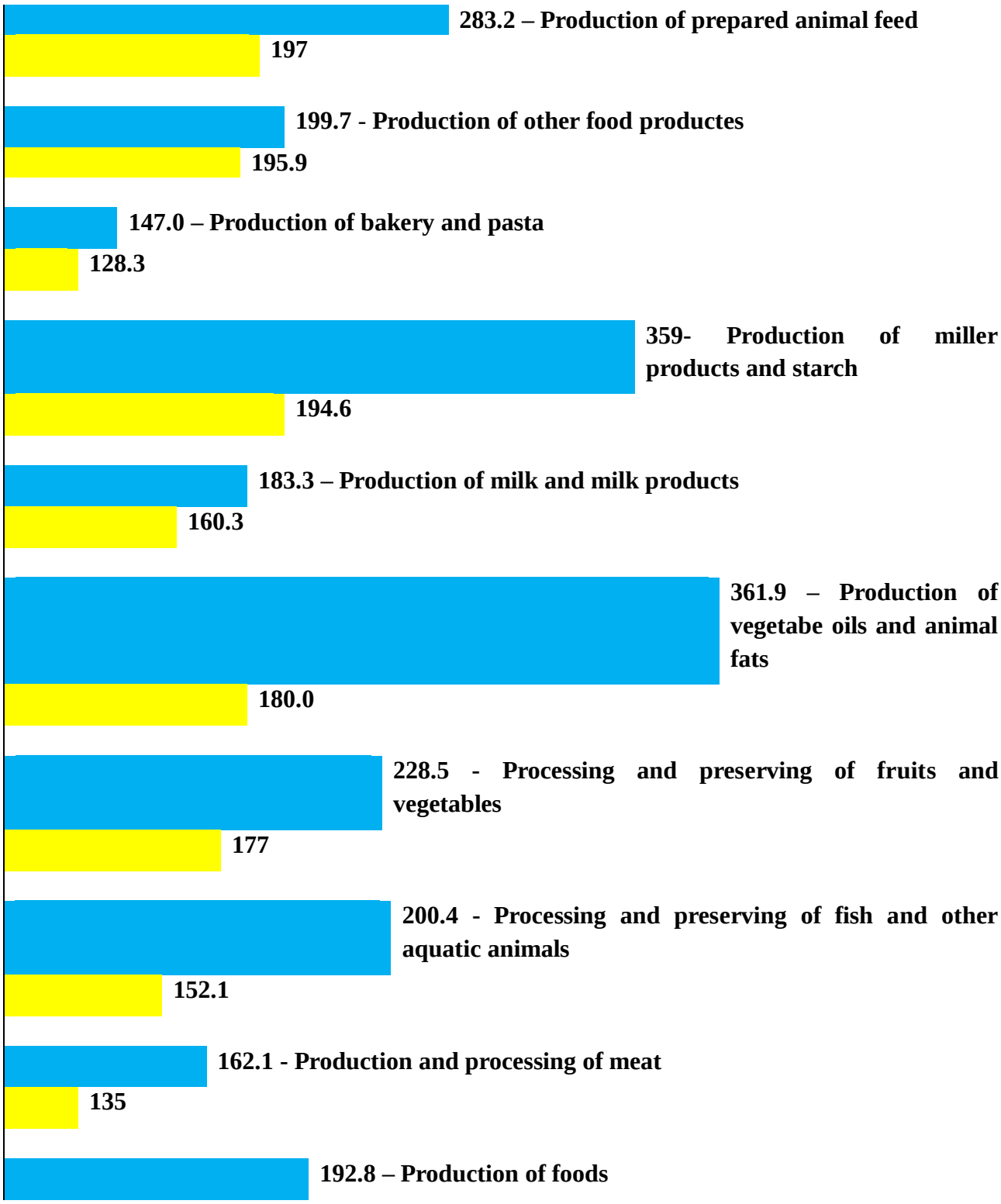
A relatively competitive advantage of the Bulgarian food industry at this stage is the lower labor costs. The labor cost performance measured by value added per unit cost for staff is higher than the EU27 average in all sub-sectors and sectors of FI (Fig. 5).

Investments as a resource for competitiveness are assessed according to the values of the indicators: **investment per employee and investment coefficient in Bulgaria and the EU**.

Figure 5. Labor cost productivity - value added by cost factor / staff costs in % - 2011



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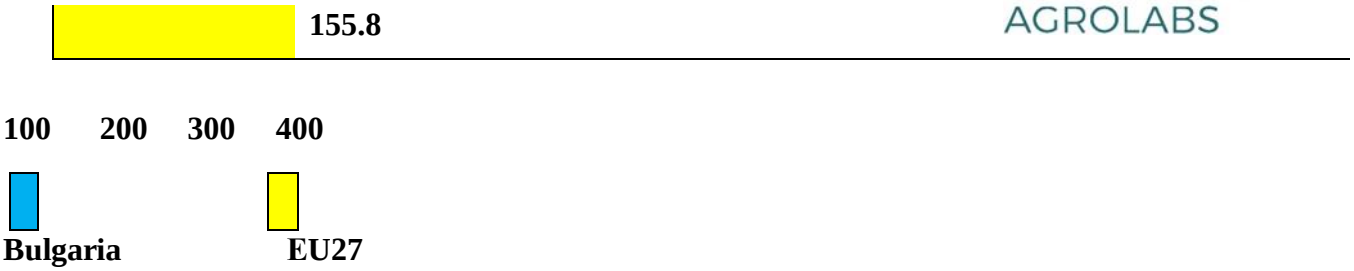

Source: Eurostat

Productivity of labor costs in food production decreased by 23.4% over the four-year period (2008-2011), indicating that labor costs in a single labor market did not bring long-term benefits.

Conclusions

The Bulgarian food industry has comparative competitive advantages in terms of **efficiency and profitability of production** (Table 5). According to the realized gross operating surplus per unit of turnover **(profit rate) in the majority of the food processing sectors, Bulgaria is among the countries with a higher value than the average for the Community.**

Exceptions are only the production sectors of beverage, bread and bakery and other food products.

The profitability of the food industry in Bulgaria, expressed by the share of the gross operating surplus in value added, **is higher than the EU27 average.**

Only the production of tobacco products in Bulgaria reports significantly lower profitability than the EU27.

Table 5. Efficiency and profitability of production – 2011.

	Profit rate %		Profitability %	
	Bulgaria	**EU27**	**Bulgaria**	**EU 27**
Food production	8.2	7.7	50.1	39.9
Production and processing of meat, without ready meals	4.9	4.3	39.3	28.7
Processing and preserving of fish and other aquatic animals	13.5	5.9	51.0	35.8
Processing and preserving of fruit and vegetables	12.5	9.5	57.2	45.0
Production of vegetable and animal oils and fats	7.9	4.3	73.0	51.0
Production of milk and dairy products	7.9	4.3	73.0	51.0
Production of bakery and pasta	8.7	10.9	36.3	30.6
Production of other food products	10.3	12.6	51.7	50.6
Production of ready animal feed	7.3	6.3	65.9	50.5
Production of beverages	13.7	15.0	57.7	57.4

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Production of tobacco products		3.2	32.3	70.0

Source: Eurostat; Assoc. Prof. Slavcho PetrovPh.D., Assoc. Prof. Nona Malamova Ph. D.

4. Potential opportunities for the sector development

The potential opportunities for development of the sector, sub-sectors and sectors of FI are related **to increased demand; expanding and diversifying the supply of food, beverages and tobacco; increase in investment activity in enterprises.**

For the majority of food products, household **consumption in Bulgaria** on average per household, according to NSI data, has increased for the period 2006-2013 compared to 2005. Significantly decreased only the consumption of bread and bakery products, main products of the canning industry - compotes, jams, vegetable cans and wines and cigarettes.

The National Statistical Institute reports an increase in the purchasing power of the population for all types of monitored food for the period 2005-2013. The highest increase in purchasing power is for pork meat - more than 2 times and poultry meat - more than 1.7 times. For the majority of food products, the growth in purchasing power is between 40 and 70%.

5. Intensification of the investment process - an important factor for the development of the sector

According to data from the NSI annual statistical survey on foreign direct investment in non-financial sector enterprises in the sector, a significant part of the direct foreign investments are attracted in the Bulgarian economy.

By share of attracted foreign direct investment at the end of 2012, FI is in the top ten of economic activities.

A total of € 945 million was attracted to the industry.

Food business enterprises have used significant investment funds under the EU pre-accession program SAPARD (approved 357 projects worth BGN 975 million, of which BGN 342 million are European subsidies), as well as under Measure 123 "Adding value to agricultural and forestry products" from the RDP 2007-2013 with a budget of BGN 471.3 million.

6. Problems in the development of the sector.

It is reduced the participation in production and export structure of the food industry of sectors for which the country has comparative advantages The meat, dairy and canning industries lose some of their positions in the export structure. There is a tendency to increase the export potential of secondary processing sectors using finished and semi-finished products (flour, sugar, cocoa, oils, milk, cream, essences, sweets, nuts, etc.)

The NSI information shows that the trade balance of the Bulgarian food industry is negative. The negative result is formed by our trade with EU countries. On this market, Bulgaria is a net importer, indicating its comparatively lower competitiveness with respect to the food industries of the other member states. An exception to this unfavorable trend is our trade with third countries, which has a positive result and compensates partly the negative balance on the European market.

Several sectors with a positive trade balance in 2012 stand out in the FI: fats and oils, milling products, vegetable and fruit preserves, cereal-based foods. (Table 6).

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Table 6. Structure of Food Exports in US $ (in %)

Commodity groups	2001	2006	2009	2011	2012
Food - total	**100**	**100**	**100**	**100**	**100**
Meat, edible meat offal	26.5	22.5	15.7	15.6	14.8
Milk and milk products	10.6	9.5	11.7	7.5	8.8
Mill products; malt, starch, farina	3.2	0.3	2	4.5	5.7
Fats and oils of animal or vegetable origin	6.7	6.9	11.5	14.4	14.0
Products of fish or crustaceans	3.5	3.4	1.6	1.9	2.2
Sugar and confectionery	5.4	5.9	12.5	14.2	10.1
Cocoa and cocoa products	3.4	3.1	2.7	4.9	5.1
Food products prepared on the basis of cereals, pasta and confectionery	10.2	20.2	17.1	13.3	13.4
Vegetable and fruit food products	15.1	15.2	12.3	9.4	8.5
Different types of food products	3.9	5.1	5.2	3.6	4.2
Residues and waste from the food industry, prepared animal feed	11.6	7.9	7.5	10.6	13.3

Source: NSI, Foreign Trade

The demand for our products on EU markets, with higher price levels and consumer requirements, is limited. Differences in the relative weights of exports and imports in kind and value in the EU market show that exports are made at lower average unit prices than imports.

In the internal market, processes with a strong negative impact on the development of the food industry are intensifying, namely: **competitive pressure; unfair competition** on the national market, in particular production and supply of imitation products that displace the traditional; **unfair commercial practices** as evidenced by the prolongation of the collection period of the "Food, Beverage and Tobacco Production" companies by about 11 days over a period of 8 years (2005-2012) (according to NSI data).

The shortage of raw materials is a major factor hindering the FI development. According to Eurostat, the level of self-sufficiency in meat is low and decreasing after 2007 (the level of self-sufficiency by 2010 is: 38% of pork meat, 66% of cattle meat and 73% of poultry meat).

For the period 2011-2012, according to information from the State Agricultural Fund, the fulfillment of the national quotas for deliveries and for direct sales of raw cow's milk are fulfilled only 48.7% and 21.7%, respectively. **As a result, the development of main sectors (meat, dairy, canning) is strongly dependent on imports of raw materials and semi-finished products.**

The last place of labor productivity and the much lower productivity of the investments made in the Bulgarian food industry compared to the EU average, **low level of research and development activities in enterprises** make the sector less competitive.

The high relative share of **low-skilled staff** is also a barrier for the development of the branch**.** The results of the "Development and Implementation of an Information System for Assessment of Competences of the Labor Force by Branches and Regions" show that by 2011, at least 17000 low-skilled ("professions not requiring professional qualification" and without "professional group") have a low tendency to reduce their number [Labor market survey in Bulgaria in 2012]. The "leak" of skilled workers and managers in the industry makes the issue particularly acute for increasing the pay for hired labor.

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At the same time, in Bulgaria, according to Eurostat data for 2011, only three of the food processing sectors are close to the European values of the share of their personnel costs in gross value added (GVA), all other sectors are below European levels - below 50%.

It makes an impression sector "Production of milling products, starch and starch products", where the share of staff costs in GVA in Bulgaria is over 22% lower than in the EU27. At subsector and sector level, labor productivity dynamics and average personnel costs of a hired for 6-year survey period (2005-2011) outlines FI sectors with **stronger growth in labor productivity above staff cost growth per employee.** These are които са с opportunities to increase compensation for hired labor: **production of vegetable and animal oils and fats; production of mills, starch and starch products; production of finished animal feed.**

As a result of the analysis we have outlined **the following directions for developing the potential and accelerating the development of the Food Industry.**

✓ Implementing **effective means to optimize the business environment** - introducing preferential VAT for a basic food package, VAT reverse charge for individual products, etc.

✓ Changes to the Law on Protection of Competition **in order to prevent unfair commercial practices.**

✓ Reinforcing the control of raw materials and finished goods from intra-community supplies and imports from third countries. Strengthening the control of retail sales of fast-moving consume goods and compliance with the regulatory framework for traceability, quality, labeling and other requirements.

✓ **Promote export to third countries and search for new markets for traditional Bulgarian products** inside and outside the EU, by more complete use of European funds for traditional products advertising and export subsidies.

✓ Use EU funds and the national budget to support the transfer of knowledge to enterprises by research organizations; using funds from the National Innovation Fund for priority funding of innovative food projects.

✓ Accelerated alignment of agricultural subsidies (European and national) and **application of flexible subsidy schemes for raw materials production, priority for Bulgaria** (vegetables, fruits and products of animal origin), in the new programming period 2014-2020.

The conducted study, the results obtained and the analysis made us to conclude that the Bulgarian Food industry has changed significantly over the years. The structure in terms of quantity and type of produced goods is different. The territorial distribution of the constructed production capacities is different and also the competitiveness of the produced production and its opportunities for market realization on the national and international market. It is important to emphasize that food processing is provisionally divided into three subsectors, with traditionally Food sector being the most developed and the Beverage subsector having the lowest economic result.

All these changes, however, have no impact on the nature of the Food Industry and its importance for the Bulgarian economy and its development. FI remains one of the most developed branches of the national economy and one of the most significant when forming the export of the country.

The negative external trade balances formed during the period under review indicate that our country is a net importer of goods produced by the FI. Products with high added value are mainly imported and mainly agricultural products, which the Bulgarian food industry does not process are exported.

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III. DEVELOPMENT OF AGRICULTURE IN THE CONDITIONS OF MEMBERSHIP IN THE EUROPEAN UNION FOR THE PERIOD 2006–2016

The years after the Bulgarian accession to the European Union are a period of adaptation of Bulgarian agriculture to the new conditions and requirements of the common European market. Despite the difficulties and challenges, the policies that have been implemented helped to sustain its development and to increase its competitiveness, mainly thanks to the incoming financial resources from the EU budget under the Common Agricultural Policy.

For the period since 2007, there have been substantial positive changes in some key economic indicators for the agricultural sector - Gross Value Added (GVA), labor productivity, investments. EU membership has made tangible impetus to foreign trade with agrarian goods.

In 2016, the gross value added of the industry, at current prices, increased by 8.1% compared to 2006 and labor productivity increased by 26.8%.

Over the same period, investments (cost of acquisition of tangible fixed assets) in the sector increased almost three times, and their share in total investments in the country's economy reaches 7.5% in 2016 compared to 2.6% in 2006. Over the last ten years there has been a tendency for an increase in Bulgarian agricultural exports, especially after Bulgaria's accession to the EU. From just over BGN 2 billion in 2006, between 2013 and 2016, the value of agricultural exports is already between BGN 7 and 8 billion. The share of agricultural commodities in the country's total export is increasing. Over the last seven years, this share has varied around 16-18%, with around 9-12% in the period 2000-2008.

Traditionally, trade in agricultural commodities has formed a positive foreign trade balance which, after Bulgaria's accession to the EU, has marked a steady growth trend - from about BGN 300 million in 2006 to more than BGN 2.3 billion in 2016. There is a gradual shift of trade flows to EU countries at the expense of other partners – during the recent years the EU has formed around 74-75% of the country's agricultural commodity exchange.

The ongoing intensive processes of restructuring, consolidation and modernization of the production structures which lead to the increase of the competitiveness of the sector are factors for these positive results. There is a tendency for a steady decline in the number of farms, mainly on the account of small, non-market structures that produce for their own needs. For the period 2003-2013, the number of farms decreased by more than 3 times - from 665.5 thousand in 2003 to 254.4 thousand in 2013.

At the same time, a concentration of the land in the larger farms is observed - in 2013, those with a size over 50 ha manage more than 85% of the utilized agricultural area (UAA). The average size of UAA per farm increased from 4.4 ha in 2003 to 15.2 ha in 2013.

The share of non-cultivated land in the total area of that for agricultural use decreases from 4.9% in 2007 to 1.7% in 2016, while at the same time is observed almost threefold reduction of its size.

There is also a reduction in the number of farms in livestock farming, mainly for the account of the smaller ones. For the period 2007-2016 the total number of cattle farms decreased by 72.2%, in sheep breeding - by 78.7%, in goat breeding - by 87.9%, in pig breeding - by more than 16 times.

At the same time, the farms are aggregated and the number of animals kept in them is increasing. The average number of animals in farms increased for the period 2007-2016: for cows - from 2.8 to 10 animals; for buffaloes - from 8.1 to 30.8 animals; for sheep - from 8.3 to 35.2 animals; for goats - from 2.7 to 10.8 animals and for pigs - from 4.9 to 56 animals.

In 2016 there was an increase on an annual basis in the total number of main animal categories, most significantly for buffaloes - by 13.2%, for meat cows - by 12.4%, for sheep - by 2.1% and cattle - by 1.4%

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Conclusions

As a result of better support targeting in 2015 and 2016, there are processes of stabilization of vulnerable and sensitive sectors - Fruit, Vegetables and Livestock.

The harvested areas of fruit species are with 4.3% more than in 2015. The highest increase was recorded in almonds - 72%, walnuts - 24%, raspberries - 20%, cherries - 5%, apricots - about 3%, peaches and nectarines - also about 3%. Significant progress in 2016 is recorded in the Vegetables sector - the areas used on agricultural holdings for vegetable production show an increase of 30% compared to the previous year. On an annual basis there is an increase in the production of cabbage with 78%, onion - 67%, water melons and melons - by 52%, cucumbers and gherkins - by 32%, tomatoes - by 16,2%.

As a result of the support provided under the National Program for Support of the Viticulture Sector 2014-2018, from the beginning of its implementation until the end of June 2017, 1598 ha of new vineyards were created and the techniques of management of 1912 ha of vineyards were improved.

Grain production and oil crop production has reached a high degree of modernization and consolidation of farms. These productions show stable development and growth, fully meet the needs of the country and occupy an important part of the exports.

Compensatory support per area, combined with the provision of priority support for investment measures and the higher intensity of financial assistance, stimulate farms to take action to switch to bio-production methods, as a result of which the areas in the control system increase many times in 2011 – 2016.

The continuity and continuation of the policy to promote bio-production in the 2014-2020 period through the implementation of Measure 11 "Organic farming" and the provision of an advantage and a higher level of financial support for investment projects for bio-production has led to significant growth of areas and animals in the bio-control system during the recent years.

The implementation of the Common Agricultural Policy of the European Union has a positive effect on the structuring and development of agriculture in Bulgaria. However, there has been a slowdown in the rate of development in recent years. Since 2013 there is a slight but marked decline in basic economic indicators for the agriculture sector as final output, intermediate consumption of agricultural production and gross added value. For example, the gross value added (at basic prices) created in agriculture in 2015 amounts to BGN 3039.1 million and following the downward trend in final output and intermediate consumption marks a decrease of 10.3% compared to the previous year.

In the context of European integration and globalization, the new realities impose the need for detailed studies of the changes in the state and development of Bulgarian agriculture and rural areas, the lessons learned from the implementation of the CAP and the development of scenarios for changing the CAP. Evolutionary CAP has undergone considerable development since its introduction in 1962, and the causes of the changes are linked both to the internal need to tackle challenges and problems and to the dangers of the external environment due to EU competition and participation in the transnational structures of the WTO and the pressure on the EU to reduce support for the sector.

After 2013, the implementation of the 2nd programming period of the country's EU integration and the 3rd since the beginning of the current CAP phase after 2013, when some of the major changes in the CAP occured, with the introduction of 2 support pillars, transition to uncommitted direct support, linking of payments with counter-commitments, etc. During the implementation of this policy, many analyzes and many criticisms have been made as the EU faces the need to revise the philosophy of support, and Bulgaria as a full member must participate and have its own reading and suggestions to help the CAP addressing the major problems in individual countries and contributing to the strengthening of agriculture in the EU. In the context of the EU's proposed changes to the CAP, these issues are extremely important. The results of Bulgaria's accession to the EU on the agrarian sector and rural areas, the impact of applied agricultural

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policies on agriculture, the analysis of the changes in the CAP after 2013 on agricultural support, the second pillar and the market measures, as well as the impact of the CAP on the size and structure of production, trends in imports and exports and the competitiveness of agricultural production are up-to-date and omnibus. In this situation, the analysis and evaluation acquire particular relevance: the state and the trends of development of the Bulgarian agriculture and rural areas; the effects of Community policy, regulations, requirements on sectoral development and the sustainable functioning of Bulgarian agriculture; directions and measures for stimulating the sustainable functioning of agricultural farms in rural areas in Bulgaria and developing scenarios for changing the CAP.

Historically, Bulgaria's agriculture has been not only the basis of its economy but also of its entire social life. Today, its share in GDP and employment is steadily decreasing. At the same time, agriculture maintains its importance and role as a supplier of vital products, as well as new aspects of this business emerge in the foreground - the rational use of natural resources as well as balanced territorial development. Bulgaria membership in the EU has made the CAP a determining factor for its development. From this point of view, the stated changes in the CAP for the 2014-2020 programming period should be timely assessed so that Bulgaria can determine its national position in accordance with the country's situation and political priorities. Equally important is that Bulgaria will be able, within certain limits, to take autonomous decisions on the organization of agricultural support, which requires an assessment of the effects of the different alternatives. That is why the country's membership in the EU does not reduce the responsibility of the national authorities in the sector - not only because important aspects of agricultural policy remain a national task but also because Bulgaria can participate in the development of the CAP.

In this sense, defining Bulgaria's position on the future CAP for the period 2014-2020 as well as its readiness and ability to adjust within the admissible limits how to apply CAP mechanisms and instruments are of particular importance. This in turn requires clarification on three questions - assessment of the state and trends of Bulgarian agriculture; the challenges facing European agriculture and related EU Commission proposals for CAP changes and, third, and most important, an assessment of the expected outcomes of the implementation of the new organization of direct payments and support for rural development on Bulgarian agriculture. Ultimately, the challenge for Bulgarian agricultural policy and the management of the sector is to implement the CAP in the way that best meets the conditions in the country, thus contributing to the maximum extent to the welfare of both farmers and consumers.

IV. GENERAL CHARACTERISTICS OF BLAGOEVGRAD DISTRICT

1. Natural - geographical structure

Blagoevgrad District (Fig. 6) is located in the Southwestern part of the territory of the Republic of Bulgaria, between Kyustendil, Sofia, Pazardzhik and Smolyan districts and the state borders with Greece and Macedonia. It occupies an area of 6449.571 km², which represents 5.8% of the country's territory. It is the third largest district in Bulgaria.

Figure 6. Administrative map of Blagoevgrad district with marked municipal centers

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In the Blagoevgrad region are located all or part of the following mountains: Pirin, Rila, Rodopi, Vlahina, Maleshevska, Ograzhden, Belasitsa, Slavyanka and Stergach, two of the three national parks in Bulgaria and 40% of the mineral springs in the country. The water resources of the region are formed by the main watercourses of Struma and Mesta and their numerous tributaries - Blagoevgradska Bistritsa, Pirinska Bistritsa, Lebnitsa, Strumeshnitsa, Belishka, Demyanitsa, Kanina, Bistrica, Toufcha and more than 160 circus lakes in Pirin and Rila, karst springs in Pirin and Slavyanka. The climate has a strong Mediterranean influence along Struma, Strumeshnitsa and Mesta rivers. This determines appropriate conditions for the cultivation of a large number of thermiphilic Mediterranean crops, unlike other regions of the country. The conditions for irrigation and meliorations in the river valleys are good. Particularly characteristic for the area are the prolonged summer droughts in the lowlands as precipitations are below the average for the country and are unevenly distributed over seasons and months. This creates problems, requires irrigation and makes agricultural production more expensive. Late spring and early autumn frosts cause serious damage to vegetables, tobacco, orchards.

The soil conditions are good for growing tobacco, vineyards, fruit plantations, thermophilic crops, herbs, mushrooms, etc. Most of the territory is occupied by cinnamon forest soils suitable for growing tobacco, vineyards and orchards. The brown forest soils in the area predominate in forests, as alluvial and delluvial soils near the rivers are suitable for vegetable growing. The highest parts of the mountains are occupied by mountain-meadow soils with developed rich pastures.

The forest territories in the district occupy 346739 hectares (58% of its territory). The district is second in forest areas in Bulgaria. Their share is determined by the predominant mountain character of the relief. Their diversity is formed by coniferous (mostly white and black pine) and broad-leaved (beech, oak, hornbeam, Oriental hornbeam, chestnut, etc.) forests. The forest fund extends on the territory of 10 mountains and includes two national parks - Pirin and Rila, one nature park - Belasitsa, ten nature reserves, many natural landmarks and protected areas.

These areas are characterized by rich flora and fauna and picturesque relief. They contain rare tree and grass species. The vascular plants are about 1,400 species, many are herbs, protected, and 101 are included in the Red Data Book of Bulgaria. In addition to the protected areas in Blagoevgrad region, there are 109,402 ha of forests classified as special purpose forests.

2. Population and demographic processes

According to NIS data for 2016, the population is 310321 or 8.7% of the total population of the Republic of Bulgaria. The share of the urban population in the total population of the district is 59.6% (185060 people) and the rural - 40.4% (125261 people). For comparison, the structure of the population by place of residence (cities / villages) in the country for 2016 is 73.3%:26.7%, respectively. In the regional center - Blagoevgrad live 75,862 people or 37.59% of the urban population of the district. The age structure of

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the population in Blagoevgrad region is characterized by a relatively even distribution among the age classes. The distribution of the population by classes according to working age for 2016 (NSI) is respectively: under working age 47672 people (15.4%), in working age - 194348 (62.6%) and over working age - 68301 (22.0%). About 60% of the population under working-age and in working age, as well as about 56% of the population in over-working age live in the cities of the district. The ethnic structure of the population in Blagoevgrad region is characterized by a major share of the Bulgarian population. Relatively low is the percentage of the population that identifies themselves as ethnic Turkish (larger share in Gotse Delchev, Garmen and Yakoruda municipalities), and a small part are self-identified as Roma (with greater presence in Petrich and Garmen municipalities). The common ethnic structure is similar to that of the country. Population growth within the district is negative compared to 2011. NSI indicates a population growth for 2016 for the district – 3.5%; for the cities – 1.7 ‰ and for the villages – 6.2%, respectively. The data shows that the dependency is significantly more moderate than the average for the country where population growth in 2016 (NSI) is calculated as total: - 6.0%, for cities: -3.6 ‰ and for the villages: -12.6 ‰. (Table 7 and Table 8)

The mechanical movement of the population in the region has a negative growth, which value increases for the period 2011-2015 (NSI). Mainly young people take part in migration. It prevails in all directions of migration except in the city-village direction, where the largest share of migrants is from the higher age groups, mainly re-migrants. The main reasons for the migration of the population are: family (marriage, accompaniment of parents, children); providing employment; ensuring better living conditions.

According to NSI data, the poverty line (average) per person from Blagoevgrad region for the period 2012 - 2016 is 3542 BGN and is close to the average for the country (3.56 BGN). According to this indicator, in 2012 Blagoevgrad ranks 7-th and in 2016 it is 18-th among the districts (including Sofia city) in BulgariaThis trend is an expression of a faster impoverishment of the population in the region than in other areas in the country.

Table 7. Demography of the population in the Blagoevgrad region - natural growth

Year	Birth rate	Mortality	Natural growth
2016	9.1%	12.6%	-3.5%
2015	9.5%	3.0%	-3.5%
2014	9.3%	12.9%	-3.4%
2013	9.0%	11.7%	-2.7%
2012	9.5%	12.1%	-2.6%
2011	9.8%	11.9%	-2.1%
2010	10.3%	12.0%	-1.7%

Source: NSI

Table 8. Number and share of ethnic groups according to population censuses over the years

	Number		Share (in %)	
	2001	**2011**	**2001**	**2011**
Total	341 173	323 552	100.00	100.00
Bulgarians	286 91	251097	83.97	77.60
Turkich	31807	17027	9.33	5.26
Roma	12405	9739	3.63	3.01
Russians	476	Not specified	0.139	0

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Armenians	32	Not specified	0.009	0
Vlachs	7	Not specified	0.002	0
Macedonians	3117	3080	0.913	0.95
Greeks	86	Not specified	0.022	0
Jews	8	Not specified	0.002	0
Romanians	45	Not specified	0.013	0
Other	1670	Not specified	0.89	0
Not self-identified	4242	2613	0.48	0.80
Not answered	**659**	39 996	0.19	12.6

Source: NSI

3. Administrative division of Blagoevgrad District

Source: Weekipedia

Blagoevgrad administrative district is divided into 14 municipalities, 96 mayoralties and 280 settlements. The district is represented by the following municipalities: Bansko, Belitsa, Blagoevgrad, Gotse Delchev, Garmen, Kresna, Petrich, Razlog, Sandanski, Satovcha, Simitli, Strumyani, Hadjidimovo and Yakoruda.

The agriculture sector is a major source of income for the population in the villages and for most municipalities in the area, and its decline, in the absence of any other alternative to income and employment, leads to increased migration of the working-age population. The conditions for development of agriculture in the Blagoevgrad region are determined by the favorable natural and climatic characteristics, unoccupied labor resources with certain traditions in agricultural activity and proximity to Sofia and the immediate border with Greece as well as prospects for development of international and domestic tourism in the region, which creates good opportunities for the realization of the production.

4. Characteristics of the area by municipalities

Blagoevgrad Municipality

Blagoevgrad Municipality is located in the northwestern part of the Blagoevgrad region with an area of 620,118 km^2, ranking 3-rd among the 14 municipalities of the district with 9.61% of the territory of the district, and with 26 settlements. The population towards July 2011 is 81531 people. The administrative center of the municipality is Blagoevgrad. The relief of the municipality is predominantly mountainous. Its

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entire eastern part is occupied by the south-western part of the Rila Mountain, and here is the highest peak of the municipality - Golyam Mechi peak (2618 m). The whole western half of Blagoevgrad Municipality is occupied by the eastern and northeastern branches of Vlahina Mountain, with its highest point - the border peak Tutorovicha (1429 m). Among them is the Blagoevgrad valley and here in its most southern part is the lowest point of the municipality - 312 m.

The economy of the city is relatively diverse, with the lack of clearly dominant industrial branches. The leading industries in Blagoevgrad include the following sectors: food and beverages, textiles and ready-made clothes, construction, timber, woodworking and furniture industry, tourism. High-tech industries and economic activities based on new knowledge are underdeveloped.

- **Bansko Municipality**

The total area of Bansko municipality is 496.21 km^2, which represents about 7.6% of the territory of the district (ranked fifth among the municipalities in Blagoevgrad district). The population of Bansko municipality towards 01.02.2011 amounts to 13125 people: 11855 people in the towns and 1270 people in the villages. The climate is transient continental with moderate Mediterranean influence, and in the higher parts of the municipality - mountainous. It is mainly influenced by the mountainous relief, the significant altitude and the northeastern exposure of the Pirin macro-splope. The Mediterranean climate penetrates south of the Mesta river valley. In general, the summer is short and cool, the winter is long and cold, and the transition seasons are relatively short, with late and cool spring and a warmer autumn.
In the economic profile of Bansko Municipality the service sphere is leading. Tourism is distinctly becoming a leading sector in the socio-economic profile of the municipality. The purely social sectors such as Education, Human Health and Social Activities, Finance and Credit Institutions, etc. also keep their positions. The secondary sector is experiencing the greatest impact of the economic and financial crisis since 2009. Some of the micro and small producing structures, mainly in the sphere of wood processing, have ceased their activity. The primary sector (agriculture and forestry) is subordinate, irrespective of the availability of the resources necessary for its development - land and forest fund.

- **Belitsa Municipality**

Belitsa Municipality has an area of 382 km^2 with a population of 9927 inhabitants. The town of Belitsa is main administrative center of the municipality with 3362 inhabitants, situated on the southern slopes of Rila Mountain. This municipality is rich in history and ethnography with very good conditions for the development of tourism in all its dimensions - traditional, eco, rural and others. The proximity of Semkovo resort, only 17 km away from the town, makes it suitable for winter tourism.

- **Gotse Delchev Municipality**

Gotse Delchev Municipality is situated in the southern part of the Republic of Bulgaria along Mesta River. The region is predominantly mountainous and occupies the greater part of the eponymous valley, as well as parts of the South-Eastern Pirin and the Western Rhodopes. The area of the municipality is 315.8 km^2 and is included in the territory of the Blagoevgrad region, which is part of the Southwest Planning Region. The administrative center of the municipality is Gotse Delchev town.
The relief of Gotse Delchev municipality is characterized by a wide variety - from high mountain to hollow. It is situated in the Gotse Delchev valley in the southeastern part of Pirin, and therefore the town falls into

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the area of the transitional Mediterranean climate zone. According to the census data in 2011 there are 31236 inhabitants in Gotse Delchev municipality.
The local economy is specialized in the light industry (manufacture of men's and ladies' store clothes, underwear, shoes), the food industry and construction. The southern location, Mediterranean climate impact and the presence of a natural water source favor the development of plant growing. Tte tourism in the municipality of Gotse Delchev is relatively well developed.

- **Garmen Municipality**

Garmen Municipality is located in Southwestern Bulgaria with 16 settlements and a total population of 14981 inhabitants (01.02.2011) according to NSI. The area is 388.48 km² and the relief is predominantly mountainous and semi-mountainous which passes into hilly in the southwestern part of the municipality. The municipality is situated on the border between moderate continental and transitional Mediterranean climate zone. Much of the local population is employed in agriculture (52.6%), of which 17.7% in tobacco production as the industry employs 42% of the labor resources.

- **Kresna Municipality**

Kresna municipality is located in the southwestern part of the country. Its western border coincides with the state border of Republic of Bulgaria with Republic of Macedonia. The territory of Kresna Municipality has an extremely variable relief. The highest point in the relief is Vihren peak (2914 m) on the border with Bansko Mmunicipality. The lowest point (140 m) is located at the exit of the Struma river, south of Dolna Gradeshnitsa village at the border with Strumyani Municipality. The territory of Kresna municipality falls in the continental-Mediterranean climatic zone of Bulgaria. Outside of its mountainous part, the Struma valley is characterized by mild and humid winter and hot and dry summer, while in the high parts of the surrounding mountains and especially in the Pirin Mountain, the climate is characterized by typical mountain climate - cold and long winter with predominant snow rains and strong winds, short and cool summer. Industry is of secondary importance in the economic structure of Kresna Municipality. Plant and livestock farming have an extensive nature.

- **Petrich Municipality**

Two of the borders of Petrich Municipality coincide with the state borders of the Republic of Bulgaria: with Republic of Greece and Republic of Macedonia. The municipality of Petrich is characterized by low and medium mountainous terrain. It covers part of the Sandanski-Petrich valley in the Sredna Struma valley and the Strumeshnitsa valley on the Bulgarian territory, the eastern and most of the southern slopes of the Ograjden mountain, the northern slopes of the Belasitsa mountain and a small part of the lowest southwest parts of South Pirin. Petrich has the most pronounced transient-Mediterranean climate in Bulgaria. The average annual temperature in the municipality is 12.3 °C. Typical is the short and mild winter with little snow, as well as the dry and hot summers.

According to NSI data from 01.02.2011 the population of Petrich Municipality is 54,006 people. The population density is 83.06 people/km^2. And it is higher than the average for the country and the district. Most of the population is concentrated in the town of Petrich - 28,902 people. The people living in the 56 villages of the municipality are 25 104 as the largest village is Parvomay with 3484 inhabitants.

- **Razlog Municipality**

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The municipality is one of the most dynamically developing municipalities, sixth by territory and fifth by population in the Blagoevgrad region. It covers a territory of 440,314 km^2. Razlog Municipality is situated in Southwestern Bulgaria in the Razlog valley, along the Mesta River, at the foot of the Pirin, Rila and Rhodope Mountains. Through the gorge Momina Klisura to the south it connects with the Gotse Delchev valley and to the west passes to the Predel saddle. By its geographical location, it can be described as relatively closed municipality.

Razlog Valley is one of the highest hollows in southern Bulgaria. In the middle part of the valley has almost flat relief with a slight slope to the east towards the Rhodopes. It is more hilly to the north and its surrounding alpine parts of Rila and Pirin have a typical alpine look.

The climate of the municipality is moderate continental with a poorly expressed Mediterranean influence penetrating through the Mesta river valley. In terms of temperature, the area is characterized by cold weather in the winter, especially in the high mountain. The average temperature in January for Razlog is -2 °C. The summer is relatively short and cool. The average temperature in July is 18.6 °C. The average annual temperature is 8.3 °C. The population of Razlog Municipality towards 31.12.2012 is 20 598 people.

- **Sandanski Municipality**

Sandanski municipality is located in Southwestern Bulgaria and is one of the constituent municipalities of Blagoevgrad District. It occupies a territory of 1060 km^2, which includes a large part of the picturesque Sandanski-Petrich valley along the middle course of the Struma River and the western and southwest slopes of the three parts of Pirin, the northern slopes of Slavyanka Mountain and the lowest foothills of the mountains Maleshevska and Ograzhden.

The municipality has 54 settlements with a total population of 40470 inhabitants. Municipal center is the town of Sandanski. The international road E79 and the international railway line Sofia - Kulata - Athens pass through the municipality.

- **Satovcha Municipality**

Satovcha Municipality covers parts of the Mesta river valley and the southeastern part of the Dabrashki part of the Western Rhodopes. It includes the municipal center Satovcha village and other 13 villages. The municipality has a population of 15444 people. On the territory of the municipality predominate the mountainous and semi-mountainous relief. The climate is mediterranean with a pronounced mountain influence in the high parts. The forest fund is rich. The natural and geographical conditions are favorable for growing tobacco, potatoes, sheep, goats and cattle.

All villages in the municipality are connected with secondary and third-class roads with the municipal center and through it with the towns of Gotse Delchev, Blagoevgrad and Sofia. The transport service is provided by regular bus lines. The road from Gotse Delchev to Dospat, Smolyan and Plovdiv passes through the Satovcha valley.

- **Simitli Municipality**

Simitli Municipality is situated on an area of 533 km^2 in the northwestern part of Blagoevgrad region. The municipal center is the town of Simitli located on both banks of Struma river in the foothill area of Vlahina mountain. It is located 110 km southwest of the capital Sofia and 14 km away from Blagoevgrad.

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The relief is various - from flat to alpine, but predominantly mountainous and hollow. In some parts of the municipality the climate is transitional-Mediterranean, and in other parts - mountainous. The average altitude is 956 m.
The municipality has 18 settlements, of which only the municipal center Simitli is a town. There are 18 settlements on the territory of the municipality: the municipal center Simitli and 17 villages. The total number of the population in the municipality towards 20.03.2013 is 15541 people. As it is concentrated mainly in the municipal center Simitli.

- **Strumyani Municipality**

The territory of the Municipality of Strumyani is 362 km^2, which is 5.72% of Blagoevgrad territory. It covers the eastern slopes of Maleshevska Mountain, the Struma River valley and a small part of western Pirin. The highest peak on its territory is Sharalia - 2171 m. The population by permanent address towards 04.02.2013 is 5930 people.
80% of the relief of the municipality is mountainous. In the lower parts it has alpine character with its typical pastures and meadows. The municipality falls into the South-Bulgarian climatic sub-region with a Mediterranean climate impact of the continental-Mediterranean climate area. The higher parts of the surrounding mountains refer to the mountainous climatic area.
The municipal economy is characterized by a low and underdeveloped industry structure, strong infrastructure disproportions, road condition and transport accessibility. The region is concerned with the group of underdeveloped rural areas. About 30% of the economically active population is occupied in agriculture (tobacco, fruit, vegetables growing, etc.), 30% work in industry (marble, woodworking, tailoring factories), 10% in the budgetary sphere, 10% in the sphere of services and other.

- **Hadjidimovo Municipality**

Hadjidimovo Municipality has a population of 10091 inhabitants (01.02.11) and an area of 327.78 km^2. The town of Hadjidimovo is located in the southern borders of Bulgaria at an altitude of 485 m, near the border with Greece. In the southern direction, the territory of the town is predominantly hilly, consisting of distant foothills of the Slavyanka, Stilka and Bozdag massifs, but the predominant part of the territory is flat. Summer is hot and winter is more dry and relatively cold for this latitude.
In Hadjidimovo there are several shoe factories owned by foreign entrepreneurs.

- **Yakoruda Municipality**

Yakoruda Municipality is located in the northeastern part of the Blagoevgrad region on an area of 339.3 km^2. It is located at 898 meters above sea level. The relief is mountainous and semi-mountainous, covers parts of Rila and Western Rhodopes, as well as the narrow valley in the upper stream of the Mesta River. The average altitude is 1603 m and the average slope of the terrain is 11.1%, which adversely affects the general economic and infrastructure development of the municipality as well as the development of the settlement network. The climate is moderate-continental with poor Mediterranean influence penetrating through the Mesta River valley.
The population of Yakoruda municipality is 10731 people (01.02.2011). The municipal economy is poorly developed with an agro-industrial structure as the local industry is dominated by logging, machine building and the sewing industry. The energy sector is represented by Belmeken HPP and Yakoruda HPP.

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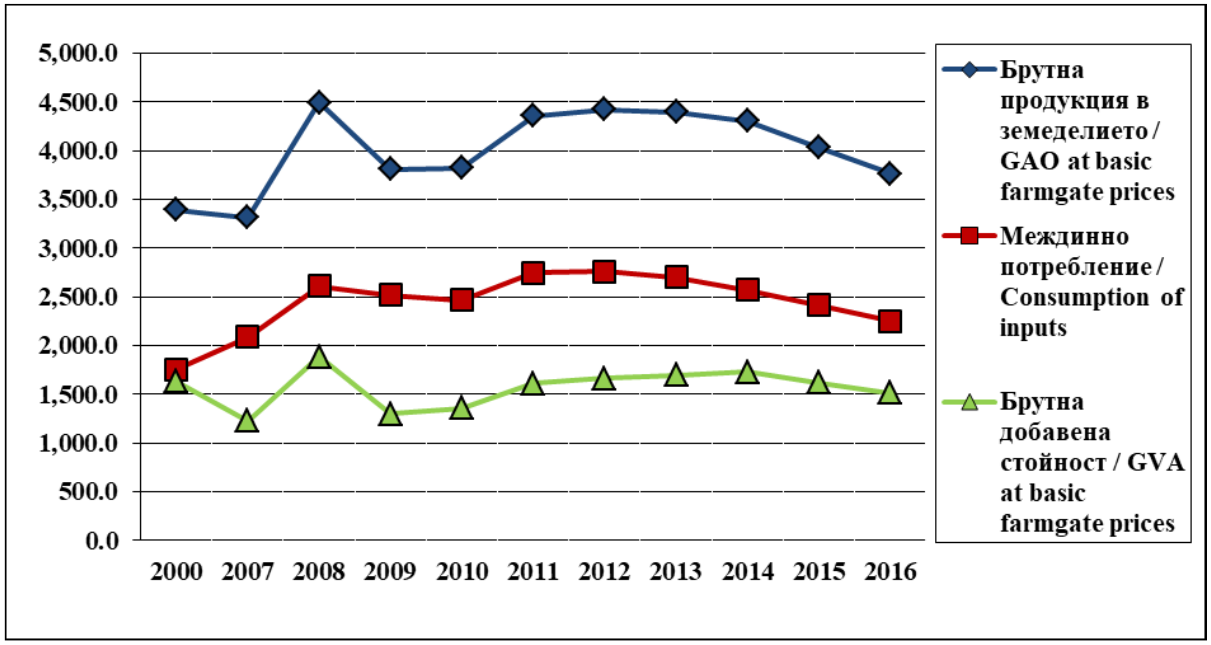
V. LABOR PRODUCTIVITY - GROSS DOMESTIC PRODUCT AND ADDED VALUE IN THE AGRICULTURAL SECTOR, IMPORT AND EXPORT OF AGRICULTURAL PRODUCTION, AGRICULTURAL PRODUCTION TRADE

According to MAFF data, the tools for establishing economic efficiency, profitability and the place of the agricultural sector in the national economy are: **Gross Domestic Product (GDP), Gross Value Added (GVA), Inflation, Export and Import and Foreign Direct Investment (FDI), Tangible Fixed Assets (TFA).**

Agriculture (Figure 7), as part of the country's economy, contributes and benefits from its overall economic development. Until the beginning of the new millennium, it formed over 10% of the GVA and the GDP of the country. GDP is growing in real terms, with about BGN 88 billion in 2015 and over 3% in 2016. GDP growth after 2009 fluctuates within 2%, both in the domestic economic environment and in the difficult-to-recover European economy. Despite the difficult world economic situation, the other sectors of the economy show faster rates of growth than agriculture.

The share of the agrarian sector after 2007 falls within about 5%. This decline is due not to the absolute decrease in production and value added of the sector, but to the faster and higher overall development, especially in the services sector, which account for about 65% of the GVA of the country. These trends in Bulgaria are in line with ongoing processes in almost all developed countries (from the EU, the US), but at the same time they are much lower than many leading developing countries that have tangible economic growth.

Figure 7. Gross output and value added from agriculture, million euro



Source: NSI and Eurostat

The problem of low agricultural value added is rooted in the low values of the value added per unit of agricultural and arable land. In 2014, gross agricultural output in Bulgaria is estimated at around EUR 830 per ha, while the EU-27 average is above EUR 2200 per hectare. These low values reveal the big problem in Bulgarian agriculture and explain why low levels of added value are due to weaknesses of the sector more than the faster and more advanced development of services and industry.

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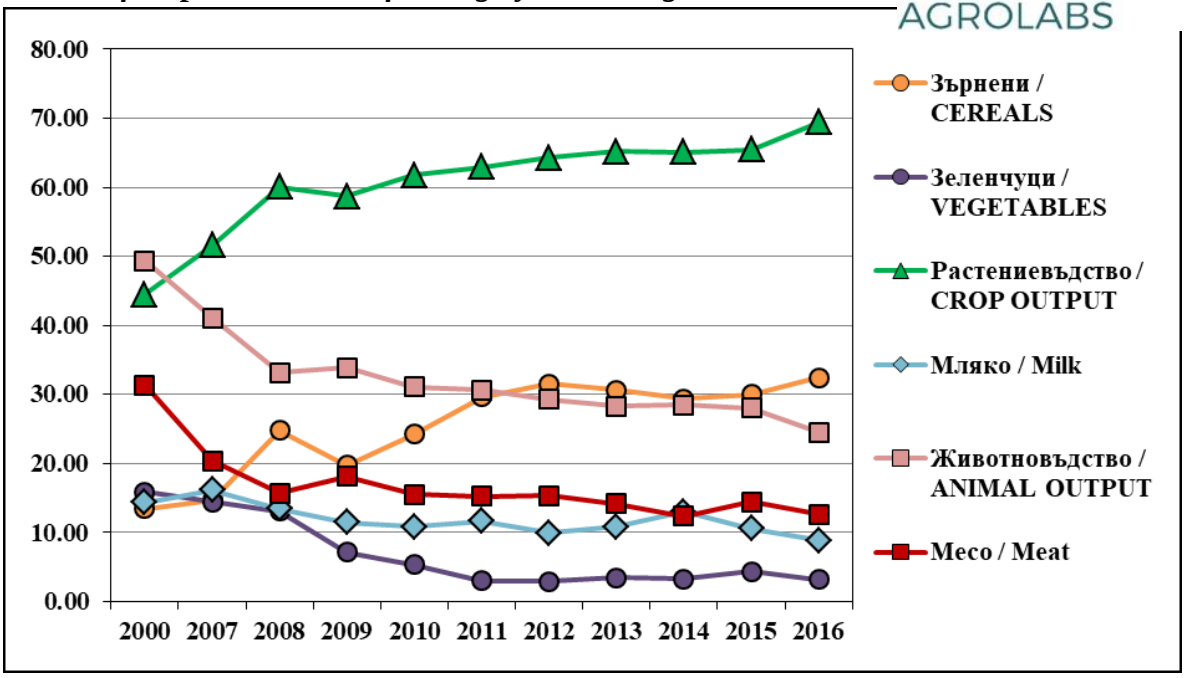
Figure 8. Ratio of crop and livestock farming by GVA in agriculture



Source: NSI and Eurostat

The state of gross product and GVA in agriculture are a direct function of the production structure, which in the considered period significantly changes, as the share of crop production at the expense of livestock breeding is growing (Fig. 8). In 2016, plant growing accounts for almost 70% of GVA in agriculture, while livestock farming is about 25%, the remaining 5% is generated by agricultural services. For comparison at the beginning of the century, livestock breeding was about 50% and plant growing about 45% of GVA. Things are changing rapidly as the adoption of the Common Agricultural Policy has a role, where support is based on an area. Thus, sectors where land is a direct productive force receive a greater incentive to develop. The most serious decline in the GVA of the agrarian sector is seen in vegetables, whose share declines from almost 12% in 2007 to 4% in 2016, and this production is the most loser of policy changes. Although vegetable production uses land as a direct factor of production due to production specificities, market uncertainties, organizational problems and last but not least strong demand for land to build a consolidated grain production, this sector is constantly shrinking, largely explaining the low value added in Bulgarian agriculture.

1. Gross domestic product (GDP) (2012 - 2016)

In 2016, GDP increased by 17.6% in real terms compared to 2012. In nominal terms it amounts to BGN 94 130 million (EUR 4 128 million), as per capita is BGN 13206 (EUR 6752) (Fig. 9).

Figure 9. GDP for the period 2012 - 2016, million BGN

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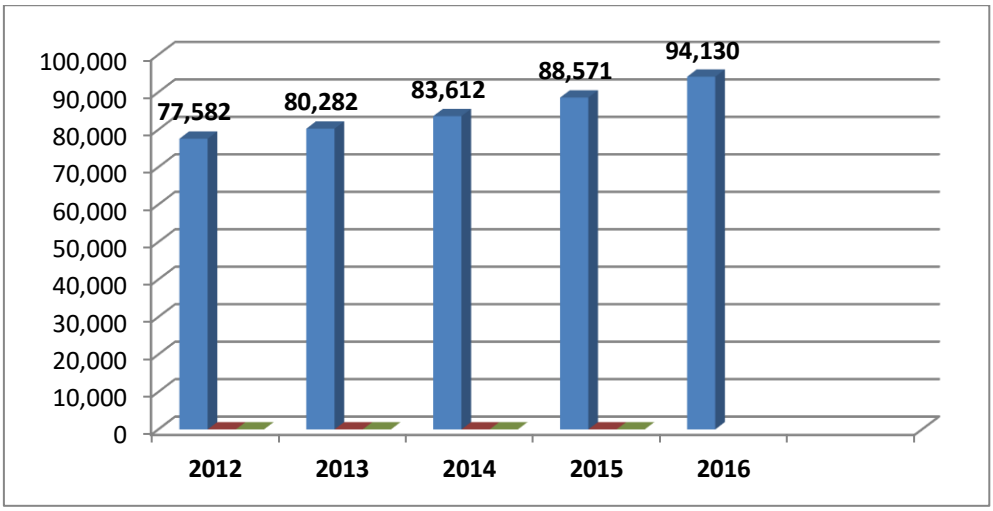


Source: NSI

2. Gross value added (GVA): 2012 – 2016

The gross added value created by the sectors of the national economy in 2016 amounts to BGN 81 218 million (EUR 41 526 million). In real terms, it increases slowly with 18% compared to 2012.

The value added (Fig. 10) of the agrarian sector in 2016 amounts to BGN 3 817 million at current prices, marking a real growth of 5.3% on an annual basis.

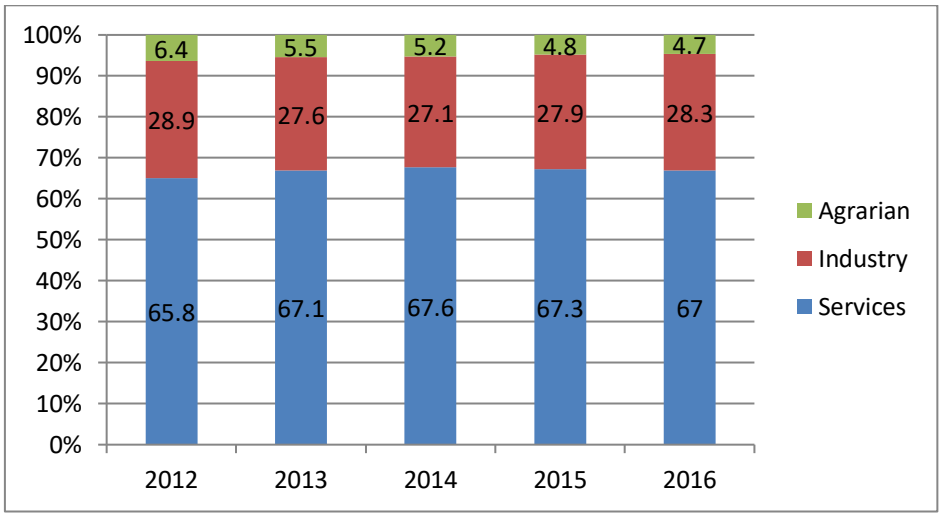
By economic sectors GVA for 2016 is distributed as follows:

- Industry (including construction) – 28.3%;
- Services – 67.0%;
- Agricultural (agriculture, forestry and fisheries) – 4.7%.

The share of the agrarian sector (Fig. 11) in the total GVA for the period 2012 - 2016 decreased by 1.3 percentage points.

In real terms, the value added of the industry increased by 12.2% on an annual basis.

Figure 10. GVA by economic sectors for the period 2012 - 2016, in%



Source: NSI

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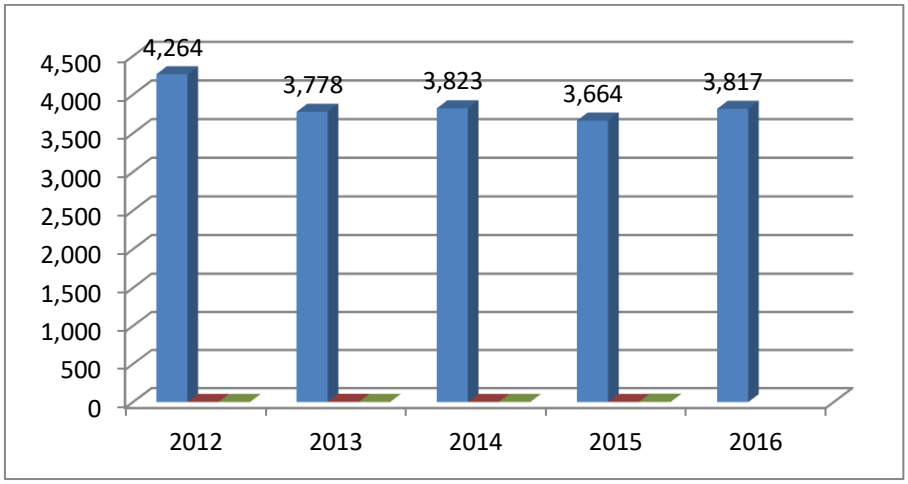
Figure 11. GVA for the Agriculture, Forestry and Fisheries Sector, 2012-2016, in million BGN



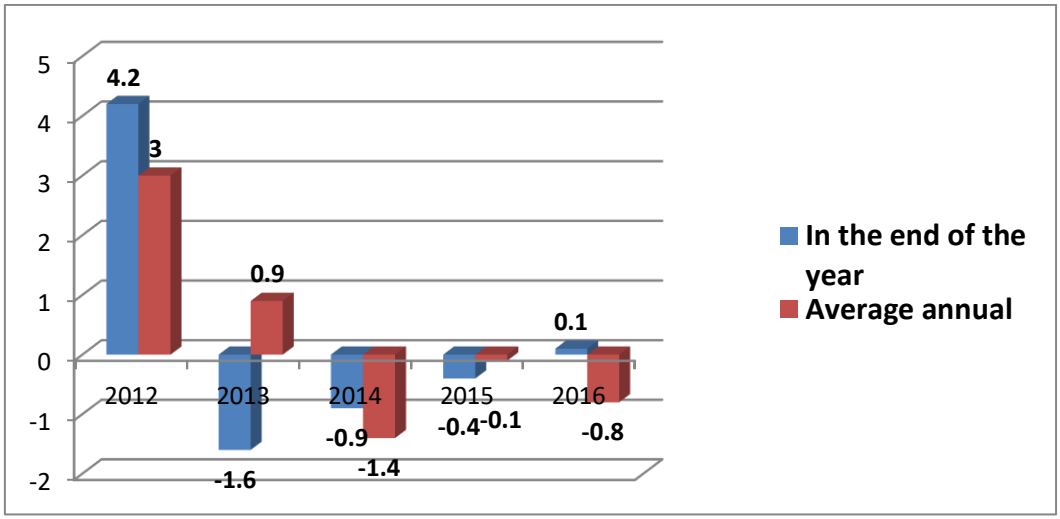
Source: NSI

Gross value added in the agrarian sector for 2012-2016 is a fluctuating figure with a decline and growth evey other year in a minimum quantity, depending on the worked man-hours on a yearly basis in real terms.

3. Inflation for 2012-2016

Towards December 2016, food and public catering prices increased by 1.1% and 1.9% on an annual basis respectively, while non-food and service prices declined by 0.2% and 1.1%, respectively. Compared to December 2012, food prices grew by 5.2% on a year basis, non-food prices by 1.5%, catering services by 3.5%, and food service prices - by 6%. Inflation for the period 2012-2016 (Fig. 12) also decreased from 4.2% to - 0.8%.

Figure 12. Inflation for the period 2012 - 2016, in %



Source: NSI

4. Export and import (2012–2016)

According to BNB preliminary data on the balance of payments, Bulgaria's export in 2016 amounts to BGN 45187 million (EUR 23,104 million) - 10% above the 2012 level, accounting for 48% of GDP. At the same

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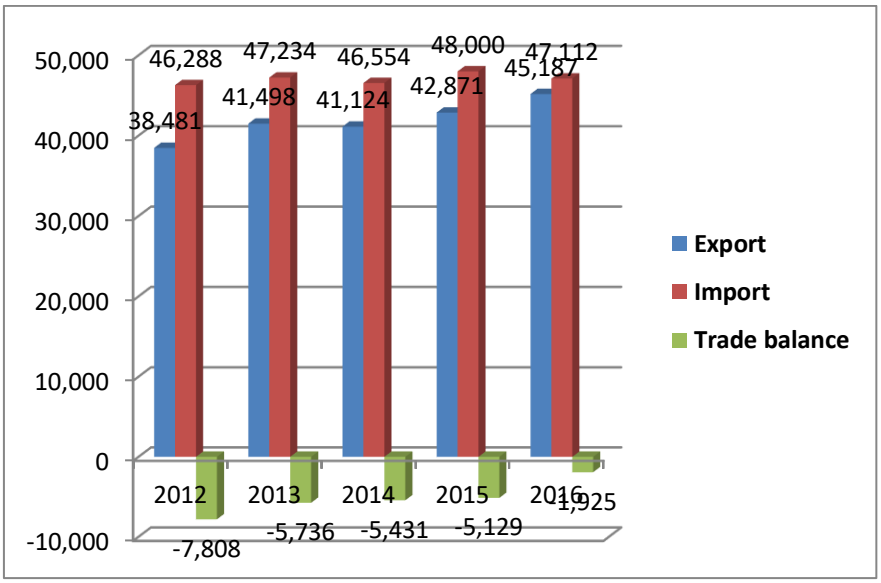
time, a slight import decrease was registered - by 0.1%, to 47112 million leva (24088 million euro) compared to 2012 or 50.1% of the country's GDP. Thus, in 2016, the negative trade balance decreased to BGN -1,925 million (-984 million euros), from BGN -5,129 million (-2,622 million) in 2015 (Fig. 13).

Figure 13. Export, import and trade balance for the period 2012 - 2016, in million BGN



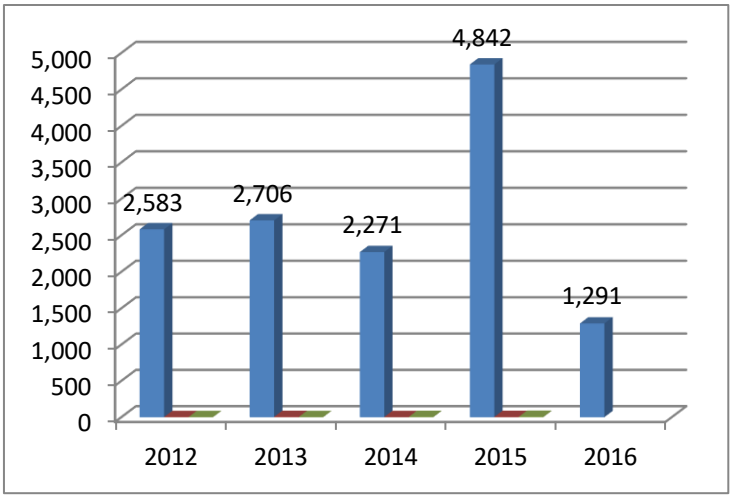
Source: BNB: preliminary data for 2016

Over the period 2012-2016, import prevailed, maintaining relatively stable indicators with slight fluctuations in values as the highest being in 2015. Exports, during the observation period, registered a steady growth over the years, with the best indicators in 2016, while the trade balance for the whole period was only negative.

5. Direct foreign investments (DFI) (2012-2016)

According to preliminary data of the BNB, FDI in the country for 2016 amounted to BGN 1291 million (EUR 660 million), with 224% (more than twice) below the level of 2012 (BGN 2896 million or 1 481 million EUR). Direct investments in 2016 represented 1.4% of GDP, while in 2012 it was 0.9% (Fig. 14).

Figure 14. Direct foreign investments for the period 2012 - 2016, million BGN



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Source: BNB (data compiled according to the 6th Edition of the Balance of Payments Manual and the International Investment Position of the IMF); preliminary data for 2016.

The small range of FDI in recent years are due to the reduced interest of investors in our country and the regional flow structure shows that somewhat foreign investments are in fact Bulgarian but their origin passes through offshore companies. The graph shows that in 2016 the indicators of the economy have decreased sharply. Reasons - strong competition, corruption, lack of quality human capital, cheap labor, which is a disadvantage in this case.

VI. LABOR PRODUCTIVITY - EMPLOYMENT AND WAGE IN THE AGRICULTURAL SECTOR

The main components of labor productivity, apart from GDP and GVA, are also indicators of labor input in the production process. The labor factor is measured by the **number of employees** in resident production units and **the time they spend**.

1. Number of employed persons

Agriculture in Bulgaria is an important factor for the economic and social development of the country. Employment in the sector is influenced by a number of complex and unclear factors such as the total number of the economically active population, the availability of agricompanies, land, raw materials, logistics resources, entrepreneurial activity and the level of development of production, social infrastructure and other. Employment in agriculture differs significantly from other sectors of the economy.

Agricultural work is much more seasonal or of a campaigning nature, labor processes are of a biological nature, and land is used as an object of labor. In addition, there are large differences between the intensity of agricultural work within a day or a week and the intensity in other sectors of the economy. Such differences are also observed between the different sub-sectors of agriculture - livestock, agriculture, greenhouse production. These peculiarities, as well as the geographic distribution of the agricultural sector and its rural location, also determine some additional determinants of agricultural employment.

Labor supply is determined by the working population, and those seeking work are family farms, local agribusinesses, cooperatives and others employed in agribusiness. In the interaction of labor supply and demand on the agricultural labor market, employment in the agricultural sector is formed. It occurs in various forms - self-employed, regulated employment and unregulated employment.

The average number of employed in the agrarian sector for the period 2010-2016 in the country is 663600, for the SWR - 87646 and for Blagoevgrad region is 40090, as this number decreases constantly reaching its lowest values in 2016 (Fig. 15).

Figure 15. Number of persons employed in the agrarian sector of the country (BG), South-West Development Region (SWR) and Blagoevgrad District (BL) for the period 2010-2016.

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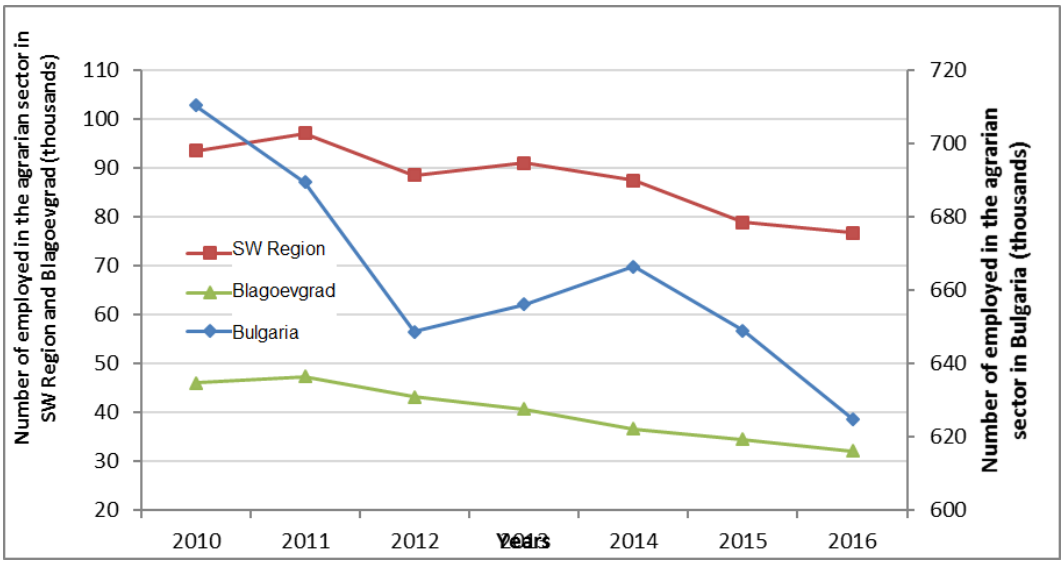

Source: NSI

The share (%) of the employed in the agricultural sector compared to the total number of employed persons for the country is 19.1%, for the SWR is 7.1% and for Blagoevgrad District is 25.8%. The high percentage of the employed in the agrarian sector of Blagoevgrad district is an indicator of the agrarian nature of the area and its importance for generating income for the local population. However, if rates of decline in the number of employed in the agricultural sector are monitored at all the levels considered, it will be found that are the highest in Blagoevgrad region. For example, the decrease in the number of employed in 2016 compared to 2010 for the country is 8.5%, for SWR it is 17.3% and for Blagoevgrad region it reaches 26.6%. This tendency shows that despite the possibilities provided by the agrarian sector for jobs in Blagoevgrad region, it is not preferred by the local population and the outflow from it in recent years is significant.

2. Worked man-hours

The total number of man-hours worked per year (average for 2010-2016) of all economic sectors in the country is 5656.892 million, and in the agrarian sector - 966.960 million or about 17% relative share of man hours worked. In the Southwest Economic Development Region, the total number of man hours worked is 2 014.952 million per year (average for the period 2010-2016), and in the agrarian sector - 128.052 million or about 6% relative share of the hours worked for the SWR. The lower relative share of the agrarian sector in the number of man-hours worked in the SWR is due to the economic structure of the region, which includes the main economic center of the country - the capital Sofia.

3. Labor productivity and wage

Labor productivity, expressed in terms of GDP per capita, shows a general upward trend over the years at both national and regional levels (Fig. 16).

Figure 16. Gross domestic product per capita (BG), Southwest Economic Development Region (SWR) and Blagoevgrad District (BL) for the period 2008-2016

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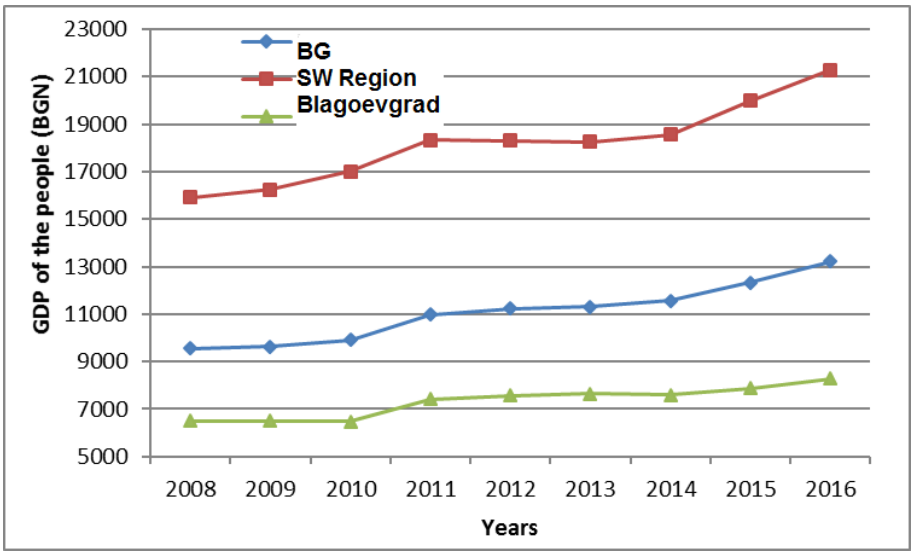
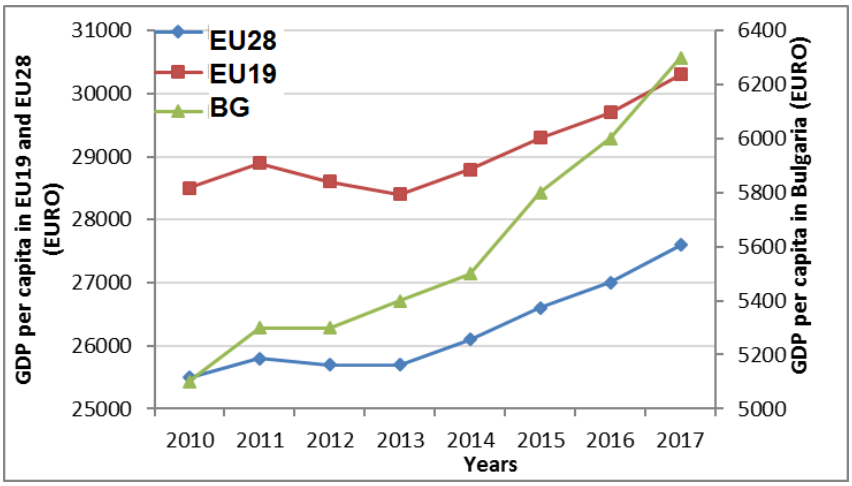


Source: NSI

The above-mentioned tendency in the Blagoevgrad region is the least pronounced. GDP per capita in 2016 compared to 2008 is higher for the country by 38%, for the SWR - 34% and for Blagoevgrad - 27%. The agrarian nature of the Blagoevgrad region also determines the lower growth rates of GDP.

For comparison, the GDP per capita for the European Union (EU28) is 26250 euro, for eurozone countries (EU19) it is 29062 euro and for Bulgaria - 5588 euro (Fig. 3). For the considered period, GDP growth rates per capita are highest for Bulgaria, with a nominal increase of EUR 5100 in 2010 to EUR 6300 in 2017 (24% growth). The EU-28 and the EU-15 growth of GDP is 8% and 6%, respectively (Fig. 17).

Figure 17. Gross domestic product per capita (BG), EU (EU28) and euro area (EU19) for 2010-2017



Source: NSI

For the period 2010-2016, the total labor productivity for the country is BGN 19,518.90 gross value added (GVA) at current prices per employee (Fig. 18) and BGN 11.9 per worked man-hour. For the agrarian sector, these values are BGN 5539.4 and BGN 3.7, respectively.

Figure 18. Gross value added per capita (BGN) for all economic sectors and the agrarian sector in the period 2010-2016

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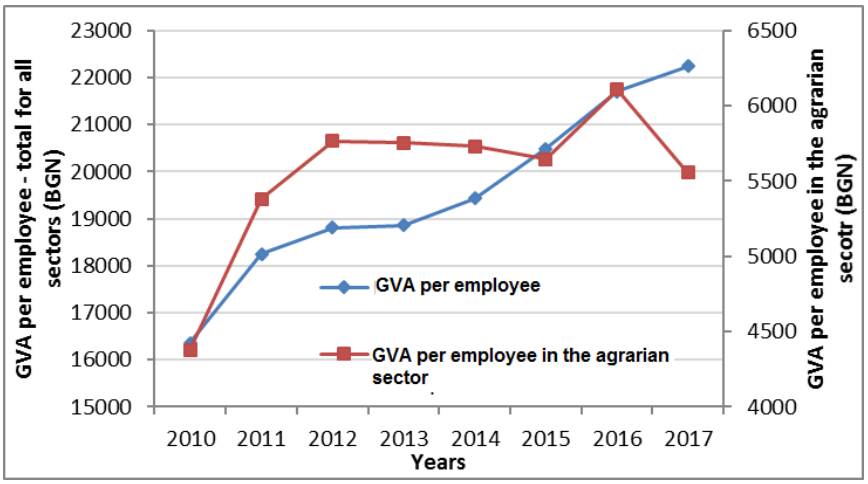
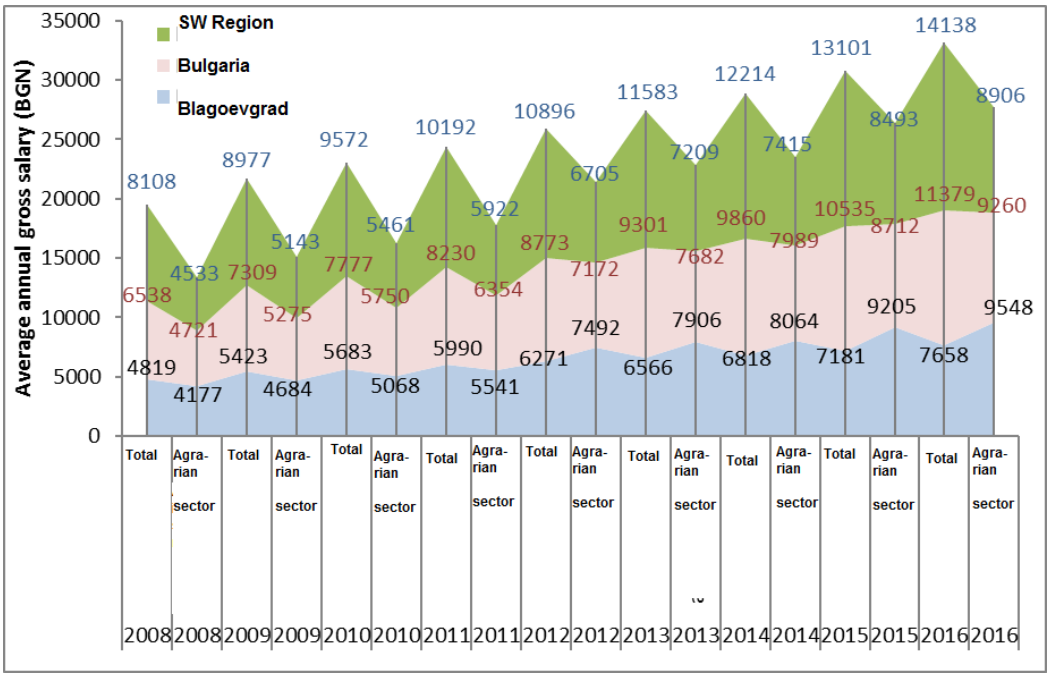


Source: NSI

In the agrarian sector, GVA per capita stabilized after 2011 with slight fluctuations of about BGN 5,500 while there was a constant increase in the GVA for all economic sectors. In 2017, compared to 2011, the GVA increase per employee in the country's economy is 22%, while for the agrarian sector this indicator increases by only 3%. The GVA increase in 2017 compared to 2011 results mainly from the development of services.

The average annual gross salary varies according to economic activities and regions of the country, as one of the lowest wages is in the agrarian sector (Fig. 19). While the average salary for the country is 8856 BGN (average for 2008-2016), in the agricultural sector it is 6991 BGN.

Figure 19. Average gross wage of employees under labor and employment relations in the country (BG), South-West Economic Development Region (SWR) and Blagoevgrad District (BL) for 2008-2016



Source: NSI

Higher than the average for the country is the gross salary in the SWR (10976 BGN, average for 2008-2016) and the salary in the agricultural sector is slightly lower than the average for the country (6643 BGN). The

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average wage ratio of all economic activities and the average wage from the agrarian sector in Blagoevgrad region is different - 6268 BGN and 6854 BGN, respectively. This ratio changes after 2011 and in 2016 gross agricultural salary (9548 BGN) exceeds by 1890 BGN the average gross salary of all economic activities (7658 BGN). In 2016, the salary for the country and SWR in the agrarian sector represents 81% of the total wage as for Blagoevgrad it is 125% of the total salary for the region.

The change dynamics in gross wage is expressed by a general trend of growth during the analyzed years, but the rates are different. Gross wages in 2016 increased by 74% for the country and SWR and by 59% for Blagoevgrad compared to 2008. The salaries of the agrarian workres are increasing faster and in 2016 they are by 96% higher than in 2008 for the country and SWR and by 128% for Blagoevgrad district.

1. Employment, unemployment and wages for the period 2012-2016

According to NSI data, the average annual number of employed persons aged 15 and over in 2016 is 3016.8 thousand - by 2.5% higher than in 2012 (2934.0 thousand). The unemployment coefficient decreases from 11.1% in 2012 to 7.6% in 2016.

In the agricultural, forestry and fisheries sector the annual increase of the average salary up to BGN 9551 is by 25.6% compared to 2012 (BGN 7110).

2. Labour productivity

Labor productivity in the period 2012-2016 is growing slowly, but this is not enough to get closer to the European standards.

4. IMPORTANCE OF AGRICULTURE FOR RURAL ECONOMY

Rural areas occupy an important place in the socio-economic life of Bulgaria. They cover 53.7% of the total territory of the country as 37.1% of the whole population lives mainly in rural areas. The share of economically active people in rural areas is by 9.3% lower than in urban areas.

In Bulgaria, labor productivity in the agrarian sector remains the lowest - 1468 BGN gross value added per employee and 3.90 BGN per worked man-hour, although it increases slowly during the period. Nevertheless, much of the **national gross value added** (13.6%) and employment (33.9%) are generated in the primary sector in the rural areas of Bulgaria compared to 4.4 and 13.9% respectively in all 28 Member States of the EU. The share of economically active people in rural areas is by 9.3 percentage points lower than in urban areas.

VII. GENERAL AGRO-CHARACTERISTICS OF BLAGOEVGRAD DISTRICT

Bulgaria is a country rich in natural resources, which has high quality fertile soils for the production of a wide range of high value crops. At the same time it faces serious challenges such as high levels of poverty and significant differences in social and living standards between rural and urban areas. Agriculture is an important sector for Bulgaria, which benefits from a number of favorable geostrategic, climatic and natural conditions that have contributed to the development of centuries-old traditions in the field of plant and livestock breeding. However, farm productivity is highly variable and often suffers from a lack of potential. The extremely high polarization observed in farm size and the vicious circle of low productivity

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and low incomes borne by a large number of farmers continue to restrict the competitiveness of the sector as a whole.

1. Structure of agricultural land

In Bulgaria, according to data from the Ministry of Agriculture, Food and Forestry (MAFF), in structural terms the agricultural land is divided into categories as follows:

- **Areas of agricultural use (AAU*)* -** it consists of arable land, perennial crops, permanently grassed areas with agricultural use (including high-mountain pastures and grasslands with low productive potential), family gardens and uncultivated farmland for more than three years;
- **Used agricultural area (UAA) -** is formed from arable land, permanent crops, nurseries, permanent grassland and family gardens. According to data from the MAFF, the utilized agricultural area in the country in 2016 is 5021412 ha and occupies 45.2% of is territory.
- **Arable land -** are the areas included in crop rotation, temporary meadows with cereals and legumes, fallows and greenhouses. In 2016, at national level it occupies an area of 3 480 9 910 decares, which represents 69.3% of the country's UAA;
    - **Fallow lands -** are arable lands that are not harvested in the year of observation. Treated or not, these areas remain in this category for no more than two years;
    - **Perennials** – orchards, vineyards and family gardens;
    - **Permanently grassed areas –** constantly productive meadows; high-productive pastures, grassed low-productive areas, meadows - orchards;
- **Family gardens** are an area where many different types of crops are grown (vegetables and fruit species), as the size of each species is very small and can not be referred to in the code of the respective crop.
- **Uncultivated lands** - include both abandoned permanent crops and arable land which have not been used for agricultural production for more than five years and their exploitation is possible with minimal means. In 2016 the uncultivated land amounts to 193228 ha or 1% more than in the previous year.

The land resource in the Blagoevgrad region is limited. Despite the fact that the district is third in the country (after Bourgas and Sofia districts) the size of the arable land is very limited and is only 155091 decares or 13.2% of its total area and only 2.3% of the country's arable land. The average size of arable land per capita in the district does not exceed 3.5 decares as the highest is in the municipality of Strumyani (about 10 decares) and the lowest is in Blagoevgrad and Gotse Delchev municipalities (1.5 decares per person). In the other municipalities this amount is close to the average for the distict.

In Table 9. is presented data on the total agricultural land at district, regional and national level by land use categories.

Table 9. Distribution of total agricultural land by categories of land use at district, regional and national level for the period 2012-2017 (in decares)

Category	Agricultural land (decares)					
	2012	2013	2014	2015	2016	2017
Blagoevgrad District						

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Areas of agricultural use	1490610	1556540	1538400	1537410	1538410	1539400
Usable agricultural area	367140	1400990	1410950	1399000	1373110	1365150
Arable farmland	210100	283780	284780	271830	245950	251920
Fallow land	35850	94590	90610	85630	72690	58750
Permanently grassed areas	1072400	1028590	1047510	1048510	1048500	1029590
Perennials	73680	78660	70700	71690	71690	76670
Family gardens	10950	9960	7960	6970	6970	6970
Non-cultivated land	-	-	-	-	-	-
Total agricultural land	**4267300**	**4402110**	**3450180**	**4421040**	**4352410**	**4328450**
South-west region						
Areas of agricultural use	6899480	6263160	6126920	6156660	6172890	6180850
Usable agricultural area	6292470	5882670	5778730	5858490	5877560	5880380
Arable farmland	1496870	1920200	1961560	2001100	954670	1983370
Fallow land	212600	262700	223800	443120	367830	292310
Permanently grassed areas	182250	180050	156300	156360	167220	176110
Perennials	4567840	3746890	3623330	3667480	3723100	3689390
Family gardens	45510	35530	37540	33550	32570	31510
Non-cultivated land	607010	38490	38190	29870	295330	300470
Total agricultural land	**20040000**	**15826430**	**18256370**	**16663216**	**18591170**	**18534090**
Bulgaria						
Areas of agricultural use	54812220	52588090	51929400	52027520	52146400	52444020
Usable agricultural area	51229830	49951110	49768150	5011494	50214120	50295290
Arable farmland	32946850	34621170	34693880	34936880	34809910	34738250
Fallow land	1280980	1212890	922680	2351500	1915370	1599590
Permanently grassed areas	1590790	1351880	1263710	1334770	1409660	1480940
Perennials	16469930	13810490	13639840	13686650	13840880	13923520

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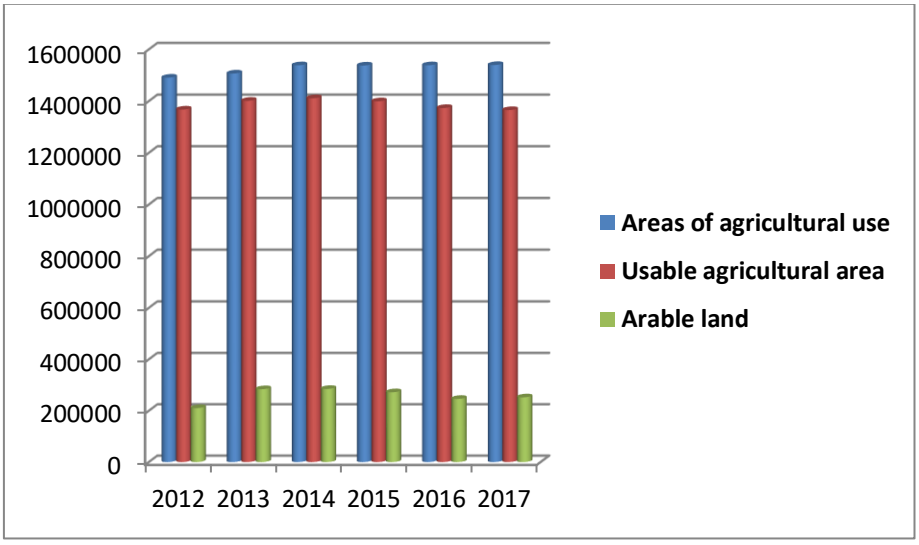
Family gardens	222260	167570	170720	156640	153670	152580
Non-cultivated land	3582390	263980	2161250	1912580	1932280	194873
Total agricultural land	**15213520**	**156340180**	**154549630**	**156521480**	**156422290**	**159908000**

Source: MAFF "Agrostatistics"

Figure 20. Dynamics of change in size of AAU, UAA and arable land in Blagoevgrad district



Source: MAFF

Data from Table 9 and Fig. 20 show that the total amount of agricultural land by categories in Blagoevgrad region tends to be relatively stable, with slight fluctuations during the survey period. Similar trends are at SWR level as well as at national leve The used agricultural land in Blagoevgrad region represents on average about 2.8% of the used agricultural land in the country and 24% of the land in the SWR.

In 2017, in Blagoevgrad region, the UAA represents 89% of the agricultural area. The non-cultivated land in the region is 11.7% of the AAU. For the SWR, the relative share of UAA to AAU is 95% and for the country - 96%. Much more are the differences when comparing the relative share of arable land to the total utilized agricultural area. In Blagoevgrad region, the arable land represents only 18% of the UAA, while for the Southeast Europeans this share amounts to 34% and for the country - 69%. The structure of the UAA in Blagoevgrad district the agricultural land is prevailed by permanent grassland (72%), followed by arable land (18%) (Fig. 21). The share of permanently grassed areas for Bansko, Belitsa, Razlog, Satovcha and Yakoruda high-mountain municipalities is between 70% (Yakoruda) and 94% (Bansko) from the UAA of the respective municipality. Some municipalities along the Struma River - Sandanski (57% of the UAA) and Strumyani (61% of UAA) have a high share of permanently grassed areas and meadows. On a national scale, permanent grassland accounts for about 30% of UAA.

Figure 21. Relative share of different land use in the usable agricultural land structure in Blagoevgrad region in 2017

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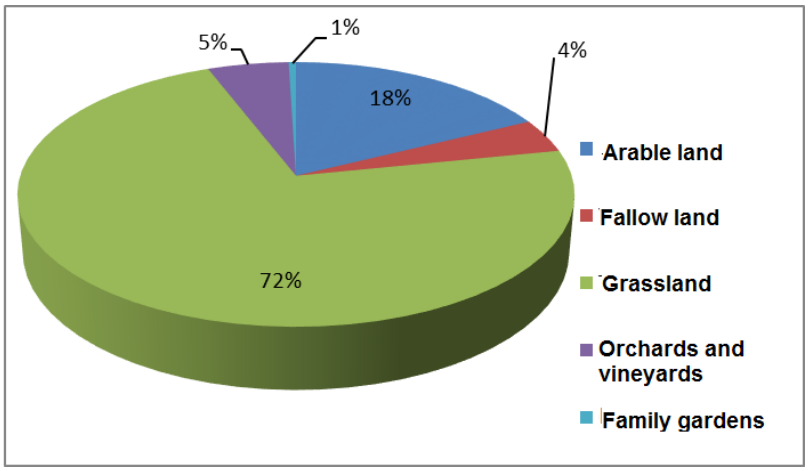

Source: MAFF

On the territory of the Blagoevgrad region, the areas occupied by perennial crops (orchards, berries and vines) account for about 5.0% of the district's UAA, with the vineyards being the largest - 68% of the perennial crops in the district. 72.6% of the Southwest region's and 4% of the country's vineyards are concentrated in the district. By this indicator Blagoevgrad district is better compared to the country and the SWR, where the average percentage of harvested areas with permanent crops for 2010 - 2016 is 2.9%.

Arable land, as an element of total UAA in the Blagoevgrad district, is distributed among crops as follows:

- **Cereal crops** - occupy the largest share of arable land in the area - 30% in 2016, 26% in 2017 and 0.1% in the country. The ***wheat*** has the largest share of grain crops, which accounts for 57% of all cereal crops grown in the district;
- **Grain legumes –** mostly is grown beans, which occupies 1.4% in 2016 and 1.9% in 2017 of the arable land in the area and 0.4 of the arable land in the country and very little lentils - only in 2014 in G. Delchev with a minimum quantity of 40 decares;
- **Oil crops** – it is grown mainly sunflower and more recently rape. It occupies 1.2% for 2016 and 3.1% for 2017 of the arable land in the area and below 1% of that in the country. Regarding the climate change caused by global warming, the production of non-traditional crops such as oilseeds has a good prospect of development, apparent from the above, that in 2017 the areas occupied by oil crops increased to 3.1% on an annual basis.
- **Industrial crops** – the main traditional culture of the area is oriental tobacco, occupying 6.3% of the arable land in 2016 and 4.5% in 2017, and 3.8% of arable land in the country in 2016;
- **Forage crops** – the cultivated crops - maize for silage and forage peas occupy 0.3% of the arable land in the district in 2016 and 0.5% in 2017, and 0.5% of the country;
- **Fresh vegetables** occupy 9.5% of the area planted with vegetables in the district for 2017 and 0.7% of the country's land. Most of the vegetable production is concentrated along the Struma River where the soil characteristics and the irrigation possibilities create favorable conditions for its development. In Blagoevgrad District are grown 69% of the field and 67% of the garden vegetables. Fresh vegetables account for 6% of the country's areas with vegetables. Greenhousevegetables account for 22% of all greenhouses. A significant part of vegetables is produced in family gardens as it is for personal needs and is not available on the market. The presence of geothermal springs in the Blagoevgrad region is a good prerequisite for the development of greenhouse fresh vegetables production.

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The main crops grown on UAA in Blagoevgrad are presented in Table 10. The data presented show the used agricultural areas for traditional crops, by categories of land use and by number of farms growing the respective crops.

Table 10. Agricultural lands and crops in Blagoevgrad district in 2010

Agricultural land and crops	**Farms (number)**	**Area (decares)**	**Farms (% of the total number)**	**Area (% of UAA)**
Used agricultural area	37914	583588.5	100	100
Arable land	29048	155091	77	26.6
Cereals	13500	63457	36	10.9
- including wheat	793	33635.5	2	5.8
- including barley	328	5010	1	0.9
- including rye	255	862.9	1	0.1
- including corn for grain	7187	14917.3	19	2.6
Tobacco	9368	33712.5	25	5.8
Fodder roots	2777	9476.4	7	1.6
Potatoes	15853	18826	42	3.2
Family gardens	18004	6242.7	47	1.1
Permanently grassed areas	17329	370620.5	46	63.5
Perennials	12909	51634.3	34	8.8
- including vines pure culture	9636	34994.3	25	6.0
- including fruit trees	5 234	15883.3	14	2.7
Apples	3417	5186.9	9	0.9
Peaches and nectarines	2229	5278.6	6	0.9

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Plums and myrobalan plums	1466	1474.4	4	0.3
Cherries and sour cherries	665	2192.8	2	0.4

Source: Bulletin №201 - November 2012 "Census of Agricultural Farms in 2010, Blagoevgrad District - Main Results"

On the territory of the Blagoevgrad district, the areas occupied by permanent crops (**orchards, berries and vines**) account for about 8.8% of the UAA of the district. Vineyards occupy the largest area (68%) of the permanent crops in the district. 72.6% of the vineyards in the district are concentrated in the Southwest region and 4% of the country's vineyards. By this indicator Blagoevgrad District has better values than the country and the SWR, where the average percentage of harvested areas with permanent crops for the period 2010 - 2016 is 2.9%.

Regarding the way of permanent land use in the Blagoevgrad district over the concerned period, dominate the territories with **grassed areas and meadows (in green)**, which are predetermined by the mountainous and semi-mountainous relief of Blagoevgrad district. The share of permanently grassed areas for Bansko, Belitsa, Razlog, Satovcha and Yakoruda high-mountain municipalities is between 70% (Yakoruda) and 94% (Bansko) from the UAA of the respective municipality. Some municipalities along the Struma River - Sandanski (57% of the UAA) and Strumyani (61% of UAA) have a high share of permanently grassed areas and meadows. On a national scale, permanent grasslands account for about 30% of UAA but are continuously decreasing.

Non-cultivated lands include both abandoned perennial crops and arable land not used for agricultural production for more than two years but their exploitation is possible with minimal resources. In 2016 the total area of the non-cultivated lands for Blagoevgrad District is 166300 decares, which represents about 11% of the agricultural land.

Another possibility to diversify the cultivated agricultural products in the area can be sought by cultivating medicinal plants and mushrooms. Also on the territory of the Blagoevgrad region are attempts to cultivate commercial herbs from private farmers who grow lavender, white oregano, echinacea and others.
As an alternative for restoring the productive qualities of these lands, they can be used for growing cultivated herbal plants and mushrooms.

More detailed information on growing individual crops over a five-year period (2013-2017) is outlined in another section of the Report.
For comparison in Fig. 22 (SWR) and 23 (BG) is demonstrated the distribution of land use by sector in the structure of the UAA. In the SWR predominate areas with perennial crops (60%) and in the country UAA is occupied mainly by arable land (67%) (Fig. 22 and 23)

Figure 22. Relative share of land with different use in the usable agricultural land structure in the Southwestern Economic Development Region in 2017

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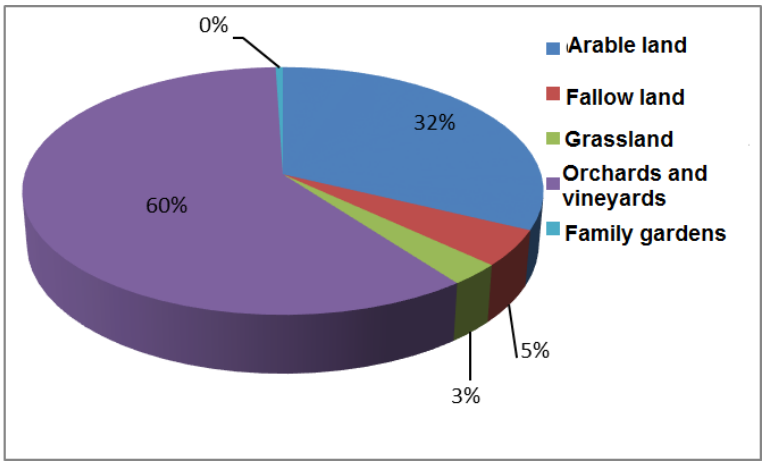
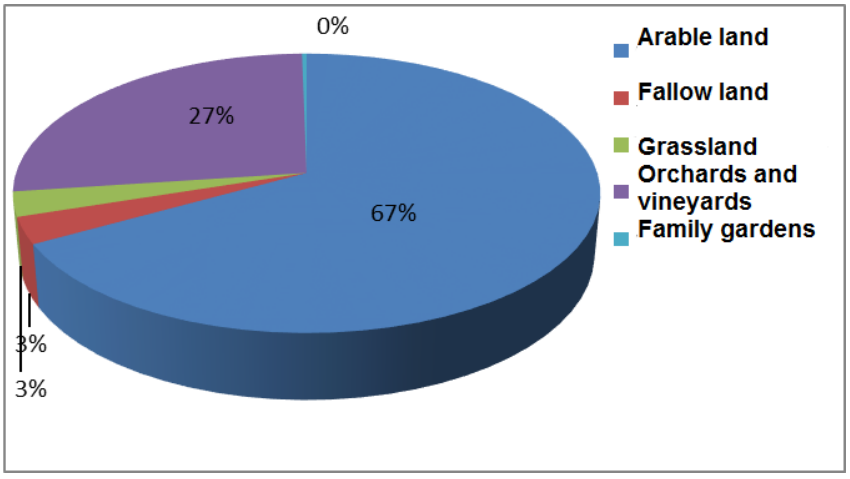


Source: MAFF

Potatoes are the primary crop cultivated on the arable land of SWR. Potatoes account for 3% of the UAA of the area and their share in the total potato area in the country is 45%. By this indicator the Southwestern region is the first in the country. 47% of the potato areas in the region are in the Sofia District and 31% in the Blagoevgrad District.

The average area of the cereals cultivated in the region is 34 decares and the oil crops - 268 decares. These average values for the country are 150 decares and 429 decares, respectively. Wheat occupies 64% of the cereal grain area in the area but its share at the national level is only 4%. In the region, 22% of the rye and 24% of the oats in the country is grown. 14% of the tobacco areas in Bulgaria are in the Southwest region, with an average area for a farm is 3.5 decares, at 7.3 decares average for the country.

Figure 23. Relative share of land with different use in the structure of used agricultural land in Bulgaria in 2017



Source: MAFF

At national level there is a trend of increasing the area of the arable land at the expense of the abandoned lands (Fig. 24).

Figure 24. Dynamics of agricultural land, thousand ha

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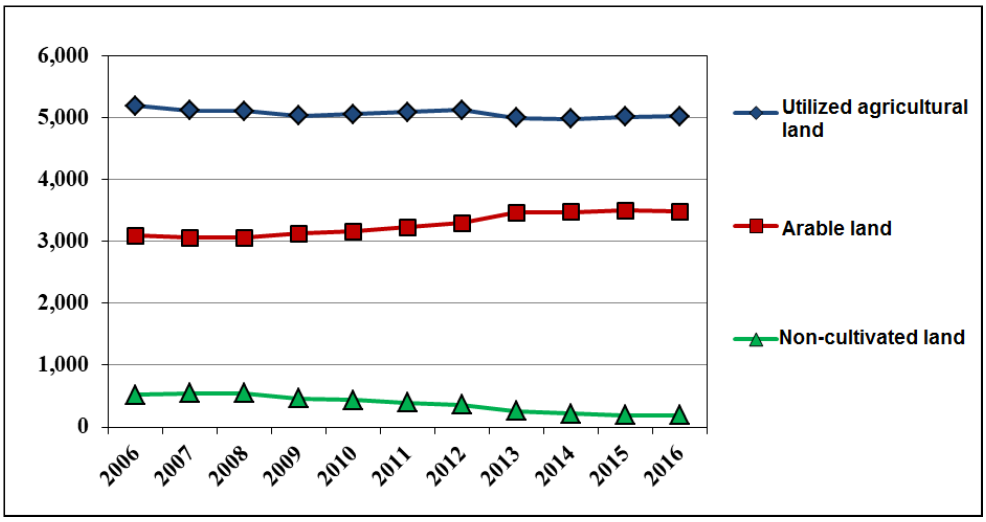

Source: "Agrostatistics", MAFF; Eurostat

The main differences found in the UAA structure in the Blagoevgrad district and in some parts in SWR compared to the national structure of the UAA are due to the semi-mountainous and mountainous nature of the area. The main part of the arable lands in the Blagoevgrad district are located along the Struma river valley (Petrich, Satovcha, Sandanski and Blagoevgrad municipalities) where the climate is favorable for vegetable production. The permanent grassed areas are located mainly in the mountainous parts of the region (mainly Razlog and Bansko) as well as in the regions of Satovcha and Sandanski.

2. Structure of agricultural holdings

The structure of agricultural holdings determines the profitability of the sector. Structural changes in the number and size of farms are particularly dynamic. The number of farms in the country is rapidly decreasing - in only 10 years with 400 thousand, which represents 60% of their number in 2003. This is at the expense of small farms with an area of up to 20 decares, which have decreased from 591 thousand to 193 thousand. The tendency is reducing the number of farms with an area of up to 50 decares and to increase the number of farms over 50 acres, indicating an increase in market orientation.

The area of agricultural land used in farms over 100 decares is growing significantly and in 2013 it is around 79% of the total land. In fact, after the accession to the EU, the increase in agricultural land is of farms with an area of more than 100 decares. The average size of the land used in a single farm, which reaches 149 daa in 2013, is increasing and the increase between 2003 and 2013 is 3 times. Increasing the concentration of land in farms brings us closer to the average European level (161 daa for the EU in 2013).

The average amount of UAA in the district is 15.4 daa, as it is the district with the smallest farms - they occupy 15% of the average size for the country (101.3 daa). Of all farms in the area, 553 do not have UAA.

Agricultural holdings registered according to the size of the total UAA are also divided into **separate groups:**

- Farms which cultivate up to 10 daa UAA;
- Farms which cultivate from 10 to 20 daa UAA;
- Farms which cultivate from 20 to 100 daa UAA;
- Farms which cultivate from 100 to 500 daa UAA and
- Farms which cultivate more than 500 daa UAA.

Structurally, registered holdings are divided into the **following groups:**

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- Holdings of individuals;
- Commercial companies;
- Agricultural cooperatives;
- Sole proprietors;
- Civil associations.

Distribution of agricultural holdings by classes of utilized agricultural area and legal status of management in Bulgaria

- **Towards 2010,** the total number of registered agricultural holdings in the country is **370222**, the number of registered agricultural holdings with UAA is **357074,** that cultivate totally **36169647.3 daa** of UAA, at an average size of **101 daa**, from which: farms that do not have UAAs are **13148**;
- Agricultural holdings that cultivate **up to 10 daa** of UAA are **248000** with **816280.7** daa UAA or 6.9% of the total number of holdings with UAA and 2.3% of UAA;
- Agricultural holdings that cultivate **from 10 to 20 daa** are **46944** with **625506 daa** UAA or 13.1% of the total number of holdings with UAA and 1.7% of UAA;
- Agricultural holdings that cultivate **from 20 to 100 daa** are **41124** with **1631422.8 daa** UAA or 11.5% of the total number of holdings with UAA and 4.5% of UAA;
- Agricultural holdings that cultivate от **100 to 500 daa** are **12828** with **2 786112.8 daa** or 3.6% of the total number of holdings with UAA and 7.7% of UAA;
- Agricultural holdings that cultivate **more than 500 daa** are **8163** with **30310324.2 daa** or 2.3% of the total number of holdings with UAA and 83.8% of UAA.

Towards 2013 in the country the total number of farms is **254142** and **244594** with UAA**,** as the total UAA is **37949105.4 daa,** at an average size of **152 daa**, from which:

- Agricultural holdings that do not have UAAs are **9548**;
- Agricultural holdings that cultivate **up to 10 daa** of UAA are **143502** with **480354.1 daa** UAA or 58.7% of the total number of holdings with UAA and 1.3% of UAA;
- Agricultural holdings that cultivate **from 10 to 20 daa** are **39800** with **525000 daa** UAA;
- Agricultural holdings that cultivate **from 20 to 100 daa** are **38689** with **1 562 049,0 daa** UAA or 15.8% of the total number of holdings with UAA and 4.1% of UAA;
- Agricultural holdings that cultivate from **100 to 500 daa** are **13402** with **2995571,1 daa** UAA or 5.5% of the total number of holdings with UAA and 7.9% of UAA;
- Agricultural holdings that cultivate **more than 500 daa** are **8860** with **32381616,6 daa** UAA or 3.6% of the total number of holdings with UAA and 85.3% of UAA.

  The change in 2013 compared to 2010 is respectively:
  - Agricultural holdings **up to 10 daa**: - 42% - of the number of holdings and – 41% in UAA;
  - Agricultural holdings **from 10 to 20 daa**: – 15% of the number of holdings and – 16% in UAA;
  - Agricultural holdings **from 20 to 100 daa**: – 7% of the number of holdings and – 5% in UAA;
  - Agricultural holdings from **100 to 500 daa**: 2% of the number of holdings and 5% in UAA;
  - Agricultural holdings with **more than 500 daa**: - 5% of the number of holdings and 4% in UAA;

Ther are two opposite trends from the data above. On the one hand, there is a significant decrease in the number of farms in 2013 by 31% compared to 2010. On the other hand, the utilized agricultural area increased by about 5%, without including the total areas. As a result, the average area of holdings with UAA in 2013 increases by over 60% - from 10.1 ha in 2010 to 15.5 ha. This demonstrates the continuation of the

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consolidation processes of the farms and the used land plots. The arable land in 2013 is 3.28 million ha, which is an increase with 4.9% compared to 2010.

Farms with UAA under 100 daa decreased by 34%. The agricultural area used by them decreased by 17%. Farms with utilized agricultural area of 100 or more decares increased with 3% and the land they cultivate is 34 531 500 decares. 4% of the farms (8,600) cultivate 85% of UAA.

Agricultural holdings **in the country**, according to the **legal status** of farms, are registered as:

- **Sole proprietors - 2134** with total UAA **5443876.4 daa** or 0.6% of the number of holdings with UAA and 15.1% of UAA;
- **Individuals - 350041** with total UAA **12012798.7 daa** or 98% of the number of holdings with UAA and 33.2% of UAA;
- **Cooperatives** are **941** with total UAA **6435547,4 daa** or 0.3% of the number of holdings with UAA and 17.8% of UAA;
- **Commercial companies** are **3639** with total UAA **11514507.6 daa** or 1.0% of the number of holdings with UAA and 31.8% of UAA;
- **Civil associations and other -** the number of farms in these structures is **319** with total UAA **762917.2 daa** or 0.1% of the number of holdings with UAA and 2.1% of UAA.

Total for the country for 2013:

- **Sole proprietors - 1871** with UAA **542947.7 daa** or 0.8% of the number of holdings with UAA and 1.4% of UAA;
- **Individuals - 237317** with UAA **12232839.7 daa** or 97% of the number of holdings with UAA and 32.2% of UAA;
- **Cooperatives** are **811** with UAA **5653728.7 daa** or 0.3% of the number of holdings with UAA and 14.9% of UAA;
- **Commercial companies** are **4323** with UAA **13969445.5 daa** or 1.8% of the number of holdings with UAA and 36.8% of UAA;
- **Civil associations and other -** the number of farms in these structures is **272** with UAA **663618.8 daa** or 0.1% of the number of holdings with UAA and 1.7% of UAA.

Regarding the form of farming stands out that individuals are occupying 98% and 97% of the total registered holdings in the country in 2010 and 2013, respectively. Despite the fact that the commercial companies manage under 2% (2010 - 1%, 2013 – 1.8%) of the farms, they cultivate 31.8% in 2010 and 36.8% in 2013 of the country's UAA.

2.2. Distribution of agricultural holdings by classes of utilized agricultural area and legal status of management in the SWR

There are **64221** registered **agricultural holdings** in the region in 2010. with a total **2352403.2 daa** UAA**,** of which:

- **Sole proprietors** are **230** with UAA **121395,7 daa** or 0.4% of the number of holdings with UAA and 5.2% of UAA;
- **Farms of individuals** are **63464** with UAA **1422444.5 daa o**r 98.8% of the number of holdings with UAA and 60.5% of UAA;
- **Cooperatives** are **98** with UAA **213989.7 daa** or 0.1% of the number of holdings with UAA and 9.1% of UAA;

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- **Commercial companies** are **369** with UAA **374106.4 daa** or 0.6% of the number of holdings with UAA and 15.9% of UAA**.**

Total for the region for 2013 – the number of farms is **51647** with UAA **2917450.9 daa,** of which:

In 2010-2013 there was a decrease in the number of farms by 24.3% and a growth of the total utilized agricultural area by 19.4% in the region.

For sole proprietors, the trend is to increase both indicators (number of holdings and UAA). Cooperatives keep the same trend as for individuals, while commercial companies in the region repeat the trend of sole traders (increase in number of holdings and UAA). In the SWR, the preferred structure of farmers is that of individuals. They manage the largest number of farms in the region and cultivate the most land. Although the number of individuals' holdings declined in 2013, they remained stable over the concerned period with the remarkable 98% of the total number of farms and 60.5% of the UAA in the region.

The average age of farm managers in the Southwest region is relatively high - 59 years. 63% of them are over 55 years old, as is this indicator for the country. 24.2% of managers are women, with 63% of them over 55 years old. 19.8% of female managers are under 45 years old. 18% of farm managers are under 45 and 39% are retired.

2.3. Distribution of agricultural holdings by classes of utilized agricultural area and legal status of management in Blagoevgrad region

Data on the distribution of agricultural holdings by classes of UAA for Blagoevgrad Region exist only for 2010 as it follows:

- Agricultural holdings that cultivate **up to 10 daa are 32114** or 84% of the number of holdings with UAA in the district, as they cultivate 20% or **116093 daa** of UAA;
- Agricultural holdings that cultivate **from 10 to 20 daa** are **3877** with **50097.5** daa UAA or 10.2% of the holdings with UAA and 8.6% of UAA;
- Agricultural holdings that cultivate **from 20 to 100 daa** are **1615** with **57598.9 daa** UAA or 4.3% of the holdings with UAA and 9.9% of UAA;
- Agricultural holdings that cultivate from **100 to 500 daa** are **396** with **84844 daa** UAA or 1% of the holdings with UAA and 14.5% of UAA in the district;
- Agricultural holdings that cultivate **more than 500 daa** are **112** with **274955.0 дка** UAA or 0.3% of the holdings with UAA and 47.1% of the total UAA.

Due to the lack of data on the distribution of agricultural holdings by classes, it is difficult to prove any trend in their restructuring, but it is assumed that they follow the general tendency in the country and the region for consolidation.

Agricultural holdings in the Blagoevgrad district, in accordance with the legal status of the farms and the average UAA, were registered in 2010 (Fig. 25) as:

- **Individuals - 37669 holdings**, which manage and cultivate 62% of UAA with an average area of **9.6 daa**;
- **Commercial companies - 129 holdings**, manage 9% of the total UAA. The average holding area is **415.6 daa**;
- **Cooperatives - 4 holdings** with 1% of UAA. The average UAA in these structures is **638.5 daa**;
- **Sole proprietors - 97 holdings** and manage 2% of UAA. The average size of the land is **105.6 daa**;

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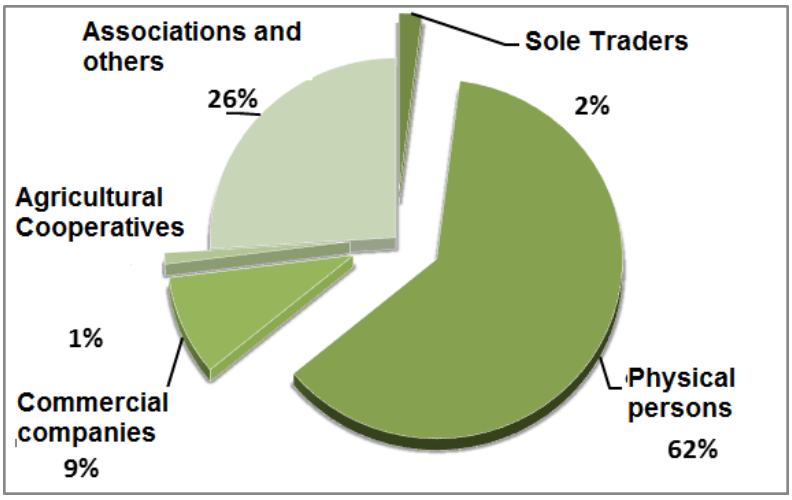
- **Associations** and other - 26%.

Figure 25. Relative share of agricultural holdings, according to their legal status, in Blagoevgrad region



Source: MAFF

Partial data on the ownership of agricultural land has been reported since 2003, according to which 98% of the UAA is owned by natural persons.

It is clear from the analysis that registered agricultural holdings, which process more than 500 decares of land, although fewer in number, cultivate the largest amount of agricultural land - 47.1% of total UAA. These data are indicative of the fact that in structural terms the farms in the Blagoevgrad region take into account and follow the tendency at the national level to consolidate the total utilized agricultural area in the area which is a prerequisite for higher production efficiency in the sector. From the data on the form of agricultural holdings and at district level, the preferred structure for management and cutivating agricultural land is from natural persons who occupy 99.4% of the total number of holdings in the area and process 62% of the total UAA.

In Blagoevgrad district, the largest number of agricultural holdings with UAA is in the municipality of Petrich - **7500** with an average area of **9.8 daa**, as they cultivate 12% of UAA in the district. In Sandanski Municipality farms cultivate the largest share of UAA - 14% or **79838 daa** (Table 11).

Table 11. Distribution of agricultural holdings by number and utilized agricultural area in Blagoevgrad district according to the 2010 census

District and municipality	Total number of holdings (including holdings without UAA)	Holdings with UAA		
		Number of holdings	UAA (daa)	Average UAA (daa)
Total for Blagoevgrad District	**38467**	**37914**	**583588.5**	**15,4**
Bansko	893	893	72983.6	81,7
Belitsa	1607	1601	15761.8	9,8
Blagoevgrad	2219	2202	49117.7	22,3

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Gotse Delchev	2971	2944	28589.3	9,7
Garmen	3159	3154	21447.3	6,8
Kresna	1012	1006	15329.3	15,2
Petrich	7500	7141	69737.9	9,8
Razlog	1148	1139	76751.4	67,4
Sandanski	5009	4932	79837.7	16,2
Satovcha	5194	5187	67705.7	13,1
Simitli	2411	2408	30948.1	12,9
Strumiani	1246	1245	15850.0	12,7
Hadjidimovo	2331	2314	19564.9	8,5
Yakoruda	1767	1748	19963.8	11,4

73985 people (excluding seasonal workers) worked in the agricultural holdings in Blagoevgrad region in 2010, with 35052 annual work units (AWU) (Table 12). As family work force there are 73061 people or 99% of the employed in agriculture in the district. Non-family workers (employees) are 924, and they account for 1% of the employed, with a total of 817 AWU. Seasonal workers have worked 47038 man-days, which is 203 AWU.

Women are 46% of the employed, and men - 54%. Pensioners aged over 64 who work in farms are 27% of the employed, and workers up to 34 years old are 11%. Out of the 38467 managers of farms (including individuals), 74% are men and 26% are women. The managers had a total of 19 621 AWU. 8% of them are up to 34 years old, and 33% - over 64.

Table 12. Distribution of labor and AWU in Blagoevgrad district and Bulgaria

Labour	**Bugaria**			**Blagoevgrad district**		
	Labour force total	**Family work force**	**Non-family work force**	**Labour force total**	**Family work force**	**Non-family work force**
Number of persons working in farms	73863	681466	57168	73985	73061	924
Input labor in AWU	389107	336766	52341	35052	34235	817

The number of persons employed in agriculture, depending on the sex and age group, is generalized in Table 13.

Table 13. Number of persons employed in agriculture by sex and age

Age of persons employed in agriculture	**Blagoevgrad district**	
	Men	**Women**
over 65	1069	9036
55 - 64	8895	8177

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45 - 54	9030	8000
35 - 44	6381	5381
25 - 34	3444	2670
under 24	1295	984

Agricultural holdings in the SWR in 2010 are managed by people with different levels of education in agriculture, and it is as follows:

- Only with practical experience – 99.3% of the total number of farms
- Secondary professional agricultural education - 0.4% of the total number of farms
- Higher agricultural education - 0.3% of the total number of farms.

In 2013, the farms in SWR are managed by people with:

- Only with practical experience – 95.8% of the total number of farms
- Secondary professional agricultural education – 2.9% of the total number of farms
- Higher agricultural education – 0.6% of the total number of farms

Comparing data from the two years of census it can be said that:

- The number of managers with practical skills is still very high;
- There is a trend of increasing the number of managers with secondary professional and higher agricultural education.

3. Structure of land use at national level

Usable agricultural land (UAA) (Fig. 26) in the country shows a movement within sustainable limits ranging between 5-5.2 million ha. Although there is a slight decrease in UAA of about 4% between 2007 and 2015 (due to increased interest in agriculture and farmland management) there is no risk of agricultural land disappearance due to urbanization or self-afforestation. It should be noted that with regard to the UAA structure there is a significant improvement as abandoned land has been reduced by more than 3 times for the period 2007-2015 and is currently under 150 thousand ha. This is one of the most important effects of the country's EU membership. If in the 1990s more than 1 million ha of agricultural land was abandoned and not cultivated, the percentage of these lands has decreased significantly and such areas can be found predominantly in mountainous and other less favorable areas.

The decrease of the abandoned lands led to an increase of the arable land, as the most serious growth of nearly 500,000 hectares is between 2007-2015. This increase mainly comes at the expense of the deserted land, but also of the meadows and pastures and, to a much lesser extent, of the land occupied with permanent crops, vegetables and permanent grassed lands.

At present, arable land forms about 70% of UAA, whereas permanent grassland is about 26%. For comparison in the EU, the share of permanent grassland in the UAA is about 33%. In Bulgaria, this lag is largely compensated by the higher percentage of afforested areas, which together with the permanently grassed areas significantly exceed the area of arable land.

Figure 26. Dynamics of agricultural land, thousand ha

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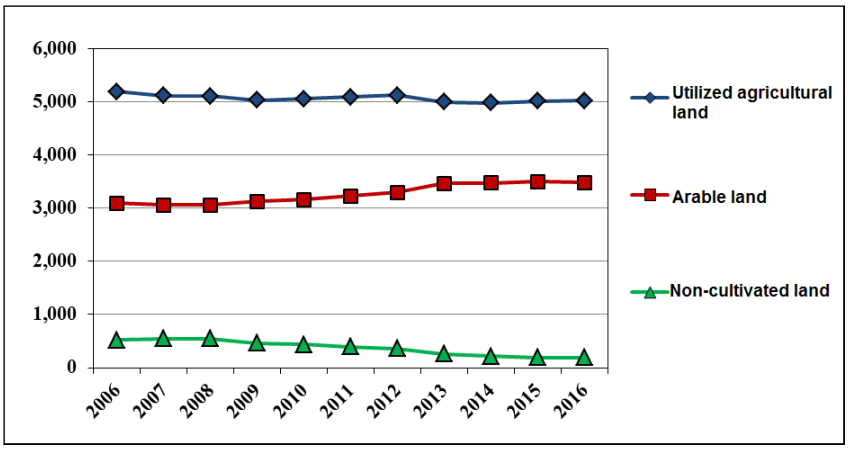

Source: "Agrostatistics", MAFF; Eurostat

VIII. ANALYSIS OF THE CURRENT SITUATION AND THE TENDENCIES FOR THE AGRO-FOOD CHAIN DEVELOPMENT IN BLAGOEVGRAD DISTRICT - BY SECTORS OF PRODUCTION - PLANT AND ANIMAL BREEDING

The economy of the Blagoevgrad region covers almost all branches of the National Economy. The factors that are determining the different economic activities and developed over time, localized on the territory of the district are extremely diverse.

Some of the main branches of Blagoevgrad economy are:

- Food industry;
- Wine production;
- Tobacco industry and tobacco products.

Arable land, combined with soil-climatic diversity, creates conditions for the production of agricultural products, which are the main raw material base for the development of the food industry in Blagoevgrad region.

Highly developed in the district is the food processing industry, including production and processing of meat, production, processing and preservation of fruits and vegetables, production of vegetable and animal fats, production of milk and dairy products, milling products, ready meals for animals, bread, bakery and confectionery, ready-made foods, pasta, soft drinks and alcohol.

The agro-food chain in the region, as part of the country's food industry, is represented by the **production and processing of:**

- **products of plant origin:**
- **Cereal crops** – wheat, winter and spring barley, rye, oats, sorghum, triticale, corn for grain and seed;
- **Grain legumes -** fodder peas - grain, beans;
- **Oil crops –** sunflower, rapeseed;
- **Technical cultures -** tobacco - oriental;
- **Forage crops -** alfalfa, silage corn, forage peas;

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- **Fresh vegetables and fruits -** potatoes, tomatoes - open areas, tomatoes - greenhouses, cucumbers - open areas, cucumbers - greenhouses, water melons, melons, pepper - open areas, pepper - greenhouse, headed cabbage, strawberries, etc.;
- **Orchards and vineyards -** apples, pears, apricots, peaches and nectarines, plums and cherry plums, cherries, sour cherries, raspberries, wine varieties, dessert varieties;
- **products of animal origin -** cattle, bulls, sheep, goats, pigs, horses, donkeys, mules, cats, laying hens, broilers, turkeys for fattening, quails, ostriches, apiaries, fishes - carp, trout; rabbit, californian worms, snails.

According to the requirements of Regulation (EC) No 543/2009 of EU28 concerning crop statistics, in the specified time range for 2010, 2013 and 2016 and in accordance with the indicators set out in the Regulation:

Panted area - the area that corresponds to the total sown area for producing a specific crop during a given year;
Harvested area - the part of the planted area that is harvested. It can, therefore, be equal to or less than the planted area;
Harvested production – the volume of harvested production, including including on-holding losses and wastage;
Average yield – a resultant quantity calculated on the basis of harvested production and the harvested area or the production of a unit of harvested area;
Unit of measurement – tonne, decare, hectare, kilogram / decare, kilogram, etc.;
Period covered by the data – marketing year.
Data are the following samples from the statistical surveys for the period 2013 - 2017 concerning the production of primary agricultural products by categories of agricultural crops, according to the above-mentioned criteria. Data for some crops is given for a shorter period, for example 2013-2017, due to the lack of data for some of the years in the statistics**.**

1. PRODUCTION OF PLANT PRODUCTS

In the Blagoevgrad district the arable land for the period amounts to 155091 decares or 27% of the UAA of the district, amounting to 583589 decares. The largest share of arable land is occupiedby cereal crops 38%, industrial crops are 24%. The largest share of grain cereals is that of the wheat, which accounts for 57%. Of the industrial crops, tobacco has the largest share - 92%, which is 14% of the tobacco area in the country. Potatoes account for 3% of UAA or 14% of potato areas in the country. They are concentrated in the municipalities of Yakoruda, Satovcha, Petrich and Gotse Delchev.
Fresh vegetables account for 6% of the country's vegetables, as areas with vegetables grown under tall greenhouses account for 22% of all greenhouses. Perennials in the area occupy 8.8% of the UAA, and vineyards 68% of them. Operational information database for planted and harvested areas maintained by the regional directorate for planted areas, harvested areas, average yield and percent change in production compared to 2016 is presented in the tables below.
The arable land in the Blagoevgrad district for the period occupies 5.6% of the total arable land in the country according to data from BSOAEC.

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1.1.1 PRODUCTION OF CEREALS

Source: Framar.bg

The main share of the world cereal production is for wheat, maize and rice. In Bulgaria are produced mainly wheat and maize. Barley, rye, triticale, oats, millet, sorghum are produced to a lesser extent. The other crops have a local significance in a particular area where they are distributed.

In Blagoevgrad district, are grown mainly wheat and maize and in smaller quantities - barley, rye, oats and triticale (Table 14).

The total planted area with cereals in Blagoevgrad district ranges from 40560 decares to 68830 decares for the survey period, with an average of 56349 decares (Fig.27). Due to the key importance of cereal crops for agriculture in Bulgaria, a comparison is made with the trends at national level.

Table 14. Cereals - areas, production, average yields

Crops	**Areas - 2013**		**Areas - 2014**		**Areas - 2015**		**Areas - 2016**		**Areas - 2017**	
	Planted (daa)	**Harvested (daa)**	**Planted (daa)**	**Harvested (daa)**	**Planted (daa)**	**Harvested (daa)**	**Planted (daa)**	**Harvested (daa)**	**Planted (daa)**	**Harvested (daa)**
Wheat	35130.0	35130.0	37020.0	37020.0	34970.0	34639.6	29145	29145	25010	24939,2
Barley - winter	5065.0	5065.0	5930.0	5930.0	3750.0	3463.4	4610	4610	1300	1300
Barley - spring	600.0	600.0	850.0	850.0	1422.0	1422.0	350	350	300	300
Rye	2770.0	2770.0	2330.0	2330.0	1940.0	1940.0	1387	1387	1730	1730
Oats	1010.0	1010.0	1900.0	1900.0	1580.0	1580.0	1310	1310	1310	1 310
Triticale	430.0	430.0	2150.0	2150.0	1330.0	1330.0	800	800	1800	1800
Maize	19350.0	19350.0	18650.0	17650.0	16465.0	16465.0	8940	8940	9210	9210
Total	**64355.0**	**64355.0**	**68830.0**	**67830.0**	**61457.0**	**60840.0**	**46542**	**46 542**	**40560**	**40 489,2**
	2013		**2014**		**2015**		**2016**		**2017**	
Production (tonnes)										
Wheat	9309.5		10180.5		6373.5		6 207		5 614	
Barley - winter	911.7		1239.4		576.0		839		208	
Barley - spring	114.0		193.0		211.0		52		33	
Rye	554.0		491.6		318.0		269		174	
Oats	136.4		370.5		222.9		85		121	
Triticale	111.8		649.3		268.0		228		126	
Maize	6482.2		5873.9		4258.4		2277		3467	

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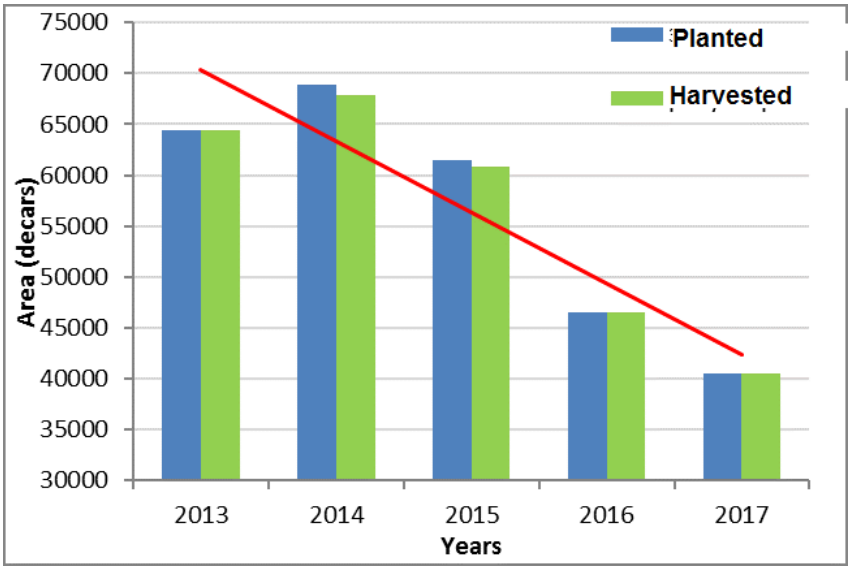
Total	17619.5	18998.2	12227.8	9957	9716.2
Average yield (kg/daa)					
Wheat	265.0	275.0	184.0	213	225
Barley - winter	180.0	209.0	166.0	182	270
Barley - spring	190.0	227.0	148.0	149	110
Rye	200.0	211.0	164.0	194	254
Oats	135.0	195.0	141.0	65	100
Triticale	260.0	302.0	201.5	285.5	226
Maize	335.0	333.0	259.0	255	376

Figure 27. Areas planted with cereals on the territory of Blagoevgrad district in the period 2013-2017



Source: MAFF

The trend of change in the planted area is decreasing by 37% in 2017 compared to the start (2013) or by 41% compared to the best year (2014) for the survey period.

An analogous tendency for reducing the area of cereal crops is also recorded at national level (Fig. 28), as in 2017 it is 14.3% less than in 2013.

Figure 28. Planted areas with cereas on the territory of Republic of Bulgaria in the period 2013 - 2017

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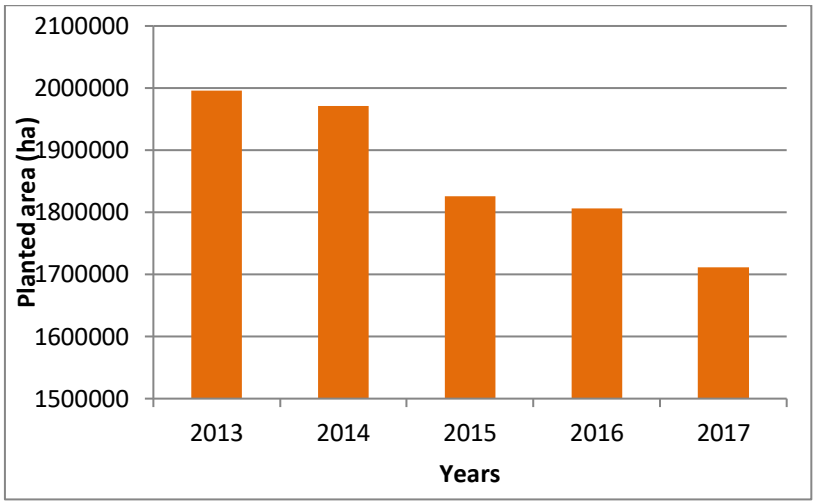


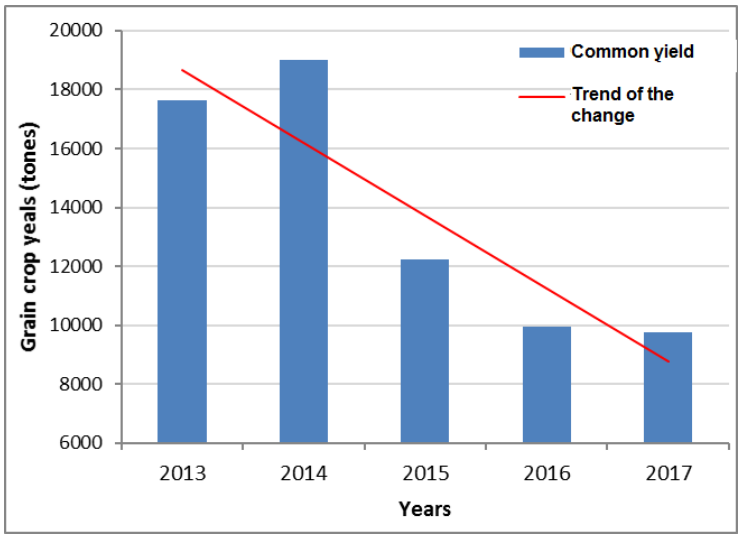
Source: MAFF

The reduction in planted areas in the country after 2015 is more pronounced, and this process is recorded in all grain crops with the most pronounced in rye (a decrease of about 55%), barley and oats (a decrease of about 27%). For the Blagoevgrad district, a more sensitive reduction is reported in 2016 for all crops, except for winter barley (decline after 2017) and triticale (there is annual fluctuation, but around the average value of 1300 decares).

The degree of reduction of the areas planted with cereals at national and regional levels shows a significantly larger scale of reduction for Blagoevgrad district compared to the country. The comparison of the planted with the harvested areas (average - 99.4% of the planted) in Blagoevgrad district for each of the years shows a trend of almost complete coincidence. This is indicative of favorable climatic conditions for the formation of a relatively high profitability of cereals production in the district.

The yields of cereal crops on the territory of the Blagoevgrad district vary by year, but a drastic decline in their quantity is observed after 2015 (Fig. 29). The registered decline can not be fully explained by the reduction of the planted/harvested areas as the planted/harvested areas in 2015 decrease by 10.7% compared to 2014 and the crop yield in 2015 decreases with 35.6% compared to 2014.

Figure 29. Yield of cereals on the territory of Blagoevgrad region for the period 2013-2017



Source: MAFF

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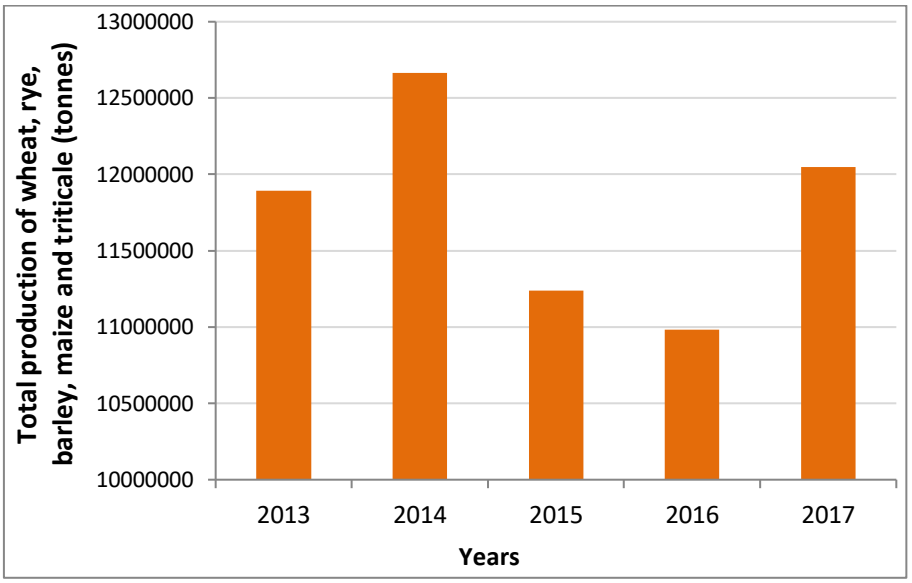
We can conditionally divide the period under review into a higher yield period (2013-2014) and from 2015 to 2017 when lower yields are recorded. The reduction in yields during the second period ranged from 38% for wheat to 52% for rye. Maize yields decreased by 44%.

Grain crops (wheat, rye, barley, oats, grain maize and triticale) on the territory of Blagoevgrad district represent on average about 0.12% of the total national yields of the same crops. This determines Blagoevgrad as an area with a negligible contribution to the total yield of these crops.

The observed tendencies for decrease of the total cereal yield in the Blagoevgrad district do not follow the tendency of a change in their production on the territory of Republic of Bulgaria (Fig. 30).

Figure 30. Total yield of wheat, barley, rye, oats, grain maize and triticale on the territory of Republic of Bulgaria for the period 2013-2017



Source: MAFF

After the decrease in cereal production in the period 2014-2016, in 2017 is registered an increase in yields and an evening with those before the critical period. Better results in 2017 are associated with increased grain farms efficiency - major investments in equipment and modernization, introduction of new technologies and varieties, good weather conditions, etc.

As the different cereal crops show different dynamics on the territory of Blagoevgrad district in the period from 2013 to 2017, in the next part of this section they will be considered separately.

Wheat

Wheat is the main cereal crop, and it is the most common agricultural plant in the world. In Bulgaria wheat is sown massively and occupies the largest areas of arable land.

A. Planted areas

According to data from "Agrostatistics" Department (MAFF), the areas planted with wheat in Blagoevgrad district ranged from 25010 decares (2017) to 37020 decares (2014). (Fig. 31). Harvested areas account for more than 99% of the planted arable land with wheat.

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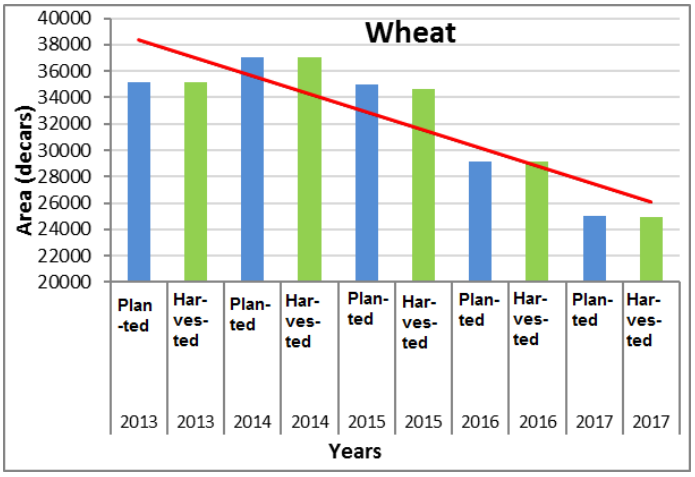
Figure 31. Planted and harvested areas with wheat on the territory of Blagoevgrad district in the period 2013-2017



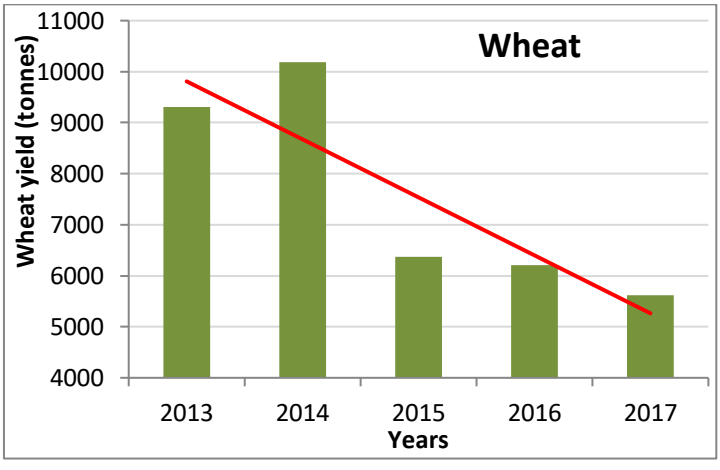
Source: MAFF

After 2014 there is a constant tendency of decreasing the wheat area on the territory of Blagoevgrad district. In 2017, the area planted with wheat represents only 71% of the area planted in 2013, or 67% of the area with wheat during the best year (2014). In Bulgaria there is also a decrease in the area planted with wheat in 2017 compared to 2013 (13%). But at the same time, from 2015 until 2017, these areas remain relatively constant and are about 1152244 hectares.

Б. Wheat production

Wheat production on the territory of the Blagoevgrad district has been steadily decreasing during the concerned period - from 9310 tonnes in 2013 to 5614 tonnes in 2017 or by about 40% (Fig. 32).

Figure 32. Wheat production (tonnes) on the territory of Blagoevgrad district during the period 2013-2016



Source: MAFF

The average wheat yield in the Blagoevgrad district is **219** kg/daa in 2016/2017 with a low growth rate after 2015, but not reaching the 2013 and 2014 levels (Fig. 33).

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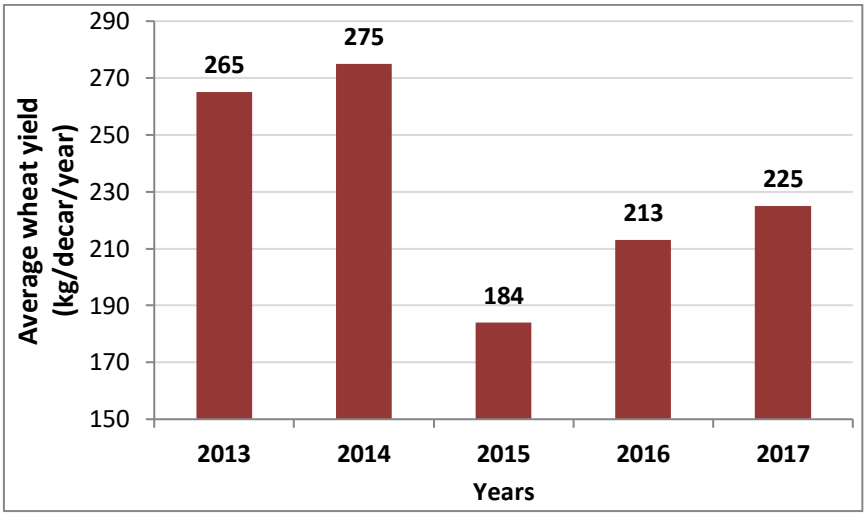
Figure 33. Average yields (kg/daa) of wheat on the territory of Blagoevgrad district during the period 2013-2017



Source: MAFF

However, the average wheat yield in the Blagoevgrad district is only 42-45% of the average yield of this crop in the country (535 kg/daa in 2017). The local trend is a drastic decrease in average yields in 2015 and a slow increase in the next years, while at national level, average wheat yields are increasing from 2013 (419 kg/daa) to 2017 (535 kg/daa). The subsidies for modernization under the Rural Development Program, whose main recipients are the grain producers, are directly related to this process.

It is not possible to identify precisely the reasons for the different trends in the change of the average wheat yield at local and national levels. It can be assumed that important factors are the much smaller sizes of farms in Blagoevgrad district, the different rates of introduction of new technologies and seed varieties in production.

Maize

Maize is also a very important crop widely grown in the country.

A. Planted areas

According to data from "Agrostatistics" Department (MAFF), the areas planted with maize for the period in Blagoevgrad district range from 8940 daa (2016) to 19350 daa (2013) (Fig. 34). The harvested areas account for over 90% of the planted arable land with maize.

Figure 34. Planted and harvested areas of maize on the territory of Blagoevgrad district in the period 2013-2017

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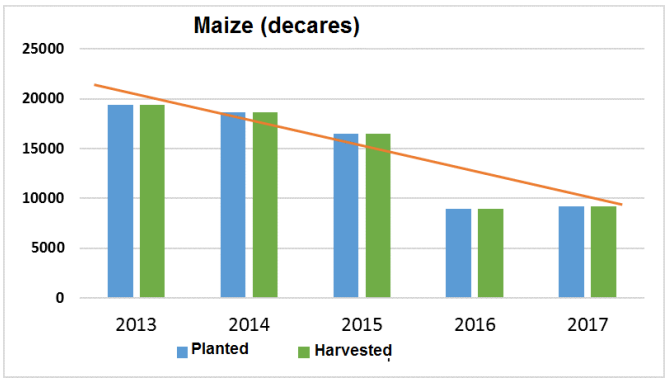


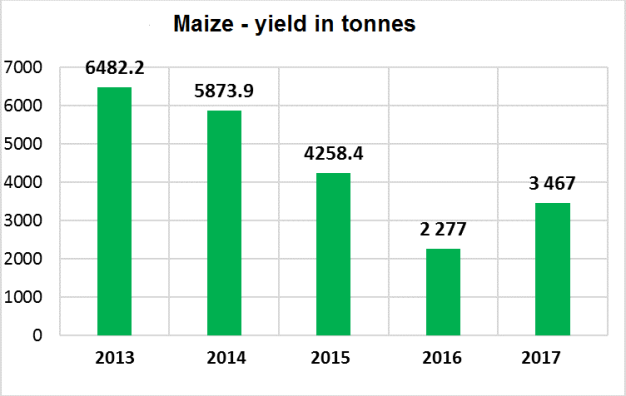
Source: MAFF

After 2013 there is a steady trend of reduction of maize areas on the territory of the Blagoevgrad district and in 2017 they are only 50% of the planted area in 2013.

Б. Maize production

Maize production on the territory of Blagoevgrad district has been steadily decreasing over the monitored period - from 6482 tonnes in 2013 to 3467 tonnes in 2017 or by about 46% (Fig. 35). In 2016, even the decrease is larger than that for the last 2017.

Figure 35. Maize production (tonnes) on the territory of Blagoevgrad district during the period 2013-2016



Source: MAFF

The average yield of maize in Blagoevgrad district is 376 kg/daa in 2016/2017 with a slight growth rate after a significant decline in 2015 and 2016 (Fig. 36).

Figure 36. Average maize yield (kg/daa) on the territory of Blagoevgrad district during the period 2013-2017

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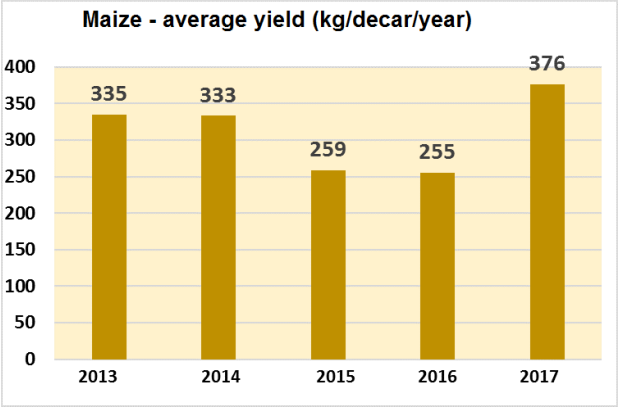


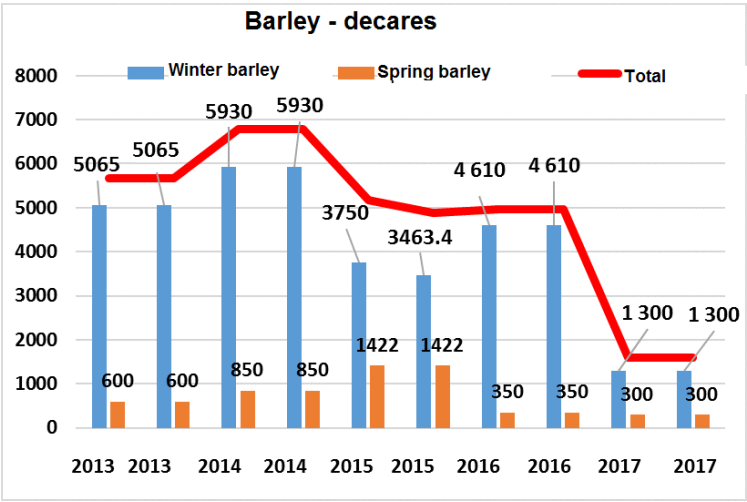
Source: MAFF

Barley

A. Planted areas

According to data from "Agrostatistics" Department (MAFF), the areas planted with barley for the period in Blagoevgrad district vary from 6970 daa (2014) to 1600 daa (2017) (Fig. 37). The harvested areas account for over 90% of the planted arable land with barley. The prevalence of winter barley is significant as it exceeds the summer from 5 to 8 times.

Figure 37. Planted and harvested areas of barley on the territory of Blagoevgrad district in the period 2013 - 2017



Source: MAFF

Б. Barley production

The barley production on the territory of the Blagoevgrad district has been steadily decreasing for the period under review - from 1432.4 tonnes in 2014 to 241 tonnes in 2017 or about 6 times (Fig. 38).

Figure 38. Production of barley (tonnes) on the territory of Blagoevgrad district during the period 2013-2016

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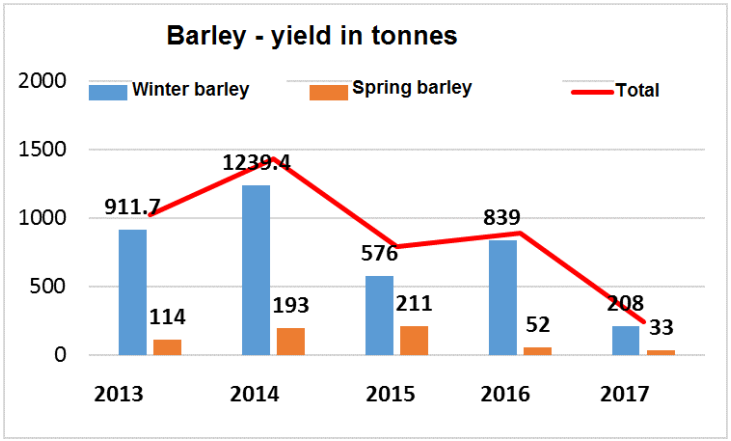
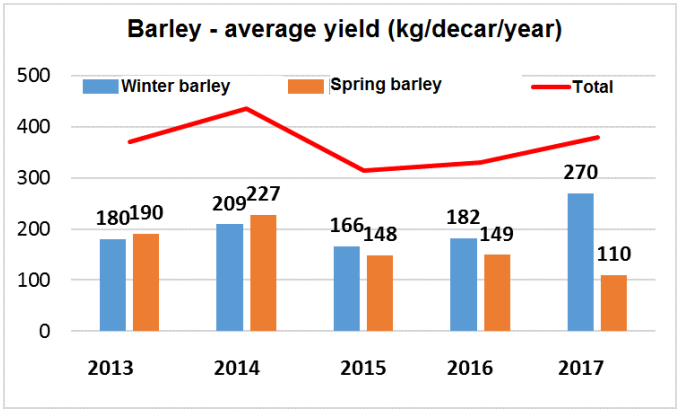


Source: MAFF

The average yield in the Blagoevgrad region is **270 kg/daa** in 2017 for the winter and 110 kg/daa for the spring barley, showing a slight growth rate after a significant decline in 2015 and 2016 (Fig. 39). There is a tendency of increasing winter barley yields at the expense of declining spring barley yields.

Figure 39. Average yields (kg/daa) of barley on the territory of Blagoevgrad district during the period 2013-2017



Source: MAFF

In general, there is a tendency of decreasing the planted areas and yields, but average yields are relatively stable or even increasing.

Rye

A. Planted areas

According to data from "Agrostatistics" Department (MAFF), the areas planted with rye for the period in Blagoevgrad district range from 2770 daa (2013) to 1387 daa (2016). (Fig. 40). Harvested areas account for more than 99% of the planted arable land with rye.

Figure 40. Planted and harvested rye areas on the territory of Blagoevgrad district in the period 2013-2017

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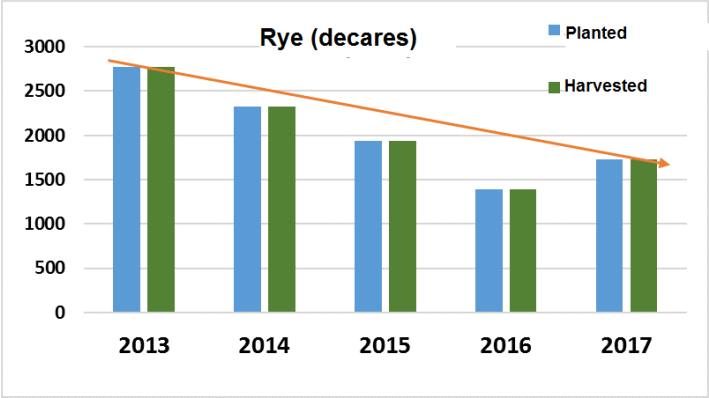
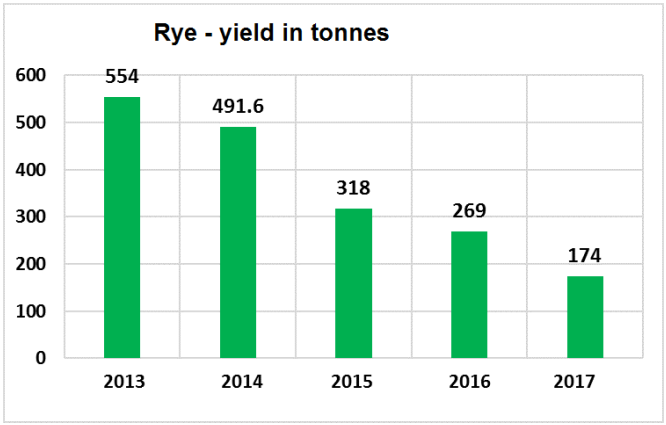


Source: MAFF

Б. Rye production

The rye production on the territory of Blagoevgrad district marks a continuous decrease trend during the studied period - from 554 tons in 2013 to 174 tons in 2017 or about 3 times (Fig. 41).

Figure 41. Production of rye (tonnes) on the territory of Blagoevgrad district during the period 2013-2017



Source: MAFF

The average rye yield in Blagoevgrad district is **254 kg/daa** in 2017, showing a slight growth rate after a significant decline in 2015 and 2016 (Fig. 42). The probable rasons are meteorological, which leads to an outflow of interest in this culture.

Figure 42. Average rye yields (kg/daa) on the territory of Blagoevgrad district during the period 2013-2017

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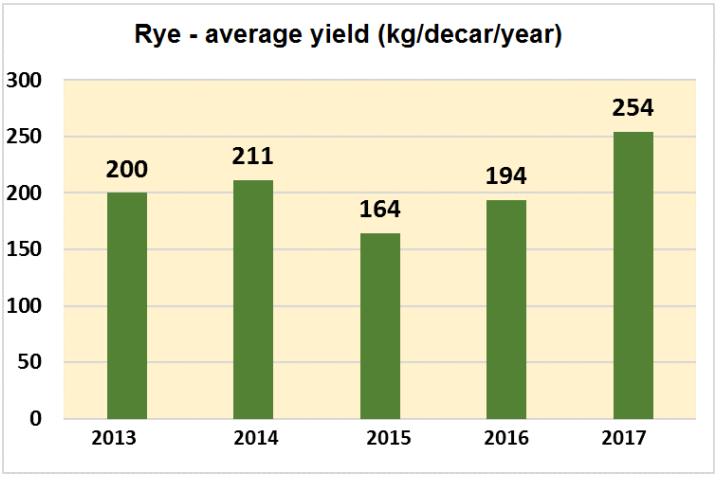


Source: MAFF

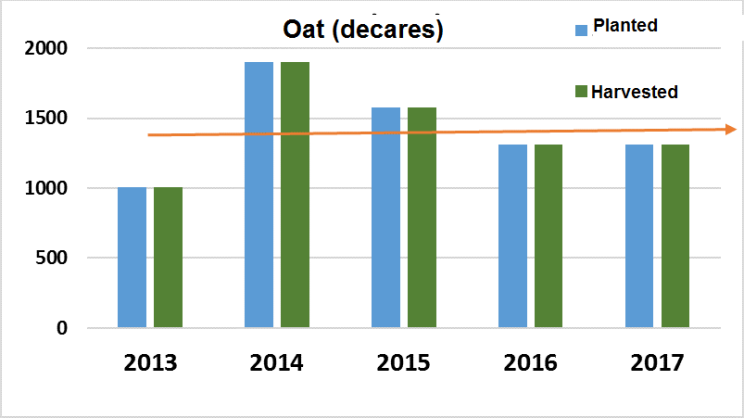
As a whole, there is a steady tendency for decreasing planted rye areas and yield, but average yields are relatively stable or even increasing.

Oat

A. Planted areas

According to data from "Agrostatistics" Department (MAFF), the areas planted with oat for the concerned period in Blagoevgrad district range from 1900 daa (2014) to 1100 daa (2013) (Fig. 43). Harvested areas account for more than 99% of the planted arable land with oat. In general, although limited in the field, this crop retains a relatively constant share for the given period.

Figure 43. Planted and harvested oat areas on the territory of Blagoevgrad district in the period 2013-2017



Source: MAFF

Б. Oat production

The production of oats on the territory of Blagoevgrad district varies, with the maximum being in 2014 and in 2017 it is almost equal to 2013. The lowest is in 2016 (only 85 tons) (Fig. 44).

Figure 44. Production of oats (tonnes) on the territory of Blagoevgrad district during the period 2013-2017

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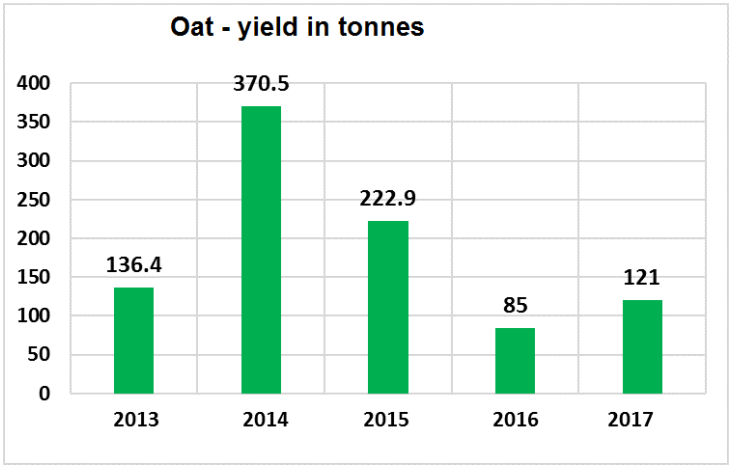
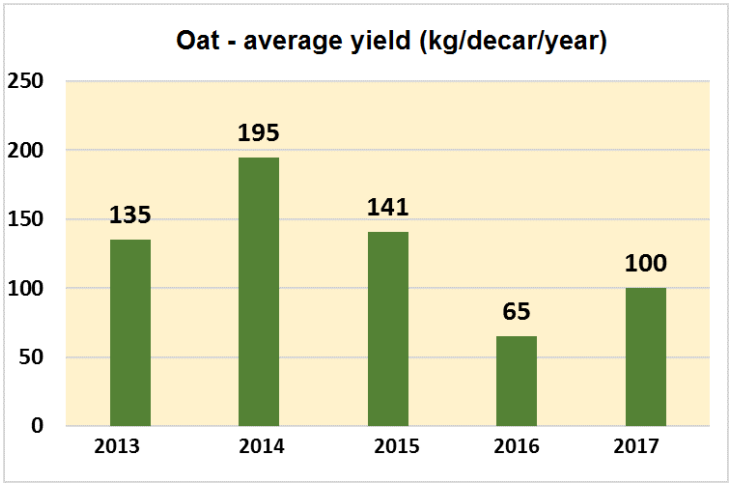


Source: MAFF

The average oat yield in Blagoevgrad district varies from **195 kg/daa** in 2014 to only 65 kg/daa in 2016 (Fig. 45). This also explains the record low yields in 2016, although the planted areas are slightly less than in the previous 2016 when the yield is almost 3 times higher.

Figure 45. Average oat yields (kg/daa) on the territory of Blagoevgrad district during the period 2013-2017



Source: MAFF

Overall, interest in oats is maintained, but yields vary considerably depending on the weather conditions.

Triticale

A. Planted areas

According to data from "Agrostatistics" Department (MAFF), the areas planted with triticale for the period in Blagoevgrad district vary from 2150 daa (2014) to 430 daa (2013) (Fig. 46). Harvested areas account for more than 99% of the harvested arable land with triticale. Triticale is a crop to which the interest varies greatly. After a decrease in 2015 and 2016, a further increase in the planted areas is observed in 2017.

Figure 46. Planted and harvested areas with triticale on the territory of Blagoevgrad region in the period 2013-2017

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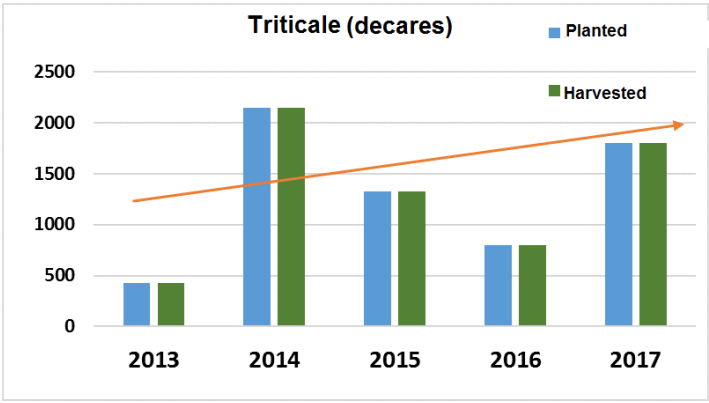
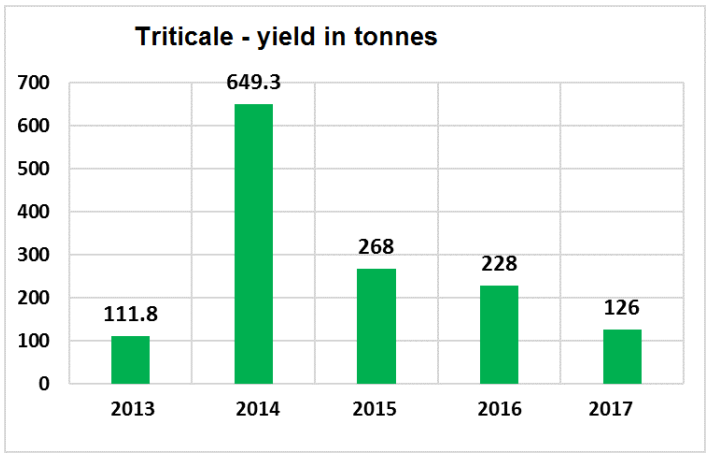


Source: MAFF

Б. Triticale production

The production of triticale (Fig. 47) on the territory of Blagoevgrad district varies, with a maximum in 2014, as in 2017 it is almost equal to 2013. The lowest is in 2013 (only 112 tonnes).

Figure 47. Production of triticale (tonnes) on the territory of Blagoevgrad district during the period 2013-2017



Source: MAFF

The average triticale yield in Blagoevgrad district ranges from 302 kg/daa in 2014 to only 201 kg/daa in 2015 (Fig. 48). Compared to other cereal crops, the triticale is more resistant to adverse weather conditions, which provides a slight variation in its average yields.

Figure 48. Average yields (kg/daa) of triticale on the territory of Blagoevgrad district during the period 2013-2017

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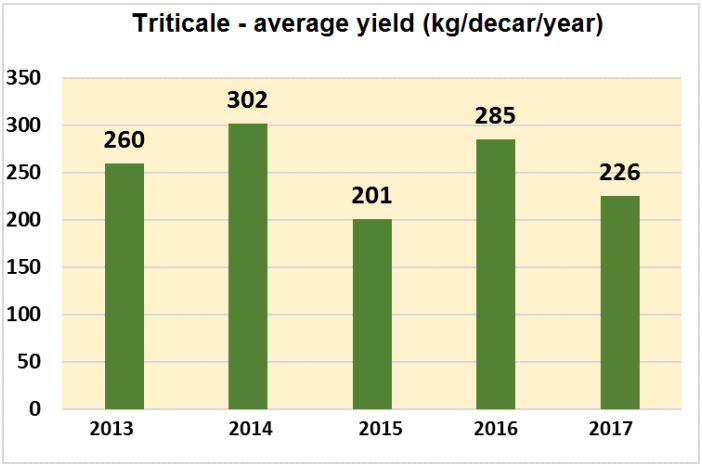

Source: MAFF

B. Purchase prices of cereal crops

On Tab. 15 and Fig. 49 are shown the purchase prices for the main cereals in the period 2013-2017. It is seen that they remain relatively unchanged for wheat, oats and less for maize. The largest decreasing variation was observed for triticale and barley. This partly explains the reduction of areas with barley for the period as far as this crop is more dependent on the weather conditions than the triticale. But overall, in all cereal crops, there is a decrease in purchase prices per tonne of output. This can be explained by their higher cost compared to other parts of the country (in general the area is mountainous and less suitable for such crops), overproduction in connection with subsidy policies especially in other parts of the country, and hence reduction the interest in its cultivation

Table 15. Purchase prices for basic cereal crops

Cereals - prices in BGN/tonne	2013	2014	2015	2016	2017
Durum wheat	339.82	335.52	349.62	319.30	314.17
Barley	334.18	299.80	303.05	275.19	268.20
Rye	316.13	256.16	259.73	282.05	267
Oats	333.02	337.70	361.27	342.97	310.76
Triticale	333.68	285.20	299.41	277.39	275.14
Maize	304.88	278.02	273.65	278.64	285.19

Figure 49. Comparison of purchase prices for basic cereals for the period 2013-2017

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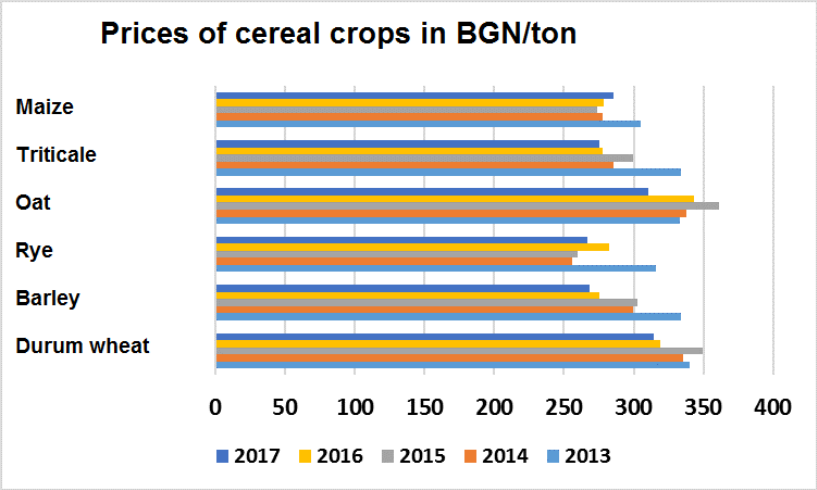

1.1.2 PRODUCTION OF GRAIN LEGUME CROPS

Source: healthfood.alle.bg

Grain legume crops are a group of cultivars of the Fabaceae family, which are grown because of their grains (seeds) with high protein content. These crops have an irreplaceable agro-technical significance, mainly because of their "ability" to enrich the soil with nitrogen. This peculiarity of legumes makes them excellent precursors for most crops, and on the other hand it implies reduction of nitrogen fertilization in crop rotation. In Bulgaria, the leguminous crops occupy small areas compared to grain crops, and also in Blagoevgrad district. The fluctuations for individual crops from this group have been great in recent years. The protein need for proper animal nutrition can not be covered by its own production, so annually are imported protein-rich concentrates or soybean meal.

The total area planted with cereal crops in Blagoevgrad district ranges from 3923 in 2014 to 2615 daa for the observed period (Table 16 and Fig. 50).

Table 16. Grain legume crops - areas, production, average yields.

Crop	Areas - 2013		Areas - 2014		Areas - 2015		Areas - 2016		Areas - 2017	
	Planted (daa)	Harvested (daa)	Planted (daa)	Harvested (daa)	Planted (daa)	Harvested (daa)	Planted (daa)	Harvested (daa)	Planted (daa)	Harvested (daa)
Beans	3800	3800	3683	3683	3465	3465	2115	2115	2935	2935
Feed peas	100	100	200	200	50	50	500	500	0	0
Lentils	0	0	40	40	0	0	0	0	0	0
Total	**3900**	**3900**	**3923**	**3923**	**3515**	**3515**	**2615**	**2615**	**2935**	**2935**

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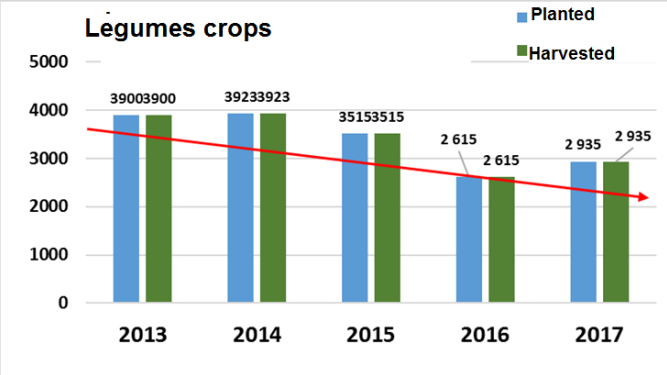
	2013	2014	2015	2016	2017
Production (tonnes)					
Beans	437	475.1	336.5	116.3	205.7
Feed peas	26.5	65.4	13	110	0
Lentils	0	4.4	0	0	0
Total	**463.5**	**544.9**	**349.5**	**226.3**	**205.7**
Average yeld (kg/daa)					
Beans	115	129	184.0	55	70
Feed peas	265	327	260	220	0
Lentils	**0**	110	0	0	0

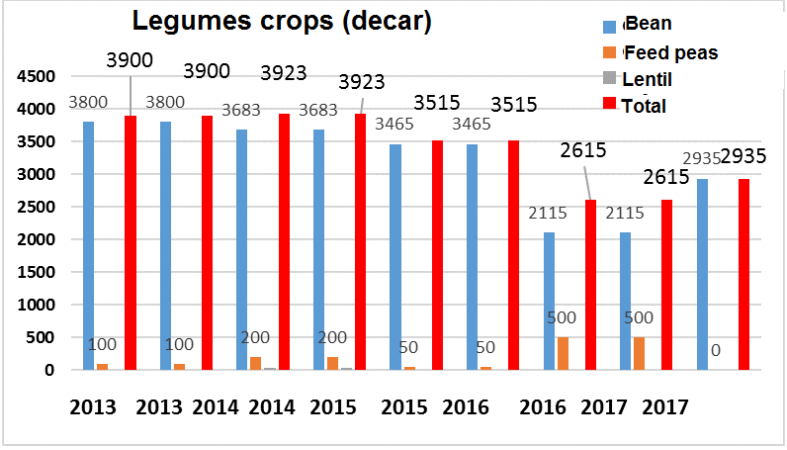
Figure 50. Areas planted with grain legume crops on the territory of Blagoevgrad district in the period 2013-2017



Source: MAFF

Of all grain legumes in the area are mainly grown beans and less feed peas for grain. Lentil production is reported only in 2014 and is negligible against the background of other grain legumes. As can be seen from Fig. 51 the main crop in Blagoevgrad district is beans, followed by the feeed peas. However, while there is a decrease of 3900 daa in 2013 to 2935 daa in 2017 for beans, or 25 per cent, there is an increase in feed peas. The reason is probably the increased requirements for crop rotation and planting of fodder legumes, as well as the higher average yield per decare of peas. There is a trend decreasing the palnted areas with 25% in 2017 compared to the best (2014) year for the survey period.

Figure 51. Areas planted with grain legumes on the territory of Blagoevgrad district in the period 2013-2017 given by crops



Source: MAFF

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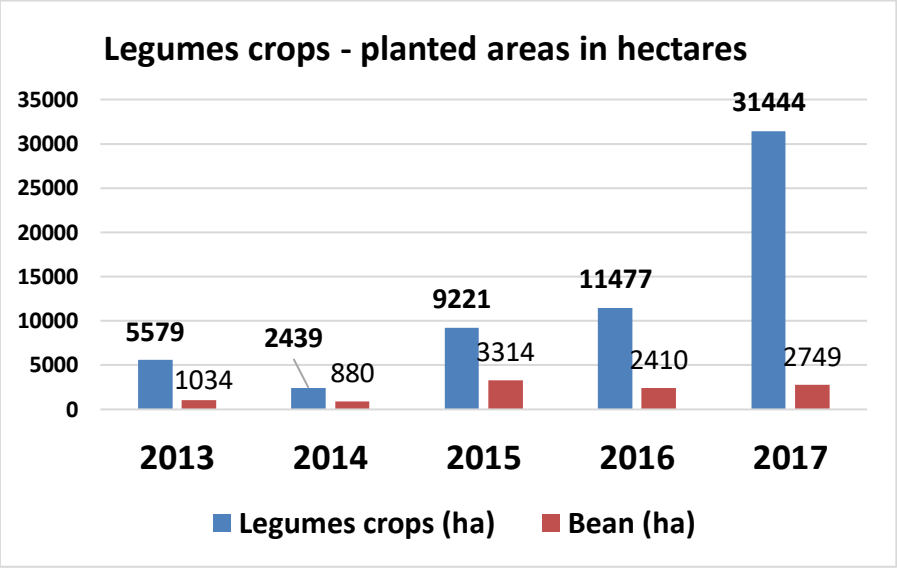
At national level, the areas planted with grain legumes increased significantly from 5579 ha to 31444 ha or 5.6 times (Fig. 52). At the same time, the share of beans is insignificant, although it also has a slight increase. The main reason is crop rotation and a significant increase in the areas with feed peas.

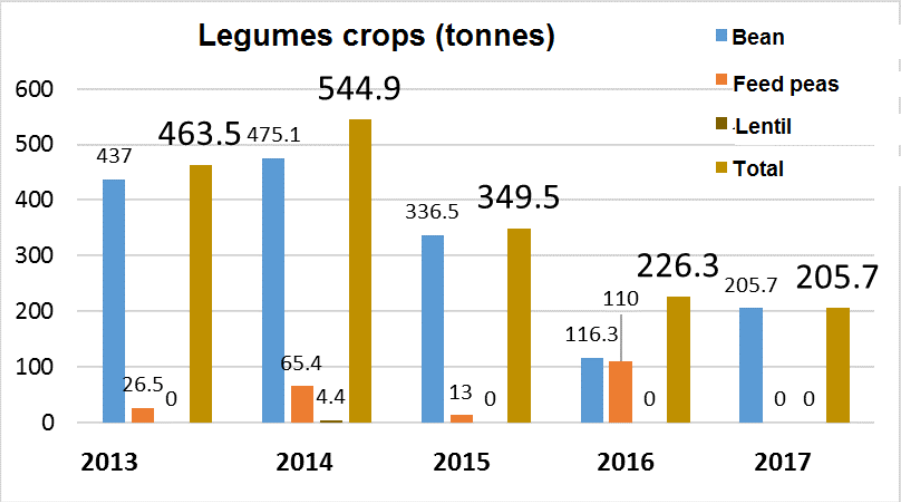
Figure 52. Planted areas of grain legume crops on the territory of Republic of Bulgaria in the period 2013-2017



Source: MAFF

In general grain legume crops are decreasing on the territory of Blagoevgrad district, and this is more visible in beans - from 475 tonnes in 2014 to 205.7 tonnes in 2017 or by 57%. However, for feed peas is increasing significantly by 2016 (no data available for 2017) - from 26.5 tonnes to 110 tonnes or 86% more (Fig. 52).

Figure 53. Total yield of grain legumes on the territory of Blagoevgrad district for the period 2013-2017



Source: MAFF

At national level, total production of dried legumes (beans, lentils and chick peas and feed peas) (Fig. 54) from open areas over the last two years in the country has grown - 15400 tonnes in 2015 to 43005 tonnes in 2017. Of these crops, lentils and chickpeas recorded a significant increase in production on an annual basis, by more than three and nearly twice, respectively,whereas beans showed a decrease (information: MAFF, Agrarian Report 2017) in 2017 compared to 2015 and 2016 when a significant increase was recorded.

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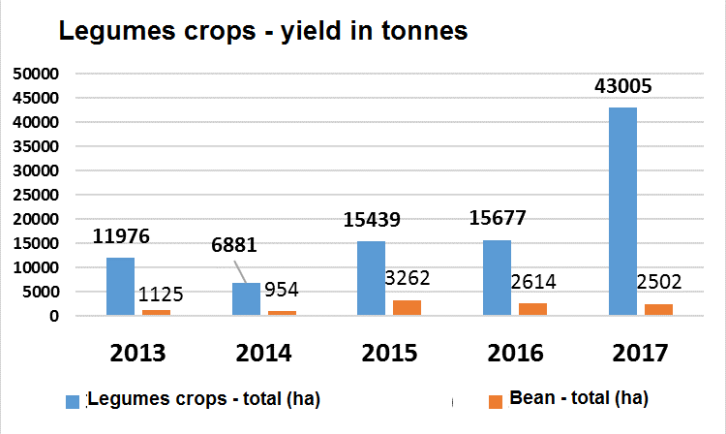
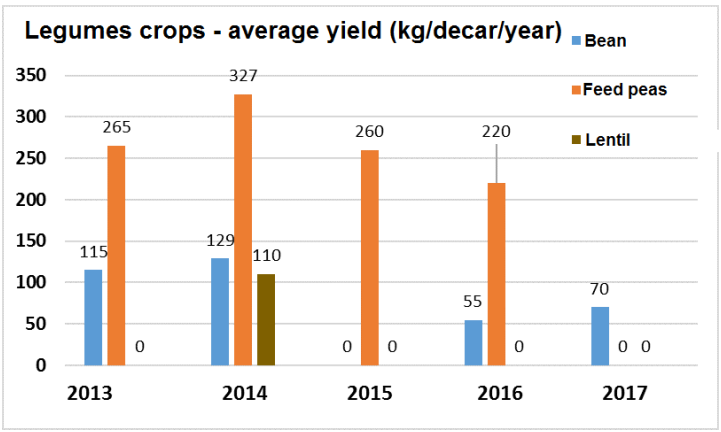
Figure 54. Total yield of grain legumes on the territory of Republic of Bulgaria for the period 2013-2017



Source: MAFF

The average yield of beans in Blagoevgrad district varies from **129 kg/daa** in 2014 to only **55 kg/daa** in 2016 (Fig. 55). There is also a variation in feed peas yields (**327 kg/daa** in 2014 to **220 kg/daa**), but overall yields are significantly higher, and yield variations in years are not so significant.

Figure 55. Average yields (kg/daa) of grain-legumes on the territory of Blagoevgrad district for the period 2013-2017



Source: MAFF

B. Purchase prices of grain legumes

In Table 17 and Fig. 56 are shown the purchase prices for basic grain legumes in the period 2013-2017. It is evident that they remain relatively unchanged for feed peas, whereas for beans there is a large variation to reduction. This partly explains the reduction of the bean areas for the period as well as the increase of the areas with feed peas.

Table 17. Purchase prices for basic grain legumes for the period 2013-2017

Grain legumes-prices in BGN/tonne	2013	2014	2015	2016	2017
Beans	2420.51	3731.31	2739.53	2189.62	1934.87
Feed peas for grain	672.33	794.61	622.98	-	-

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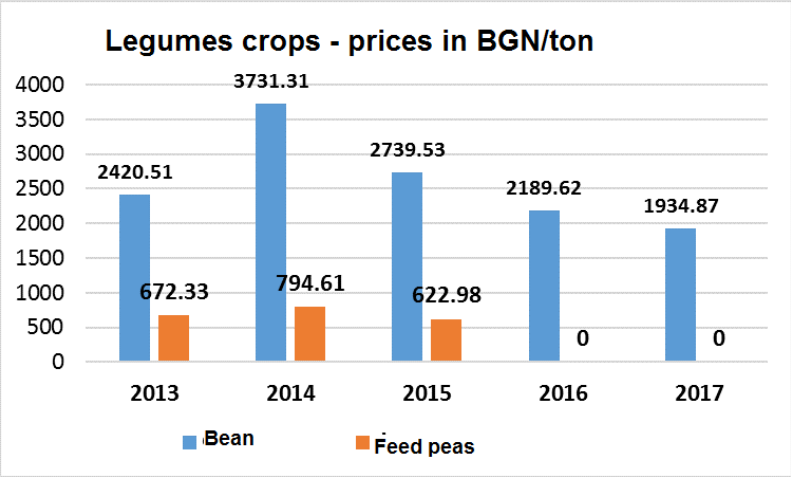
Figure 56. Comparison of purchase prices for basic grain legumes for the period 2013-2017



Source: MAFF

1.1.3. PRODUCTION OF OILSEED CROPS

Source: BGFermer.

The oil crops occupy an insignificant share of the arable land in Blagoevgrad district and are represented almost entirely by the sunflower. Oil crops are plants that are grown mainly for their seeds or fruits with high oil content. The extracted oils are used for human and animal nutrition, for technical purposes, in the pharmaceutical industry or perfumery. Vegetable oils are very important for people's nutrition, as they are more dietary and healthier than animal. For this reason, world vegetable oil production is steadily increasing. Vegetable oils are the most concentrated form of energy for the plant (average 9.5 kkal/1 g), which is 2-fold more than the energy in carbohydrates and proteins. Regarding the climate change caused by global warming, the production of non-traditional crops such as oil plants have prerequisites for development. The total area planted with oilseeds on the territory of Blagoevgrad district (Table 18) varies from 4860 daa in 2017 to 1490 daa (2013) for the observed period (Fig. 55). There is a clear upward trend, mainly due to the interest in rapeseed, which area has grown from 70 daa in 2015 to 2980 daa in 2017.

Table 18. Oil crops - areas, production, average yields

Crop	Areas - 2013		Areas - 2014		Areas - 2015		Areas - 2016		Areas - 2017	
	Planted (daa)	Harvested (daa)	Planted (daa)	Harvested (daa)	Planted (daa)	Harvested (daa)	Planted (daa)	Harvested (daa)	Planted (daa)	Harvested (daa)

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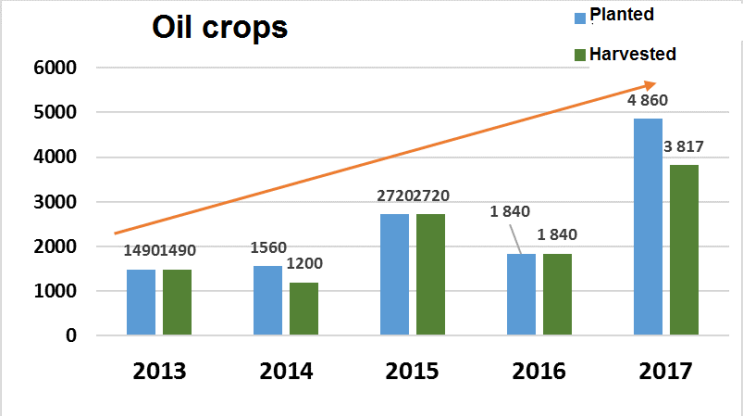
Sunflower	1490	1490	1560	1200	2650	2650	1240	1240	1880	1880
Rapeseed	0	0	0	0	70	50	600	600	2980	1937.3
Total	**1490**	**1490**	**1560**	**1200**	**2720**	**2720**	**1840**	**1840**	**4860**	**3817.3**
	2013		**2014**		**2015**		**2016**		**2017**	
Production (tonnes)										
Sunflower	213.1		136		349		123		194	
Rapeseed	0		0		9.1		120		329	
Total	213.1		**136**		**358.1**		**223**		**523**	
Average yeld (kg/daa)										
Sunflower	143		113		131		99		103	
Rapeseed	0		0		130		200		170	

Figure 57. Areas planted with oilseeds on the territory of Blagoevgrad district in the period 2013-2017



Source: MAFF

As can be seen from Fig. 57 areas planted with oilseeds increased mainly due to the significant increase in rape production. At the same time here is the largest difference between planted and harvested areas. In 2017, it is 1100 daa, or the harvested area is only 63% of the planted. There is also such a difference with the sunflower, but only in 2014, where harvested areas are 77% of the planted. The reasons for this are the peculiarities of these crops. For example, rapeseed is harvested relatively early (end of spring and early summer) and its harvest is much more dependent on atmospheric conditions and the presence of more frequent rainfall in this period, as well as harmful insects. Sunflower is harvested late, early autumn, when harvesting again depends on the weather conditions. Rapeseed is also dependent on the calamities of certain specific pests. But in general, in recent years rapeseed for biofuel support has been planted massively and increasing yields at national level.

Figure 58. Areas planted with oilseeds on the territory of Blagoevgrad district in the period 2013-2017, given by crops

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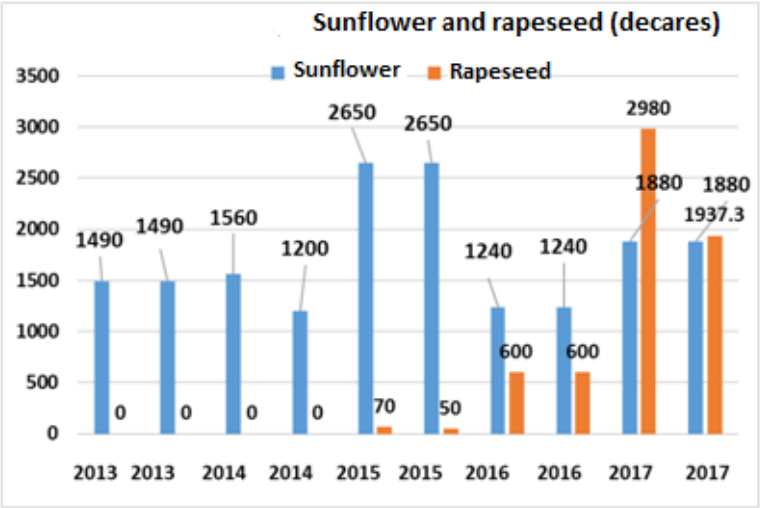
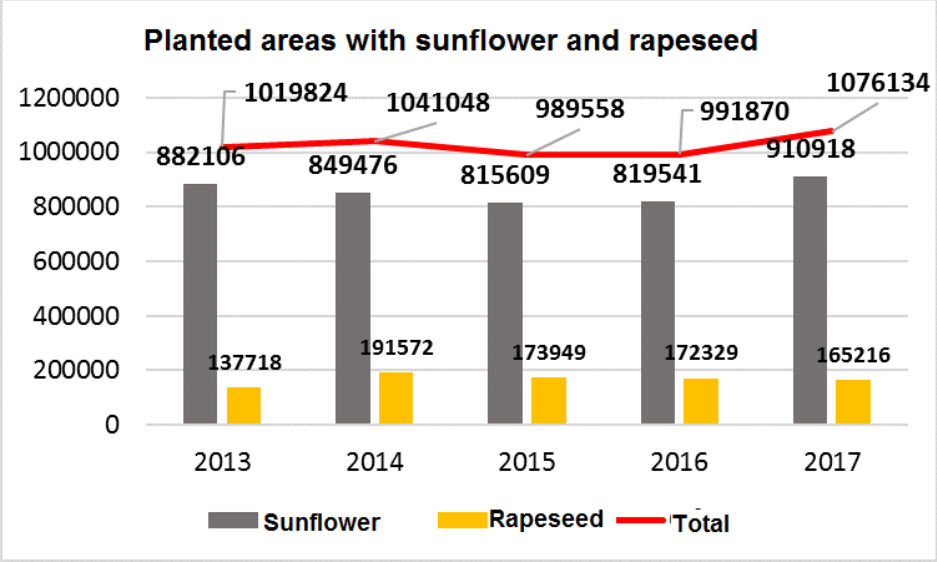


Source: MAFF

At national level (Fig. 59), areas planted with the main oilseeds are kept at relatively constant levels, as sunflower predominates rapeseed.

Figure 59. Areas planted with rapeseed and sunflower in Republic of Bulgaria for the period 2013-2017, in hectares



Source: MAFF

The yields of oilseed generally increase in the Blagoevgrad district (Figur.e 60), despite some negative trends. This tendency is more pronounced in rapeseed and less in sunflower. Rapeseed increased 36 times in 2017 compared to 2015. There is a peak for the sunflower in 2015, and in 2017 the yields are close to those of 2013.

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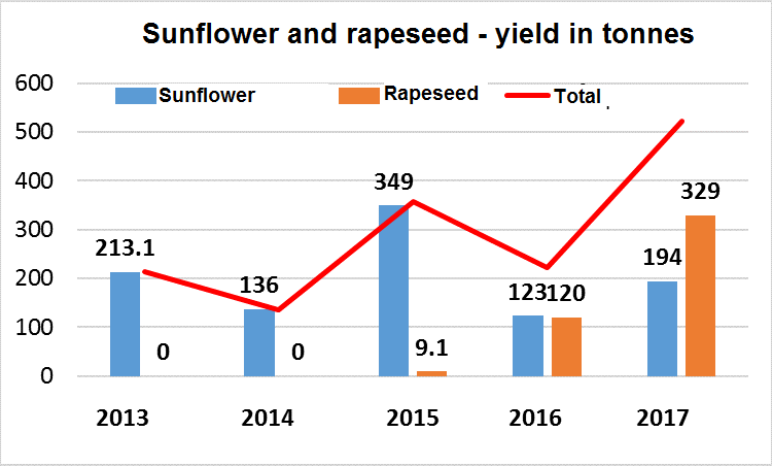
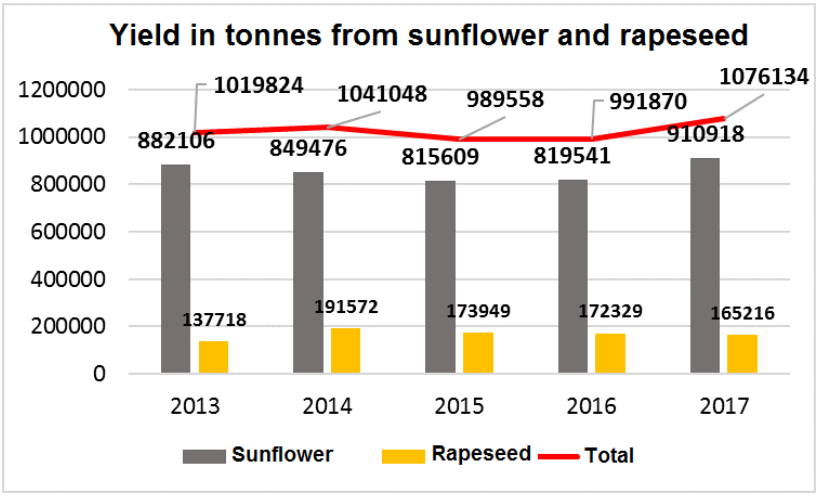
Figure 60. Total yield of oilseeds on the territory of Blagoevgrad district for the period 2013-2017



Source: MAFF

At national level, levels of sunflower and rape yields are comparatively persistent (Fig. 61), but overall there is a slight increase in sunflower.

Figure 61. Total yield of sunflower and rape in the Republic of Bulgaria for the period 2013-2017



Source: MAFF

The average yield of oilseeds in the Blagoevgrad district varies, but it is higher for rapeseed than for sunflower (Fig. 61). Particularly visible are the differences in 2016 and 2017 when rapeseed yields are almost double than that of sunflower.

Figure 62. Average yields (kg/daa) of oilseeds on the territory of Blagoevgrad district for the period 2013-2017

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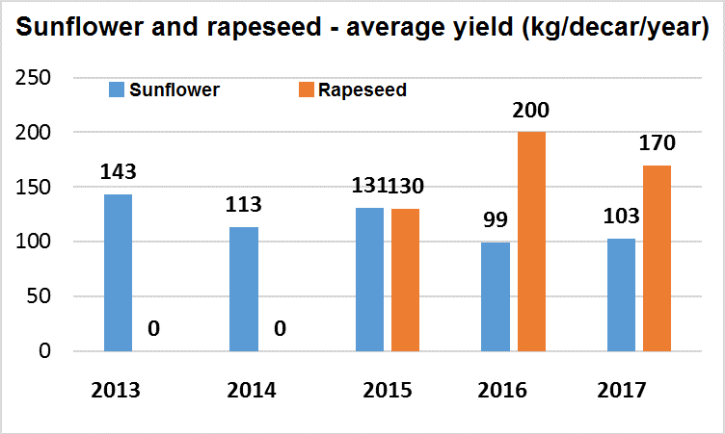


Source: MAFF

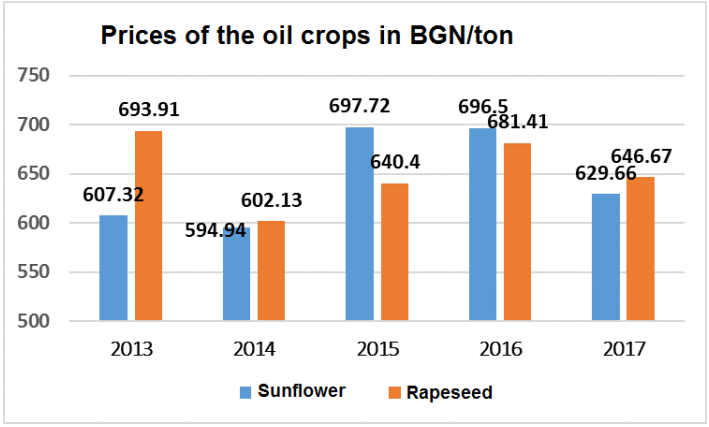
B. Purchase prices of oilseed crops

In Table 19 and Fig. 63 are shown the purchase prices for the main oilseeds crops in the period 2013-2017. They vary for both major crops but it is more pronounced for sunflower. This, combined with higher yields of rapeseed and prices close to those of sunflower, explains the growing interest in rapeseed during last years.

Table 19. Purchase prices for the main oilseed crops for the period 2013-2017

Oil crops - prices in BGN/tonne	2013	2014	2015	2016	2017
Sunflower	607.32	594.94	697.72	696.5	629.66
Rapeseed	693.91	602.13	640.4	681.41	646.67

Figure 63. Comparison of purchase prices for major oilseeds



Source: MAFF

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1.1.4. PRODUCTION OF INDUSTRIAL CROPS

Tobacco has been grown in Bulgaria since 1717. It is an annual plant that is harvested in the summer. Tobacco is environmentally sustainable and can be successfully grown as a monocrop. This is beneficial for regions with typical Oriental tobacco production, as the soil and terrain conditions there are inappropriate for growing most of the crops. Tobacco stems are rich in potassium, and after special processing serve to obtain fine paper. Its seeds are rich in fat (38-40%) and can be used for producing high quality oils for technical purposes. Worldwide, about 50 million decares of tobacco are planted as 88% are in Asia (mainly China, India, Pakistan, Japan, Turkey). The production of light tobaccos of the Virginia, Burley, Oriental and Semi-Oriental types predominates.

Tobacco growing on the territory of Blagoevgrad District has a considerable social significance, because in certain low-productive soils, typical for some of the municipalities in the area, this culture is fundamental for the population and is the basis of its traditional livelihood. Blagoevgrad district ranks second in the country after Kardzhali district in tobacco production. The Pirin (Strumsko-Mestenski) region covers the valleys of Struma and Mesta rivers. There are around 25% of the area and about 26% of the tobacco in the country. In the area are mainly grown "Basma", "Nevrokop", "Rila" and other local varieties. The processing of the tobacco is carried out in Blagoevgrad, Dupnitsa and Sofia. Satovcha Municipality is the largest tobacco producer in the Blagoevgrad region. During the period 2013-2017 (Table 20) only Oriental tobacco was grown in the district. Oriental tobacco has small leaves. It is mainly used for cigarette production.

Tobacco is a traditional crop for the district (Table 20), and tobacco production is the main alternative livelihood of the rural population. Nonetheless, tobacco producers in Blagoevgrad district are abandoning tobacco growing and are targeting to the preservation of fruit and vegetables grown in the region.

What funding opportunities does the state and the European Union offer and will it replace the tobacco production in Blagoevgrad with alternative agriculture? This is a question and an important problem to solve! The number of tobacco growers is also decreasing. For example, in 2015 they were 23000, in 2016 - 17000, with the main reason - low prices for all tobacco varieties. But despite the facts, Bulgaria's foreign trade balance continues to be positive and the sector has its contribution to the country's economy. Both at **regional and national levels** tobacco production shows a decrease over the period 2013-2017. Despite the fact that planted and harvested areas are practically the same, from 2013 to 2017 the tobacco areas decreased from 28111 daa to 6960 daa or 4 times (Fig. 64).

Table 20. Industrial crops - areas, production, average yields.

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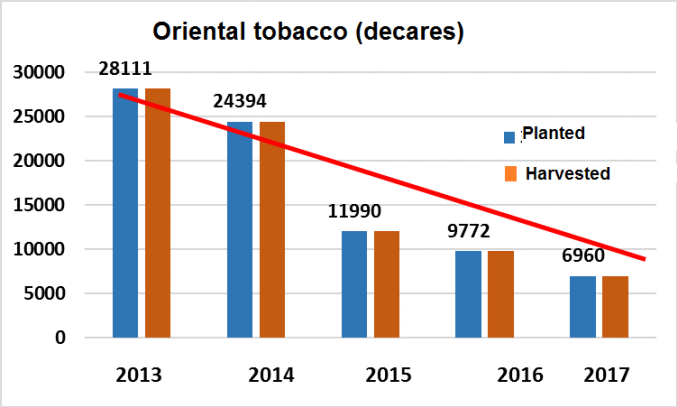
Crop	Areas - 2013		Areas - 2014		Areas - 2015		Areas - 2016		Areas - 2017	
	Planted (daa)	Harvested (daa)	Planted (daa)	Harvested (daa)	Planted (daa)	Planted (daa)	Harvested (daa)	Planted (daa)	Harvested (daa)	Planted (daa)
Oriental tobacco	28111	28111	24394	24394	11990	11990	9772	9772	6960	6960
Total	**28111**	**28111**	**24394**	**24394**	**11990**	**11990**	**9772**	**9772**	**6960**	**6960**
	2013		**2014**		**2015**		**2016**		**2017**	
Production (tonnes)										
Oriental tobacco	4413.4		3771.3		1279.3		1370.7		1027.4	
Total	**4413.4**		**3771.3**		**1279.3**		**1370.7**		**1027.4**	
Average yield (kg/daa)										
Oriental tobacco	**157**		**154.6**		**107**		**140**		**148**	

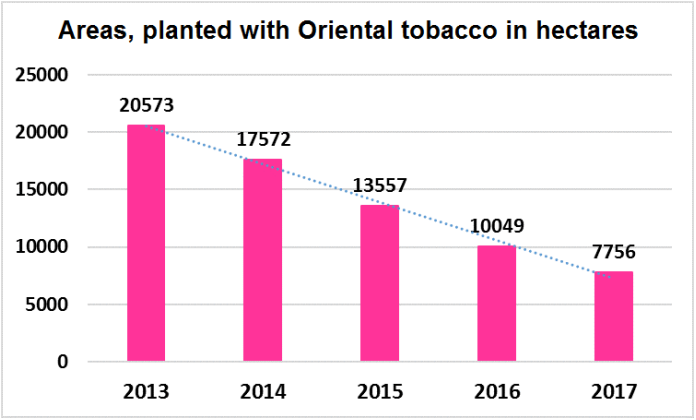
Figure 64. Areas planted with oriental tobacco on the territory of Blagoevgrad disrtrict in the period 2013-2017



Source: MAFF

As can be seen from the Agrostatistics data (Fig. 65) at national level for the period 2013-2017, tobacco areas have decreased almost three times, therefore the trends in Blagoevgrad are not an isolated phenomenon in the country, but follow the general trend.

Figure 65. Areas planted with tobacco on the territory of Republic of Bulgaria in the period 2013-2017



Tobacco yields in tonnes (Fig. 66), also in Blagoevgrad district decreased more than 4 times for the reported period - from 4413.4 tonnes in 2013 to 1027.4 tonnes in 2017.

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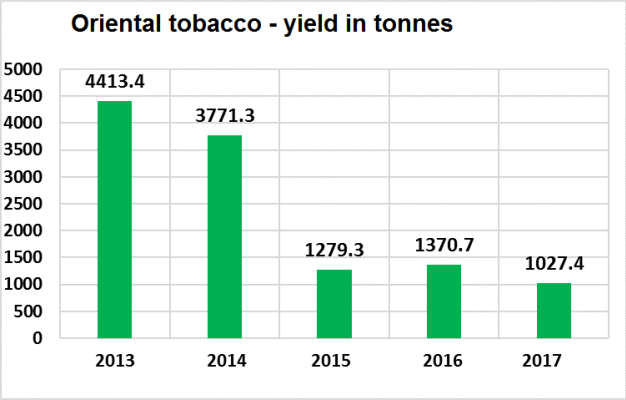
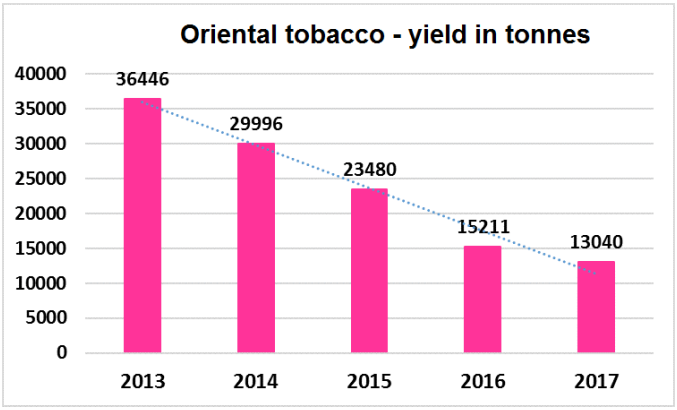
Figure 66. Total yield of oriental tobacco on the territory of Blagoevgrad district for the period 2013-2017



Source: MAFF

As can be seen from the graph (Fig. 67), tobacco yields at national level are also progressively decreasing, which is logical given the three-fold decrease of the areas with this crop.

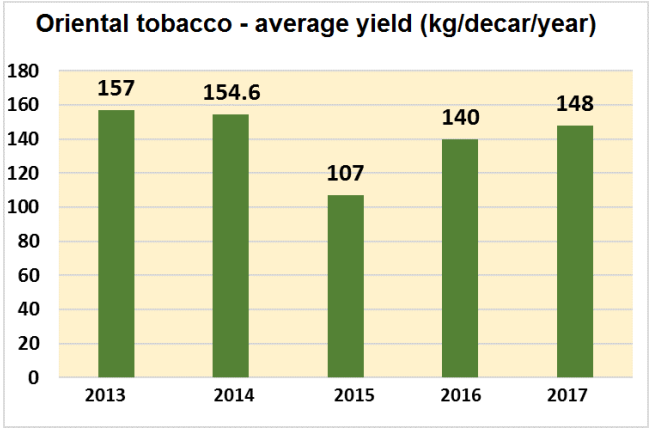
Figure 67. Total tobacco yield on the territory of Republic of Bulgaria for the period 2013-2017



Source: MAFF

The average yield of Oriental tobacco in Blagoevgrad district varies (Fig. 68) relatively negligibly, as the highest average yield is **157 kg/daa** (2013) which is 32% higher than the year with the lowest yield - **107 kg/daa** in 2015.

Figure 68. Average yields (kg/daa) of Oriental tobacco on the territory of Blagoevgrad district for the period 2013-2017



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Source: MAFF

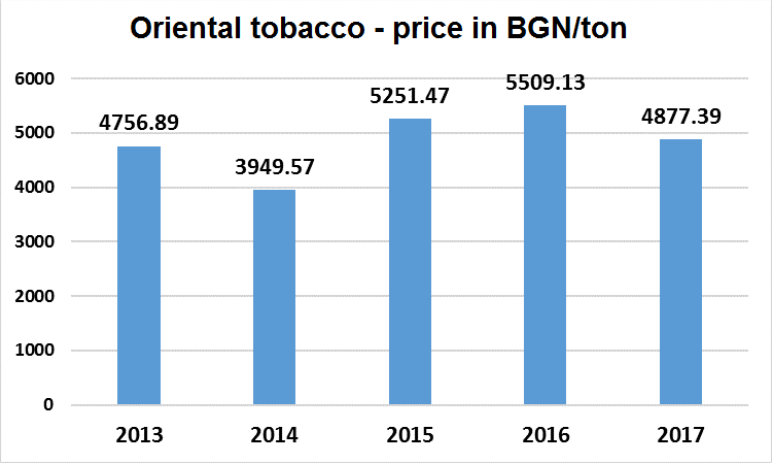
B. Purchase prices of oriental tobacco

In Table 21 and Fig. 69 are shown purchase prices for oriental tobacco for the period 2013-2017. It is seen that they remain slightly changed, with higher levels in 2016. This does not correspond to the progressive reduction of the areas and yields of this crop. The reasons for this are not related to the specific features of regional agriculture, but to changes in national policy towards this type of livelihood, as well as some macro-economic reasons at national level related to the purchase and processing of tobacco.

Table 21. Purchasing prices for Oriental Tobacco for the period 2013-2017

Industrial tobacco - prices in BGN/tonne	2013	2014	2015	2016	2017
Oriental tobacco	4756.89	3949.57	5251.47	5509.13	4877.39

Figure 69. Comparison of oriental tobacco purchase prices for the period 2013-2017



Source: MAFF

1.1.5. PRODUCTION OF FORAGE CROPS

Forage crops in the Blagoevgrad District are represented by alfalfa, annual feed for hay (clover, sorghum, etc.) and silage maize (Table 22). Lucerne is a perennial leguminous fodder crop that can provide yields of hay over 1500 kg/daa. It is rich in protein and mineral substances. It is ideal for feeding animals in fresh, slightly withered condition and after drying. Maize is an important agricultural crop that is used for grain, silage and for green fodder.

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Grasslands (pastures and meadows) are generally decreasing in the area. High-mountain pastures, which are grassed surfaces, mainly at a height between 1000 and 1500 meters, used for animals during the summer, in 2015 showed a decrease of 2.2% compared to the previous year. Grass areas with low productive potential, which are never mowed, also decreased with 1.4%compared to the previous year. They are classified only in case they are used regularly by grazing animals. The main reasons for the reduction of permanent grassland are the subsidy policies mainly for grain production, coupled with an overall collapse in livestock farming, especially between 1990 and 2007. This led to massive plowing of meadows and pastures in all parts of the country.

Table 22. Forage crops - areas, production, average yields

Crop	**Areas - 2013**		**Areas - 2014**		**Areas - 2015**		**Areas - 2016**		**Areas - 2017**	
	Planted (daa)	**Harvested (daa)**	**Planted (daa)**	**Harvested (daa)**	**Planted (daa)**	**Harvested (daa)**	**Planted (daa)**	**Harvested (daa)**	**Planted (daa)**	**Harvested (daa)**
Maize for silage	250	250	1230	880	1120	1120	400	400	720	720
Lucerne	2815	2815	2465	2465	2915	2915	4090	4090	0	0
Annual hay forage	12920	12920	345	345	1350	1350	0	0	0	0
Total	**15985**	**15985**	**4040**	**3690**	**5385**	**5385**	**4490**	**4490**	**720**	**720**
	2013		**2014**		**2015**		**2016**		**2017**	
Production (tonnes)										
Maize for silage	705.8		1760		1920		400		1620	
Lucerne	1494.8		1951.2		1562.3		1880.6			
Annual hay forage	4263.6		39.6		675		0		0	
Total	**6464.2**		**3750.8**		**4157.3**		**2280.6**		**1620**	
Average yield (kg/daa)										
Maize for silage	2823		2000		1714		1000		1000	
Lucerne	531		792		536		459.7		0	
Annual hay forage	330		115		500		0		0	

The trend of the change in the planted area registered a decline in fodder crops (Fig. 70) in Blagoevgrad district, as it is most pronounced in the annual hay forage. Generally, forage crops decreased from nearly 16,000 daa in 2013 to 720 daa in 2017 or 22 times. Planted and harvested areas except for 2014 are practically identical. Only in 2014, 91% of the planted areas are harvested. From Table 22 it is clear that this is for silage maize, which was partially compromised.

Figure 70. Areas planted with forage crops on the territory of Blagoevgrad district in the period 2013-2017

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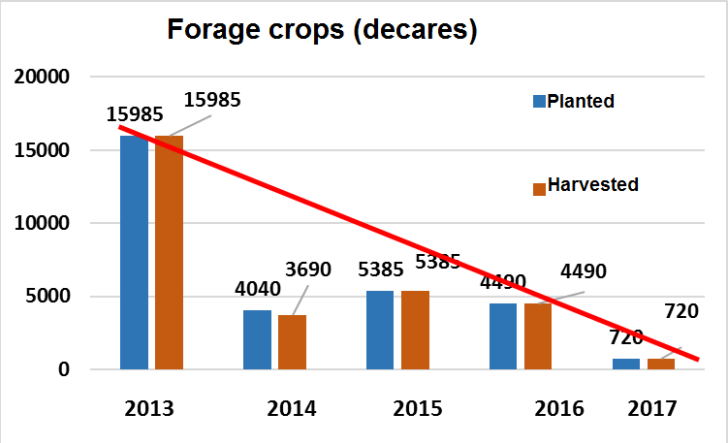
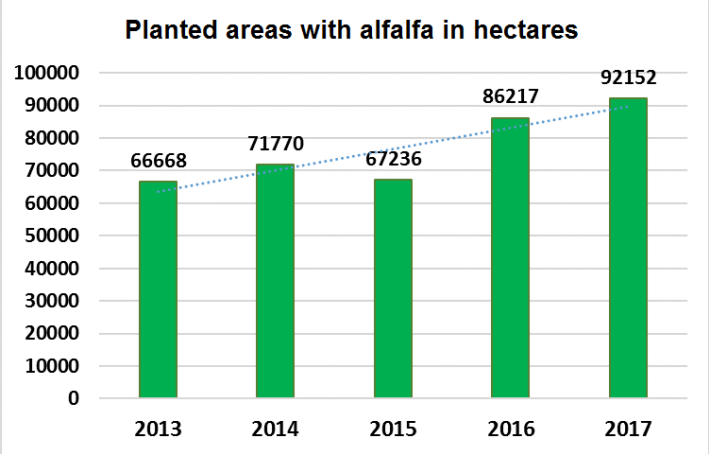


Source: MAFF

The increase of the areas planted with alfalfa at national level, which is one of the most important forage crops, is presented for a comparison (Fig. 71). It is evident that in relation to the rise of livestock farming in recent years, lucerne production has increased by more than one third.

Figure 71. Areas planted with alfalfa on the territory of Republic of Bulgaria in the period 2013-2017



Source: MAFF

Fodder yields generally decrease in Blagoevgrad (Fig. 72), from 6464 tonnes in 2013 to 2860 tonnes in 2016 and 2017. The reported decrease is about 2.3 times due to the reduction of annual hay forage.

Figure 72. Total yield of forage crops on the territory of Blagoevgrad district for the period 2013-2017

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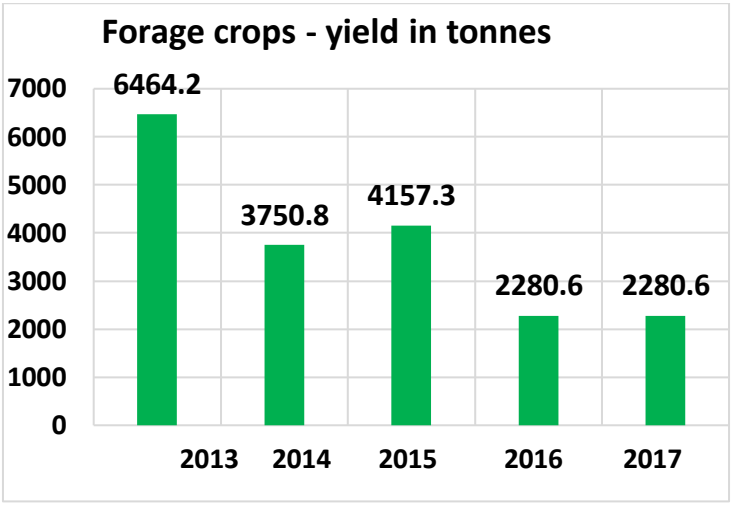
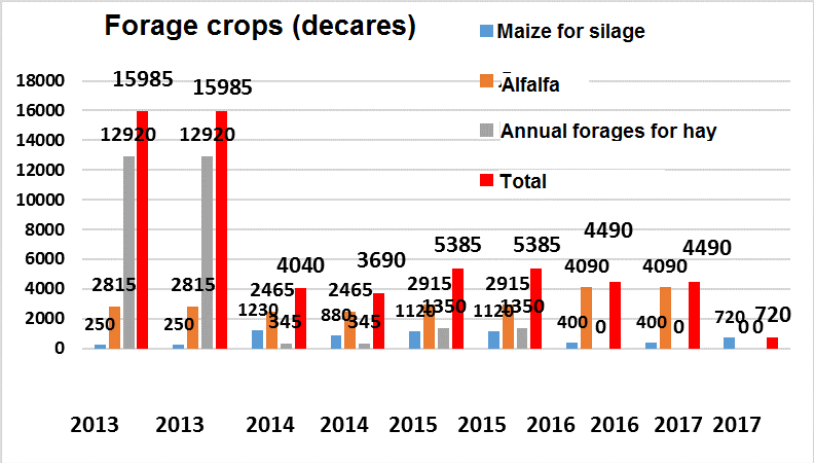


Source: MAFF

As can be seen from Fig. 73 the main crop in the Blagoevgrad district was the annual forage hay for which a significant decrease was recorded. On the other hand, the production of silage maize, after a serious peak in 2015 and a decrease in 2016, again recorded an increase in 2017. The increase of planted lucerne for the period 2013-2016 is very serious, from 2815 daa to 4090 daa, or 1.4 times. The reason is probably the increased interest in livestock subsidies and the higher average yields of lucerne in kg/daa relative to annual hay forages.

Figure 73. Areas planted with forage crops on the territory of Blagoevgrad district in the period 2013-2017, given by crops



Source: MAFF

The yields of forage crops (Fig. 74) are generally decreasing on the territory of Blagoevgrad district, which is more visible in the annual hay forage - from 4263 tonnes in 2013 to 675 tonnes in 2015, and for the next two years there is no data. There is a new significant increase in 2017 of silage maize, after a reduction in 2016. This increase is stable for alfalfa until 2016 - from 1494.8 tonnes to 1880.6 tonnes, or 1.25 times.

Figure 74. Total yield of forage crops (tonnes) on the territory of Blagoevgrad district for the period 2013-2017

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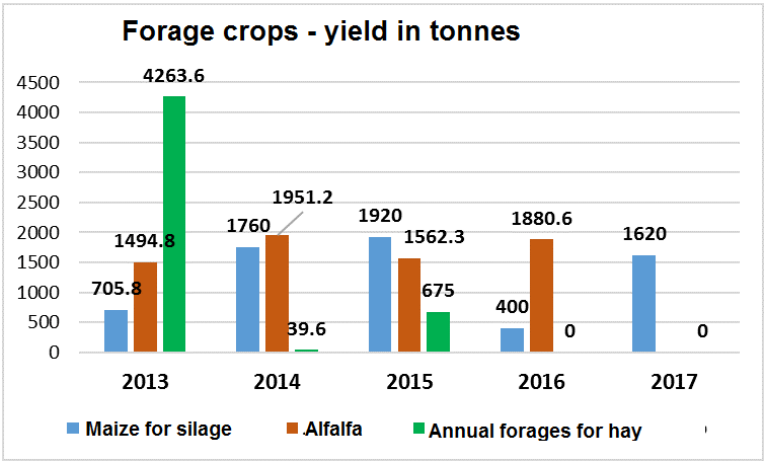
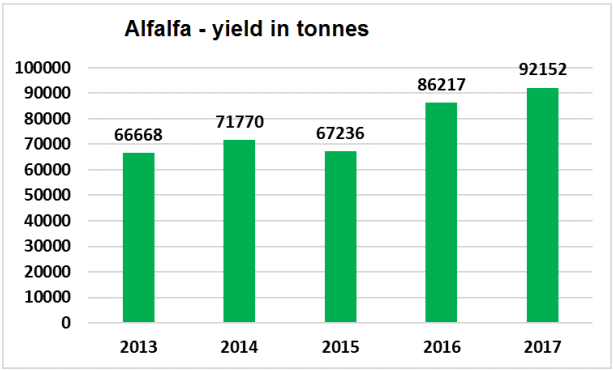


Source: MAFF

At the national level, alfalfa yields (Figure 75) increase by about 1/3 compared to the planted area with this crop. The reasons are highlighted above and are related to the increase in livestock during the last years.

Figure 75. Total alfalfa yield (tonnes) on the territory of Republic of Bulgaria for the period 2013-2017



Source: MAFF

The average yield varies mostly for silage maize - from **2823 kg/daa** in 2013 to only **1000 kg/daa** in 2015 and 2016 (Fig. 76). For alfalfa, fluctuations are up to 20% in individual years. They are also significant for annual hay forages, apparently in connection with weather conditions. For example, in 2015 they are 500 kg/daa, and in 2014 only 115 kg/daa.

Figure 76. Average yields (kg/daa) of forage crops on the territory of Blagoevgrad district for the period 2013-2017

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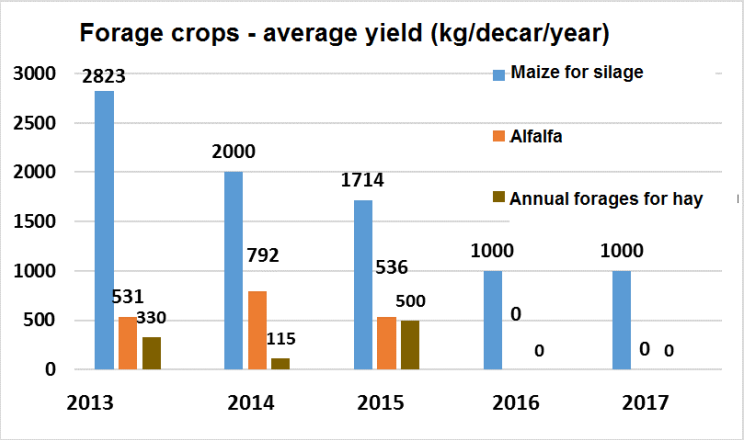


Source: MAFF

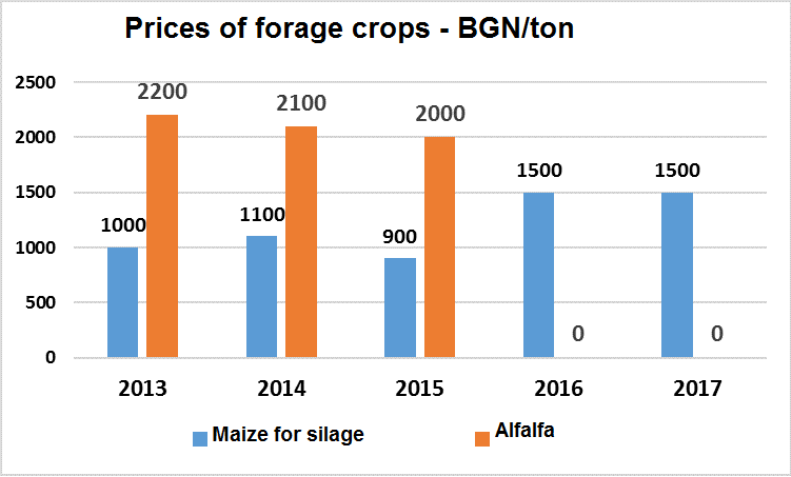
B. Purchase prices of forage crops

In Table 23 and Fig. 77 are given the purchase prices for silage maize and lucerne in the period 2013-2017. It is seen that they remain virtually unchanged for alfalfa, being relatively high, whereas for silage maize there are variation over the years. But overall, for the period from 2013 to 2017, there is an increase in these prices, whereas for alfalfa they are insignificantly decreasing. This is probably due to the increase in alfalfa, at the expense of other forage crops.

Table 23. Purchase prices for basic forage crops for the period 2013-2017

Forage crops – prices in BGN/tonne	2013	2014	2015	2016	2017
Silage maize	1000	1100	900	1500	1500
Lucerne	2200	2100	2000	-	-

Figure 77. Comparison of purchase prices for basic forage crops for the period 2013-2017



Source: MAFF

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1.1.6. PRODUCTION OF FRESH VEGETABLES

Source: Manager.bg

Vegetable crops, also known as vegetables, are an important food for humans because of the high nutritional, dietary and medicinal value of the salts, vitamins, organic acids, phytoncides, alkaloids and other substances that they contain. Vegetables are consumed in large quantities by humans except fresh also processed - dried, frozen, preserved, pickled or marinated, as purees or juices and other.

There are several large vegetable growing regions in Bulgaria based on the vailable natural, demographic and economic factors. One of them is Sandansko-Petrichki in Blagoevgrad District. In this area are grown early and medium-early vegetables - mainly tomatoes. Most of the vegetable production in Blagoevgrad District is concentrated along the Struma River where soil characteristics and irrigation possibilities create favorable conditions for it. A significant part of the vegetables is produced in family gardens as the production is for personal needs and is not available on the market. The presence of geothermal springs in the area is a good prerequisite for the development of greenhouse production of flowers and vegetables. The data on the production of fresh vegetables (Table 24) in the area is based on a 4-year period - 2013-2016, as there was incomplete or no information available on some major crops in 2017.

Table 24. Fresh vegetables - areas, production, average yields

Crop	Areas - 2013		Areas - 2014		Areas - 2015		Areas - 2016	
	Planted (daa)	Harvested (daa)	Planted (daa)	Harvested (daa)	Planted (daa)	Harvested (daa)	Planted (daa)	Harvested (daa)
Potatoes	19430.0	19430.0	19270.0	18010.0	19125.0	19125.0	11350	11350
Tomatoes - open areas	3185.0	3185.0	3160.0	3158.0	2103.0	2103.0	433.4	433.4
Tomatoes - greenhouse	1256.0	1256.0	1304.0	1304.0	1404.0	1404.0	1186.5	1186.5
Pepper - open areas	1195.0	1195.0	1245.0	1245.0	970	970	547.0	547.0
Pepper - greenhouse	50.0	50.0	50.0	50.0	50	50	72.2	72.2
Cucumbers - open areas	429.2	429.2	290.0	290.0	130.0	130.0	55.8	55.8
Cucumbers - greenhouses	862.0	862.0	989.0	989.0	898.5	898.5	663.3	663.3
Water melons	2375.0	2375.0	2266.0	2265.0	1062.0	1062.0	405.0	405.0

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Melons	745.0	745.0	836.0	835.0	401.0	401.0	45.0	45.0
Strawberries	621	621	616	616	516	516	727.0	727.0
Onion	365.0	365.0	230.0	230.0	255.0	255.0	-	-
Garlic	79.0	79.0	62.0	62.0	75.0	75.0	-	-
Headed cabbage	12155	12102	12090.0	12065.0	10298	10298	13322	13322
Eggplant	440.0	440.0	443.0	443.0	651.0	651.0	-	-
Pumpkin	110.0	110.0	113.0	113.0	160.0	160.0	-	-
Zucchini	425.0	425.0	425.0	425.0	520.0	520.0	-	-
Okra	50.0	50.0	50.0	50.0	50.0	50.0	-	-
Cauliflower	350.0	350.0	350.0	350.0	500.0	500.0	-	-
Broccoli	10.0	10.0	10.0	10.0	20.0	20.0	-	-
Radish	1502.0	1502.0	1515.0	1515.0	1505.0	1505.0	-	-
Beetroot	35.0	35.0	35.0	35.0	50.0	50.0	-	-
Carrots	152.0	152.0	153.0	153.0	120.0	120.0	-	-
Onion-green	1707.0	1707.0	1708.0	1708.0	1507.0	1507.0	-	-
Garlic - green	303.0	303.0	303.0	303.0	402.0	402.0	-	-
Leeks	340.0	140.0	325.0	325.0	313.0	313.0	-	-
Salads	3530.0	3530.0	3530.0	3530.0	2500.0	2000.0	-	-
Lettuce	515.0	415.0	515.0	415.0	529.0	379.0	-	-
Spinach	250.0	250.0	250.0	250.0	250.0	250.0	-	-
Parsley	100.0	100.0	100.0	100.0	100.0	100.0	-	-
Celery - heads	10.0	10.0	10.0	10.0	20.0	20.0	-	-
Savory	20.0	20.0	20.0	20.0	20.0	20.0	-	-
Dill	80.0	80.0	80.0	80.0	80.0	80.0	-	-
Sweet corn	100	100	100	100	500	500	-	-
Total	**54405.2**	**54405.2**	**53260.0**	**51671.0**	**47084.0**	**46434.5**	**28807.2**	**28807.2**

	Production (tonnes)			
	2013	**2014**	**2015**	**2016**
Potatoes	24851.0	22152.3	20801.0	11934.0
Tomatoes - open areas	8883.0	5608.6	6507.0	1430.2
Tomatoes - greenhouse	11476.1	12187.2	12890.0	12515.9
Pepper - open areas	1283.0	1556.0	1290.0	657.2
Pepper - greenhouse	6500.0	6500.0	200.0	410.2
Cucumbers - open areas	882.0	558.3	420.0	178.6
Cucumbers - greenhouses	15041.9	13921.2	12755.0	8083.9
Water melons	6115.6	6310.3	2516.0	328.0
Melons	1218.8	1324.3	871.8	19.0
Strawberries	368.9	338.8	230.9	182.0
Onion	292.0	101.2	139.0	-
Garlic	25.4	15.1	25.5	-
Headed cabbage	27.6	29.3	20493.0	39648.3
Eggplant	1342.0	1329.0	3131.0	-
Pumpkin	330.0	206.8	760.0	-
Zucchini	871.3	828.8	2508.0	-
Okra	29.4	23.8	25.0	-
Cauliflower	25.0	24.0	750.0	-

Broccoli	525.0	560.0	20.0	-
Radish	10.0	11.0	3001.5	-
Beetroot	1952.6	1893.8	125.0	-
Carrots	87.5	84.0	120.0	-
Onion-green	174.8	156.8	2254.0	-
Garlic - green	2048.4	1593.6	600.8	-
Leeks	318.2	303.0	566.0	-
Salads	197.4	151.6	5000.0	-
Lettuce	6354.0	6530.5	892.2	-
Spinach	615.4	478.5	250.0	-
Parsley	250.0	275.0	30.0	-
Celery - heads	30.0	29.0	20.0	-
Savory	10.0	11.0	30.0	-
Dill	5.0	5.2	16.0	-
Sweet corn	40	42	175	-
Total	**86685.1**	**79818.2**	**99413.0**	**75387.3**
	Average yield (kg/daa)			
	2013	**2014**	**2015**	**2016**
Potatoes	1279.0	1230.0	1088.0	1051.0
Tomatoes - open areas	2789.0	1776.0	3094.0	3300.0
Tomatoes - greenhouse	9137.0	9346.0	9180.0	11800.0
Pepper - open areas	1283.0	1556.0	1330.0	1200.0
Pepper - greenhouse	6500.0	6500.0	4000.0	6550.0
Cucumbers - open areas	9137.0	9346.0	3230.0	3200.0
Cucumbers - greenhouses	2055.0	1925.0	14195.0	12525.0
Water melons	17450.0	14076.0	2370.0	810.0
Melons	2575.0	2786.0	2174.0	422.0
Strawberries	594.0	550.0	447.0	250.0
Onion	800.0	440.0	545.0	-
Garlic	322.0	243.0	340.0	-
Headed cabbage	2280.0	2425.0	1990.0	-
Eggplant	3050.0	3000.0	4809.0	-
Pumpkin	3000.0	1830.0	4800.0	-
Zucchini	2050.0	1950.0	4823.0	-
Okra	256.0	280.0	500.0	-
Cauliflower	500.0	480.0	1500.0	-
Broccoli	1500.0	1600.0	1000.0	-
Radish	1000.0	1100.0	1994.0	-
Beetroot	1300.0	1250.0	2500.0	-
Carrots	2500.0	2400.0	1000.0	-
Onion-green	1150.0	1025.0	1495.0	-
Garlic - green	1200.0	933.0	1494.0	-
Leeks	1050.0	1000.0	1806.0	-
Salads	1410.0	1213.0	2500.0	-
Lettuce	1800.0	1850.0	2354.0	-
Spinach	1483.0	1153.0	1000.0	-

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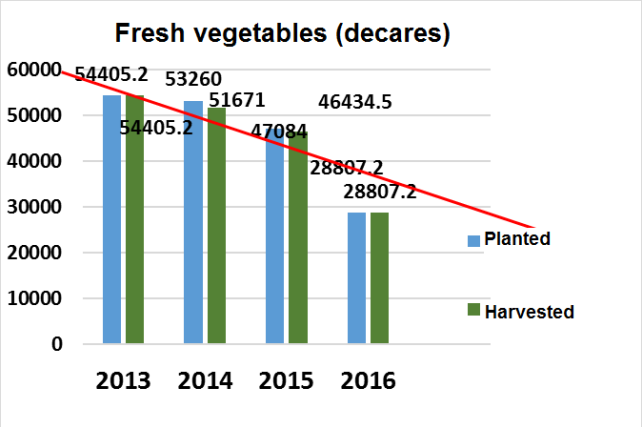
Parsley	1000.0	1100.0	300.0	-
Celery - heads	300.0	290.0	1000.0	-
Savory	1000.0	1100.0	300.0	-
Dill	250.0	260.0	200.0	-
Sweet corn	400	420	400	-

The trend of change in planted areas of fresh vegetables is traced due to the available data between 2013 and 2016. In this period there is a decrease of the areas (Blagoevgrad district) from 54405 daa to 28807 daa, or 47%. The under planted and harvested areas differ, except in 2014 and 2015. For example, in 2014, the harvested area is 96% of the planted. There is a serious weather impact on this group of crops, especially on those grown in open areas.

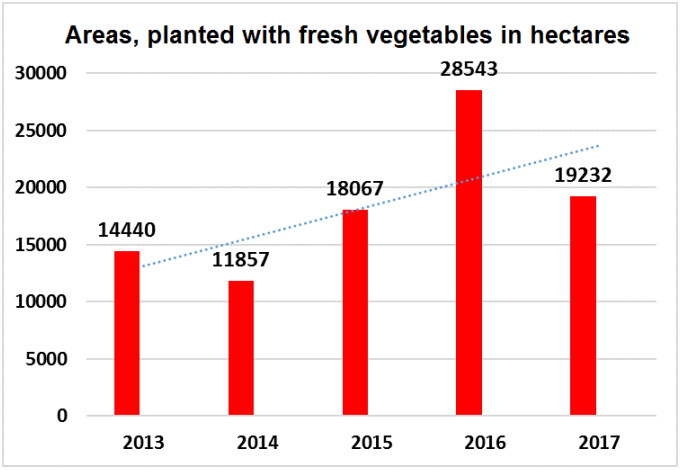
Figure 78. Areas planted with fresh vegetables on the territory of Blagoevgrad district between 2013 and 2016



Source: MAFF

At national level (Fig. 79), there is an increase (only fruit-bearing crops are reported, unlike those for the area that cumulative are also the root vegetable, etc.), although in 2016 the areas of vegetables were almost double compared to 2014. There is a reduction in 2017, but the planted area in hectares is more than the previous years 2013, 2014 and 2015.

Figure 79. Areas planted with fruiting vegetables on the territory of Republic of Bulgaria for the period 2013-2017



Source: MAFF

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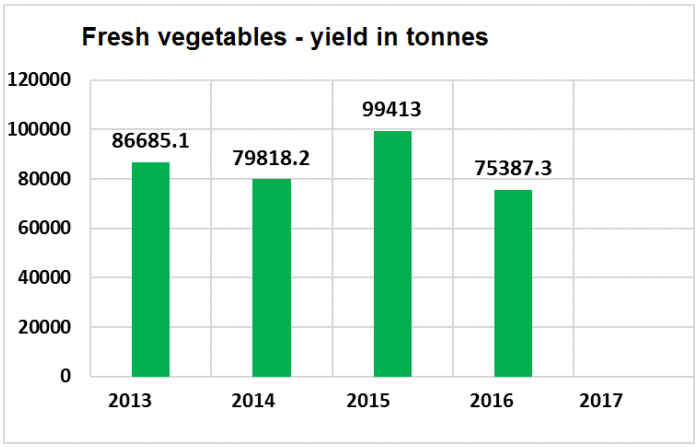
The yields of fresh vegetables generally decrease by about 13% on the territory of Blagoevgrad district, from 86685.1 tonnes in 2013 to 75387.3 tonnes in 2016 (Fig. 80). In 2015 a temporary increase in yields was recorded up to 99143 tonnes, mainly due to the significantly increased production of rare vegetables, such as headed cabbage, radishes and eggplants, in the previous years.

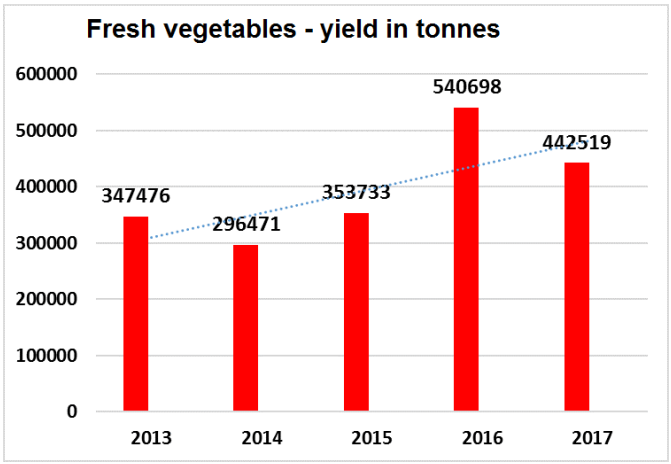
Figure 80. Total yield of fresh vegetables on the territory of Blagoevgrad district for the period 2013 - 2016



Source: MAFF

At national level (Fig. 81), the overall yield of fruiting vegetables is increasing. Although there is a slight decline after the peak in 2016.

Figure 81. Total yield of fruiting vegetables on the territory of Republic of Bulgaria for the period 2013-2017



Source: MAFF

Potatoes

Potatoes are a very important agricultural crop for the mountain and semi-mountainous regions in the country, which predominate in Blagoevgrad district.

A. Planted areas

Potatoes are one of the most important crops grown in the Blagoevgrad region due to its mountainous and semi-mountainous relief and climate. According to data from the Agrostatistics Department (MAFF), the

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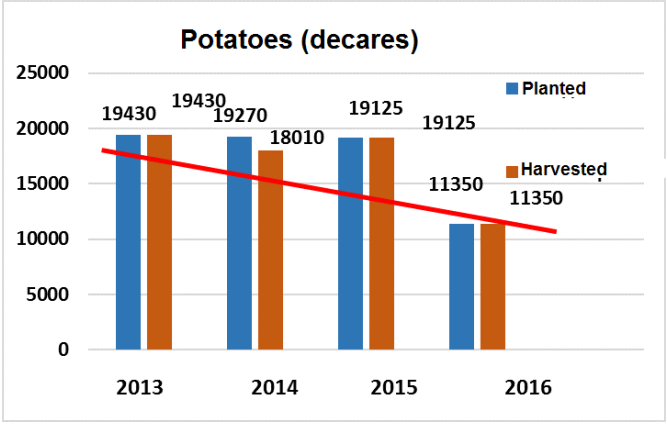
area planted with potatoes for the observed period in Blagoevgrad district varies from 19430 daa (2013) to 11350 daa (2016) (Fig. 82). The harvested areas in most of the years are identical to the planted. But in 2014 harvested areas decrease with about 6.6%. The observed decrease in planted areas is probably related to the fall in purchase prices relative to 2013, difficulties in harvesting, and the various imports of potatoes.

Figure 82. Planted and harvested areas with potatoes on the territory of Blagoevgrad district in the period 2013-2016

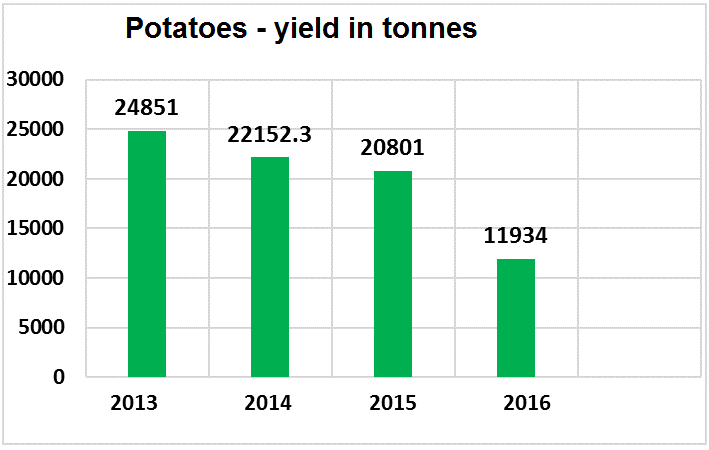


Source: MAFF

Б. Potatoe production

The production of potatoes on the territory of Blagoevgrad district (Fig. 83) is decreasing due to the decrease of the planted areas with a very low harvest in 2015, as the registered decline does not correspond adequately to planted and harvested areas, with the latter being more from the previous 2014, when the yield was higher.

Figure 83. Production of potatoes (tonnes) on the territory of Blagoevgrad district in the period 2013 - 2016



Source: MAFF

The average potato yield in the Blagoevgrad district ranges from **1279 kg/daa** in 2013 to only **1051 kg/daa** in 2016 (Fig. 84). Overall, there was a decrease in average yields with nearly 18% over the 4 year period. The reasons for this are probably complex, but the main thing is the change in weather conditions.

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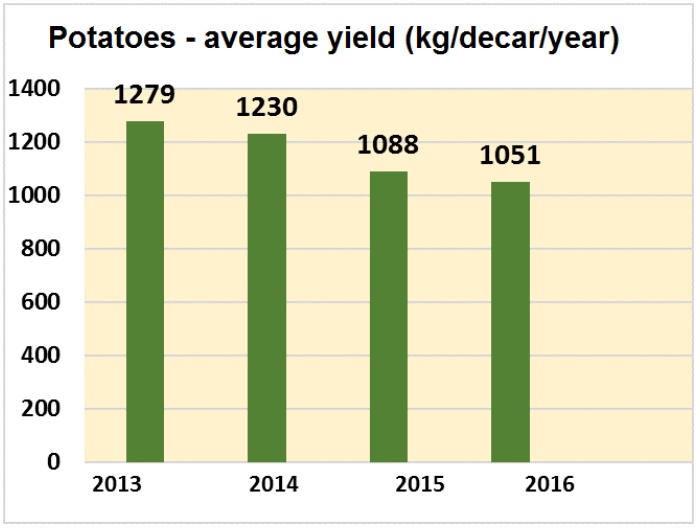
Figure 84. Average yields (kg/daa) of potatoes on the territory of Blagoevgrad district during the period 2013-2016



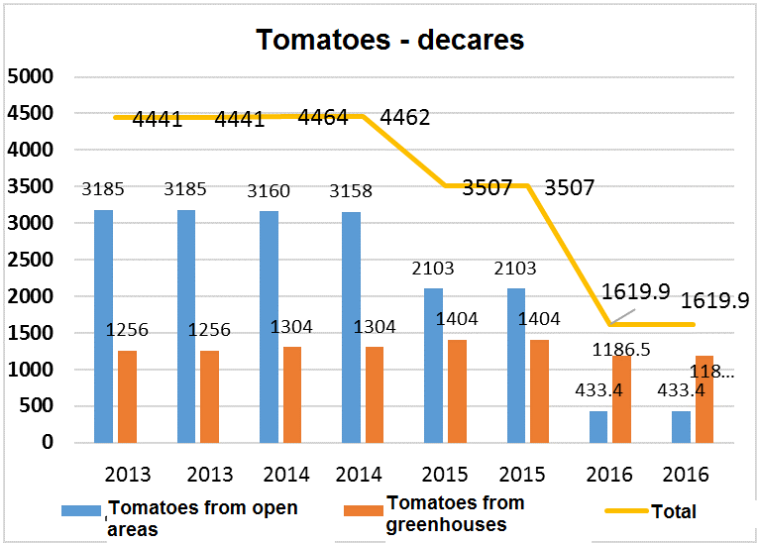
Source: MAFF

Tomatoes

A. Planted areas

According to data from the Agrostatistics Department (MAFF), planted tomato areas for the survey period in the Blagoevgrad region decreased from 4441 daa in 2013 to 1619 daa in 2016, or 2.7 times (Fig. 85). The harvested areas account for more than 99% of open areas and greenhouses planted with this crop. It is noted that this decrease is mainly at the expense of tomatoes grown on open areas, while in greenhouses the decrease is smaller. The reasons are also due to the guaranteed higher yields of greenhouse tomatoes compared to those grown on open air.

Figure 85. Planted and harvested tomato areas on the territory of Blagoevgrad district in the period 2013-2016



Source: MAFF

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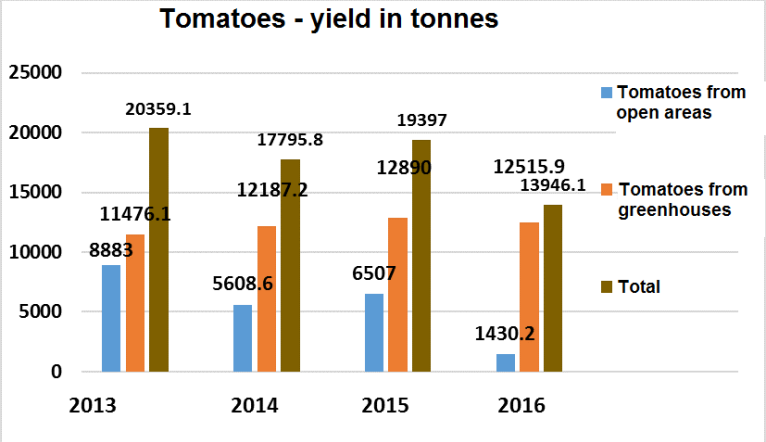
Б. Production of tomatoes

Tomato production in tonnes (Fig. 86), naturally decreases with decreasing planted decares on the territory of Blagoevgrad district as the maximum was in 2014 - 20359 tonness and the minimum was in 2016 - 13946 tonnes, or nearly 1.5 times. At the same time, greenhouse production shows an increase of 11%, from 11476 tonnes to 12516 tonnes.

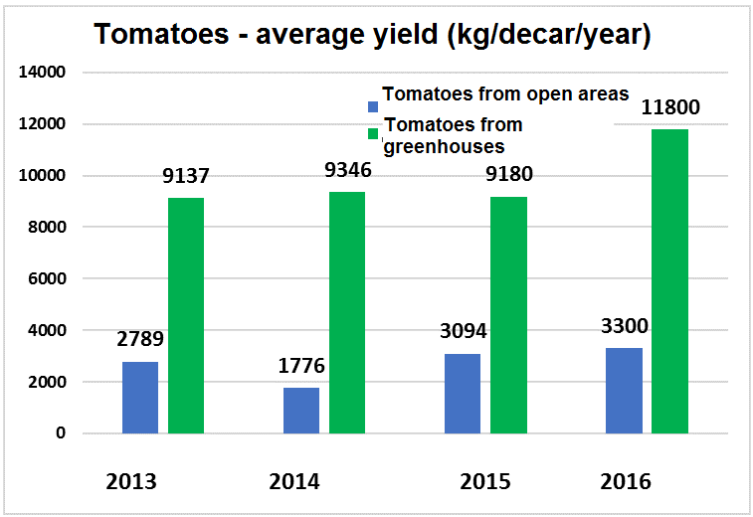
Figure 86. Production of tomatoes (tonnes) on the territory of Blagoevgrad district during the period 2013-2016



Source: MAFF

The average yield of tomatoes in the Blagoevgrad district varies from **11800 kg/daa** in 2016 for greenhouses to only **1176 kg/daa** in 2014 (Fig. 87) for open-field growing. However, in 2016, in general, there was an increase in average yields, both for open-field and greenhouse growth of tomatoes, probably due to the introduction of new varieties and improved cultivation methods. It is more pronounced in greenhouses, where average yields are closer to the maximum because they are practically independent of the weather conditions during the growing season.

Figure 87. Average yields (kg/daa) of tomatoes on the territory of Blagoevgrad district during the period 2013-2016



Source: MAFF

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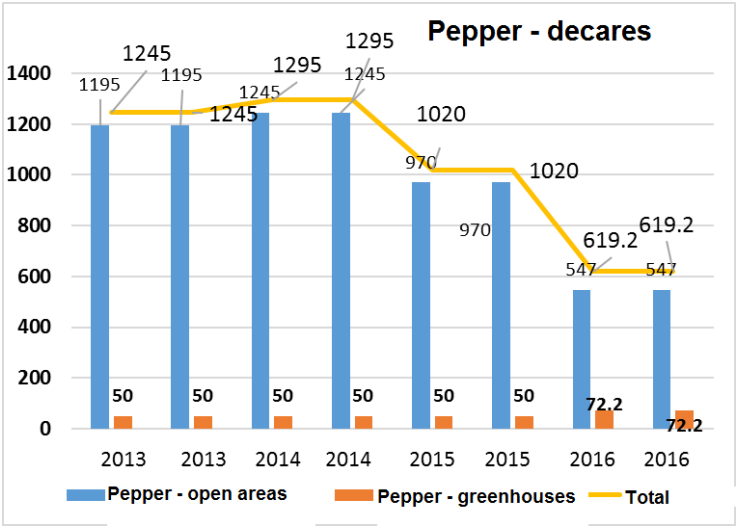
Pepper

A. Planted areas

According to data from the Agrostatistics Department (MAFF), planted pepper areas for the period in Blagoevgrad district decrease from 1245 daa in 2013 to 619 daa in 2016 or about 2 times (Fig. 88). Harvested areas account for more than 99% of open areas and greenhouses planted with this crop. It is noted that this decline is mainly at the expense of the open field areas, whereas the greenhouse growing decreases even though its production is negligible. The reasons are mainly due to the guaranteed higher yields of greenhouse-produced pepper than those grown in the open, which are many times higher.

Figure 88. Planted and harvested areas with pepper on the territory of Blagoevgrad district in the period 2013-2016



Source: MAFF

Б. Production of pepper

The production of pepper in tons (Fig. 89) has been decreasing by decreasing the planted decares on the territory of Blagoevgrad district, with the maximum being in 2014 - 8056 tonnes and the minimum in 2016 - 1067 tonnes, or about 7.5 times. Specifically, this decrease is more pronounced in greenhouse production, despite the significantly higher yields.

Figure 89. Production of pepper (tonnes) on the territory of Blagoevgrad district during the period 2013-2016

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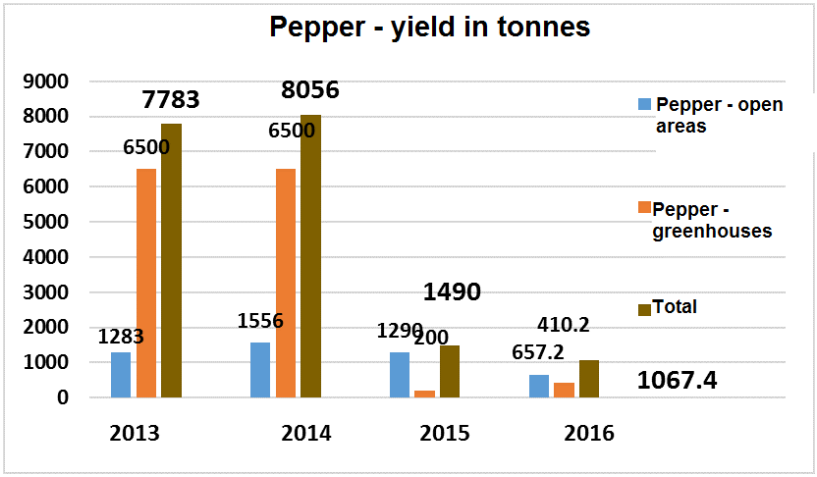
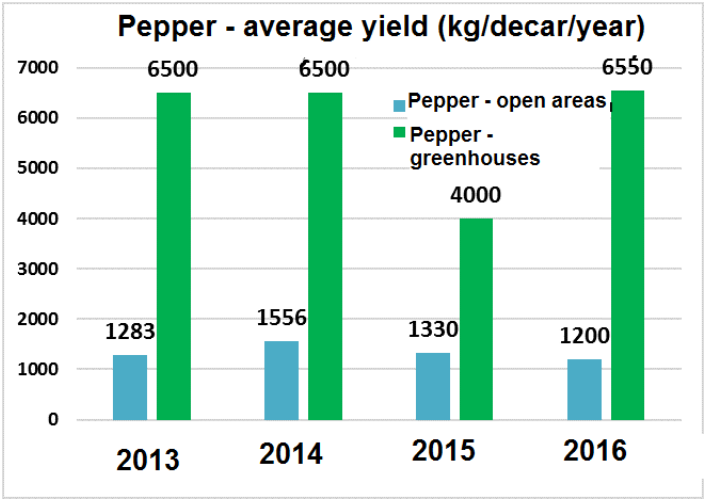


Source: MAFF

The average yield of pepper in Blagoevgrad district ranges from **6550 kg/daa** in 2016 for greenhouses to **1200 kg/daa** in 2016 (Fig. 90) for open field growing. In general, average open field pepper yields decreased slightly by about 6% in 2016 compaed to 2013. While greenhouse production is stable (except in 2015 when a significant decrease is recorded) and in 2016 there was even an insignificant increase.

Figure 90. Average yields (kg/daa) of pepper on the territory of Blagoevgrad district during the period 2013-2016



Source: MAFF

Cucumbers

A. Planted areas

According to data from the Agrostatistics Department (MAFF), planted cucumber areas for the survey period in Blagoevgrad district decrease from 1291 daa in 2013 to 719 daa in 2016, or 1.8 times (Fig. 91). The harvested areas account for more than 99% of open areas and greenhouses planted with this crop. It is noted that this decrease is mainly at the expense of open field cucumbers, whereas for greenhouse the decrease is smaller. The reasons are mainly due to the guaranteed higher yields of greenhouse cucumbers whose average yields have increased significantly over the last two years.

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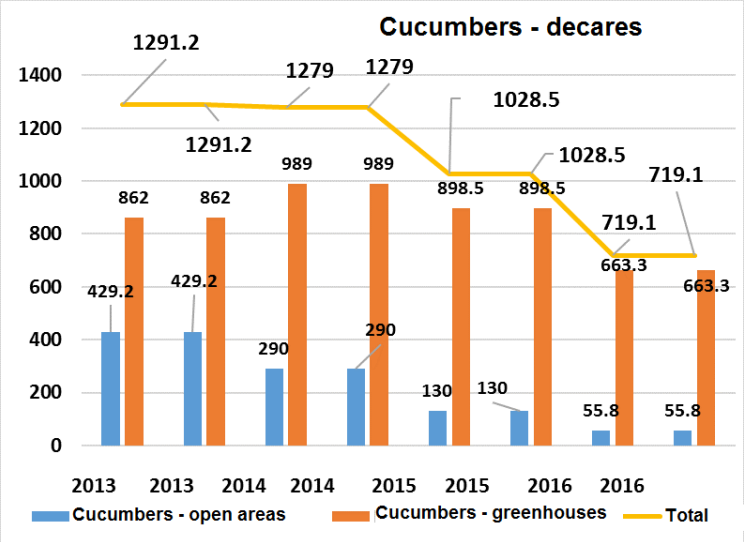
Figure 91. Planted and harvested areas of cucumbers on the territory of Blagoevgrad district in the period 2013-2016

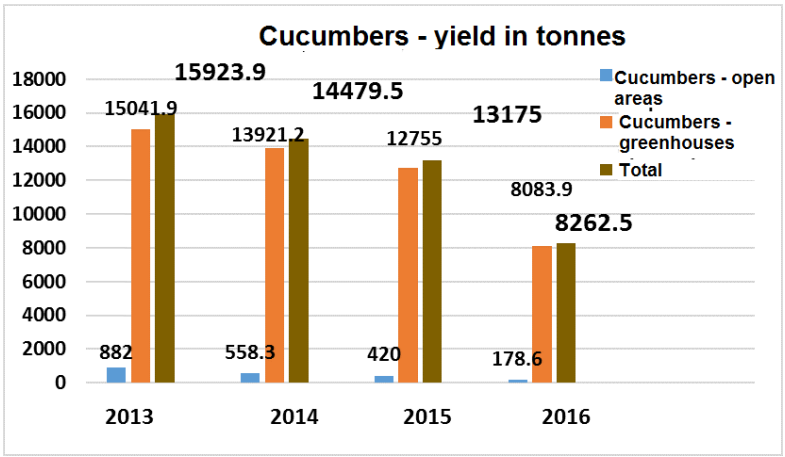


Source: MAFF

Б. Production of cucumbers

The production of cucumbers in tonnes (Figure 92) has been decreasing by decreasing the planted decares on the territory of Blagoevgrad district with a maximum of 15924 tonnes in 2013 and a minimum of 8262 tonnes in 2016, or about 2 times. This reduction is more pronounced for open field production, while for greenhouses is less.

Figure 92. Production of cucumbers (tonnes) on the territory of Blagoevgrad district during the period 2013-2016



Source: MAFF

The average yield of greenhouse cucumbers in Blagoevgrad district varies from **14195 kg/daa** to just **1925 kg/daa** in 2016 (Fig. 93). As a whole, average yields are decreasing from 9137 to 3200 kg/daa for open areas production for the 4-year period, and are increasing for greenhouses over the past two years.

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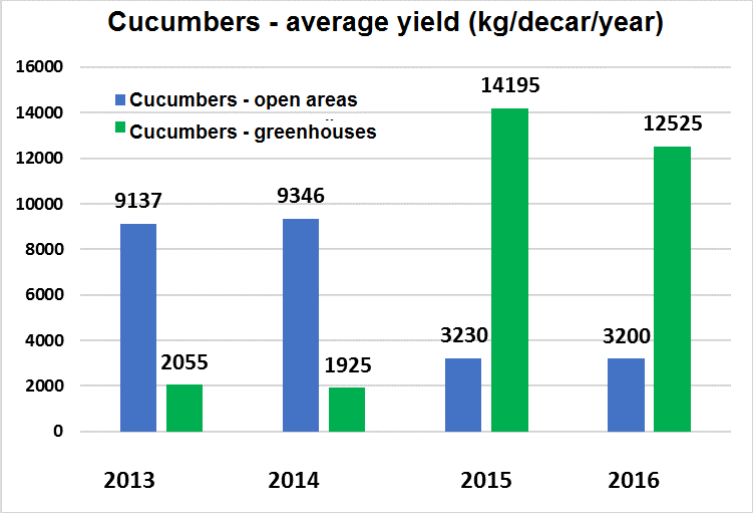
Figure 93. Average yields (kg/daa) of cucumbers on the territory of Blagoevgrad district during the period 2013-2016

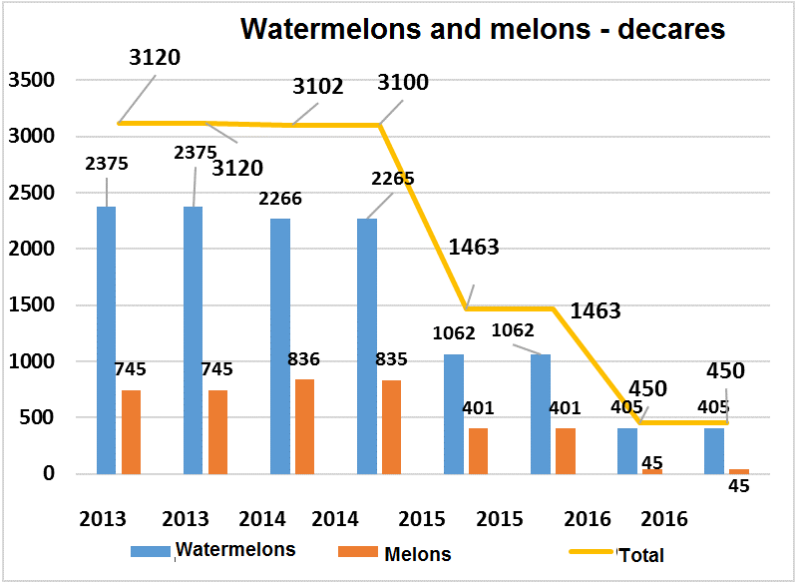


Watermelons and melons

A. Planted areas

According to data from the Agrostatistics Department (MAFF), planted areas with watermelons and melons for the observed period in the Blagoevgrad region decrease from 3120 daa in 2013 to 450 daa in 2016 or about 7 times (Fig. 94). Harvested areas account for more than 99% of the planted areas with these crops. The production of melons is much more limited compared to watermelons, which also shows a more serious decrease in the growing of watermelons in the area. While areas planted with watermelons have decreased about 6 times for a 4-year period, these with melons have decreased almost 17 times. Generally, melon production is about 30% of the field, and the remaining 70% is for production of watermelons.

Figure 94. Planted and harvested areas with watermelons and melons on the territory of Blagoevgrad district in the period 2013-2016



Source: MAFF

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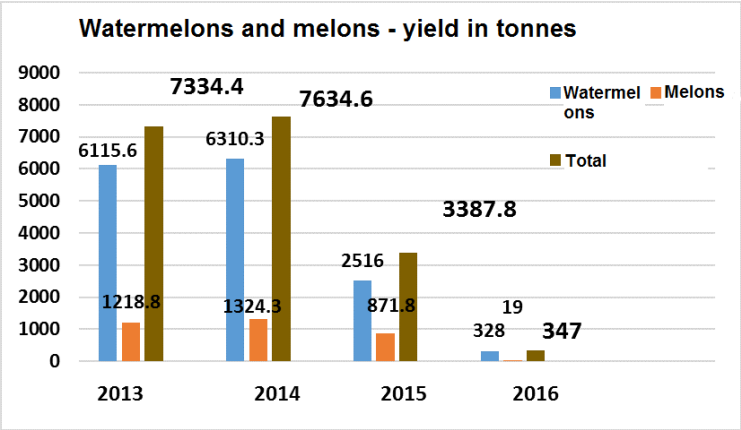
Б. Production of watermelons and melons

The production of watermelons and melons in tonnes (Fig. 95) is decreasing by decreasing the areas planted with them on the territory of Blagoevgrad district, with a maximum in 2013 - 7334 tonnes and a minimum in 2016 - 347 tonnes, or about 21 times. In general, the dry climate of the area makes it unsuitable for those crops that want a very large amount of water during the growing season.

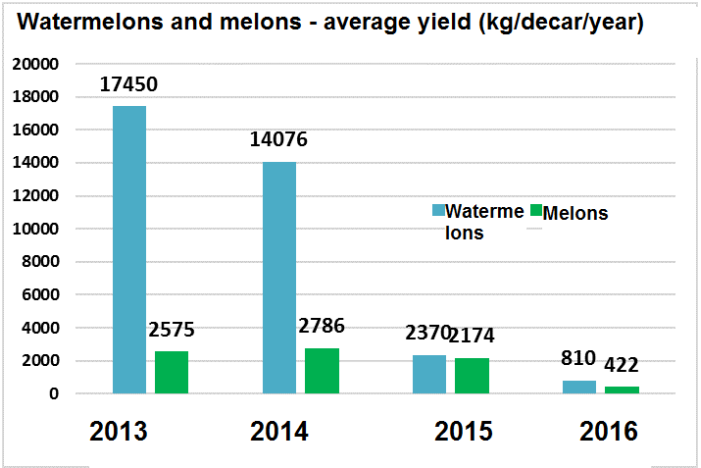
Figure 95. Production of watermelons and melons (tonnes) on the territory of Blagoevgrad district during the period 2013-2016



Source: MAFF

The average yield in Blagoevgrad district varies from 17450 kg/daa in 2013 to 810 kg/daa in 2016 for watermelons (Fig. 96), and fom 2575 kg/daa in 2013 to 422 kg/daa in 2016 for melons. In general, average yields of watermelons are significantly higher than those of melons - 8676 kg/daa for the 4 years, compared to 1989 kg/daa, i.e. more than 4 times. But for both crops, traditionally called bostan, obviously the cost of production and the strong dependence on weather conditions, are the reason for the decrease in production at a district level.

Figure 96. Average yields (kg/daa) of watermelons and melons on the territory of Blagoevgrad district during the period 2013-2016



Source: MAFF

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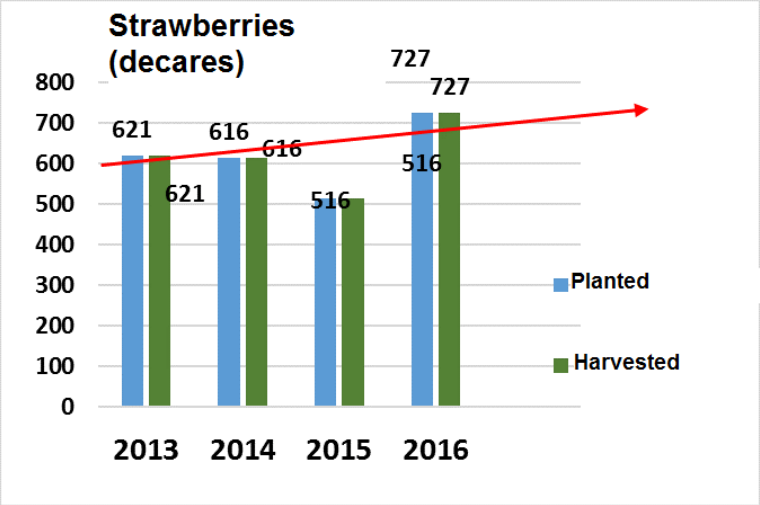
Strawberries

Although strawberries are herbaceous plants, they are traditionally considered for orchard crops. Here they are considered in the chapter for fresh vegetables due to peculiarities of their statistical reporting in the Blagoevgrad district.

A. Planted areas

According to data from the Agrostatistics Department (MAFF), planted areas with strawberries have increased from 621 daa in 2013 to 727 daa in 2016, or about 15% (Fig. 97). Harvested areas account for more than 99% of the planted areas with this crop. However, in general, strawberry production is limited in the area as planted areas occupy an insignificant part of the arable land.

Figure 97. Planted and harvested areas with strawberries on the territory of Blagoevgrad distict for the period 2013-2016



Source: MAFF

Б. Production of strawberries

However, strawberries production in Blagoevgrad district is decreasing (Fig. 98), with a maximum in 2013 - 369 tonnes and a minimum in 2016 - 182 tonnes, or about 2 times. The most likely cause was unfavorable weather conditions. In general, the dry climate of the district makes it unsuitable for these crops.

Figure 98. Production of strawberries (tonnes) on the territory of Blagoevgrad district for the period 2013-2016.

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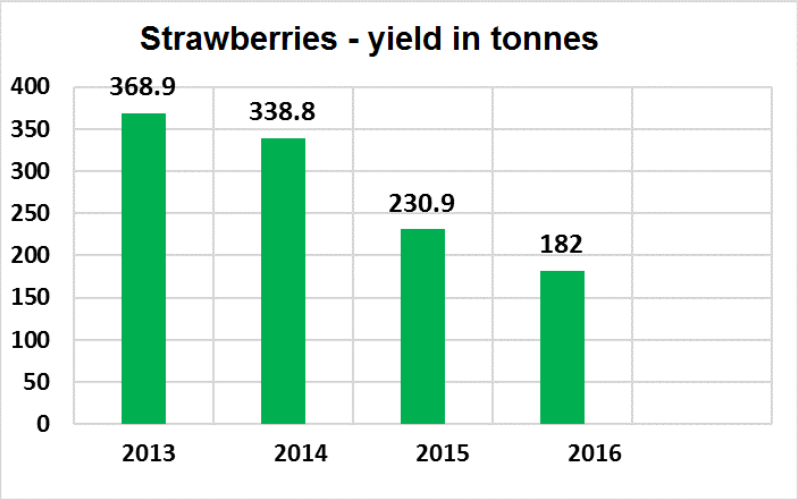
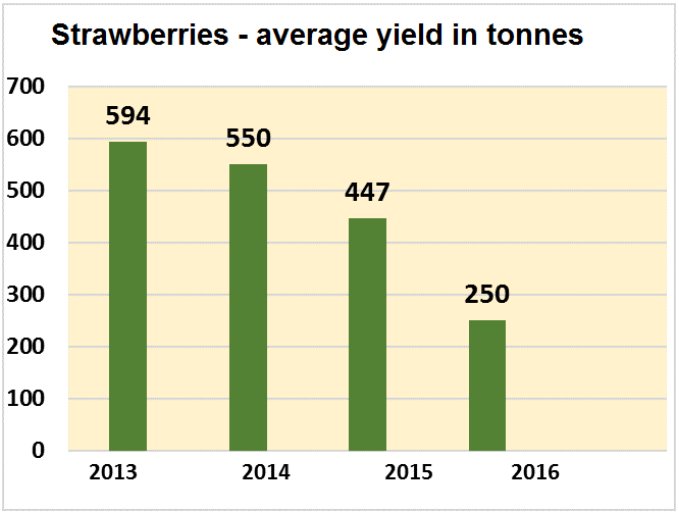


Source: MAFF

The reduced overall yield is due to the decrease in the average strawberry yields in Blagoevgrad district which ranges from 594 kg/daa in 2013 to 250 kg/daa in 2016 (Fig. 99). The most likely cause for this were the unfavorable climatic conditions, which was already highlighted above.

Figure 99. Average yields (kg/daa) of strawberries on the territory of Blagoevgrad district for the period 2013-2016



Source: MAFF

B. Purchase prices of fresh vegetables

In Table 25 and Fig. 100 are shown the purchase prices for some of the main types of fresh vegetables for the period 2013-2017. It is seen that they remain virtually unchanged for potatoes, despite the small reduction compared to 2013. For the other crops they vary greatly as fo watermelon there was a significant increase, and for strawberries after increase in 2015 and 2016, in 2017 it returned to the level of 2013. A 20% or higher fluctuation is observed over the years for tomatoes and pepper in open areas, and greenhouse tomatoes and cucumbers. Probably this market uncertainty is one of the reasons for reducing the fresh vegetables area, generally on the territory of Blagoevgrad district. However, vegetable production continues to be one of the main agricultural sectors in the district.

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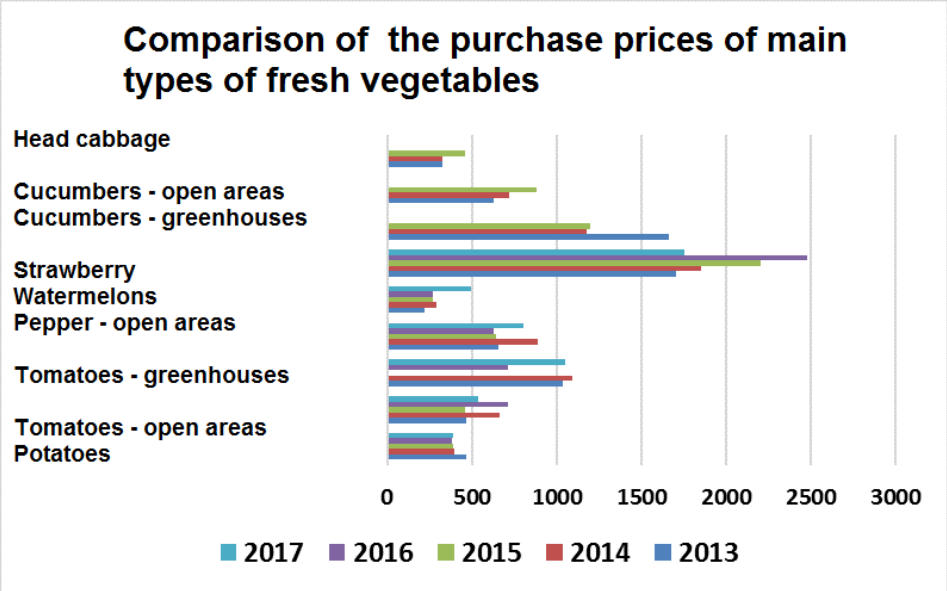
Table 25. Purchase prices for main fresh vegetables for the period 2013-2017

Fresh vegetables - prices in BGN/tonne	2013	2014	2015	2016	2017
Potatoes	467.71	398.34	386.35	379.52	389.09
Tomatoes - open areas	468.20	666.45	462.70	711.05	538.71
Tomato-greenhouses	1037.45	1090.99	1041,89	711.05	1050.68
Pepper - open areas	653.76	886.58	641.46	626.31	805.39
Watermelons	221.64	289.89	269.13	269.13	497.95
Strawberries	1704.89	1851.45	2206.14	2480.83	1754.05
Cucumbers - greenhouses	1662.75	1179.03	1199.53	-	-
Cucumbers - open areas	631.68	720.28	879.72	-	-
Headed cabbage	327.27	324.48	462.98	-	-

Figure 100. Comparison of purchase prices for main fresh vegetables for the period 2013-2017



Source: MAFF

1.1.7. PRODUCTION OF FRUIT CROPS AND GRAPES

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Source: AGGA Studio

According to the structure of their organs, fruit plants grown in Bulgaria are divided into: Tree fruit species — apple, pear, cherry, sour cherry, plum, greengage, apricot, peach, walnut, almond, chestnut and others. **Shrub fruit species** — quince, some varieties of plums and sour cherries, currants, red and white currants, hazelnut and others. **Semi-shrub fruit species** — raspberry and blackberry. **Herbaceous fruit species** — the strawberry is a representative of this group in Bulgaria, which in this report, due to its peculiarities, is considered by Agrostatistics in the chapter for vegetables, especially for Blagoevgrad district. More common is the classification based on morphological features of the fruits, according to which the species are divided into: **Pome fruit species** — apple, pear, quince, medlar and others. **Stone fruit species** — plum, greengage, cherry, sour cherry, apricot, peach. **Berries** — strawberry, raspberry, blackberry, blackcurrant, etc. **Nuts** — walnut, almond, hazelnut, chestnut.

At national level, for example, in 2013 were produced 211116 tonnes fruits - by 70.7% more than in 2012, mainly due to an increase in average yields. The South-Eastern region is leading in fruit production - 28.4% of the total production for the year, followed by South Central Region - 25.4%, North Central Region - 17.2% and South-Western Region - 15.2%. occupies Apples have the largest share of total fruit production in 2013 with 26.1%, followed by cherries - 18.1%, plums and greengage - 17.8% and peaches and nectarines - 17.7%.
In 2013, vines areas in the farms amounted to 58236 ha, as 50192 ha have been harvested. Compared to 2012, there was a 7% decrease, with more than 6000 ha being abandoned due to different social and economic reasons. The new wineyards created in 2013 are 607.3 hectares - about 42% more than in 2012, and about 2% of the farm's holdings are young, non-fertile vines. The size of non-cultivated vineyards outside the farms is significantly reduced - from 14640 ha in 2012 to 4900 ha in 2013 (about 67%). As a result of the reduced number of vineyards in and outside the farms, in 2013 the total vineyard area decreased to 63 136 ha (18%) compared to the previous year. The new wine vineyards, planted in 2014, amount to 626 ha, and the young non-fertile vineyards are over 1400 ha. Areas of non-cultivated vineyards outside the farms are significantly increased (more than twice) - from 4 900 ha in 2013 to 10 298 ha in 2014. These trends continued in the subsequent years.

Fruits grown in Blagoevgrad region are: apples, pears, apricots, peaches and nectarines, plums and greengages, cherries, sour cherries, walnuts, hazelnuts, raspberries and kiwi. Vine and dessert varieties are also grown in the vineyards. The district is one of the most important wine-producing regions in the country (see Table 26).

Table 26. Orchards and vineyards - areas, production, average yields.

Crop	Areas - 2013		Areas - 2014		Areas - 2015		Areas - 2016		Areas - 2017	
	Planted (daa)	Harvested (daa)	Planted (daa)	Harvested (daa)	Planted (daa)	Harvested (daa)	Planted (daa)	Harvested (daa)	Planted (daa)	Harvested (daa)
Apples	2893.0	2893.0	2488.0	2473.0	2631.0	2581.0	2836.0	2836.0	2836.0	2836.0
Pears	226.0	226.0	281.0	281.0	296.0	288.5	371.0	371.0	371.0	371.0
Apricots	156.0	156.0	114.0	103.0	124.0	113.0	159.0	159.0	159.0	159.0
Peaches and nectarines	3806.0	3706.0	3896.0	3876.0	3947.5	3905.0	3896.0	3896.0	3896.0	3896.0
Plums and greengages	805.0	805.0	781.0	654.0	718.0	680.1	975.0	975.0	939.0	939.0

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Cherries	1352.0	1352.0	1495.0	1395.0	1484.0	1438.0	2035.0	2035.0	2035.0	2035.0
Cherries	81.0	81.0	81.0	81.0	61.0	22.0	61.0	61.0	61.0	61.0
Walnuts	175.0	175.0	283.0	179.9	350.0	217.0	0	0	0	0
Hazelnuts	23.0	0.0	70.3	35.0	59.0	31.0	0	0	0	0
Raspberries	175.0	175.0	186.6	185.6	201.5	185.0	217.0	217.0	217.0	217.0
Actinidia	200.0	10.0	200.0	10.0	0	0	0	0	0	0
Total	9892.0	9579.0	9875.9	9273.5	9462.5	9212.6	10550.0	10550.0	10514.0	10514.0
Wine varieties	44656.0	44656.0	44656.0	43765.0	44806	44656.0	25233.0	25233.0	45906.0	45906.0
Table varieties	6190.0	6190.0	6200.0	5990.0	6090	6050.0	5700.0	5700.0	5850.0	5850.0
Общо	**50846.0**	**50846.0**	**50856.0**	**49755.0**	**50896.0**	**50706.0**	**30933.0**	**30933.0**	**51756.0**	**51756.0**

	2013	2014	2015	2016	2017
Production (tonnes)					
Apples	2696.3	2732.7	2623.0	2167.0	1022.0
Pears	115.7	131.8	144.4	85.5	84.0
Apricots	70.0	43.8	56.8	21.3	42.3
Peaches and nectarines	2964.8	2497.0	2835.0	3823.0	2937.7
Plums and greengages	303.0	303.5	324.6	205.0	265.0
Cherries	502.9	188.3	300.3	256.5	840.2
Cherries	21.1	23.7	2.2	9.3	9.5
Walnuts	50.2	107.9	107.1	0	0
Hazelnuts	0.0	7.0	2.1	0	0
Raspberries	57.4	84.6	63.1	22.1	60.8
Actinidia	5.0	5.0	90.0	0	0
Total	6786.4	6125.3	6548.6	6589.7	5261.2
Wine varieties	34385.1	13435.9	38593.0	17410.8	25579.0
Table varieties	4871.5	2261.3	5142.0	3568.2	2585.0
Total	**39256.6**	**15697.2**	**43735.0**	**20979.0**	**28164.0**
Average yield (kg/daa)					
Apples	932.0	1105.0	1016.0	764.0	360.0
Pears	512.0	469.0	497.0	230.0	226.0
Apricots	449.0	425.0	502.0	134.0	264.0
Peaches and nectarines	800.0	1638.0	982.0	981.0	754.0
Plums and greengages	443.0	464.0	447.0	210.0	282.0
Cherries	372.0	350.0	208.0	126.0	413.0
Cherries	260.0	293.0	100.0	152.0	156.0
Walnuts	287.0	600.0	493.0	0	0
Hazelnuts	0.0	200.2	67.0	0	0
Raspberries	328.0	456.0	340.0	102.0	280.0
Actinidia	500.0	500.0	600.0	0	0
Wine varieties	770.0	307.0	870.0	690.0	557.0
Table varieties	787.0	370.0	849.0	626.0	442.0

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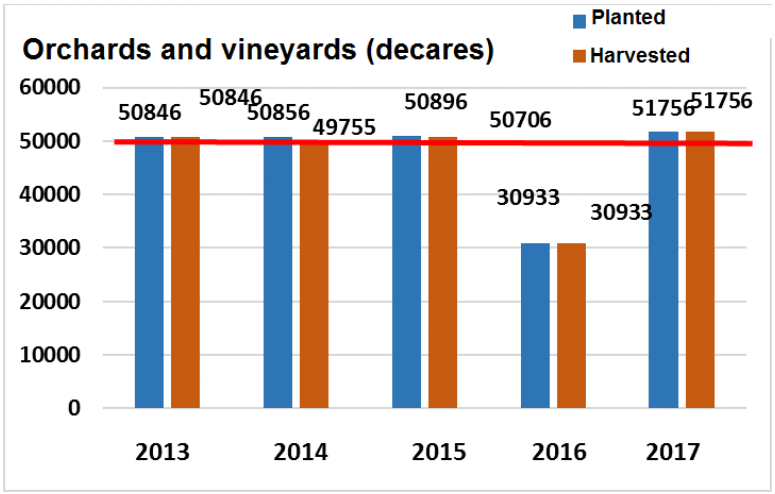
The tendency is to keep, even slightly increase, the permanent crops in Blagoevgrad district by about 2% (Fig. 101), from 50846 daa in 2013 to 51756 daa in 2017. The area of planted and harvested areas except 2014 is over 99%. Only in 2014 the harvested areas are 2% less, which is explained by the more unfavorable meteorological conditions, reflected both in the fruit growing and even more in the viticulture in southern Bulgaria.

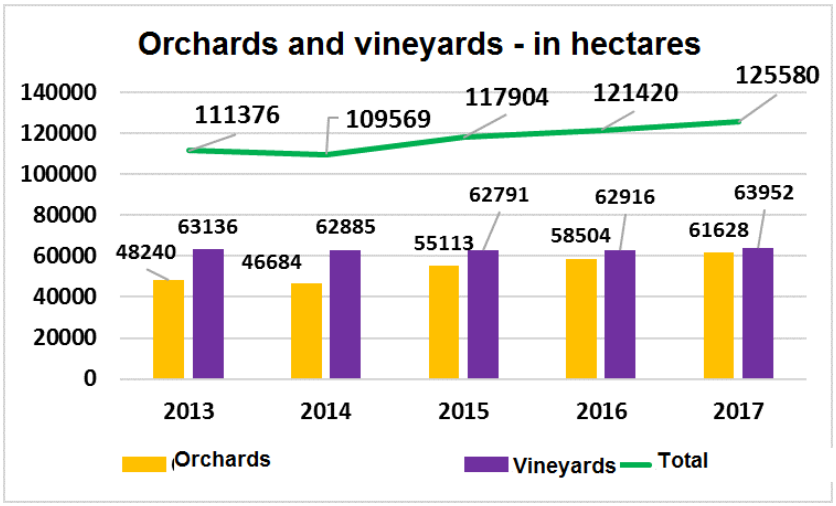
Figure 101. Areas planted with orchards and vineyards on the territory of Blagoevgrad district in the period 2013 - 2017.



Source: MAFF

At national level, vineyards and orchards marked a slow increase by several percent per year for the period from 2013 to 2017 (Fig. 102).

Figure 102. Areas planted with orchards and vineyards on the territory of Republic of Bulgaria in the period 2013-2017.



Source: MAFF

Yields of orchards and vineyards decreased with 28%, from 39257 tonnes in 2013 to 28164 tonnes in 2017 (Fig. 103). In 2015 a temporary increase in yields was recorded up to 43735 tonnes as this year was very good for both fruit and vine growing and for vegetable production. As with the vegetables production of, the previous 2014 is very poor with record low yields - only 15697 tonnes, or 2.8 times less than in 2015. The production growth of in 2015, however, is mainly due to viticulture, as this year is likely to be favorable for

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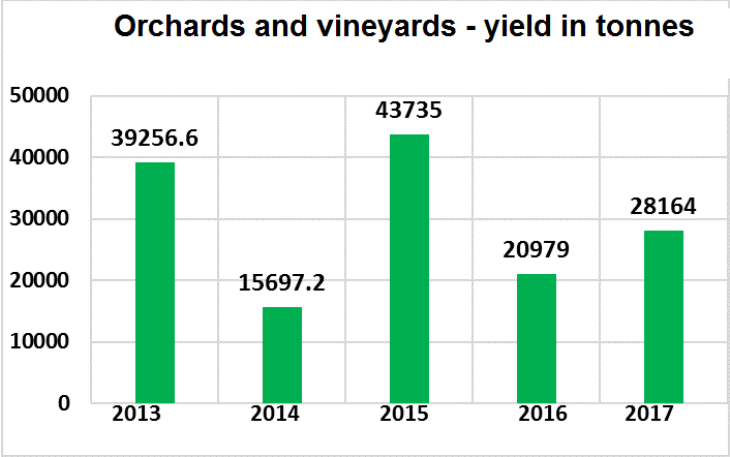
this sector. In general, fruit growing and viticulture are more risky production in terms of adverse climatic events, compared to vegetable production, where greenhouse yields compensate losses from open areas.

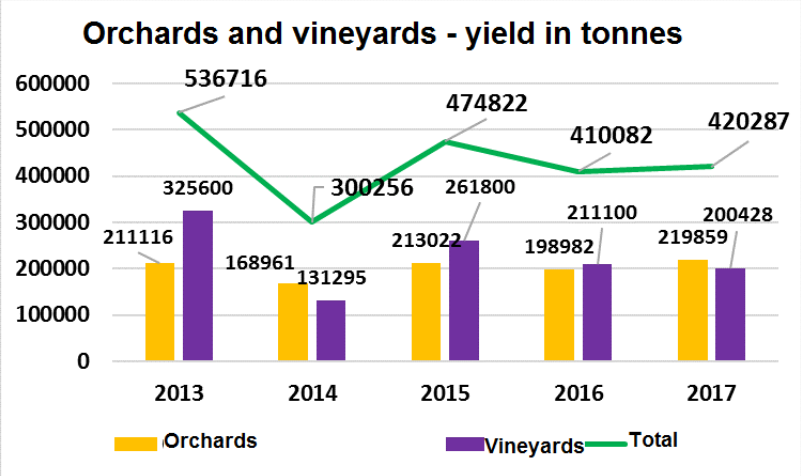
Figure 103. Total yield of orchards and vineyards on the territory of Blagoevgrad district for the period 2013-2017



Source: MAFF

At national level (Fig. 104) yields decrease drastically due to the adverse weather conditions in 2014, especially for vineyards - almost three times. After anincrease in 2015, a new but lower decrease is recorded in 2016 and 2017.

Figure 104. Total yield of orchards and vineyards on the territory of Republic of Bulgaria for the period 2013-2017



Source: MAFF

Apples

A. Planted areas

Apples are one of the most important crops grown in Blagoevgrad district. According to data from Agrostatistics Department (MAFF), areas in 2017 are comparable to those of 2013 or have only a slight decrease of about 2% (Fig. 105). Harvested areas in most years are identical to planted with more than 99%.

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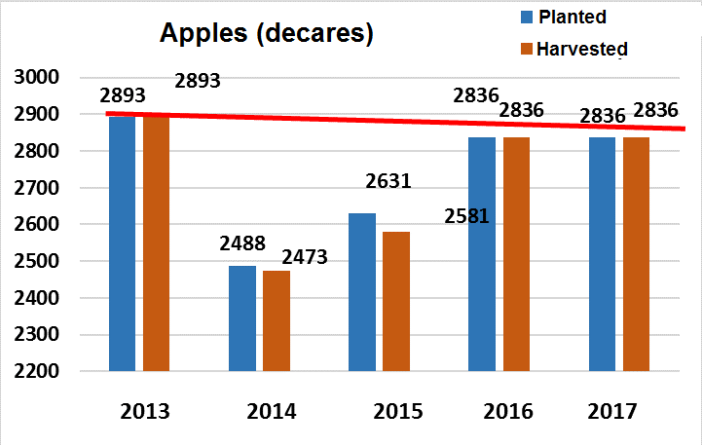
But in 2014 and especially in 2015 there is a reduction in harvested areas, which is about 2% for the second year.

Figure 105. Planted and harvested areas of apples on the territory of Blagoevgrad district in the period 2013-2017

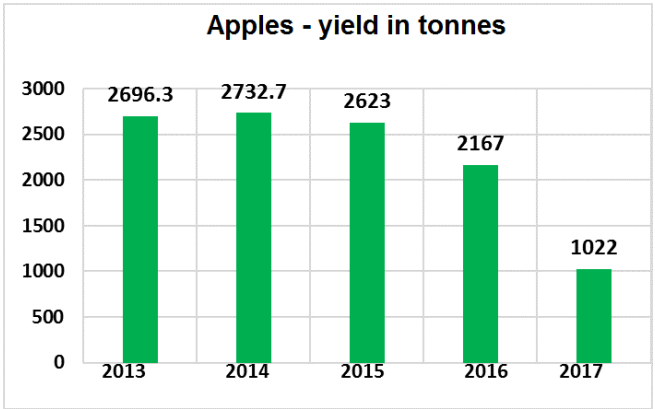


Source: MAFF

Б. Production of apples

The production of apples on the territory of Blagoevgrad district decreases about 2.6 times, from 2696 tonnes in 2013 to 1022 tonnes in 2017 (Fig. 106). The reasons for this are complex, but most likely the meteorological conditions, which determine the average yields in kg/daa. For example, in 2014 which was humid, there were the largest apple yield and the highest average yield, respectively. Apples, like other fruit crops, are highly sensitive to late spring frosts. The cold spring of 2017 has decreased the average yield as well as the total yield of apples in Blagoevgrad district.

Figure 106. Production of apples (tonnes) on the territory of Blagoevgrad district for the period 2013-2017



Source: MAFF

The average yield of apples in the Blagoevgrad region decreased 3 times and varies from **1105 kg/daa** in 2014 to just **360 kg/daa** in 2017 (Fig. 107). As commented above, the reasons for this are mainly weather conditions, especially in key plant-growing periods, for example during flowering and fruiting.

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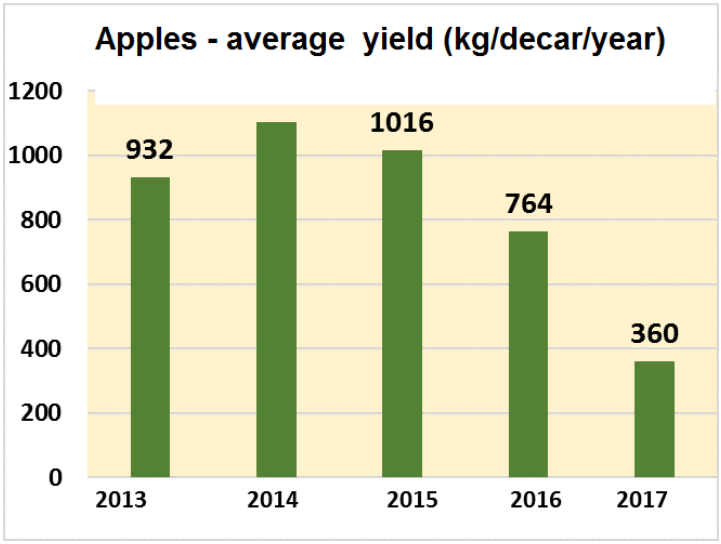
Figure 107. Average yields (kg/daa) of apples on the territory of Blagoevgrad district for the period 2013-2017



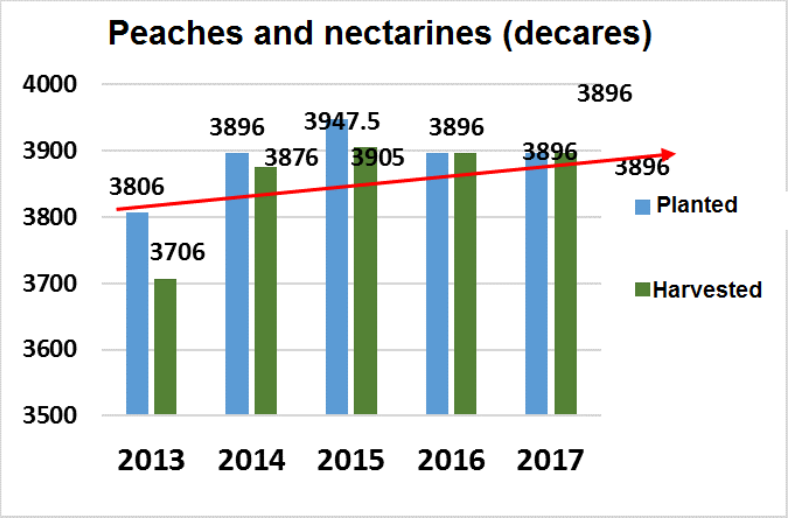
Source: MAFF

Peaches and nectarines

A. Planted areas

Peaches and nectarines are significantly less distributed than apple crops in Blagoevgrad district but their production increased by about 3 %, from 3806 daa in 2013 to 3896 daa in 2017 (Fig. 108). Harvested areas are less than those grown in most of the years, and this is particularly typical for 2013. In 2016 and 2017, they are identical to the cultivated areas.

Figure 108. Planted and harvested areas of peaches and nectarines on the territory of Blagoevgrad district for the period 2013-2017



Source: MAFF

B. Production of peaches and nectarines

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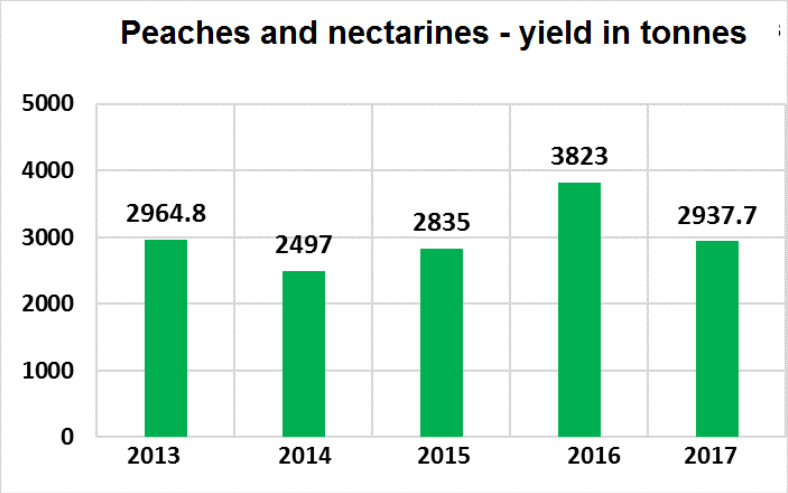
The production of peaches and nectarines on the territory of Blagoevgrad district varies (Fig. 109), with a peak in 2016 with 2835 tonnes and the least produced quantity in 2014 - 2497 tonnes. The reasons for this are complex, but most likely are the meteorological conditions, which determine the average yields in kg/daa. The cold spring of 2017 has decreased the average as well as the total yields in Blagoevgrad district compared to the previous year.

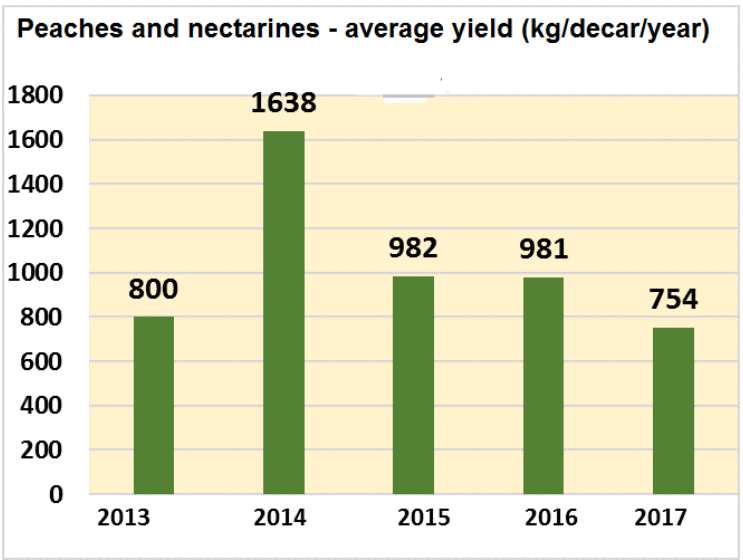
Figure 109. Production of peaches and nectarines (tonnes) on the territory of Blagoevgrad district for the period 2013-2017



Source: MAFF

The average yield of peaches and nectarines in the Blagoevgrad district decreased more than 2 times, as it varied from **1398 kg/daa** in 2014 to only **754 kg/daa** in 2017 (Fig. 110). As commented above, the reasons for this are mainly weather conditions (as well as for apples), especially during key plant-growing periods, for example during flowering and fruiting.

Figure 110. Average yields (kg/daa) of peaches and nectarines on the territory of Blagoevgrad district during the period 2013-2017



Source: MAFF

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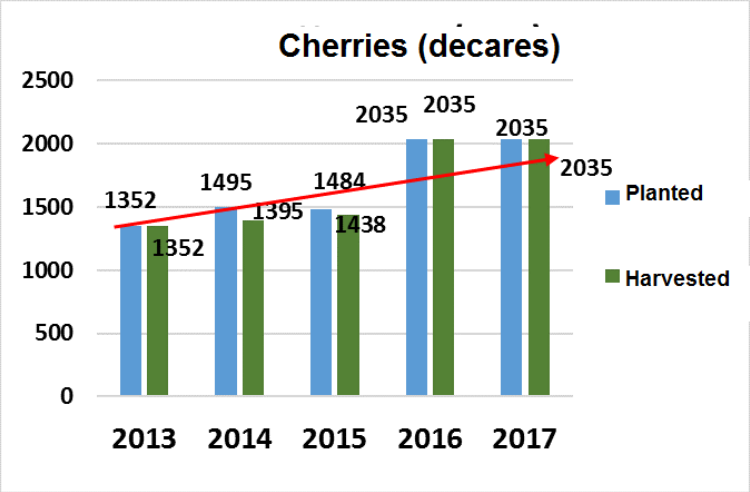
Cherries

A. Planted areas

Cherries are significantly less distributed crop in Blagoevgrad district but have a production growth of about 66%, or form 1352 daa in 2013 to 2035 daa in 2017 (Fig. 111). The harvested areas for most of the years are equal to the planted, with a negligible reduction in 2014 and 2015.

Figure 111. Planted and harvested areas with cherries on the territory of Blagoevgrad district for the period 2013-2016

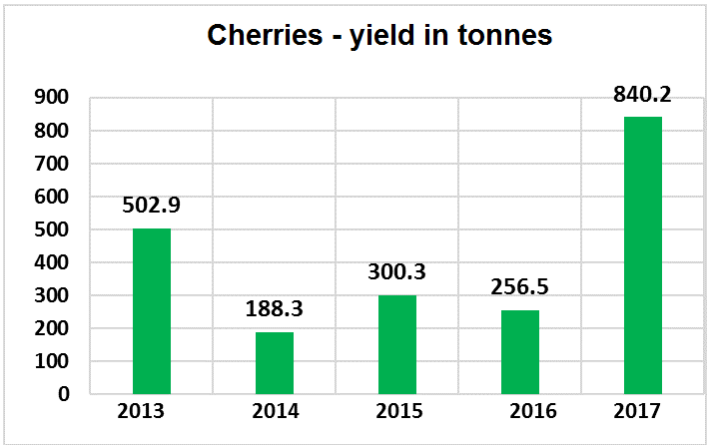


Source: MAFF

Б. Production of cherries

The production of cherries on the territory of Blagoevgrad district varies (Fig. 112), with a peak in 2017 with 840 tonnes and the least produced in 2014 – 188.3 tonnes. The reasons for this are complex, but most likely the meteorological conditions, which determine the average yields in kg/daa.

Figure 112. Production of cherries (tonnes) on the territory of Blagoevgrad district for the period 2013-2017



Source: MAFF

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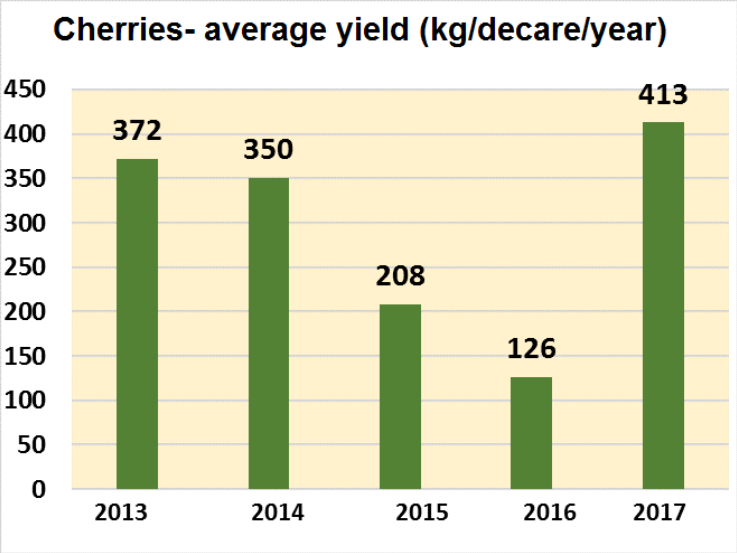
The average yield in the Blagoevgrad district varies from **413 kg/daa** in 2017 to only **126 kg/daa** in the previous 2016 (Fig. 113), or 3.3 times. As commented above, the reasons for this are mainly weather conditions (also for apples) during key plant-growing periods, for example during flowering and fruiting.

Figure 113. Average yields (kg/daa) of cherries on the territory of Blagoevgrad district for the period 2013-2017



Source: MAFF

Vineyards - wine and dessert varieties

A. Planted areas

Viniculture is a traditional livelihood in some of the Blagoevgrad municipalities due to the favorable climatic conditions. Nevertheless (Fig. 114), especially in 2017, there is a serious decrease, especially in areas with wine varieties and less in those with dessert varieties. The latter, however, represent an insignificant part (about 12%) of the total area of vineyards cultivated in the district. The harvested area is, for most years, equal to or over 90% of the cultivated area. The biggest difference is in 2014 being the worst for viticulture during the concerned period.

Figure 114. Planted and harvested areas with wine and dessert varieties on the territory of Blagoevgrad district for the period 2013-2016

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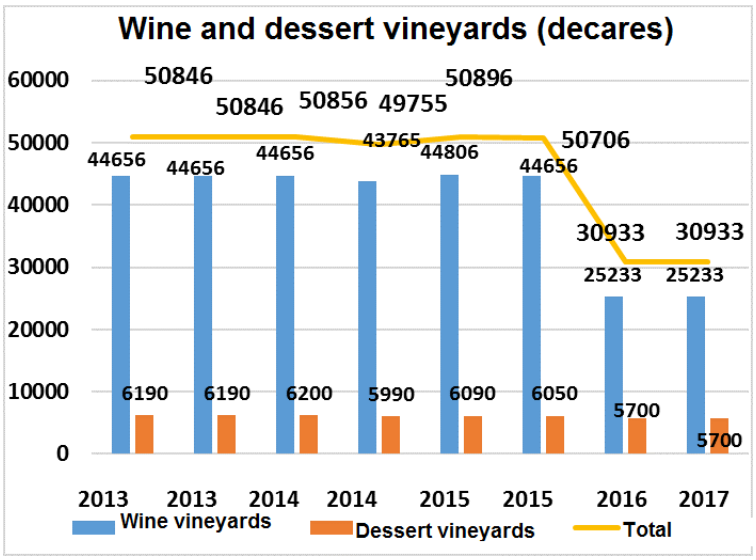
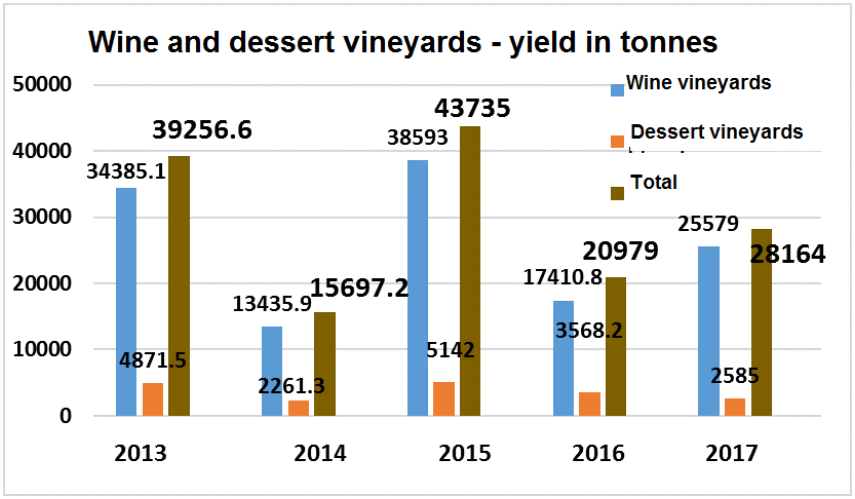


Source: MAFF

Б. Production of wine and dessert grape

The production of wine and dessert grapes on the territory of Blagoevgrad district varies, with a peak in 2015 (43735 tonnes) and the least produced in 2014 (15697 tonnes), or almost three times less (Fig. 115). The reasons for this are complex, but for 2014 these are mainly the unfavorable weather conditions (few sunny days, precipitation), which determine much lower average yields in kg/daa and hence total production.

Figure 115. Production of wine and dessert grapes (tonnes) on the territory of Blagoevgrad district for the period 2013-2017



Source: MAFF

The average yield of wine and dessert grapes in Blagoevgrad district varies from **870 kg/daa** in 2015 to only **370 kg/daa** in 2014 (Fig. 116), or a 2.3-fold difference. As commented above, the reasons for this were mainly the extremely unfavorable weather conditions for viticulture in 2014, and the extremely favorable

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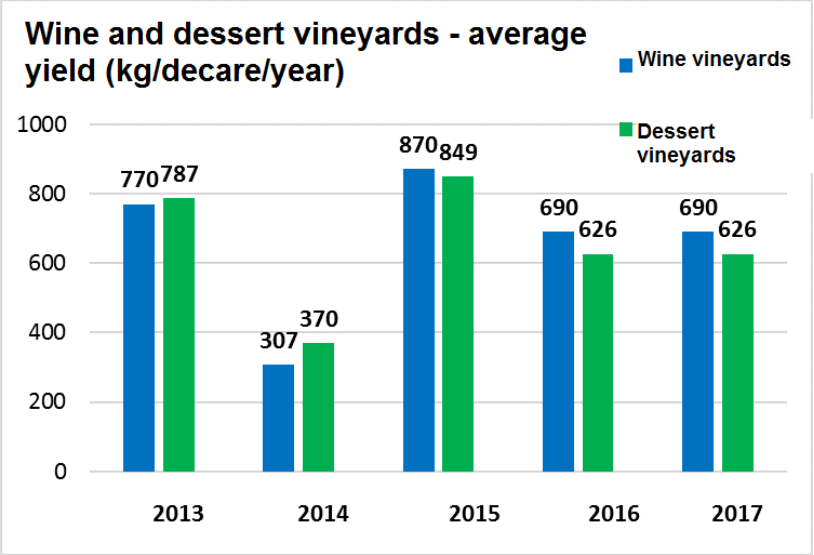
during the next 2015. Specifically, desert varieties retain a higher yield even under unfavorable years, unlike the vine verieties.

Figure 116. Average yields (kg/daa) of wine and dessert grapes on the territory of Blagoevgrad district for the period 2013-2017



Source: MAFF

B. Purchase prices of main types of fruit crops and vineyards

In Table 27 and Fig. 117 are shown the purchase prices for some main types of fruit crops and grapes for the period 2013-2017. It is seen that they are virtually unchanged for peaches, plums and apples, as well as for wine grapes. They vary greatly for the other crops as the highest being for raspberries due to the large cost of the inputs for their cultivation. A difference over the years of 20% or more is observed for pears, apricots and cherries. Purchasing prices of grapes fluctuate with the highest being in the most unfavorable year 2014, while in 2017 they decreased below the levels of 2013.

Table 27. Purchasing prices for main types of fruit crops and vineyards for the period 2013-2017

Orchards and vineyards - prices in BGN/tonne	2013	2014	2015	2016	2017
Apples	521.47	443.06	443.26	443.26	486.72
Pears	902.45	944.68	443.26	443.26	770.13
Apricots	666.77	597.11	606.94	606.94	487.02
Peaches	647.58	600.08	555.86	555.86	561.93
Plums	370.35	370.35	401.22	401.22	399
Cherries	1149.75	1074.37	1103.97	1103.97	933
Sour cherries	1024.60	594.80	615.58	615.58	883.15
Raspberries	2815.09	3235.81	3557.11	3557.11	2700.53
Vineyards - wine	577.83	634.90	605.24	605.24	561.89
Vineyards - dessert	917.64	865.78	526.10	526.10	803.87

Source: MAFF

Figure 117. Comparison of purchase prices for main fruit crops and vineyards for the period 2013-2017

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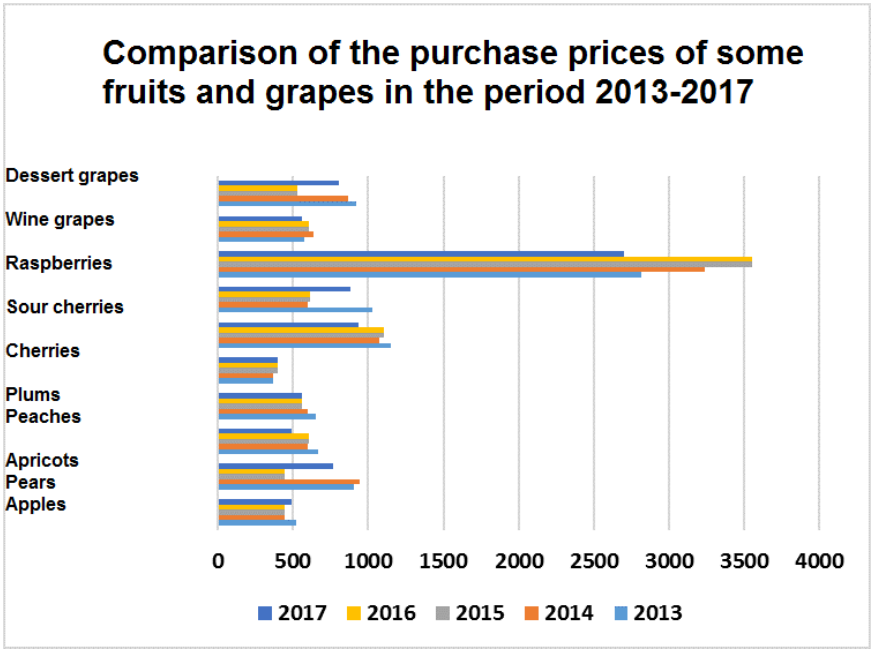

Source: MAFF

2. PRODUCTION OF ANIMAL PRODUCTS

Livestock farming remains one of the priority sectors, with support from the European funds sector and complemented by government financial instruments. Over the years, the current legal framework has been updated and the scope of the applied state support has been extended. The size of production related schemes and support for animals under selective control are increased, which aims rearinging livestock and livestock production, producing quality food that is safe for the health of the consumer, rearing the incomes and living standard of farmers. Difficulties in the structural adjustment of Bulgarian agriculture are most pronounced in livestock breeding. The number of cattle since 2007 is relatively unchanged. The decrease in the number of pigs is drastic and sustainable as for 10 years exceeds 43%. The number of sheep and goats is also decreasing (by 26%), but their number is stabilizing and the rates of decline are slowing down. The continuous decline in the number of animals since 2007 is largely due to the low competitiveness of our livestock farming, which mainly affected small and medium-sized family farms. In general, livestock farming in Bulgaria is difficult to adapt to the new challenges, and in some of the sub-sectors (e.g. milk production) negative trends are likely to continue. For these 10 years of membership, there is also a clear positive change.

In recent years a process of consolidation of farms is taking place, new modern farms are being built up, animal breeds are improving, there is also considerable progress in terms of milk quality and produced meat. Change in the farms' structure is also significant. For example, in 2003, 194.7 thousand farms reared 377.6 thousand cows and there were 237.7 thousand farms with 1.635 million sheep, averaging 1.9 cows and 6.9 sheep per farm. In 2015 the average number of dairy cows and sheep for a farm is 8.4 and almost 30, respectively.

In the Southwest region are grown 11% of cattle and 18% of goats in Bulgaria. 30% of the farms in the area breed cattle, with an average of 4.8 animals. 91% of cattle is in the holdings of individuals, and 14% of the dairy cows are in 61 holdings with over 50 dairy cows. For a comparison, the share of dairy cows in farms with over 50 animals is 24% overall for the coutry. Ewes are reared in 29% of holdings, with only 3% of them having flocks with more than 20 ewes. The average number of ewes is almost equal to the average for

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the country - 14.7 per 14 average for the country. Although the share of pig farms in the area is 35%, only 6% of the pigs in the country are grown there. 88% of pig holdings have up to 10 animals, representing 40% of the pigs in the area, and 7% are in farms with over 1000 pigs. By comparison, a total of 20% of pigs are grown in farms with fewer than 10 pigs and 64% in farms with over 1,000 pigs. Compared to other animals, the share of the poultry holdings is the largest - 55%, but only 6% of the birds in the country are reared in the area. There are only 17 farms (less than 0.1% of the poultry holdings in the area) with over 5000 birds where 66% of the birds in the area are reared. For comparison, 78% of the birds in Bulgaria are in farms with over 5000 birds. 88% of pigs and 39% poultry in the Southwest region are grown mainly in holdings of individuals, while at national level these shares are 33% and 28%, respectively.

According to the most recent information for 2017, there are 24567 farms in Blagoevgrad district for livestock, poultry and bees. This situation has remained practically the same since 2010. All species of animals and birds are mainly grown in holdings of individuals - 98% of cattle, 99% of sheep and goats, 92% of pigs and 98% of birds, respectively. Virtually most of the animals in the area are grown in the private sector, as the large proportion of animal production covers the needs of producers and their families. Around 35-40% of the milk and over 46% of the meat produced are not marketed.

The growth potential of the sector is related to the possibilities for development of pastoral livestock farming in the dominance of the processing sector and production of certified ecologically clean production. It is necessary to promote competitiveness by increasing productivity and rate of technical innovation. There was a consolidation of the farms at national level, in all animal species in 2016, which is also registered in Blagoevgrad district.

According to Department of Ariculture Blagoevgrad regional office, the following animalspecies are bred in the district: cattle, buffaloes, sheep, goats, pigs, horses, donkeys, mules, birds, incl. chickens, turkeys, quails, ostriches, as well as rabbits, bees, California worms, snails. The last 6 species appear, although still limited, only in the last 2-3 years. The data for the most mass-produced farm animals in the area over the past 4 years is summarized in Table. 28.

Table 28. Number of farm animals in Blagoevgrad district for the period 2014-2017

Farm animals species	2014	2015	2016	2017
Cattle-breeding farms	5973	5280	5360	4654
Cattle-total	33372	35831	42978	49429
Buffalo-breeding farms	6	6	7	9
Buffalos-total	146	238	240	292
Sheep-breeding farms	5629	4041	4521	3143
Sheep-total	138894	114793	118580	123334
Goat breeding farms	4479	2826	1936	2158
Goats-total	46919	34060	40499	42357
Pig farms	2406	498	421	229
Pigs-total	4939	1938	1105	4051
Industrial pig farms type A	5	5	6	9
Industrial pig farms type B	22	28	31	18
Back yards - pigs	2379	465	384	202
Farms for equidae	7738	4082	3803	3992
Equidae (horses, donkeys, mules and other)	10076	6674	5414	5108

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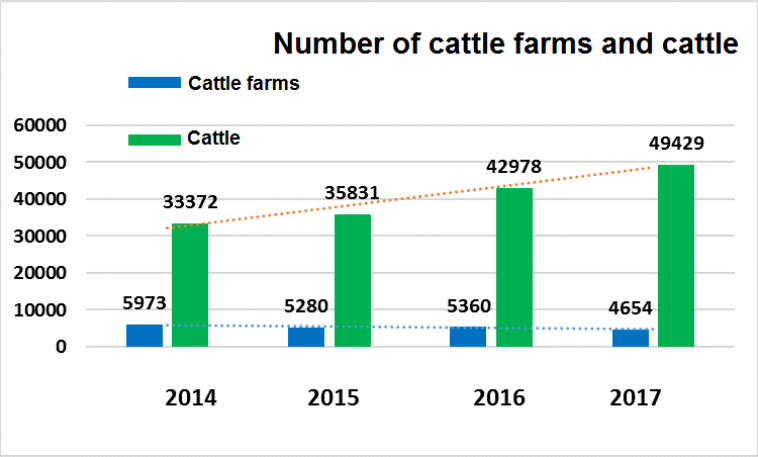
Poultry farms	17393	7066	5800	5753
Birds-total	113321	112312	46534	49696
Hens	95336	51703	41066	39979
Ostrich farms	0	0	2	2
Registered apiary	391	409	397	408
Bee families-total	15596	16071	17659	18590
Fishponds	20	24	17	19
- Carp	6	10	6	8
- Trout	14	14	11	11
Rabbit farms	0	0	97	100
Rabbits-total	0	0	8058	8946
Farms for California worms	0	0	53	70
Snail farms	0	0	1	1

Source: MAFF

2.1 Cattle

It is evident from Fig. 118 that the number of cattle-breeding farms in 2017 in Blagoevgrad District decreased by 22% compared to 2013 (except those with buffaloes), mainly at the expense of decreasing of part of the small farms. As a result of the application of coupled support schemes in livestock breeding (including slaughterhouses and animals under selective control schemes), the tendency to increase large and small ruminants, especially those for meat, is maintained; as a total in 2017 this increase is 32% compared to 2014.

Figure 118. Number of cattle farms and cattle in Blagoevgrad region for 2014-2017



Source: MAFF

A decrease in the number of cattle is observed at national level (Fig.119), which is mainly at the expense of decreasing the number of cows in small farms and family farms.

Figure 119. Number of cattle in Republic of Bulgaria for the period 2013-2017

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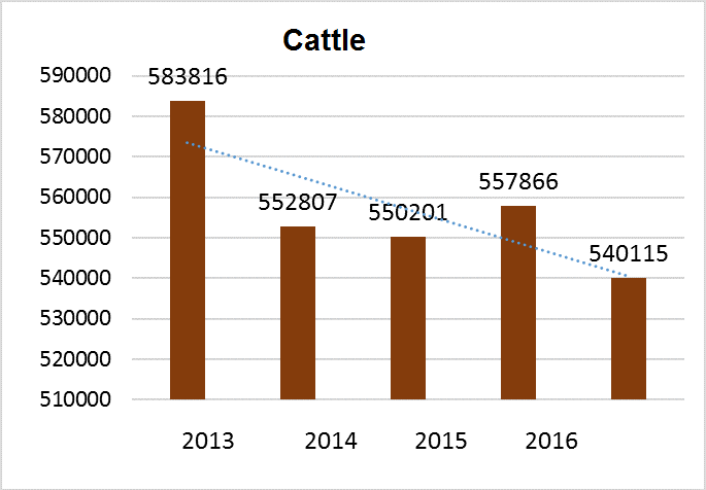
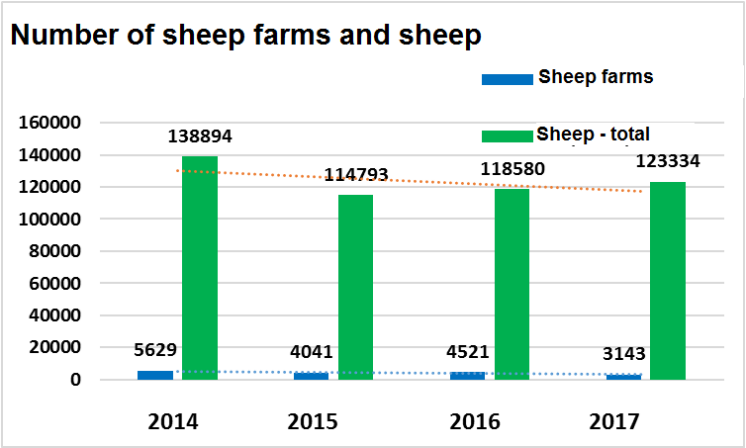


Source: MAFF

2.2 Sheep

At the regional level (Fig. 120), sheep breeding holdings for the 2014-2017 period recorded a 46% decrese. The number of sheep remained relatively stable, although overall there was also a slight decrease of 11%. At national level there is an increase in the yield of sheep and goat's milk in 2017 to 78000 liters (+ 1.3% on an annual basis) for sheep and 40000 liters (+ 0.6%) for goats, respectively, as a result of the observed increase both in the number of dairy animals and higher average milk yields.

Figure 120. Number of sheep farms and sheep in Blagoevgrad district for the period 2014-2017



Source: MAFF

At national level, a decrease in the number of sheep is recorded (Fig. 121), which is mainly at the expense of reducing those in small farms and family farms.

Figure 121. Number of sheep in Republic of Bulgaria for the period 2013-2017

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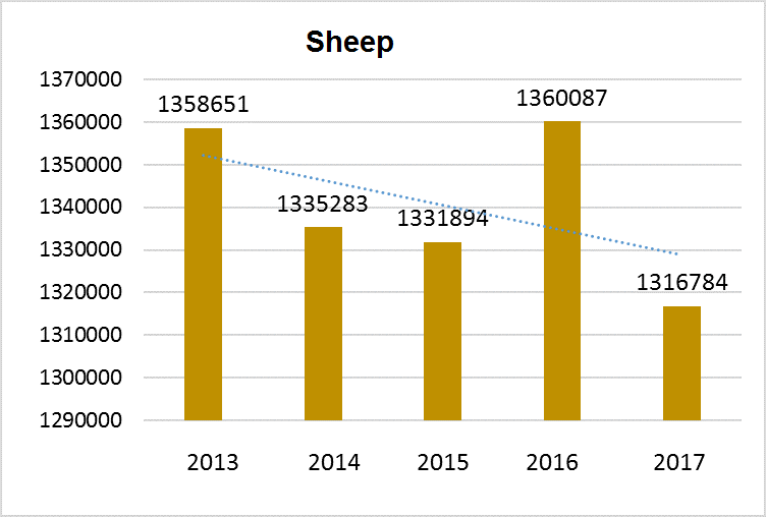


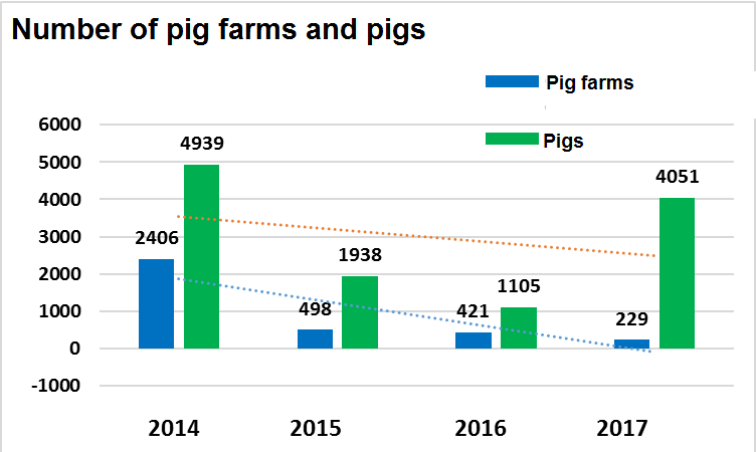
Source: MAFF

2.3 Pigs

In Blagoevgrad region (Fig. 122), for pigs in general and in the A-type pig farms in 2017 was registered an increase of 50% for farms and 267% for pigs, respectively, compared to the previous year. Although in 2015 and 2016 have been registered a significant decline compared to 2014. Most of the pigs were grown in pig farms with fewer than 10 animals (backyard type), as a result of a significant decrease in pig farms in 2017, almost 11 times compared to 2014. Regarding the B-type pig farms and pigs, in the monitored period there was a decrease of 42% and 38% for the farms and the pigs, respectively, compared to the previous year.

At national level, in 2017, an increase of almost 88% of the total production of red meat in the country is registered, which is formed by the production of pig meat, which marks an increase of 6.3% compared to the seven months of 2016. It can be said that at both national and Blagoevgrad district level there is an increase in the interest in pigs but in larger industrial farms, while small pig farms are progressively decreasing.

Figure 122. Number of pig farms and pigs in Blagoevgrad district for the period 2014-2017



Source: MAFF

At national level, there is a slow increase in the number of pigs (Fig. 123), also related to the intensification of pig breeding in Bulgaria and an increase in the number of animals in large industrial farms which were much less 10 years ago.

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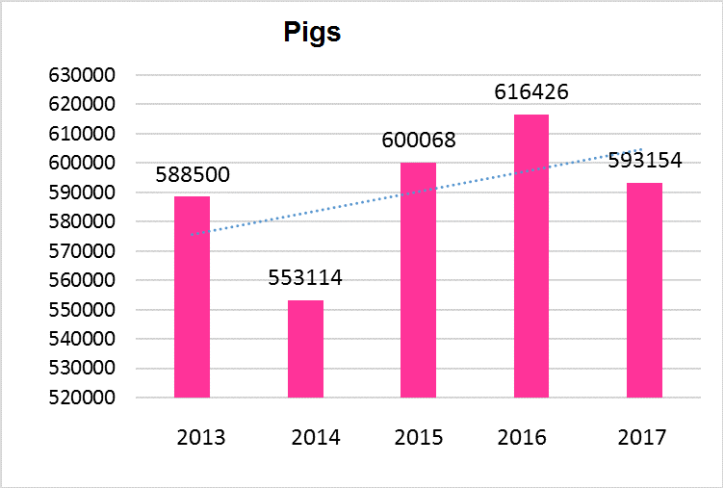
Figure 123. Number of pigs in Republic of Bulgaria for the period 2013-2017

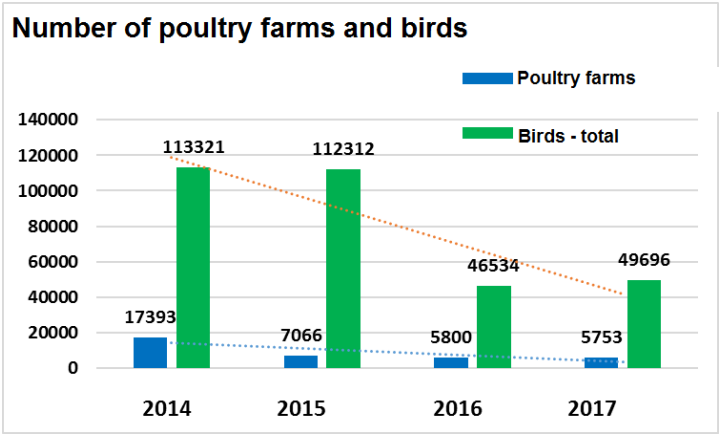


Source: MAFF

2.4 Domestic birds

There is a threefold reduction of poultry farms (Fig. 124) in the district in the period from 2014 to 2017. the Number of birds is decreasing more than twice, as most of them are hens. The decrease in poultry farms is due to the decrease of small family poultry farms - type "back yards". Although less important in the area waterfowl are reared (ducks, geese), turkeys, and comparatively rather quails. Reduction of white meat production is reported from statistics also at national level. Data published by the MAFF at national level for poultry products in 2017 is: white meat from broilers accounts for 81% of the total quantity by 45000 tonnes, recording a decrease of 2.2% compared to the same period in 2016, and the produced duck meat is 34% less, amounting to 8300 tonnes (Source: MAFF, Agrarian Report 2017, Department of Agriculture Blagoevgrad regional office, Report 2017).

Figure 124. Number of poultry farms and domestic birds in Blagoevgrad district for the period 2014-2017



Source: MAFF

Fluctuations in the number of poultry are recorded at national level, (Fig. 125), but overall there is a slow increase. There are new and more exotic species such as quails, guinea fowl, ostriches, etc.

Figure 125. Number of domestic birds in Republic of Bulgaria for the period 2013-2017

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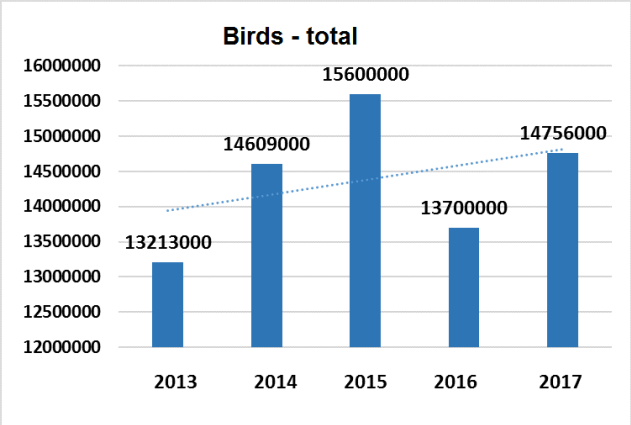
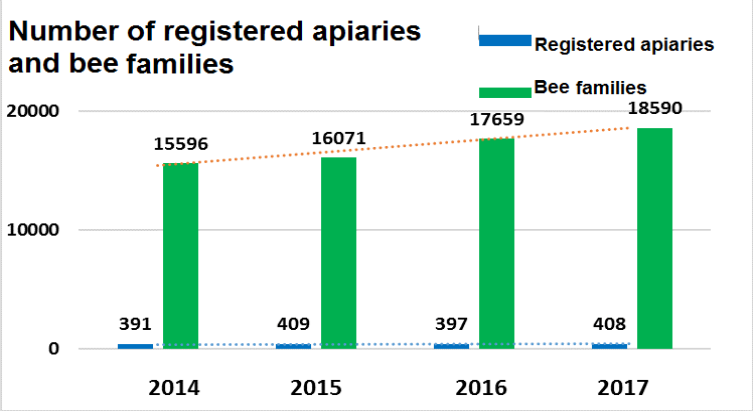


Source: MAFF

2.5 Bees and bee families

There is a relatively constant number of apiaries (there is a slight increase in number) in Blagoevgrad district for the period 2014-2017 but the number of bee families increased by 16% (Fig. 126). This increase also shows an increase in honey production and improved conditions. According to data from the National Statistics, the increase is due to the significant quantities of honey exported by the country, with a peak in 2013. Thus, Blagoevgrad district is not an exception to the tendencies in the country, which aim at increasing the production of bee honey. 98.5% of the bee families are in the farms of physical persons and very few, of legal entities.

Figure 126. Number of registered apiaries and bee families in Blagoevgrad region for the period 2014-2017



Source: MAFF

At national level, there is an increase in the number of bee families and honey production (Fig. 127) but a reduction in the number of bee farms, which indicates their intensification and consolidation.

Figure 127. Number of registered apiaries and bee families in Republic of Bulgaria for the period 2014-2017

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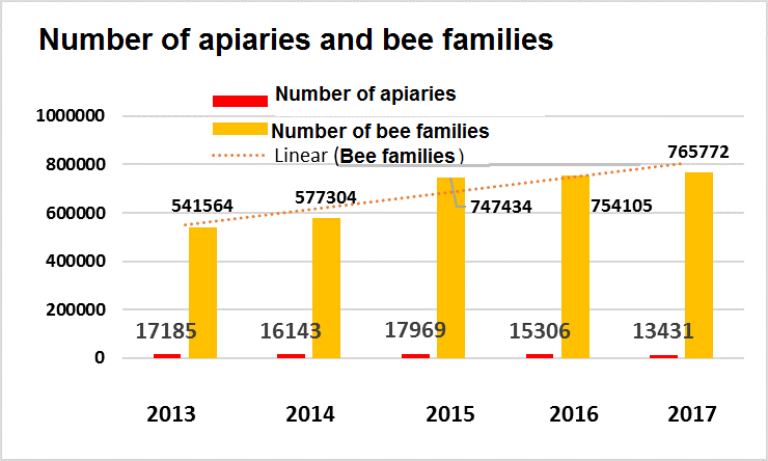

Source: MAFF

IX. PRODUCTION OF AGRICULTURAL HOLDINGS

1. Development of crop production in the country

There is a noticeable increase (Fig. 128) in the production of grain cereal and oilseed crops, but keeping of low levels in vegetables and perennials. Grain cereal and oilseed crops increase not only in area, with almost 38% from 2007 to 2016, but physical production also inceases from 7 million tonnes to 9 million tonnes. during this period. The reason for the positive trends and the steady growth in grain-oilseed crop production is both the good market situation, offering a significant increase in prices throughout the period (after 2007) and the applied support policy per unit area. Grain is commodity stock, the demand is strong, price is referenced by world markets, production cost per unit area is lower than other industries, and waiting and storage options give time for better decision making. The EU Common Agricultural Policy also helps to mitigate risks by allocating significant public funds under the 1st and 2nd pillars. Direct payments create a better situation for grain producers, with subsidies covering about 20-30% of production costs and minimizing potential losses under adverse circumstances - low average yields (production risk), low prices (price risk), implementation difficulties (market risk).

The stagnation of perennials and vegetables continues and this is directly related to the reduction of the areas and the fact that the average yields fluctuate and strongly depend on climatic conditions. Among the main problems of these producers are the small size of the areas and, hence, the relatively small quantities produced which hinders market realization. To a large extent this does not apply to grapes production, where, despite the high concentration, total production has decreased by 20000 tonnes.

The reasons are complex: reducing the number of farms; reducing the size of the areas; destroyed irrigation network; strong dependence on meteorological conditions; strong competition from imported vegetables; low state support. Among the other factors of low production levels and slippage in the vegetable sector are: the lack of a sufficient number of skilled workers, technology slippage behind competitors, etc. All these trends are observed both at national and in Blagoevgrad district level.

Figure 128. Development of crop production

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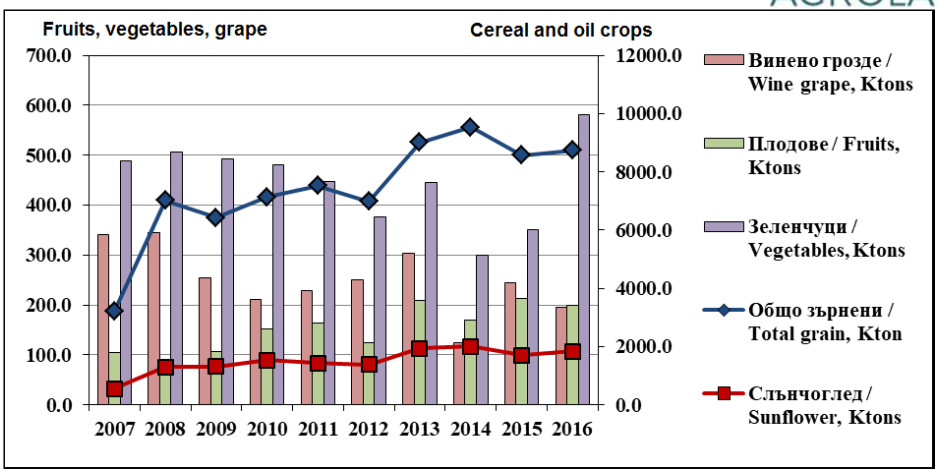

Source: Agrostatistics, MAFF; Eurostat

2. Development of livestock production in the country

Although livestock production has decreased for these years, there have been signs of incrasing in the last few years. This can be said mainly for poultry and pig farming, where positive signals are observed. The relatively shorter production cycle and the rapid reproduction capability in poultry production allow businesses to react more quickly to market signals. This is also the only meat producing sector that succeeds not only to satisfy domestic consumption almost completely but also to export. The comparatively low prices of poultry meat make it among the most demanded on the Bulgarian market, as consumer preferences, to a certain extent, are also related to the increasing tendency towards healthy food.

Until 2014, there is a steady trend in Bulgaria for reducing the number of sows reared. This also determines the overall state and development of the sector and as a result of its restructuring, are established both relatively large (over 1000 sows) and smaller (less than 1000 sows) pig holdings. These processes lead to a reduction in the number of farms and the exit of the unprofitable sector. The turning 2014 marks the beginning of a gradual increase in the number of sows. There is also an increase in productivity and fertility. Based on the market development and stable demand for pork in Bulgaria, growth is projected, but this will not be sufficient to fully satisfy domestic demand (Table 29).

Table 29. Livestock production for the period 2007-2016

Products	Measure unit	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Beef and veal	**thousand tonnes**	21.8	20.0	21.9	19.6	20.9	20.4	19.1	17.2	18.5	6.9
Pork	**thousand tonnes**	76.3	73.8	73.7	70.5	72.5	73.2	72.9	67.4	69.3	68.3
Sheepmeat	**thousand tonnes**	21.3	20.9	17.4	17.0	15.9	17.0	12.8	13.1	11.7	No data
Poultrymeat	**thousand tonnes**	116.4	108.6	130.2	106.9	103.9	107.6	98. 4	102.2	105.7	109.3
Eggs	**mln.**	1579.3	1508	1429.2	1437.5	1185	1174.4	1194.6	1218.7	1282.8	1331.3
Cow milk	**mln. liters**	1114.9	1109.9	1042.1	1091.6	1093	1061.2	1115.1	1070.6	998.1	988.9
Sheep and goat milk	**mln. liters**	167.1	160.9	146.9	141.3	146.4	136.3	154.1	115.7	111.4	116.7

In recent years, for example, there are several positive trends in Blagoevgrad district. For example, more local firms specialize in processing animal products, fruits, vegetables, as well as in the production of alcoholic products, as well as high export potential.

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According to data from the Regional Directorate "Agriculture" - Blagoevgrad, finished products obtained after processing of raw milk in Blagoevgrad District are presented in the attached Table 30 by years.

Table 30. Ready livestock products from the territory of Blagoevgrad district for the period 2014-2017

Raw materials	2017	2016	2015	2014
Cow milk in liters	4433098	3137567	2618020	2730028
Sheep milk in liters	1102302	1111403	8205823	926843
Goat milk in liters	21800	24280	22140	18140
Curdled cow milk in kg	482086			
Curdled sheep milk in kg	15768			
Cream in kg	441			
Butter in kg	11539	9627	7889	8056.5
Brine cheese from cow milk in kg	149452	79701	71788	65396.4
Yellow cheese from cow milk in kg	179245	108328	95753	86274
Cheese from goat milk in kg	2680			
Cheese from sheep milk in kg	260661			
Yellow cheese from sheep milk in kg	6393			
Brine cheese from other milk in kg		384707	239342	366625
Yellow cheese from other milk		9118	2552	5157
Curdled milk total			547317	694135
Curdled milk and cream - total		451870		
Fresh and packed milk in liters		16500		

At national level, compared to 2015, the production of dairy raw material decreased insignificantly (by 0.3%) to 1114846 thousand liters. This is due to a slight shrink in cow's milk production - by 0.9%, which is essential for the sector and represents 88.7% of the total milk yield for the year.

Unlike the previous year, sheep's milk production increased by 7.2%, while goat and buffalo milk production remained relatively stable – with 0.4% and 0.1% more, respectively than in 2015. The share of sheep's milk from total milk production during the year was 6.9%, followed by goat's milk by 3.6% and buffalo milk by 0.8%.

In 2016, the South Central Region was leading with a share of 24.9%, followed by the South-Eastern region by 20.4% and the North-Eastern region by 17.0%. South -Western region, incl. Blagoevgrad District have no special contribution to the milk production in the country.

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X. ANALYSIS OF THE CURRENT STATE OF THE AGRO-FOOD CHAIN IN BLAGOEVGRAD DISTRICT AT MUNICIPALITY LEVEL

Source: Weekipedia

As already mentioned, the area is represented by the municipalities: Bansko, Belitsa, Blagoevgrad, Gotse Delchev, Garmen, Kresna, Petrich, Razlog, Sandanski, Satovcha, Simitli, Strumyani, Hadjidimovo and Yakoruda. As a whole, the natural and climatic conditions on the territory of Blagoevgrad district are favorable for agriculture development. It is the main source of income for the rural population.

The Agro-Food Chain diagnostics by municipalities will be based on the following statistical indicators:

- Number of farms cultivating production by municipalities;
- Size of the total municipal territory (daa);
- Size of the total agricultural land in the municipality (daa);
- Size of the total arable land of the municipality (in quantitative and % ratio), in relation to the total territory and the total agricultural territory of the district (haa);
- Utilized agricultural area, incl. average size of UAA from farms in the municipality (daa);
- Number of areas with abandoned agricultural land;
- Planted areas (daa);
- Harvested areas (daa);
- Produced output on an annual basis (in tonnes);
- Average annual yield in kg/daa;

Tab. 31 shows the distribution of agricultural holdings in the Blagoevgrad District according to the size of the UAA by municipalities.

Table 31. Distribution of agricultural holdings in the Blagoevgrad District according to the size of the UAA by municipalities

Municipality	Total			Utilized agricultural land (daa)									
				0.0	up to 10		from 10 to 20		from 20 to 100		from 100 to 500		over 500	
	Number of	UAA (daa)	Average	Number of holdin	Number of holdin	UAA (daa)	Number of	UAA (daa)	Number of	UAA (daa)	Number of	UAA (daa)	Number of	UAA (daa)

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	holdings		size (daa)	gs	gs		holdings		holdings		holdings		holdings	
Bulgaria	370222	3616964	101.3	13148	24801	816280.7	46944	625506.8	441124	1631422.8	12828	2786112.8	8163	3031032.2
Blagoevgrad District	38467	583588.5	15.4	553	39114	116093.1	3877	50097.5	1615	57598.9	396	84844.0	112	274955
Bansko	893	7283.6	81.7	-	810	23336.6	34	430.9	22	1 127.4	15	4 100.9	12	64990.8
Belitsa	1607	15761.8	9.80	6	1172	4899.1	258	3297.2	157	5 173.7	14	2391.8	-	-
Blagoevgrad	2219	49117.7	22.3	17	1741	5489.6	255	3393.2	149	5754.3	42	9188.1	15	25292.5
Gotse Delchev	2971	28589.3	9	27	2590	8954.5	248	3187.3	72	2377.9	26	5877.5	8	8192.1
Garmen	3159	21447.3	6.8	5	2656	12035.3	425	5 79.7	68	2380.8	4	c	1	c
Kresna	1012	15329.3	15.2	6	836	2659.2	101	1354.9	53	2113.5	12	2131.6	4	7070.1
Petrich	7500	69737.9	9.8	359	6133	20504.5	611	8035.4	303	10403.1	77	16389.7	17	14405.2
Razlog	1 148	76751.4	67.4	9	954	2795.7	72	974.4	79	3248.3	28	5875.6	6	63857.4
Sandanski	5 009	79837.7	16.2	77	4 179	12013.1	430	5 477.4	220	7341.7	73	17258.2	30	37747.3
Satovcha	5194	67705.7	13.1	7	4 650	18763.2	427	5377.5	86	3 038.1	23	c	1	c
Simitli	2411	30948.1	12.9	3	2 090	6 83.3	189	2 409.6	89	3 723.8	28	6187.7	12	11943.7
Strumiani	1246	15850	12.7	1	914	3655.1	195	645.62	113	4 074.8	22	c	1	c
Hadzhidimovo	2331	19564.9	8.5	17	1 894	9497.7	350	4 371.3	54	1 691.5	14	c	1	c
Yakoruda	1767	19963.8	11.4	19	1 295	5809.2	282	663.1	150	5 150.0	18	3121.5	3	2220.0

Source: Ministry of Agriculture, Food and Forestry - November 2012

Municipality of Petrich has the largest number of registered farms in Blagoevgrad District - **7500. or 19.5%** of the total registered agricultural holdings in the district.

Followed by municipalities with a relatively large number of registered holdings - over 2000;

- Satovcha Municipality - 5194 or 13.5%;
- Sandanski Municipality - 5009 or 13%;
- Garmen Municipality - 3159 or 8.2%;
- Gotse Delchev Municipality - 2971 or 7.7%;
- Simitli Municipality - 2411 or 6.3%;
- Hadjidimovo Municipality - 2331 or 6.1%;
- Blagoevgrad Municipality – 2219 or 5.8%

Sandanski Municipality is the leading according to the amount of cultivated agricultural land from the total UAA in the district, **with 79837,7** daa UAA, or 13.7% of the total UAA in the district, followed by:

- Razlog Municipality – 76751.4 daa or 13.2%;
- Bansko Municipality - 72983.6 daa or 12.5%;
- Petrich Municipality – 69737.9 daa or 11.9%;
- Satovcha Municipality – 67705.7 daa or 11.6%;
- Blagoevgrad Municipality - 49117 daa or 8.4%;
- Simitli Municipality - 30948.1 daa or 5.3%;

Regarding the size of UAA, municipality of Petrich has the largest number of agricultural holdings - 633, which cultivate a total of 20504.5 daa UAA up to 10 decares. It is followed by Satovcha Municipality with

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4650 holdings and 18762.1 daa, Bansko Municipality - 23 336.6 daa, Garmen Municipality - 12035 daa, Sandanski Municipality - 12013 daa.

The average size of the arable land per person in the district does not exceed 3.5 daa as the largest is in Strumyani municipality - about 10 decares and the smallest in Blagoevgrad and Gotse Delchev municipalities (1.5 daa). In the other municipalities this size is close to the average for the district.

The reason for the large number of farms and the large amount of undersized agricultural land in Blagoevgrad District is due to the fragmentation of agricultural land following the changes that have occurred in agriculture since 1990 and after the completion of the land reform Bulgaria.

Bulgarian agriculture is characterized by a polarized farm structure. Small farms are important in terms of ensuring employment and economic activity in rural areas. However, they are usually predominant in less-favored farming and mountain areas, as well as in areas with intensive vegetable growing, fruit growing and tobacco production, such as the Blagoevgrad region. They provide the most of the jobs and incomes in the sector, making a significant contribution to achieving a balanced social and territorial development of the country.

The production of small farmers is more diverse, market farms are more specialized. Following the accession to the EU and the implementation of the Common Agricultural Policy (CAP), the tendency of market farms to specialize in the production of a small number of agricultural crops has greatly increased. Assisted by direct payments, structural changes have encouraged the introduction of less labor-intensive industries. Small farms use land for the production of a variety of crops and for the mixing of horticulture and livestock.

Small farms on the territory of Bulgaria continue to be an important socio-economic buffer in times of economic instability. They provide a major livelihood for a significant part of the rural population and are an additional source of cheap, healthy food for their family members in the urban area. In addition, these small farmers also play an important role in maintaining the viability of rural communities and securing important social, cultural and environmental services (public goods) for society as a whole.

Below, there is an analysis of trends in agriculture and livestock farming for the period 2013 - 2015 in all municipalities in Blagoevgrad district.

1. BLAGOEVGRAD MUNICIPALITY

Blagoevgrad Municipality occupies an area of 620118 daa and is the largest in population and third in territory within Blagoevgrad District. Climate conditions and Mediterranean influence are favorable for the development of a modern and competitive agriculture in the municipality. As a whole, there is a possibility

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of growing almost all types of agricultural crops typical for the temperate climate zone. About 70% of the area is irrigated.

Blagoevgrad Municipality ranks eighth by number of registered agricultural holdings with 5.8% of the total registered holdings in the district and sixth with 8.4% of the UAA.

According to data from the Ministry of Agriculture, Food and Forestry form November 2012, the total number of farms on the territory of Blagoevgrad Municipality is 2219 or 5.8% of the total registered in the district and 0.6% of the registered agricultural holdings in the country, including:

- Up to10 daa UAA – 1741 holdings – 78.5% of the total registered in the municipality;
- From 10 to 20 daa – 255 holdings – 11.5%;
- From 20 to 100 daa – 149 holdings – 6.7%;
- From 100 to 500 daa – 42 holdings – 1.9%;
- Over 500 daa – 15 holdings – 0.7%.

According to NSI (Eurostat) data, **the total territory** of Blagoevgrad Municipality is **620118 daa**, which represents 9.6% of the territory of Blagoevgrad District and 3.1% of SWR. It includes:

- **Total arable land** – 303292 daa or 48.9% - **relative share of the total territory,** of them,
- **Arable land** – 109641 daa;
- **Including irrigated land** – 47854 daa

Total utilized agricultural area in the municipality is **49117.7 daa**, which represents 16% of the total agricultural land in the municipality and 48.7% of the total arable land, with an average amount of 22.30 daa, incl.

- Up to 10 daa – 5489.6 daa UAA 11.2% of the total UAA in the municipality;
- From 10 to 20 daa – 3393.2 daa UAA – 6.9%;
- From 20 to 100 daa – 5754.3 daa UAA – 11.7%;
- From 100 to 500 daa – 9188.1 daa UAA – 18.7%;
- Over 500 daa – 25292.5 daa – 51.5%;
- Holdings with 0.0 daa UAA – 17 abandoned agricultural lands.

Data shows that in the municipality most commonly registered are small agricultural farms with up to 10 daa. They represent 78.5% of the total number of agricultural holdings in the municipality, with 5489.6 decares cultivated land, which represents 11.2%, occupying the penultimate place on the total UAA in the municipality. In practice, these are small farms that can hardly determine the appearance of the agricultural sector. Relatively larger farms, which cultivate more than 500 daa, comprising only 0,7% of all registered agricultural holdings, account for the largest amount (51.5%) of the total utilized agricultural area in the municipality and are in fact outlined as main agricultural producers.

As a conclusion it can be pointed out that in 2012 and 2013 there is a tendency for increasing the total utilized agricultural areas in the municipality. The area of the abandoned agricultural land is minimized as abandoned arable lands are found only in the lands of the most depopulated villages.

Agriculture in the municipality is characterized by its extensiveness. The main part of the production is for self-sufficiency. As mentioned above, small private (family) farms prevail in organizational production structures.

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The main part of the utilized agricultural area in the municipality is occupied by crops:

- **Grain cereal crops** – wheat, barley, spring barley, oats, rye, triticale, maize, sunflower.
- **Vegetablecrops –** pepper, tomatoes, potatoes, watermelons, melons.
- **Industrial crops –** oriental tobacco.
- **Grain beans –** beans**.**
- **Orchards and vineyards –** apples, plums, cherries, pears, apricots, strawberries, vineyards, dessert vines.

In Blagoevgrad Municipality, almost all grain cereal crops are grown (Table 32) which production is presented in the attached tables. The largest share in plant growing is occupied by cereal crops, represented by soft wheat, barley, rye. In general, due to unfavorable relief and climatic conditions, this production is unsustainable and for this three-year period was registered a decrease in planted areas and yields.

Table 32. Main grain cereal crops and sunflower in Blagoevgrad Municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Wheat	4020	4500	4000	190	230	150	763	1035	634
Barley	1000	1000	500	200	230	170	200	230	36
Spring Barley	-	500	1000	-	-	-	-	125	160
Rye	1000	1000	500	180	180	100	180	180	50
Triticale	400	200	100	200	250	100	80	50	10
Oats	-	100	200	-	-	-	-	22	24
Sunflower	1000	500	2000	130	137	90	130	25	180
Maize	600	1500	1500	300	250	240	180	375	360
Total:	**8020**	**9300**	**9800**	**1200**	**1277**	**850**	**1533**	**2032**	**1454**

Source: MAFF

Vegetable production is specialized in early production. There are 4 large greenhouses in the municipality. Mostly are produced peppers, tomatoes and potatoes and, in general, areas planted with them and yields increase (Table 33).

Table 33. Main fresh vegetables grown in Blagoevgrad Municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Pepper	10	100	50	400	720	800	4	72	40
Tomatoes	20	120	100	-	-	-	10	150	150
Potatoes	390	500	500	-	-	-	390	500	650
Watermelons	-	120	-	-	-	-	-	180	-
Melons	-	110	-	-	-	-	-	110	-
Total:	**420**	**950**	**650**	**400**	**720**	**800**	**404**	**1012**	**840**

Source: MAFF

From the table data for vegetable crops in Blagoevgrad municipality it can be concluded that because of the strong dependence on the weather conditions and different economic factors, the general tendency in their cultivation is unsustainable, but while the pepper has decreased, there is an increase in potato and tomato production.

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From the industrial cultures, only Oriental tobacco is grown in Blagoevgrad Municipality (Table 34). Primary tobacco is produced in the villages of Tserovo, Padesh, Logodaj and Bulgarchevo. The majority of farms are small. During the recent years there has been a significant reduction in areas and yields of tobacco.

Table 34. Production of oriental tobacco in Blagoevgrad municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Oriental tobacco	90	300	50	-	-	-	12	36	15

Source: MAFF

Grain legumes are presented in Blagoevgrad municipality only from beans (Table 35).

Table 35. Production of beans in Blagoevgrad municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Beans	20	-	50	-	-	-	2	-	6

Source: MAFF

The production beans in Blagoevgrad municipality is extremely small. In 2013, are planted 20 daa with a production of 2 tons. As areas with beans are very small, it is likely that the crop is grown mainly in family farms.

The fruit-growing and vine-growing in Blagoevgrad municipality are well developed (Table 36). In orchards are mainly grown cherries and apples, and the total vineyard area is much larger than that of the orchards.

Table 36. Main fruit crops and vineyards in Blagoevgrad municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Apples	370	370	370	500	500	400	185	185	148
Plums	150	120	120	400	500	100	60	60	12
Pears	100	100	100	500	500	450	50	50	45
Cherries	1000	1000	1000	250	280	90	250	280	90
Apricots	45	45	45	222	650	44	10	29	2
Strawberries	90	80	90	500	1000	200	45	80	18
Total:	**1755**	**1715**	**1725**	**2372**	**3430**	**1284**	**590**	**684**	**315**
Wine vineyards	5400	5400	5400	400	500	650	2160	2700	3510
Dessert vineyards	650	650	650	500	520	600	325	338	390
Total:	**6050**	**6050**	**6050**	**900**	**1020**	**1250**	**2485**	**3038**	**3900**

Source: MAFF

For the period 2013-2014, apples, pears and plums production kept its levels unchanged. Growing of apricots and strawberries shows a significant increase in 2014 with 190% and 77.8%, respectively. However, during 2015, the total production of the fruits in the municipality is negative compared to 2014 and the year as a whole shows a decrease of 54%, due also to the change in the weather conditions.

Vineyards during the three marketing years show positive results. In grapes production, during the reporting period are kept stable positive indicators with small differences in the values on an annual basis.

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In the municipality **livestock breeding** is also developed - mainly cattle and sheep breeding. The development of livestock breeding in the municipality (Table 38) is determined by the nature and economic conditions, as well as by the need for satisfying the population needs with animal products - meat, eggs, honey. Almost all producers in the municipality (90-95%) have received milk quotas, but they are usually small farms with few animals that can not ensure good quality of the output. In 2012 there is a significant decrease of nearly 30% in milk production, 73% from cows and the rest is fom sheep. At the same time, the relative share of sheep's milk has increased - from 21% to 27%.

In the region are not produced dairy products, but only raw material is bought for them. Towards 2013, there are farms for cow's milk production in Blagoevgrad municipality: Group I - 2, Group II - None and Group III - 47. A licensed slaughterhouse on the territory of the municipality is "Livela" ET - in the village of Pokrovnik. The production of red meat is dominated by the production of pork, which in 2010 accounted for 76% of the total meat production and in 2011 it had a relative share of 78%. Overall, the indicator marks a 15% increase in 2012 compared to 2011, although one of the major pig producers drastically shrinked its production.

Table 38. Number of livestock in Blagoevgrad municipality for the period 2013-2017

Livestock species	***2013–2014***	***2015 -2016***	***2016-2017***
Cattle-breeding farms	98	133	129
Cattle-total	2492	2832	3493
Sheep-breeding farms	133	175	175
Sheep-total	6210	7227	7371
Goat breeding farms	97	1106	114
Goats-total	2269	2718	2755
Pig farms	360	252	77
Industrial farms	0	0	
type A	2	2	2
type B	4	6	6
Back yards	354	244	76
Pigs-total	900	469	237
Farms for equidae	191	90	11
Equidae - total	336	279	58
Poultry farms	850	430	
Back yards	850	430	
Birds-total	16056	8610	
Including hens	13385	6350	
Registered apiary	65	79	71
Bee families-total	2114	2579	3470
Fishponds	1	1	1
Rabbit farms			5
Rabbits-total			500
Farms for California worms			24

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The food industry in Blagoevgrad Municipality is represented by meat producing and processing enterprises. Among them are the companies **"Karol Fernandez Meat" Ltd.**, which employs nearly 130 workers and has realized and made investments in production for 1 million euros (provided by the SAPARD program), as well as the smaller enterprises **"In Terksim" Ltd.** and **"Difil" OOD.** KFM (Karoll-Fernandez Meit Ltd – meat plant Blagoevgrad) owns a marketing license in EU from FVO. After full monitoring of good manufacturing practices, the system for identifying and controlling critical points and the traceability system, representatives of the Food Safety Organization of the European Commission designate the company as an operator covering all Euro-standards for quality, hygiene and safety of raw materials, intermediate and finished products.

The main enterprise in this branch was **Blagoevgrad-BT AD**, which has about 2000 workers and is one of the largest employers in the municipality. The company produced nearly half of the cigarettes destined for the Bulgarian market. After the plant modernization in 1994, its capacity reaches 13-14 billion cigarettes per year. But after 2015, for a variety of economic reasons, there was a significant decrease in production, closure of production capacities, and in 2018 it practically lost its economic role as a sector for the municipality and the district.

Carlsberg Bulgaria AD (the owner of the Pirinsko brand) is the other major structuring company in the food industry. The **Pirinsko pivo** company is the fastest-growing company in the industry, which ranks second in beer market. In 2006, modernization investments for BGN 20 million were made in the plant. Approximately 300 people are employed in the production.

2. BANSKO MUNICIPALITY

Bansko municipality includes two towns Bansko and Dobrinishte and 6 villages. The territory of Bansko Municipality covers 475881 daa or 7.4% of the district territory and 2.3% of the region territory. It is fifth by territory in Blagoevgrad District, third by UAA with 12.5% and lastly with 2.3% by number of registered agricultural holdings.

Industrial production is concentrated exclusively in the town of Bansko, where almost 89% of all sales are realized. The business structure in the municipality is dominated by micro-companies, which were 90.6% in 2011. As more important productions in the municipality are the production of food, beverages and tobacco. The economic activity of the municipality's population is similar to that of the district and the SWR, as after the crisis in 2008, although to a lesser extent, the share of the agrarian sector increased. The agriculture and forestry sector (primary sector)has a higher share of self-employed and employers with 27.0%.

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The primary sector (agriculture and forestry) is subordinate, irrespective of the availability of the resources necessary for its development - land and forest fund. Regarding the number of employed persons, the sector is characterized by a small number - 111, or 2.3% of all employed in the municipality economy. Over the same period, the production volume also grew by about 79%.

In recent years there has been an increase in the number of farm animals and the size of arable land. The arable land per capita in the municipality is higher than in Blagoevgrad district and the SWR.

According to NSI data on the territory balance, the land resource, which is one of the main factors for the development of agriculture and forestry, has the following parameters:

- Total size of agricultural land – **137273 daa**, or 28.8% of the municipality territory of which:
- Total area of arable land – **59751 daa**, or 43.5% of the agricultural land area;
- Total utilized agricultural area – **72983.6 daa**, at an average size in the municipality of 81.70 daa.
- Size of irrigated areas – **13236 daa**, or 22.2% of the arable land area;
- Total area of forest areas – **276555 daa**, or 58.1% of the municipality area.

The structure of agricultural holdings according to the indicator **"Size of used agricultural area (daa)"** in Bansko municipality is as follows:

- Number of agricultural holdings with size of the utilized agricultural area **up to 10 daa – 810;**
- Number of agricultural holdings with size of the utilized agricultural area from **10 to 20 daa – 34;**
- Number of agricultural holdings with size of the utilized agricultural area from **20 to 100 daa – 22;**
- Number of agricultural holdings with size of the utilized agricultural area from **100 to 500 daa – 15;**
- Number of agricultural holdings with size of the utilized agricultural area over **500 daa – 12;**
- Holdings with **0,0 daa** UAA – 0.

The cited data show that in the municipality most commonly are registered small agricultural farms - up to 10 daa. They represent 90.7% of the total number of agricultural holdings in the municipality and the amount of the cultivated land (2333 daa) represents only 3.2% of its total size (72983 daa). In fact, these are really small farms that can hardly determine the appearance of the agricultural sector. On the contrary, relatively larger farms, which manage more than 500 daa, even though they are 1.3% of all registered agricultural holdings, account for 89% of the total farmland in the municipality.

As a conclusion it can be pointed out that in 2012 and 2013 there is a trend of increase of the used agricultural areas in the municipality. The area of abandoned agricultural land is minimized. Towards 2013, abandoned arable land is found only in the land of the most depopulated villages.

The agriculture in the municipality has extensive character. The bulk of the output is for self-sufficiency. As mentioned above small private (family) farms prevail in organizational production structures. Soil - climatic conditions in Bansko Municipality are favorable for the development of agriculture and cultivation of agricultural crops. The prevailing deluvial and deluvial-meadow soils occupying 20% of the arable land are very favorable for the cultivation of the main agricultural crops - tobacco, cereals and grass plantations, potatoes. Brown forest soils, although located on sloping terrains and poor in humus and nutrients, are also suitable for growing rye, oats, potatoes, tobacco. There are also natural meadows and pastures. They are the most valuable for agriculture.

The main part of the utilized agricultural area in the municipality is occupied by:

- **Grai cereal crops** – wheat, barley, rye, oats, triticale, maize.

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- **Vegetable crops –** pepper, tomatoes, potatoes.
- **Industrial crops –** oriental tobacco.
- **Grain beans –** beans**.**
- **Orchards and vineyards –** apples, plums, pears.
- **Forage crops** – corn for silage.
- **Essential oil crops** – lavender.

In the structure of the palnted areas the largest share have lands used for the production of cereals - wheat and rye (about 2600 daa), potatoes (about 2500 daa), maize (about 1300 daa), vegetables (about 850 daa), and of the technical cultures - tobacco (about 200 daa). Perennials have small size and are comprised of small orchards of apples and pears (total 200 daa).

The prevailing crops in Bansko Municipality are cereals (Table 39), as wheat occupies the largest area (2000 daa), with good yields in 2014 - 400 kg/daa, followed by rye with an area of 1000 daa.

Table 39. Main cereals in the municipality of Bansko for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Wheat	2000	2000	1900	200	220	150	400	440	285
Barley	65	30	-	200	200	-	13	6	-
Rye	1100	1100	1000	200	230	150	220	253	150
Triticale	180	450	800	222	250	220	40	113	176
Oats	300	300	150	-	-	-	48	544	27
Maize	500	500	500	350	300	350	175	150	175
Total:	**4145**	**4380**	**4350**	**1172**	**1200**	**870**	**896**	**1506**	**813**

Source: MAFF

In total, cereal production and yields increased as a whole by 68% in 2014 compared to 2013 and decreased by 46% in 2015 compared to 2014, so the overall trend is unstable.

The vegetables grown in Bansko Municipality are only peppers, tomatoes and potatoes (Table 40). Due to the predominantly mountainous relief of the municipality, potatoes are the traditional crop of the municipality because of the favorable soil and climatic conditions. The municipality policy is to support and develop vegetable production, mainly in the family farms, to satisfy the personal needs and mainly the needs of the tourist branch in the municipality and the region of fresh vegetables for public catering.

Table 40. Main types of fresh vegetables in Bansko municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Pepper	70	80	10	500	500	500	35	40	5
Tomatoes	80	80	80	-	-	-	56	40	40
Potatoes	1500	1500	2000	-	-	-	3000	3750	3000
Total:	**1650**	**1660**	**2090**	**500**	**500**	**500**	**3091**	**3830**	**3045**

Source: MAFF

Production and yields of fresh vegetables increased by 24% in 2014 compared to 2013 and decreased by 21% in 2015, probably due to analogous reasons as for cereals.

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The industrial crop cultivated in the municipality is Oriental tobacco (Table 41). Apart from being traditional for the region and a very labor intensive culture, tobacco was the only alternative for feeding the population in the small settlements of the Blagoevgrad District. But also in recent years this livelihood in the district and the country has declined, mainly for financial reasons, which is also observed in Bansko municipality.

Table 41. Production of Oriental tobacco in Bansko Municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Oriental tobacco	300	300	120	-	-	-	42	42	14.4

Source: MAFF

While in 2013 and 2014 the tobacco retains constant yields, in 2015 there is a nearly threefold reduction in both the planted area and the yields.
In Bansko municipality only beans are grown from the grain cereals (Table 42). This crop retains its presence in the plant breeding of the municipality, despite the very limited areas and yields.

Table 42. Production of beans in Bansko municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Beans	50	25	100	-	-	-	7.5	2.5	8

Source: MAFF

Silage maize is produced from the forage crops (Table 43) in insignificant quantities in 2014.

Table 43. Production of forage crops in Bansko municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Maize for silage	-	30	-	-	-	-	-	60	-

Source: MAFF

Only lavender of the essential-oil crops, which is a new crop, is cultivated in Bansko Municipality (Table 44). The areas and yields of it are still insignificant.

Table 44. Production of essential oil crops in Bansko municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Lavender	-	30	30	-	300	300	-	9	9

Source: MAFF

Bansko Municipality occupies places with higher altitudes. Fruit growing is poorly developed and represented mainly by plum gardens and more limited by apples, pears and strawberries (Table 45). Viniculture is not developed in the municipality due to the peculiarities of climatic conditions.

Table 45. Orchards and vineyards in Bansko Municipality for 2013-2015

Crop	Planted areas (daa)	Average yield (kg/daa)	Production in tonnes

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	2013	2014	2015	2013	2014	2015	2013	2014	2015
Apples	-	50	50	-	700	800	-	35	40
Plums	154	154	154	500	597	26	77	92	4
Pears	100	100	100	500	600	500	50	60	50
Strawberries	80	80	80	500	1000	200	40	80	16
Total:	**334**	**384**	**384**	**1500**	**2897**	**1526**	**167**	**267**	**110**

Source: MAFF

Livestock also includes the private sector in the municipality. Cows, goats and sheep are mainly reared (Table 46). The decreaing trend in the number of farm animals in the 2007-2009 period has been overcome. The municipality has historically strong positions in livestock breeding. Against the background of the gradually changing economic environment, which until recently strongly favored cereals, the prospects for livestock breeding development in the municipality have prevailed. A particularly good prospect for development has the cattle-breeding - both the dairy and the meat-breeding.

Table 46. Number of livestock in Bansko municipality for the period 2013-2017

Livestock species	*2013–2014*	*2015 -2016*	*2016-2017*
Cattle-breeding farms	238	85	89
Cattle-total	2 016	1834	1978
Sheep-breeding farms	454	0	126
Sheep-total	7 668	0	4694
Goat breeding farms	400	4352	132
Goats-total	3074	92	2340
Farms for equidae	208	1746	23
Equidae - total	265	96	85
Poultry farms	295	295	295
Birds-total	3030	3030	3030
including hens	2710	2710	-
Registered apiaries	22	28	-
Bee families-total	394	590	-
Fishponds	3	4	-
including carp	0	0	-
including trout	3	4	-

3. BELITSA MUNICIPALITY

Belitsa Municipality is located in the northeastern part of Blagoevgrad district on the southern slopes of Rila

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and the Western Rhodopes, covering an area of **293536 daa.** The municipality is comprised of 12 settlements - the municipal center town of Belitsa and 11 villages. The industry here is represented by enterprises specialized in different branches.

As a part of the light industry, food industry is represented by the production of bread and bakery products. The high relative share of households occupied in agricultural holdings is mainly related to the production of agricultural products for their own needs, to increase the incomes of the population but also the dominant role of the agriculture in the municipal economy structure. The agricultural land structure shows that natural meadows have the largest share, followed by fields and and pastures. The average size of the cultivated areas is 3.2 dka, mainly due to the fragmentation of the land and the mountain relief. Obsolete agricultural machinery is used which results in harvest losses. Farms are oriented towards self-sufficiency needs of the population, as the land is cultivated to supplement household incomes.

Belitsa municipality occupies the tenth place by number of registered farms, with 4.2% of the total number registered in the district and twelfth place with 2.7% of UAA in Blagoevgrad District.

According to data of the Ministry of Agriculture, Food and Forestry from November 2012, the total number of agricultural holdings on the territory of Belitsa Municipality is 1607, including:

- Up to 10 daa UAA – 1172;
- From 10 to 20 daa – 258;
- From 20 to 100 daa – 157;
- From 100 to 500 daa – 14;
- Over 500 daa – 0;

The structure of the companies follows the general trend for the district and the country. The largest share of micro-companies (with up to 9 employees) is around 91%.

Structurally, agricultural land is distributed as follows:

According to NSI (Eurostat) data, the total area of Belitsa Municipality is **293536 daa**, which represents 4.5% of Blagoevgrad district and 1.4% of the SWR. It includes:

- **Total arable land -** 68382 daa or 23.3% relative share of the total territory, of them:
- **Arable land** – 34203 daa or 50.0% of the total agricultural land, which per capita amounts to 3.6 daa of arable land, with an average of 6.3 daa per person for the country.
- **Fields** – 18.418 daa – 53.8% of the total arable land;
- **Irrigated land** – 0 daa

Total utilized agricultural area in the municipality is **15 761.8** daa, at an average size of **9.8** daa, including:

- Up to 10 daa – 4899.1 daa UAA
- From 10 to 20 daa – 3297.2 daa UAA;
- From 20 to 100 daa – 5173.7 daa UAA;
- From 100 to 500 daa – 2391.8 daa UAA;
- Over 500 daa – 0;
- Holdings with 0.0 daa UAA – 6.

By form of ownership 10% of the agricultural land is private, 10% is municipal, 80% is state-owned. The relative share of municipal lands is low and severely restricts the opportunities for stimulating the development of agriculture, by providing land to tenants for the creation of large holdings and farms. The

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high relative share of households occupied in agricultural holdings is mainly related to the production of agricultural produce for own use, to increase the incomes of the population but also to the dominant role of agriculture in the municipal economy structure.

The main part of the utilized agricultural area in the municipality is occupied by:

- **Grain cereal crops** – wheat, oats, corn.
- **Vegetable crops –** pepper, tomatoes, potatoes.
- **Industrial crops –** oriental tobacco.
- **Grain beans –** beans**.**
- **Orchards and vineyards –** apples, plums, raspberries.

The variety of cereal crops grown in the municipality is not great due to the mountainous relief of the land and the small size of the fragmented arable land. Mostly are grown wheat and maize on small areas of total UAA in and a small amout of oats. Potatoes have the largest share in the primary plant production in the municipality, followed by tobacco crops. The number of registered tobacco growers is 1200 people and the annual quota of the municipality is 1200 tons of tobacco.

Except the traditional plant species of the municipality, there are favorable conditions for the cultivation of medicinal plants and the creation of permanent crops of forest plantations. Agricultural development perspectives are related to the introduction of alternative crops such as rye and triticale, herbs, blueberries.

The average size of the cultivated areas by the farmers in the municipality is 3.2 daa, due to the fragmentation of the land and the mountain relief. Obsolete agricultural machinery is used that results in harvest losses. The farms are oriented towards self-sufficiency needs of the population, as the land is cultivated to supplement household income.

From grain crops, wheat and maize are mainly grown on small areas of the total UAA in the municipality, as well as oats (Table 47). During the reporting period, as a whole, the municipality grain production remains relatively stable, although its share is negligible in terms of areas and yields. A significant increase was reported in 2014 and a decrease to 2013 levels in 2015.

Table 47. Main grain cereal crops in Belitsa municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Wheat	240	450	530	258	280	220	62	104	117
Oats	-	500	-	-	-	-	-	150	-
Maize	100	150	-	350	500	-	35	75	-
Total:	**340**	**1100**	**530**	**608**	**528**	**220**	**97**	**329**	**117**

Source: MAFF

Potatoes are the main vegetable crop in the municipality, while tomatoes and pepper are grown insignificantly (Table 48). For the period 2013-2015, as a whole, vegetable production is decreasing.

Table 48. Main fresh vegetable species in Belitsa municipality for the period 2013 - 2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015

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Pepper	10	40	-	1500	1250		15	50	
Tomatoes	10	60	-	-	-		23	75	-
Potatoes	1000	1500	100	-	-		1000	1500	100
Total:	**1020**	**1600**	**100**	**1500**	**1250**		**1038**	**1625**	**100**

Source: MAFF

The Oriental tobacco production is negligible (Table 49), although there is an increase in yields from 7.5 tonnes in 2013 to 10 tonnes in 2015.

Table 49. Production of oriental tobacco in Belitsa municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Oriental tobacco	50	50	50	-	-	-	7.5	6.75	**10**

Source: MAFF

Only beans from the grain legumes are grown (Table 50). After an increase in areas and yields in 2014, a significant decrease is recorded in 2015.

Table 50. Production of beans in Belitsa municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Beans	100	300	10	-	-	-	15	35	2

Source: MAFF

Belitsa is a mountain municipality. Fruit growing is poorly developed and represented mainly by plum gardens and less by apples and raspberries (Table 51). Vineyards are not developed because of the climatic conditions. Overall, the main fruit crops recorded a decrease in total yields.

Table 51. Orchards and vineyards in Bansko Municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Apples	60	83	83	500	494	205	30	41	17
Plums	64	100	100	300	500	200	19	50	2
Raspberries	12	12	12	200	50	83	2	6	1
Total:	**136**	**195**	**195**	**1000**	**1494**	**308**	**51**	**97**	**20**

Source: MAFF

Livestock has a smaller share in agricultural output. Nearly all species of domestic animals are presented (Table 51). Cattle, sheep, goats and pigs are reared. The reduction in the number of animals in recent years has subsided as a process, but the difficulties associated with the realization of the production continue to be a major problem for the breeders. Family farms are not market-oriented, household surpluses appear on the market. The quality of production is low due to lack of knowledge of the farmers for feeding and rearing animals. The trend in the sub-branch is to keep the number of animals in private farms. There is a decrease in average productivity in cattle and sheep rearing due to incomplete feeding of animals, not observing the foodunits and lack of selective activity. A positive trend is the development of beekeeping, but it is still in small scale for the moment. The prospect of this production in the municipality is great, given the appropriate climate, plant variety and clean environment of the area. Developing a program to promote this

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activity is an extremely important task. An important factor for the development of agriculture is also the development of related branches, mainly agro-food industry and rural tourism.

Source: Municipal Development Plan of Belitsa Municipality

Table 51. Number of livestock in Belitsa Municipality for the period 2013-2017

Livestock species	*2013 – 2014*	*2015 - 2016*	*2016.- 2017*
Cattle-breeding farms	829	888	881
Cattle-total	1880	2297	2148
Sheep-breeding farms	1564	1208	1720
Sheep-total	7400	7400	8149
Goat breeding farms	150	6	18
Goats-total	270	70	550
Pig farms	0	0	
Farms for equidae	170	7400	200
Equidae - total	258	70	242
Poultry farms	1450	0	
Back yards	1450	0	250
Birds-total	3720	3200	3100
including hens	3000	2700	
Registered apiaries	3	5	7
Bee families-total	308	99	250
Fishponds	1	1	1
including trout	1	1	1

4. GOTSE DELCHEV MUNICIPALITY

Gotse Delchev Municipality is situated along the Mesta river. The area of the municipality is predominantly mountainous and occupies most of the Gotse Delchev valley as well as parts of Pirin and Rhodopes mountains. The total area of the municipality is **330210 daa**. The specificity in the geographic location of the town of Gotse Delchev makes it a local economic center for four municipalities along the Mesta - Gotse Delchev, Satovcha, Garmen and Hadzhidimovo. The economy of Gotse Delchev municipality is developing steadily. The municipality's contribution to the GDP of Blagoevgrad district is increasing, reaching 8.7% in

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2010. One of the key sectors for the economy is food industry. However, there is insufficient use of the opportunities that agriculture offers, under favorable natural conditions, for its development. Arable land is 1/3 of the municipality's territory. Private agricultural holdings dominate. The number of registered agricultural companies and private farmers grows.

Gotse Delchev municipality ranks fifth by number of registered farms with 7.7% and eighth by UAA in Blagoevgrad District with 4.9%.

According to data of the Ministry of Agriculture, Food and Forestry from November 2012, the total number of agricultural holdings on the territory of Gotse Delchev municipality is 2 971, including:

- Up to 10 daa UAA – 2590;
- From 10 to 20 daa – 248;
- From 20 to 100 daa – 72;
- From 100 to 500 daa – 26;
- Over 500 daa – 8;

Structurally, agricultural land is distributed as follows:

According to NSI (Eurostat) data, the total area of **Gotse Delchev municipality** is **330210 daa**, which represents 5.1% of Blagoevgrad district and 1.6% of the SWR. It includes:

- **Total agricultural land** - 162 482 daa or 49.2% relative share of the total territory, of them:
- **Total arable land** – 80 267 daa or 50.0% of the total agricultural land;
- **Total irrigated land** – 18 385 daa or 22.9% of the total arable land;

Total Utilized agricultural area in the municipality is **28.589.3 daa,** with an average size of 9.00 daa, incl.:

- Up to 10 daa –8954.5 daa UAA
- From 10 to 20 daa – 3187.3 daa UAA;
- From 20 to 100 daa – 2377.9 daa UAA;
- From 100 to 500 daa – 5877.5 daa UAA;
- Over 500 daa – 8191.1 daa UAA;
- Holdings with 0.0 daa UAA – 27.

The main part of the utilized agricultural area in the municipality is occupied by:

- **Grain cereal crops** – wheat, barley, oats, corn, sorghum.
- **Vegetable crops –** pepper, tomatoes, potatoes, watermelons, melons.
- **Industrial crops –** oriental tobacco.
- **Grain beans –** beans, lentil**.**
- **Forage crops** – forage peas, silage maize.
- **Orchards and vineyards –** apples, pears, plums, cherries, peaches, strawberries, raspberries, wine vineyards, dessert vineyards.

The main grain cereals in the municipality are wheat (more than 2/3 of the total production), barley, oats, maize, sorghum (Table 52). In general, planted areas and yields remained stable over the reported three-year period.

Table 52. Main grain cereal crops in Gotse Delchev municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015

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Wheat	3200	2850	3000	210	220	200	672	627	600
Barley	200	50	-	190	200	-	38	10	-
Maize	800	2700	2500	300	250	310	240	675	775
Oats	0	80	-	0	0	-	0	8	-
Sorgo	0	40	-	0	0	-	0	5,6	-
Total:	**4 200**	**5 720**	**5 500**	**700**	**670**	**510**	**950**	**1325,6**	**1 375**

Source: MAFF

In the municipality, because of its mountain character, vegetable crops are mainly potatoes, as tomatoes, peppers, watermelons and melons are grown negligibly (Table 53). For the period 2013-2015, in general, potatoes production has grown slightly, and larger for peppers, as for tomatoes is decreasing.

Table 53. Main types of fresh vegetables in Gotse Delchev municipality for the period 2013-2015

Crop	**Planted areas (daa)**			**Average yield (kg/daa)**			**Production in tonnes**		
	2013	**2014**	**2015**	**2013**	**2014**	**2015**	**2013**	**2014**	**2015**
Pepper	70	100	160	600	600	938	42	60	150
Tomatoes	100	120	180	-	-	-	80	240	100
Potatoes	2300	2400	2500	-	-	-	2300	2400	2750
Watermelons	30	50	-	-	-		15	50	-
Melons	20	50	-	-	-	-	20	42	-
Total:	**2520**	**2720**	**2840**	**600**	**600**	**938**	**2457**	**2792**	**3000**

Source: MAFF

Oriental tobacco production was a significant branch of agriculture in Gotse Delchev municipality (Table 54). The varieties "Nevrokop 11-46", "Krumovgrad 90", Krumovgrad 988, "Krumovgrad 78" and "Jebel 81K" are grown. However, for the reported three-year period, a three-fold reduction of the planted areas and yields is observed, which is also observed at national level.

Table 54. Production of Oriental Tobacco in Gotse Delchev Municipality for the Period 2013-2015

Crop	**Planted areas (daa)**			**Average yield (kg/daa)**			**Production in tonnes**		
	2013	**2014**	**2015**	**2013**	**2014**	**2015**	**2013**	**2014**	**2015**
Oriental Tobacco	3500	3600	1000	-	-	-	455	504	160

Source: MAFF

Grain beans and less lentils are grown in the municipality (Table 55). After an increase in beans areas and yields in 2014, there is a significant decrease in 2015.

Table 55. Production of grain legumes in Gotse Delchev municipality for the period 2013-2015

Crop	**Planted areas (daa)**			**Average yield (kg/daa)**			**Production in tonnes**		
	2013	**2014**	**2015**	**2013**	**2014**	**2015**	**2013**	**2014**	**2015**
Beans	500	500	600	-	-	-	50	250	84
Lentils	-	40	-	-	-	-	-	4,4	-
Total:	**500**	**540**	**600**	**-**	**-**	**-**	**50**	**254,4**	**84**

Source: MAFF

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From the forage crops, in 2014 maize is produced for silage and in insignificant quantities forage peas (Table 56). In maize production, planted decares are the same for 2014 and 2015, but yields are higher in 2015.

Table 56. Production of forage crops in Gotse Delchev municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Feed peas	-	100	-	-	45	-	-	45	-
Maize for silage	-	800	800	-	800	-	-	800	960
Total:	-	**900**	**800**	-	**845**	-	-	**845**	**960**

Source: MAFF

Gotse Delchev Municipality offers better conditions for development especially of viticulture due to the more pronounced Mediterranean influence along Mesta River. Fruit growing is poorly developed and represented mainly by plum gardens and more limited by apples, raspberries, cherries and peaches (Table 57). Viticulture is relatively well developed and in particular the production of wine varieties. In general, an increase in yields was recorded for the main fruit crops and vineyards.

Table 57. Orchards and vineyards in Gotse Delchev Municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Apples	130	135	135	500	400	511	65	54	69
Pears	-	50	50	-	600	500	-	30	25
Peaches	-	30	30	-	500	600	-	15	18
Plums	201	180	180	398	300	333	80	54	60
Cherries	55	55	55	236	300	149	13	17	8
Strawberries	40	80	80	400	500	150	16	40	12
Raspberries	110	150	150	550	500	55	61	75	8
Total	**536**	**680**	**680**	**2084**	**3100**	**2298**	**235**	**285**	**200**
Wine vines	1300	1300	1300	470	50	800	611	650	1040
Dessert vines	193	150	150	497	500	900	96	75	135
Total:	**1493**	**1450**	**1450**	**967**	**550**	**1700**	**707**	**140**	**1175**

Source: MAFF

Livestock farming is well developed on the territory of the municipality. In the municipality are bred cattle, sheep, goats, pigs and poultry (Tab. 58). Sheep, cattle and poultry are kept at relatively high levels. There are no licensed dairies in the municipality. A meat processing plant is operating at the moment, and a slaughterhouse is currently being built.

Source: Municipal Development Plan of G. Delchev Municipality

Table 58. Number of livestock in Gotse Delchev municipality for the period 2013-2017

Livestock species	*2013 – 2014*	*2015 - 2016*	*2016.- 2017*
Cattle-breeding farms	510	490	449
Cattle-total	1844	2133	2379

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Buffalo-breeding farms	1	1	1
Buffaloes - total	82	121	121
Sheep-breeding farms	178	112	72
Sheep-total	5630	7600	6490
Goat breeding farms	172	163	124
Goats-total	2236	2131	2023
Pig farms	26	28	21
Pigs - total	65	172	127
Farms for equidae	540	540	541
Equidae - total	635	635	586
Poultry farms	524	540	
Back yards	524	540	524
Birds-total	4978	4978	4978
including hens	1490	1490	
Registered apiaries	20	21	21
Bee families-total	1141	950	950
Fishponds	2	2	2
Including carps	2	2	2
Rabbit farms			13
Rabbits total			2450
California worms objects			10

5. GARMEN MUNICIPALITY

Garmen Municipality is situated in the southeastern part of the Blagoevgrad region and occupies an area of **388479 daa**. The village of Garmen is situated in a mountainous area and is the administrative center of the Municipality. It includes 16 settlements. The concentration of anthropogenic, natural and cultural resources creates favorable conditions for the development of organic farming and livestock farming, alternative agriculture and light and processing industries.

The food industry is represented by the production of bread and bakery products, soft drinks - mainly from micro-companies. The local economic structure is poorly represented in terms of agro-industrial development and competitiveness. Progress has been made in the development of alternative farming - growing strawberries, raspberries, orchards and other. Main crops are tobacco and potatoes. Livestock is mainly represented by sheep and cattle breeding as less developed are poultry and pig farming.

The local economy is heavily influenced by the location of the municipality. Because of the semi-mountainous relief, agriculture sector is the main source of income and employment.

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Garmen Municipality occupies the fourth place by number of registered farms with 8.2% and ninth by 3.7% UAA in Blagoevgrad District.

52.6% of the employed in the municipality are occupied in agricultural farms.
According to data of the Ministry of Agriculture, Food and Forestry from November 2012, the total number of agricultural holdings on the territory of Garmen municipality is 3 159, including:

- Up to 10 daa UAA – 2656;
- From 10 to 20 daa – 425;
- From 20 to 100 daa – 68;
- From 100 to 500 daa – 4;
- Over 500 daa – 1;

Structurally, agricultural land is distributed as follows:

- According to NSI (Eurostat) data, the total area of **Garmen municipality** is **388479 daa**, which represents 5.0% of Blagoevgrad district and 1.9% of the SWR. It includes:
- **Total agricultural land** - 9663 daa or 24.9% relative share of the total territory, of them:
- **Total arable land** – 7191 daa or 73.6% of the total agricultural land;
- **Irrigated land** – 14489 daa or 22.9% but the hydromelioration system is heavily amortized;

Total Utilized agricultural area - 21447.3 daa, with an average size of 6.8 daa, incl.:

- Up to 10 daa –12035.3 daa UAA
- From 10 to 20 daa – 5479.7 daa UAA;
- From 20 to 100 daa – 2380.8 daa UAA;
- Holdings with 0.0 daa UAA – 5.

Currently, none of the existing pumping stations are functioning. The rehabilitation of the irrigation network is related to attracting investments and should take into account the peculiarities of small farms.
The main part of the utilized agricultural area in the municipality is occupied by:

- **Grain cereal crops** – wheat, barley, corn, triticale.
- **Vegetable crops –** pepper, tomatoes, potatoes, watermelons, melons.
- **Industrial crops –** oriental tobacco.
- **Grain beans –** beans**.**
- **Orchards and vineyards –** apples, strawberries, raspberries, wine vineyards, dessert vineyards.

The main part of the utilized agricultural area in the municipality is occupied by cereals, legumes, tobacco, vegetables, perennials, vineyards. Tobacco plantations occupy the largest share, as the main livelihood in the municipality. For the period 2009-2012, tobacco crops declined sharply. During the period under review, an increasing trend has been observed in UAA for the cultivation of cereals and legumes. There is a trend of stabilization of vineyards in the municipality. In permanent crops, a decrease of almost 50% was recorded for the surveyed period.

The main grain cereal crops in the municipality are maize and wheat, and less barley as in 2014 and 2015 the areas with triticale increased (Table 59). As a whole, sown areas and yields remained stable over the three-year period.

Table 59. Main grain cereal crops in Garmen municipality for the period 2013-2015

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Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Wheat	690	700	850	291	280	230	201	200	196
Barley	100	-	100	200	-	-	20	-	
Maize	1000	1000	1000	400	400	250	400	400	175
Triticale	-	800	800	-	280	120	-	244	12
Total:	**1790**	**1870**	**1650**	**891**	**960**	**600**	**621**	**664**	**383**

Source: MAFF

In the municipality, ly potatoes are the main vegetable crop, but tomatoes, peppers, watermelons and melons are also grown (Table 60). For the period 2013-2015, in general, vegetable production is declining for potatoes, and to larger extend for peppers and tomatoes.

Table 60. Main species of fresh vegetables in Garmen municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Pepper	50	100	5	428	1500	900	21,4	150	4,5
Tomatoes	60	70	30	-	-	-	42	98	30
Potatoes	700	700	400	-	-	-	490	700	250
Watermelons	30	50	-	-	-	-	90	100	-
Melons	-	20	-	-	-	-	-	20	-
Total:	**840**	**940**	**435**	**428**	**1500**	**900**	**643,4**	**1068**	**284,5**

Source: MAFF

In Garmen, the production of Oriental tobacco was a significant sector in agriculture (Table 61). However, for the reported three-year period there has been a repeated decrease of the planted areas and the yields, which is a similar trend in the other municipalities in the area as well as at the national level.

Table 61. Production of Oriental Tobacco in Garmen Municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Oriental tobacco	1800	1900	100	-	-	-	324	294,5	20

Source: MAFF

From the grain legumes crops are grown only mature beans, but with insignificant areas and yields (Table 62). After a reduction in areas and yields in 2014, there was a slight increase in 2015.

Table 62. Grain-legumes production in Garmen municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Beans	200	100	100	-	-	-	18	8	12

Source: MAFF

Garmen Municipality is a mountainous region and does not offer very good conditions for development especially of the viticulture and fruit-growing. Fruit growing is poorly developed and represented mainly by apples and very limited by strawberries and raspberries (Table 63). Vine-growing is also underdeveloped,

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and in particular the production of wine varieties, although compared to the unfavorable 2014, production growth is registered in the better 2015. There is a decline in orchards' production.

Table 63. Orchards and vineyards in Garmen Municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Apples	200	200	200	1400	500	400	280	100	80
Strawberries	20	20	20	400	400	200	8	8	4
Raspberries	10	10	10	160	500	100	2	5	1
Total:	**230**	**230**	**230**	**1960**	**1400**	**700**	**290**	**113**	**85**
Wine vines	115	115	115	400	200	900	46	23	104
Dessert vines	40	40	40	400	200	800	16	8	32
Total:	**155**	**155**	**155**	**800**	**400**	**1700**	**62**	**31**	**136**

Source: MAFF

Livestock has a smaller share in agricultural output. Nearly all species of domestic animals are represented, as cattle and sheep breeding dominate (Table 64). Animals are grown in family farms, as there are no large farms. In the majority of cases the animals are kept under primitive conditions and there is no quality control of the produce. The knowledge of the farmers is insufficient, lacking adequate information about the possibilities of applying new technologies.

Table 64. Number of livestock in Garmen municipality fo the period 2013–2017

Livestock species	2013 –2014	2015 - 2016	2016 - 2017
Cattle-breeding farms	933	465	515
Cattle-total	1800	1800	2750
Sheep-breeding farms	226	79	79
Sheep-total	6500	9244	6300
Goat breeding farms	200	120	120
Goats-total	700	955	1100
Pig farms	20	1	
Pigs - total	65	40	50
Farms for equidae	1277	900	900
Equidae - total	1873	920	944
Paultry farms Galus Galus	987	950	1
Birds-total	15000	14205	6200
including hens	10145	12205	
Registered apiaries	36	43	47
Bee families-total	1326	1805	1500
Rabbit farms			13
Rabbits total			841

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6. KRESNA MUNICIPALITY

Kresna Municipality has an important transport-geographic location because here passes the shortest road Sofia to Thessaloniki and Athens. The total area of the municipality amounts to 344549 daa, which ranks it ninth in the district and 138th in the country. The Struma Valley separates the territory of the municipality into two parts - Pirinska and Malashevska.

The socio-economic development of the Kresna municipality is characterized by a low level of commodity, a significant share of the agrarian sector, fragmentation of land ownership and relatively low incomes of the population. Agriculture and forestry are of major importance. The municipality has very low GDP. About 95% of the enterprises in the municipality are micro-companies with less than 10 employees.

Agriculture has a leading role which also provides the basic livelihood of the local population. The development of agriculture in Kresna municipality is conditioned by the physico-geographic features of the territory. The typical mountain relief in the municipality creates difficulties in land cultivation. Agriculture is specialized in viticulture, potato and greenhouse vegetable growing. Livestock farming is mainly concentrated in private farm and is very extensive. Insufficient fodder provision and the difficult realization of the produced livestock production are retaining factors for its development. In Kresna municipality there are registered 55 breeders for 2011.

The characteristic features that determine the socio-economic aspect and the development of Kresna municipality are: the natural character of the farms, the high share of the agricultural sector due to the lack of other alternative economic activities, the fragmentation of land ownership determined by the specific mountain terrain on the territory of the municipality, the low incomes of the population, etc.

Part of the arable lands are not used, mainly due to the depopulation of the mountainous areas, the fragmentation of the agricultural lands of numerous scattered small plots, their impossibility for mechanized cultivation due to the complex relief and insufficient financial support to farmers for providing modern agrotechnics, fertilization and plant protection. Reducing the share of arable land and deteriorating the structure of land use is the result of agricultural properties over-fragmentation.

Kresna Municipality occupies the penultimate place by number of registered farms with 2.6% and last also by 2.6% UAA in Blagoevgrad District.

According to data of the Ministry of Agriculture, Food and Forestry from November 2012, the total number of agricultural holdings on the territory of Kresna municipality is 1012, including:

- Up to 10 daa – 836;
- From 10 to 20 daa – 101;

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- From 20 to 100 daa – 53;
- From 100 to 500 daa – 12;
- Over 500 daa – 4;

Structurally, agricultural land is distributed as follows:

According to NSI (Eurostat) data, the total area of **Kresna municipality** is **344549 daa**, which represents 5.3% of Blagoevgrad district and 1.7% of the SWR. It includes:

- **Total agricultural land** - 88215 daa or 25.6% relative share of the total territory, of them:
- **Total arable land** – 35133 daa or 22.4% of the municipal territory;
- **Irrigated land** – 8524 daa;

Total Utilized agricultural area - 15329.3 daa, with an average size of 15.2 daa, incl.:

- Up to 10 daa –2659.2 daa UAA
- From 10 to 20 daa – 1354.9 daa UAA;
- From 20 to 100 daa – 2113.5 daa UAA;
- From 100 to 500 daa –2131.6 daa UAA;
- Over 500 daa – 7079.1 daa;
- Holdings with 0.0 daa UAA – 6;

Of the arable land, the largest share is for:

- fields - occupy 60% of the total agricultural area;
- pastures - 20%;
- orchards with a share of 15%.

The main part of the utilized agricultural area in the municipality is occupied by:

- **Grain cereal crops** – wheat, barley, spring barley, rye, oats, maize.
- **Vegetable crops –** pepper, tomatoes, potatoes, peas, watermelons, melons.
- **Industrial crops –** oriental tobacco.
- **Grain beans –** beans**.**
- **Orchards and vineyards –** apples, pears, peaches, apricots, plums, cherries, sour cherries, strawberries, raspberries, wine vineyards, dessert vineyards.

In private farms are mainly grown vines, tomatoes, cucumbers, corn, potatoes, and southern cultures - actinidia (kiwi), pomegranate and peanuts. During 2005 to 2011 including, tobacco growing is stopped, at the expense of an increase in the number of greenhouses and areas occupied by maize and potatoes. The development of greenhouse production is extremely intense in the period 2007-2011 and is one of the leading branches in agriculture. The main problems encountered by farmers are the lack of irrigation channels and irrigation facilities. In the structure of agricultural land wine grape varieties occupy the largest area due to the favorable climatic conditions for their cultivation as well as the centuries-old traditions of the local population. Because of the great potential for the development of wine production in the region of Blagoevgrad, the massifs, mainly occupied by wine grape varieties, should be increased. In general, agriculture in the municipality of Kresna has an extensive nature. The agricultural output mainly serves to meet the needs of the population and a relatively smal part of it goes to the market or for secondary processing in the enterprises of the agro-food industry complex.

The main grain cereal crops in the municipality are wheat, barley and maize, and less rye and oats (Table 65). In general, sown areas and yields remained stable over the reported three-year period, or there was a slight decline.

Table 65. Main grain cereal crops in Kresna municipality for the period 2013-2015

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Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Wheat	1000	800	1000	230	250	180	200	200	180
Barley	200	60	300	200	200	150	40	12	45
Rye	40	-		150	-	-	6	-	-
Maize	110	110	50	300	300	-	33	33	33
Oats	60	-	-	-	-	-	12	-	
Total:	**1410**	**970**	**1350**	**880**	**750**	**660**	**291**	**65**	**258**

Source: MAFF

The main crop is mainly potatoes, but still tomatoes, pepper, and peas, watermelons and melons are grown (Table 66). For the period 2013-2015, there is an increase in vegetable production for potatoes and more for peppers and tomatoes

Table 66. Main speciea of fresh vegetables in Kresna municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Pepper	30	15	15	500	70	300	15	1,05	4,5
Tomatoes	130	175	200	-	-	-	1950	196,8	2200
Potatoes	250	400	800	-	-	-	300	250	720
Garden Peas	20	12	12	-			12	1,44	2,4
Watermelons	20	20	-	-	-	-	2	30	-
Melons	10	10	-	-	-	-	10	7	-
Total:	**460**	**632**	**1027**	**500**	**70**	**300**	**2289**	**486,29**	**2926,9**

Source: MAFF

In Kresna municipality, the production of Oriental tobacco is negligible (Table 67). But for the reported three-year period there is a slight increase, which is probably due to local reasons, since in other municipalities, where culture is more important for the local economy, it decreases.

Table 67. Production of Oriental tTobacco in the Kresna Municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Oriental tobacco	5	5	20	-	-	-	0.5	0.65	3.4

Source: MAFF

Of the grain legumes only beans are grown, but the areas and yields are negligible (Table 68). After a decrease in 2014, there is an increase in 2015.

Table 68. Production of grain legumes in Kresna municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Beans	40	40	80	-	-	-	4.4	3.6	8

Source: MAFF

The municipality offers better conditions for development of viticulture due to the more pronounced Mediterranean influence along the Struma River. Fruit growing is poorly developed and represented mainly by apples, peaches and plums, and far more limited for cherries, apricots, pears, strawberries and raspberries

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(Table 69). Viticulture is represented mainly by wine varieties. In general, an increase in yields was recorded for the main fruit crops and vineyards.

Table 69. Orchards and vineyards in Kresna Municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Apples	125	125	125	1096	900	1100	137	112,5	137,5
Pears	10	10	10	600	650	600	6	7	6
Peaches	80	80	80	600	350	700	48	28	56
Apricots	20	20	20	500	800	300	10	16	6
Plums	60	60	60	400	500	600	24	30	36
Strawberries	4	4	4	200	200	200	1	1	1
Raspberries	2	2	2	160	200	100	0	0	0
Cherries	15	15	15	267	500	200	4	8	3
Sour cherries	2	2	2	160	300	300	0	1	1
Total	**318**	**318**	**318**	**3983**	**4400**	**4100**	**190**	**203,5**	**246,5**
Wine vines	2300	2300	2300	750	400	900	1725	920	2070
Dessert vines	500	500	500	1300	500	1000	650	250	500
Total:	**2800**	**2800**	**2800**	**2050**	**900**	**1900**	**2375**	**1170**	**2570**

Source: MAFF

Livestock farming in the municipality is concentrated mainly in the private sector and, like plant growing, is extensive. Insufficient provision of pastures and forage hinders its future development. When monitoring the dynamics of the number of livestock in the municipality, it is clear that the share of all species of farm animals is steadily decreasing. This, on the one hand, is connected with the lack of a market for production, with low purchase prices, but also with the serious reorientation of the local producers towards vegetable growing and viticulture. The 55 breeders registered in the municipality of Kresna in 2011 have cattle, sheep, goats, poultry and rabbits (Table 70). The critical 2009, and the following years, show a significant decline in the sector, both in primary livestock production and in the production of secondary processed products. Until 2009 there was a dairy in the village of Gorna Breznitsa, which produced ecologically pure dairy products in fresh and processed form, but is not functioning at the moment. The favorable geographic position of the municipality between the consumer center Blagoevgrad and the Bulgarian-Greek border can contribute to the development of dairy farming and the dairy industry.

In the last 5 years there have been an increase in the interest among the locals towards the establishment of farms and the production of environmentally friendly products and the cultivation of indigenous breeds on the territory located in Pirin NP. In the village of Vlahi there is a rare breed farm of the Sempervivas NGO, where the only large herd of indigenous Karakachan sheep is grown, the largest nucleus of kalofer goats, long-haired goats, hegleles of Karakachan horses and real Karakachan dogs. Animals are grown under natural conditions. The summer pasture takes place in the highest parts of Pirin National Park. By using only proprietary milk and original traditional recipes, quality dairy products are produced locally.

In the municipality of Kresna an association of breeders "Pirin-2005" was established and in the beginning of 2012 a union of farmers "Struma-2012" was established with members that are breeders from Kresna, Simitli and Strumyani municipalities. The need to set up an agricultural stock exchange was identified at the beginning of the programming period, but it was not set up at the moment of updating in 2011. The presence of such an exchange where agricultural produce is offered to producers from other municipalities will allow

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to unite production volumes and make local produce attractive for large chain stores and exporters. The existence of an exchange will contribute to the favorable development of agriculture in the municipality, which is one of the main areas for future development of Kresna. The convenient transport-geographic position, due to the international road E-79, will also help.

Source: Municipal Development Plan of Kresna Municipality

Table 70. Number of livestock in Kresna municipality for the period 2013-2017

Livestock species	2013 –2014	2015 - 2016	2016 - 2017
Cattle-breeding farms	48	40	39
Cattle-total	1145	1127	1169
Sheep-breeding farms	58	61	61
Sheep-total	5367	4577	5560
Goat breeding farms	68	69	69
Goats-total	2341	2883	3561
Pig farms	35	30	
Pigs - total	55	55	30
Farms for equidae	137	7	10
Equidae - total	204	78	38
Paultry farms	1579	1579	1579
Birds-total	4344	4344	4344
including hens	3945	3945	
Registered apiaries	34	16	71
Bee families-total	915	361	2912
Fishponds	0	0	1
Rabbit farms			10
Rabbits total			122
California worms objects			4

7. PETRICH MUNICIPALITY

Petrich municipality is situated in the southern part of the Blagoevgrad District with a total area of **650132 daa**. The municipality has the most pronounced Transitional-Mediterranean climate in Bulgaria. Short and

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mild winter with little snow is typical, as well as dry and hot summer, suitable for the development of agriculture and forestry.
The municipal economy is characterized by sectoral diversity, part of which is the "Agriculture". The role of the processing industry is emphasized, where food industry has one of the leading roles. There are excellent natural conditions for the development of agriculture and especially specific for the municipality is early vegetable production. The inherent vegetable crops are tomatoes and pepper, and the industrial ones are represented by tobacco. There are 39enterprises in the sector of Agriculture, Forestry and Fisheries of the Municipality of Petrich in 2010, which represents 1.39%, the production is BGN 4 815 or 0.90%, the operating income is BGN 5 995. or 0.82%, the net sales revenue is BGN 4 539 - 0.65%, operating expenses are BGN 6 429 or 0.95%.

Petrich is ranked first by number of registered holdings, with 19.5% of the total registered holdings in the district and fourth place by 11.9% UAA in Blagoevgrad District.

Structurally, agricultural land is distributed as follows:
According to NSI (Eurostat) data, the total area of Petrich Municipality is **650132 daa,** which represents 10.1% of Blagoevgrad district and 3.2% of the SWR. It includes:

- **Total agricultural land - 314687** daa or 48.4% relative share of the total territory, of them:
- **Total arable land** – **177549** daa or 27.3% of the municipal territory;
- **Irrigated land** – **65834** daa;

According to data of the Ministry of Agriculture, Food and Forestry from November 2012, the total number of agricultural holdings on the territory of Petrich municipality is 7500, including:

- Up to 10 daa – 6133;
- From 10 to 20 daa – 610;
- From 20 to 100 daa – 303;
- From 100 to 500 daa – 77;
- Over 500 daa – 17;

Structurally, agricultural land is distributed as follows:

- **Total Utilized agricultural area in the municipality is 69737.9 daa**, with an average size of 9.80 daa, incl.
- Up to 10 daa –20504.5 daa UAA
- From 10 to 20 daa – 8035.4 daa UAA;
- From 20 to 100 daa – 10403.1 daa UAA;
- From 100 to 500 daa –16389.7 daa UAA;
- Over 500 daa – 14405.2 daa;
- Holdings with 0.0 daa UAA – 350;

The main part of the utilized agricultural area in the municipality is occupied by:

- **Grain cereal crops** – wheat, barley, spring barley, oats, rye, triticale, corn.
- **Vegetable crops –** pepper, tomatoes, potatoes, peas, watermelons, melons.
- **Industrial crops –** oriental tobacco.
- **Grain legumes –** beans**.**
- **Forage crops –** corn for silage, forage peas.
- **Orchards and vineyards** – wine vineyards, dessert vineyards.

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The economic structure of the municipality is built on the leading role and traditions of agriculture and processing industry. The increasing role of the municipality in the Blagoevgrad economy and the very important location of the municipality give basis for predicting economic growth by 2020. For this purpose, it is necessary to update and optimize the available and competitive economic activities and their infrastructures.

Trends in economic development at national and regional level determine the economic framework of the municipal development. Changes and fluctuations of the national and regional economy inevitably have an impact on the municipal processes. The analyzes show that the municipal economy development follows those of the national and regional level - a decrease of the main economic indicators for the period 2008 - 2010, followed by a gradual growth afterwards. The share of municipal enterprises in the field of Agriculture, forestry and fisheries occupies 11.24% of the enterprises in the same sector at the regional level. The share of municipal production in the sector is 9.81%. The share of municipal revenues from the activities of Agriculture, Forestry and Fisheries is 10.20%, compared to the district. The share of municipal net sales revenue is 9.30%, the employed in the municipality are 10.35% and the share of municipal TFA is 21.32%. Plant production is very well developed in the municipality.

The main grain cereal crops in the municipality are maize and wheat, and less barley, and very limited oats, rye and triticale (Table 71). During the concerned period, the overall decrease in cereals is recorded for both area and yield. It should be noted, however, that the municipality is not very suitable for this type of crops due to climatic and relief features.

Table 71. Main grain cereal crops in Petrich municipality for the period 2013-2015

Crop	**Planted areas (daa)**			**Average yield (kg/daa)**			**Production in tonnes**		
	2013	**2014**	**2015**	**2013**	**2014**	**2015**	**2013**	**2014**	**2015**
Wheat	**5 520**	**5600**	**5800**	**260**	**250**	**180**	**1 435**	**1400**	**1044**
Barley	**2000**	**2400**	**1500**	**198**	**230**	**190**	**396**	**552**	**285**
Spring barley	**100**	**100**	-	-	-	-	**22**	**27**	-
Oats	**50**	**50**	-	-		-	**7**	**7**	-
Rye	**80**	**80**	**80**	**160**	**240**	**113**	**13**	**19**	**9**
Maize	**3000**	**3000**	**2000**	**350**	**400**	**250**	**1050**	**1200**	**500**
Triticale	**70**	**80**	**80**	**300**	**280**	**225**	**21**	**22**	**18**
Total:	**10820**	**11310**	**9360**	**1268**	**1400**	**958**	**1944**	**3227**	**1856**

Source: MAFF

Vegetable production is a traditional branch in Petrich municipality. The main vegetable crops grown on open areas and greenhouses are mainly tomatoes, potatoes and pepper, and more limited water melons and melons (Table 72). For the period 2013-2015, in general, vegetable production has decreased for all major vegetable crops, as the most drastic was for watermelons and melons.

Table 72. Main species of fresh vegetables in Petrich municipality for the period 2013-2015

Crop	**Planted areas (daa)**			**Average yield (kg/daa)**			**Production in tonnes**		
	2013	**2014**	**2015**	**2013**	**2014**	**2015**	**2013**	**2014**	**2015**
Pepper	500	500	250	2000	800	2000	1000	400	500
Tomatoes	1600	1800	600	-	-	-	8000	900	3600
Potatoes	2000	2200	1500	-	-	-	3240	3300	2250
Garden Peas	50	50	20	-		-	10	8	4

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Watermelons	1800	1800	500	-	-	-	1800	0	1200
Melons	400	450	20	-	-	-	1000	450	30
Total:	**6350**	**6800**	**2890**	**2000**	**800**	**2000**	**15050**	**5058**	**7584**

Source: MAFF

The production of oriental tobacco is not as important as for some other municipalities in the district (Table 73). But also for the reported three-year period there has been a repeated decrease of planted areas and yields of this crop, which is similar for other municipalities in the district as well as at national level.

Table 73. Production of oriental tobacco in Petrich municipality for the period 2013-2015

Crop	**Planted areas (daa)**			**Average yield (kg/daa)**			**Production in tonnes**		
	2013	**2014**	**2015**	**2013**	**2014**	**2015**	**2013**	**2014**	**2015**
Oriental tobacco	500	220	25	-	-	-	90	23	2.5

Source: MAFF

From the grain legumes, only beans are grown in the municipality, but areas and yields are not very large (Table 74). After a decrease in 2014, a slight increase is reported for 2015.

Table 74. Production of grain legumes in Petrich municipality for the period 2013-2015

Култура	**Planted areas (daa)**			**Average yield (kg/daa)**			**Production in tonnes**		
	2013	**2014**	**2015**	**2013**	**2014**	**2015**	**2013**	**2014**	**2015**
Beans	160	160	250	-	-	-	19	16	25

Source: MAFF

In 2013 and 2014 are produced in insignificant quantities of silage maize and forage peas. In 2015 there is no data on sown areas and production of these forage crops (Table 75).

Table 75. Production of forage crops in Petrich municipality for the period 2013-2015

Crop	**Planted areas (daa)**			**Average yield (kg/daa)**			**Production in tonnes**		
	2013	**2014**	**2015**	**2013**	**2014**	**2015**	**2013**	**2014**	**2015**
Silage maize	50	50	-	-	-	-	100	100	-
Forage peas	50	60	-	-	-	-	12,5	15	-
Total:	**100**	**110**	**-**	**-**	**-**	**-**	**112.5**	**115**	**-**

Source: MAFF

Due to the strong Mediterranean influence along Struma River, Petrich Municipality offers good conditions for development especially of viticulture, but also fruit-growing. The main fruit crops are peaches, apples, cherries and strawberries. Plums, pears and apricots are grown more limited (Table 76). Viticulture is well developed and in particular the production of wine varieties. However, both in the case of fruit crops and vineyards, there is a downward trend in production over the three-year period, although still not significant.

Table 76. Orchardss and vineyards in Petrich Municipality for the Period 2013-2015

Crop	**Planted areas (daa)**			**Average yield (kg/daa)**			**Production in tonnes**		
	2013	**2014**	**2015**	**2013**	**2014**	**2015**	**2013**	**2014**	**2015**
Apples	1000	1100	1100	1000	1600	1200	1000	1760	1320

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Pears	60	65	65	600	600	600	36	39	39
Peaches	3600	3650	3650	1600	800	1000	5760	2920	3650
Apricots	20	23	23	700	780	600	14	18	14
Plums	120	130	130	833	538	400	100	70	52
Strawberries	320	325	325	600	550	200	192	179	65
Raspberries	2	-		100	-	-	0	-	-
Cherries	500	520	520	600	500	150	300	260	78
Total:	**5622**	**5813**	**5813**	**6033**	**5368**	**4150**	**7402**	**5246**	**5118**
Wine vines	6500	6550	6550	1100	250	800	7150	1638	5240
Dessert vines	600	610	**610**	1000	738	1200	600	450	732
Total:	**7100**	**7160**	1100	**2100**	**988**	**2000**	**7750**	**2088**	**5972**

Source: MAFF

Livestock is well developed in Petrich municipality. Cattle, buffaloes, sheep, goats, pigs and poultry are reared in the municipality (Table 77). Livestock breeding increases in both the farms and number of animals while for other animals and farms where they are breed there is a reduction. Such trends are observed for pigs, poultry, sheep, and other.

Source: Municipal Development Plan of Petrich Municipality

Table 77. Number of livestock in Petrich municipality for the period 2013–2017

Livestock species	2013 –2014	2015 - 2016	2016 - 2017
Cattle-breeding farms	49	105	116
Cattle-total	1810	3402	3440
Buffalo-breeding farms	1	1	1
Buffalos-total	40	63	64
Sheep-breeding farms	703	312	352
Sheep-total	48300	26245	27080
Goat breeding farms	1555	294	413
Goats-total	22100	8580	9529
Pig farms	1483	109	
Pigs - total	3260	688	770
Farms for equidae	2300	249	250
Equidae - total	2637	290	302
Paultry farms	7607	468	456
Birds-total	39404	4651	5208
including hens	37132	37860	
Registered apiaries	80	75	19
Bee families-total	2125	3599	412
Fishponds	1	3	3

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8. RAZLOG MUNICIPALITY

Razlog Municipality is ranked 5th among the 14 municipalities of the district, which represents 7.85% of its area. The town of Razlog is an industrial and commercial center of the municipality.
Razlog municipality is one of the most dynamically developing municipalities, sixth by territory and fifth by population in Blagoevgrad district. It covers a territory of 440314 thousand daa with a population of 21,652 people, representing 6.4% of the district population. Razlog is a prominent economic center, headquarter for many of the most important companies operating on the territory of the municipality and an attractive place for foreign investors. Industries based on high technology are developed on its territory.
Natural and resource diversity and wealth is an important factor for the competitiveness and economic prosperity of Razlog Municipality. Razlog's economic position implies expanding existing and developing new economic contacts with other economic centers/municipalities in the region such as Bansko, Belitsa, Yakoruda.
The main problems in agriculture are related to the fragmentation of arable land, obsolete equipment and the lack of investment funds.

Razlog municipality occupies second place by UAA in Blagoevgrad District with 13.2% and 12th by number of registered holdings with 3.0% of total registered holdings in the district.

According to data of the Ministry of Agriculture, Food and Forestry from November 2012, the total number of agricultural holdings on the territory of Razlog municipality is 1148, including:

- Up to 10 daa – 954;
- From 10 to 20 daa – 72;
- From 20 to 100 daa – 79;
- From 100 to 500 daa – 28;
- Over 500 daa – 6;

Structurally, agricultural land is distributed as follows:
According to NSI data, the total territory of Razlog Municipality amounts to **440314 daa**, representing **7.8%** of the area of the district. From them:

- **165306** daa are **agricultural lands,** whichis **37.5%** relative share of the municipality's land fund;
- **Arableland** - 91007 daa;
- **Irrigated land** - 15456 daa
- **Used agricultural land** – **76051.4** daa, with an average size of **67.40** daa, incl.:
- Up to 10 daa –2795.7 daa UAA
- From 10 to 20 daa – 974.4 daa UAA;
- From 20 to 100 daa – 3248.3 daa UAA;

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- From 100 to 500 daa –5875.6 daa UAA;
- Over 500 daa – 63857.4 daa;
- Holdings with 0.0 daa UAA – 9;

The main part of the utilized agricultural area in the municipality is occupied by:

- **Grain cereal crops** – wheat, barley, spring barley, oats, rye, triticale, corn, sorghum and sunflower.
- **Vegetable crops –** pepper, tomatoes, potatoes.
- **Industrial crops** – oriental tobacco.
- **Grain legumes** – beans.
- **Forage crops –** corn for silage, forage peas.

Tobacco has the main share among all crops, followed by maize for grain and potatoes. Tobacco is an important crop with 380 registered producers. A small share is occupied by vegetables produced by households to meet their personal needs, as is the case with the orchards. In recent years the tradition of cultivation industrial crops and essential oil crops, mainly lavender, has revived. It is planned to study and develop the production and processing of flax.

The main grain cereals and oilseeds in the municipality are wheat and less maize, sorghum and sunflower (Table 78). In general, the sown areas and yields over the reported three-year period are decreasing, with the exception of sunflower which retains its negligible share.

Table 78. Main grain cereal crops and oilseeds in Razlog municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Wheat	5910	6650	3920	260	260	230	1537	1729	901
Barley	-	1100	140	-	150	170	-	165	24
Spring Barley	-	-	70	-	-	-	-	-	12,5
Oats	-	1500	10	-	-	-	-	345	1
Rye	-	50	-	-	300	-	-	15	-
Maize	1090	1000	600	300	400	290	327	400	174
Triticale	-	50	-	-	160	-	-	8	-
Sorgo	400	-	-	-	-	-	168	-	-
Sunflower	240	220	250	130	120	120	31	26	30
Total:	**7640**	**10570**	**4990**	**690**	**1390**	**810**	**2063**	**2688**	**1142,5**

Source: MAFF

Due to the mountain character of the municipality, main vegetable crops are potatoes, and very few amounts of tomatoes and peppers are grown (Table 79). For the period 2013-2015, in general, no significant changes were observed in potato production, whereas for other vegetable crops there was a slight decrease.

Table 79. Main species of fresh vegetables in Razlog municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Pepper	10	40	15	650	350	367	6.5	14	5.5
Tomatoes	55	45	30	-	-	-	36	13.5	25
Potatoes	550	600	600	-	-	-	550	510	510
Total:	**615**	**685**	**645**	**650**	**350**	**367**	**592.5**	**537.5**	**540.5**

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Source: MAFF

There is a slight increase in areas and yields of oriental tobacco, which in 2013 was not reported by statistics, as 12 tonnes were produced in 2015 (Table 80).

Table 80. Production of oriental tobacco in Razlog municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Oriental tobacco	-	30	120	-	-	-	-	3.7	12

Source: MAFF

Of grain legumes in the municipality are grown beans (Table 81). There is a significant increase in the area planted with this crop by 2013 and 2014, but its share in the plant growing is insignificant.

Table 81. Grain legumes production in Razlog municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Beans	65	40	100	-	-	-	7	3	7

Source: MAFF

Maize for silage is produced from the forage crops. In maize production, sown decares in 2015 decreased compared to 2014 (Table 82) as yields also declined.

Table 82. Production of forage crops in Razlog municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Maize for silage	-	350	200	-	-	-	-	1050	400
Forage peas	-	600	-	-	-	-	-	240	-

Source: MAFF

The municipality has an inappropriate climate for vineyards, and there is no data for fruit crops.

Livestock farming, as a special share of small livestock farming, is increasing compared to past years. This sector is mainly developed in small farms. About 40% of farms are specialized in livestock farming. Among the preferred animals for breeding in the private farms are cattle, sheep, goats, pigs and poultry (Table 83).

About 30% of holdings have mixed production – crop and animal. On the basis of the developed small livestock breeding there is a good infrastructure for production and processing of meat and meat products, as well as dairy products. There is a selection center for livestock breeding and tribal work in the municipality.

Table 83. Number of livestock in Razlog municipality for the period 2013–2017

Livestock species	2013 –2014	2015 - 2016	2016 - 2017
Cattle-breeding farms	183	126	120
Cattle-total	3220	3749	4381
Buffalo-breeding farms	2	2	2
Buffalos-total	14	33	21

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Sheep-breeding farms	248	246	146
Sheep-total	5778	6475	6647
Goat breeding farms	133	56	51
Goats-total	1159	1269	1694
Pig farms	1	1	21
Pigs - total	27	30	32
Farms for equidae	416	58	74
Equidae - total	604	357	379
Paultry farms	844	850	200
Back yards	844	850	200
Birds-total	5680	9381	3000
including hens	5240	5240	
Registered apiaries	13	15	
Bee families-total	426	457	
Fishponds	2	3	3
Including carp	0	0	3
Including trout	2	3	1
Rabbit farms			1
Rabbits-total			220

9. SANDANSKI MUNICIPALITY

Sandanski Municipality covers an area of **998416 daa**. The leading sector is industry. The food industry is one of the main branches in the municipality. The is characterized by a moderate continental climate and a climate with a transition to the Mediterranean, which affects the annual rainfall distribution and the temperature regime making it favorable for growing tobacco, vineyards and orchards. Alluvial soils along the rivers are suitable for vegetable production. One of the priority sectors in the municipality is agriculture. This is due to the unique climatic conditions and the fertile arable land.

Sandanski Municipality occupies the first place by UAA in Blagoevgrad District with 13.7% and third in number of registered farms, with 13.0% of the total registered holdings in the region.

According to data of the Ministry of Agriculture, Food and Forestry from November 2012, the total number of agricultural holdings on the territory of Sandanski municipality is 1148, including:

- Up to 10 daa UAA – 4179;

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- From 10 to 20 daa – 430;
- From 20 to 100 daa – 220;
- From 100 to 500 daa – 73;
- Over 500 daa – 30;

Structurally, agricultural land is distributed as follows::

According to NSI data for 2010 **the totalmunicipal territory is 998416 daa**. Of them:

- 389 203 daa are **agricultural lands,** which is **39.0%** relative share of the municipality's land fund;
- **Arable land** - 158588 daa;
- **Irrigated land** - 73531 daa
- **Used agricultural area** - 79837.7 daa, with an average size of 16.20 daa, including:
- Up to 10 daa –12013,1daa UAA
- From 10 to 20 daa – 5477,4 daa UAA;
- From 20 to 100 daa – 7341,7daa UAA;
- From 100 to 500 daa –17258,2 daa UAA;
- Over 500 daa – 37 747,3 daa;
- Holdings with 0.0 daa UAA – 77;

The main part of the utilized agricultural area in the municipality is occupied by:

- **Grain cereal crops** – wheat, barley, oats, maize.
- **Vegetable crops** – pepper, tomatoes, potatoes, garden peas.
- **Industrial crops –** oriental tobacco.
- **Grain legumes –** beans.
- **Orchards and vineyards –** apples, pears, peaches, apricots, cherries, sour cherries, watermelons, melons, wine vineyards, dessert vineyards.

In a traditional wine-producing region like the Sandanski municipality, the dessert vines occupy 6973 daa and the wine vines (mainly Merlot and Cabernet varieties) - 28842 daa. About 600 daa are the new vineyards. The municipality does not have its own land in the wine-growing regions and this activity is entirely developed by private farmers. The recent tendency is to replace the main livelihood for the region - tobacco production, with the production of wine vine varieties. The studies show a decrease in the number of tobacco producers in the region due to the low tobacco purchase prices and hence the lack of economic interest among the farmers. In Sandanski there are exceptionally favorable conditions for growing the traditional fruits of the country, as well as thermophilic varieties like pomegranates, figs, olives, lemons, kiwi. Although the orchards are already private municipal property, the general tendency is towards a gradual upgrading of the fruit growing. There are also two greenhouses on the territory of the municipality that produce mainly vegetables for our market - the Melo greenhouse on an area of 180 daa which is entirely private and the greenhouse in the village of Levunovo on an area of 30 daa which is in the process of privatization. The established market positions of greenhouse production on foreign markets are completely lost. This sector is important not only for the municipality but also for the district as a whole and needs very serious investments and active measures for revitalization and development.

The agricultural production is sold on the cooperative market and on imprvised wholesale markets around the main road E-79 in the area of Damianitza village. There is an idea for building an organized market in the former warehouses in the village of Damianitza, equipped with refrigeration chambers for storing the

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produce. Various programs to stimulate agriculture are sought to implement this idea, mainly through the SAPARD priority programs.

The produce satisfies 90 per cent of the farmers' needs for animal feed and for the families themselves. Only 10% of the production is sold in order to ensure the reproduction through the realization of the free cooperative markets. In the municipality of Sandanski, the surplus quantities are sold mainly by the Agricultural Production Cooperative in the village of Sklave.

The production of cereals in the municipality of Sandanski has no commodity character. The average wheat yield for 1998-1999 is 220 kg/daa and for barley - 200 kg/daa. For the period 2013-2015 the main grain cereal crops in the municipality are wheat (about 2/3 of the total production), barley and maize and less oats (Table 84). In general, the sown areas and yields for all three major crops are decreasing.

Table 84. Main grain cereals in Sandanski municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Wheat	7500	8400	8330	250	250	160	1875	2085	1318
Barley	2500	2500	2310	240	230	165	600	570	381
Oats	-	300		-	-	-	-	60	
Maize	1500	1200	1200	320	400	300	480	480	360
Total:	**11500**	**12400**	**11840**	**810**	**880**	**625**	**2955**	**3195**	**2059**

Source: MAFF

Due to the mountain character of the municipality, potatoes are the mainly grown, and small amounts of tomatoes, peppers, watermelons and melons (Table 85), especially in the lower parts near Struma River. For the period 2013-2015, in general, vegetable production has decreased for all crops.

Table 85. Main species of fresh vegetables in Sandanski municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Pepper	100	150	100	3000	1600	1500	300	240	150
Tomatoes	500	520	100	-	-	-	5000	520	500
Potatoes	1200	1200	500	-	-	-	1440	1200	475
Garden Peas	50	40	20	-	-	-	5	6	4
Watermelons	250	270	50	-	-	-	625	729	200
Melons	50	200	10	-	-	-	55	460	25
Total:	**2150**	**2380**	**780**	**3000**	**1600**	**1500**	**7429**	**3155**	**704**

Source: MAFF

Oriental tobacco production was not a significant branch of agriculture in the past in Sandanski municipality (Table 86). However, for the reported three-year period there is a 20-fold reduction in planted areas and crop yields, which occurs at national level and in other municipalities in the district.

Table 86. Production of oriental tobacco in Sandanski municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015

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Oriental tobacco	200	200	10	-	-	-	24	20	1.5

Source: MAFF

From the grain legumes, beans are grown in the municipality (Table 8). After an increase in areas and yields in 2014, a significant decrease is recorded in 2015.

Table 87. Production of grain legumes in Sandanski municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Beans	50	310	50	-	-	-	5	50	5

Source: MAFF

Sandanski Municipality offers better conditions for development especially in the viticulture due to the more pronounced Mediterranean influence along Struma River. The area of the municipality is one of the main wine-producing regions in the country. Fruit growing is poorly developed and represented mainly by apples, peaches and cherries, and less sour cherries, pears and apricots (Table 88). There is a decrease in fruit production over a three-year period, but viticulture marks a small increase.

Table 88. Orchards and vineyards in Sandanski Municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Apples	400	415	415	2800	1398	415	1120	580	539
Pears	20	25	25	370	360	25	7	9	9
Peaches	110	110	110	700	1800	110	77	198	55
Apricots	50	50	50	600	500	50	30	25	10
Cherries	110	110	110	300	450	110	33	50	16
Sour cherries	20	20	20	100	150	20	2	3	3
Total:	**710**	**730**	**730**	**4870**	**4658**	**730**	**1269**	**865**	**624**
Wine vines	24000	25500	25500	750	560	25500	18000	14280	22 950
Dessert vines	3500	3500	3500	830	540	3500	2905	1890	2975
Total:	**27500**	**29000**	**29000**	**1580**	**1100**	**29000**	**20905**	**16170**	**25925**

Source: MAFF

Livestock farming in the municipality of Sandanski is mainly occupied by private farmers (Table 89). Mainly goat, sheep and cow's milk, meat, wool and honey are produced, all of which is for own needs, with the exception of cow's milk. The main reason for this is the lack of meat-processing plant in the area to stimulate the animals breeding and their purchase. There is no organized buyout of milk in larger quantities in the municipality. In the region are operating Bobo company, which produces yoghurt and dairy salads, and a dairy farm in the village of Katuntsi, which also produces cheese.

Table 89. Number of livestock in Sandanski municipality for the period 2013–2017

Livestock species	2013 –2014	2015 - 2016	2016 - 2017
Cattle-breeding farms	132	115	150
Cattle-total	7911	6482	10133
Sheep-breeding farms	742	109	156

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Sheep-total	10038	6447	11554
Goat breeding farms	912	114	145
Goats-total	4434	3096	4463
Pig farms	377	7	9
Pigs - total	492	392	232
Farms for equidae	467	9	17
Equidae - total	659	221	321
Paultry farms	1140	0	1
Birds-total			350
Registered apiaries	2090	741	18
Bee families-total	6	6	2413
Fishponds	2	4	

10. SATOVCHA MUNICIPALITY

Satovcha municipality is situated on an area of 332591 daa. It consists of 14 settlements with a municipal center - the village of Satovcha. The local economy is strongly influenced by the location of the municipality. The agrarian sector is leading in the municipaleconomy. It has the largest number of employees, but the production activity is mainly developed in small workshops. Agriculture is the most represented. Natural and geographical conditions are favorable for growing tobacco, potatoes, gherkins, beans and other. Tobacco production occupies the largest share - mainly oriental tobacco. Apart from growing potatoes, the harvesting of wild mushrooms and berries is also a source of income for the population in the mountain areas of the municipality. Recently, there has been an increased interest in growing various herbs, which also has favorable conditions. A lot of people are also occupied in mushrooming - producing cultivated and harvesting wild mushrooms.

Due to the semi-mountainous landscape, agriculture is the sector that is the main source of income and employment. A large part of the population is employed in agricultural holdings.

The municipality of Satovcha occupies second place by number of registered farms with 13.5% in Blagoevgrad district and fifth by UAA, with 11.6% of total UAA in the district.

According to data of the Ministry of Agriculture, Food and Forestry from November 2012, the total number of agricultural holdings on the territory of Satovcha municipality is 5194, including:

- Up to 10 daa UAA – 650;
- From 10 to 20 daa – 427;

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- From 20 to 100 daa – 86;
- From 100 to 500 daa – 23;
- Over 500 daa – 1;

Structurally, agricultural land is distributed as follows::

According to NSI data for 2010 **the totalmunicipal territory is 332591 daa**. Of them:

- 37906 daa are the **total agricultural lands,** which is **41.5%** relative share of the municipality's land fund;
- **Arable land** - 82072 daa;
- **Irrigated land** - 2500 daa

Used agricultural area – **67705.7** daa, with an average size of 13.10 daa, including:

- Up to 10 daa –18 763.2 daa UAA
- From 10 to 20 daa – 5 377.5 daa UAA;
- From 20 to 100 daa – 3 038.1 daa UAA;
- From 100 to 500 daa – daa UAA;
- Over 500 daa – daa;
- Holdings with 0.0 daa UAA – 7;

The main part of the utilized agricultural area in the municipality is occupied by:

- **Grain cereal crops** – wheat, oats, rye, triticale, maize.
- **Vegetable crops** – pepper, tomatoes, potatoes.
- **Industrial crops –** oriental tobacco.
- **Grain legumes –** beans**.**
- **Essential–oil crops –** lavender.
- **Orchards and vineyards –** apples, raspberries.

The main grain cereals in the municipality are maize and in insignificant amounts wheat and rye (Table 90). All crops, except for wheat, recorded a decrease in yields over the three-year period.

Table 90. Main grain cereals in Satovcha municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Wheat	150	150	150	200	253	280	30	38	42
Rye	100	100	100	150	180	160	15	18	16
Triticale	-	50	50	-	160	160	-	8	8
Oats	-	50	-	-	-	-	-	9	-
Maize	3100	2100	1800	300	450	200	930	945	360
Total:	**3350**	**2450**	**2100**	**650**	**1043**	**800**	**975**	**1018**	**426**

Source: MAFF

Due to the mountain character of the municipality, are grown mainly potatoes, and negligibly tomatoes, peppers, watermelons and melons (Table 91). During 2013-2015, there was a decrease in the production of potatoes, and for tomatoes and peppers there was an insignificant growth.

Table 91. Main species of fresh vegetables in Satovcha municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Pepper	30	30	100	600	500	500	18	15	50

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Tomatoes	50	50	130	-	-	-	25	39	78
Potatoes	3500	3100	2050	-	-	-	5250	2790	1640
Garden peas	20	20	-	-	-	-	4	4	-
Watermelons	50	50	-	-	-	-	200	200	-
Melons	10	10	-	-	-	-	25	25	-
Total:	**3660**	**3260**	**2280**	**600**	**500**	**500**	**5533**	**3073**	**1768**

Source: MAFF

Oriental tobacco production of was a significant branch of agriculture in Satovcha municipality (Table 92). But for the reported three-year period, there has been a nearly three-fold decrease in planted areas and yields, which is also observed at national level.

Table 92. Oriental tobacco production in Satovcha municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Oriental tobacco	11500	11500	5600	-	-	-	1725	1840	700

Source: MAFF

Of grain legumes in the municipality are grown beans (Table 93). For the reported period there was a reduction of the areas and yields of beans.

Table 93. Grain legumes production in Satovcha municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Beans	2400	2000	1900	-	-	-	192	160	133

Source: MAFF

Of the essential oil crops, only lavender was cultivated and only in 2014 (Table 94). In this situation, the development dynamics of the crop during the investigation period can not be traced.

Table 94. Production of essential oil crops in Satovcha municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Lavender	-	137	1900	-	51	-	-	7	-

Source: MAFF

Satovcha municipality occupies higher altitudes. Fruit growing is poorly developed and represented mainly by apples and raspberries (Table 95). Viticulture is not developed due to the climatic peculiarities.

Table 95. Orchards and vineyards in Satovcha municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Apples	60	83	83	500	351	301	30	29,1	25
Raspberries	20	20	20	200	500	-	4	10	4
Total:	**80**	**103**	**103**	**700**	**851**	**301**	**34**	**39,1**	**29**

Source: MAFF

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Livestock farming has less pronounced functions and is developed mainly in small family farms. Nearly all species of domestic animals are represented as cattle and sheep breeding dominate (Table 96). Apiculture has future for development, as the location of the municipality is appropriate for production and development of such business. Animals are mainly reared in small family farms. There are not yet large livestock farms on the territory of the municipality. In recent years there has been development in the livestock sector, with few livestock farmers receiving funding under the RDP. The number of registered and trained sheep farmers under the "I can more" program is increasing. However, there is a lack of adequate information and activity to exploit the opportunities for introducing and implementing new technologies.

Table 96. Number of livestock in Satovcha municipality for the period 2013-2017

Livestock species	2013 –2014	2015 - 2016	2016 - 2017
Cattle-breeding farms	1096	968	993
Cattle-total	1761	1665	1902
Sheep-breeding farms	225	385	426
Sheep-total	15031	11529	12410
Goat breeding farms	131	195	203
Goats-total	1575	1673	2130
Farms for equidae	1115	997	988
Equidae - total	1151	1010	1007
Paultry farms	2199	811	816
Registered apiaries	1	1	28
Bee families-total	0	0	1351
Fishponds	1	1	1
Rabbit farms			6
Rabbits-total			897
California worms Objects			1

11. SIMITLI MUNICIPALITY

Simitli municipality is located in Blagoevgrad district and occupies an area of 553004 daa. It consists of 18 settlements, of which Simitli is a municipal center. The municipal economy has low competitiveness and an industrial-agrarian structure. The image of agriculture is formed by tobacco growing, viticulture, fruit growing, vegetable production and pastoral livestock farming.

The area of relatively intensive plant growing is located around Struma River and covers the town of Simitli and the villages of Zheleznitsa, Krupnik, Poleto, Brejani and Rakitna. This is a territory with rich natural

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potential for vegetable growing, viticulture and fruit growing. Tobacco is a traditional industrial crop for Blagoevgrad district and for Simitli municipality. Its cultivation is concentrated in the villages of Krupnik - Polena and Gradevo - Dolno Osenovo. Cultivating this crop is a major source of income for much of the households in these populated areas. The problem of ensuring employment for tobacco producers is of national importance. At municipal level a solution should be sought in the reorientation of production towards the cultivation of vegetables and essential oil-bearing crops.

Simitli Municipality occupies seventh place by UAA in the Blagoevgrad District with 5.3% and sixth byregistered holdings, with 6.3% of the total registered holdings in the district.

According to data of the Ministry of Agriculture, Food and Forestry from November 2012, the total number of agricultural holdings on the territory of Simitli municipality is 2411, including:

- Up to 10 daa UAA – 2090;
- From 10 to 20 daa – 189;
- From 20 to 100 daa – 89;
- From 100 to 500 daa – 28;
- Over 500 daa – 12;

Structurally, agricultural land is distributed as follows:

According to NSI data for 2010 **the total municipal territory is 553004 daa**. Of them:

- 193682 daa are the **total agricultural lands,** which is **35.0%** relative share of the municipality's land fund;
- **Arable land** - 6981 daa;
- **Irrigated land** – 0.0 daa

Used agricultural area – **30948.1** daa, with an average size of 12.90 daa, including:

- Up to 10 daa –6683.3 daa UAA
- From 10 to 20 daa – 2409.6 daa UAA;
- From 20 to 100 daa – 3723.8 daa UAA;
- From 100 to 500 daa – 6187.7 daa UAA;
- Over 500 daa – 11943.7 daa;
- Holdings with 0.0 daa UAA – 3;

The main part of the utilized agricultural area in the municipality is occupied by:

- **Grain cereal crops** – wheat, barley, maize.
- **Vegetable crops –** pepper, tomatoes, potatoes, melons.
- **Industrial crops –** oriental tobacco.
- **Grain legumes –** beans**.**
- **Orchards and vineyards –** apples, pears, peaches, apricots, plums, cherries, sour cherries, strawberries, raspberries, wine vines, dessert vines.

The main grain cereal crops in the municipality are wheat and maize. As a whole, sown areas and yields are negligible and decreasing (Table 97).

Table 97. Basic cereals in the municipality of Simitli for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Wheat	50	-	90	300	-	222	15	-	20

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Barley	10	90	-	200	294	-	2	27	-
Maize	50	60	65	360	340	189	18	20	12
Total:	**110**	**150**	**155**	**860**	**634**	**411**	**35**	**47**	**32**

Source: MAFF

Because of the municipality mountain character, potatoes are the mainvegetable crop as tomatoes, peppers, watermelons and melons are grown insignificantly (Table 98). During 2013-2015, in general, potatoe production has grown slightly, and more for tomatoes, but decreased for pepper.

Table 98. Main species of fresh vegetables in Simitli municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Pepper	5	80	60	500	1500	1200	2,5	120	72
Tomatoes	15	80	70	-	-	-	15	24	105
Potatoes	50	260	255	-	-	-	40	312	300
Watermelons	-	-	1	-	-	-	-	-	2
Melons	-	-	1	-	-	-	-	-	0,8
Total:	**70**	**420**	**387**	**500**	**1500**	**1200**	**57,5**	**456**	**479,8**

Source: MAFF

the of Oriental tobacco production has traditions in Simitli municipality (Table 99). But for the reported three-year period there is a threefold reduction in planted areas and yields, which is also observed at national level.

Table 99. Production of oriental tobacco in Simitli municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Oriental tobacco	2000	1300	1280	-	-	-	300	208	143.4

Source: MAFF

From the grain legumes beans are grown in the municipality (Table 100). After an increase in areas and yields in 2014, they are kept at the same level in 2015, but as a whole the crop is grown only marginally.

Table 100. Production of grain legumes in Simitli municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Beans	5	30	30	-	-	-	0,6	4,5	4,5

Source: MAFF

Due to the more pronounced Mediterranean influence along Struma River, Simitli Municipality offers good conditions especially for viticulture development. Fruit growing is less developed and represented mainly by plums and cherries, and less by apples, sour cherries, strawberries, raspberries, apricots and peaches (Table 101). Viticulture is relatively well developed and in particular the production of wine varieties. In general, there is a slight decrease for main fruit crops and an increase for vineyards' yields.

Table 101. Orchards and vineyards in Simitli Municipality for the period 2013-2015

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Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Apples	35	35	35	257	200	320	9	7	11,2
Pears	11	11	11	364	300	273	4	3	3
Peaches	6	6	6	400	300	500	2	2	3
Apricots	11	11	11	273	500	182	3	6	2
Cherries	165	165	165	180	71	121	30	5	20
Sour cherries	39	39	39	200	200	200	8	8	8
Plums	131	131	131	397	200	53	52	1	7
Strawberries	12	12	12	1000	800	800	8	10	10
Raspberries	23	23	23	400	378	300	9	9	7
Total:	**433**	**433**	**433**	**3471**	**2949**	**2749**	**125**	**51**	**71,2**
Wine vines	1541	1541	1541	400	300	500	617	462	771
Dessert vines	250	250	250	700	500	552	175	125	138
Total:	**1791**	**1791**	**1791**	**1100**	**800**	**1052**	**792**	**587**	**909**

Source: MAFF

Livestock farming also covers mainly the private sector**.** Cows, goats and sheep are mainly grown (Table 102). The downward trend in the number of farm animals in the 2007-2009 period has been overcome. Over the past 2-3 years there has been an increase in the number of farm animals in the municipality.

Table 102. Number of livestock in Simitli municipality for the period 2013–2017

Livestock species	2013 –2014	2015 - 2016	2016 - 2017
Cattle-breeding farms	125	121	85
Cattle-total	1621	1784	2085
Sheep-breeding farms	96	97	92
Sheep-total	5022	5366	5782
Goat breeding farms	85	88	76
Goats-total	3134	3454	3912
Pigs-total	53	52	22
Farms for equidae	65	78	89
Equidae - total	620	1160	181
Registered apiaries	0	0	15
Bee families-total			432
Rabbit farms			10
Rabbits-total			560

12. STRUMYANI MUNICIPALITY

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The territory of Strumyani Municipality covers an area of 355190 daa, which is 5.72% of the territory of Blagoevgrad District. The main part (80%) of the total area of the municipality has mountainous relief, represented by parts of Pirin and Malashevska mountain. The rest of the territory is situated along Struma River, where the land is arable. The land in the municipality is located in one of the warmest regions in the country, which favors the cultivation of fruits and vegetables with advantages over other areas. Due to the mild winters, a lot of thermophilic species grow here: vines, figs, pomegranates, almonds, olives, etc.

Agriculture is ranked fourth in the economy of the municipality by the end of 2012. About 30% of the economically active population is occupied in agriculture: growing tobacco, fruits, vegetables and others. The number of companies in the "Agriculture, forestry and fisheries" sector is 12. The indicators for agriculture in the period 2007-2013 are: 33.3% increase in the number of enterprises, 474% incomes from activity, 52.9% in employment and 311% in the average wage. The agricultural land occupies 35.8% of the total territory and the forests - 59.7%. The irrigated area is only 13.8% of the agricultural land.

Strumyani Municipality occupies the penultimate place by UAA in Blagoevgrad District with 2.7% and eleventh place by registered holdings, with 3.2% of the total registered holdings in the district.

According to data of the Ministry of Agriculture, Food and Forestry from November 2012, the total number of agricultural holdings on the territory of Strumyani municipality is 1246, including:

- Up to 10 daa UAA – 914;
- From 10 to 20 daa – 195;
- From 20 to 100 daa – 113;
- From 100 to 500 daa – 22;
- Over 500 daa – 1;

Structurally, agricultural land is distributed as follows:

According to NSI data for 2010 **the total municipal territory is 355190 daa** or **5.7%** of the municipal teritory. Of them:

- 155 002 daa are the **total agricultural land,** which is **35.0%** relative share of the municipality's land fund;
- **Arable land** - 72065 daa;
- **Irrigated land** – 10011daa
- **Used agricultural area** – **15850,0**daa, with an average size of 12.70 daa, including:
  - Up to 10 daa –3655.1 daa UAA
  - From 10 to 20 daa – 2645.6 daa UAA;
  - From 20 to 100 daa – 4074.8 daa UAA;
  - From 100 to 500 daa – 0 daa UAA;
  - Over 500 daa – 0 daa;
  - Holdings with 0.0 daa UAA – 1;

The main part of the utilized agricultural area in the municipality is occupied by:

- **Grain cereal crops** – wheat, barley, spring barley, oats, triticale, maize.
- **Vegetable crops –** pepper, tomatoes, potatoes, garden peas.
- **Industrial crops –** oriental tobacco.
- **Grain legumes –** beans.
- **Forage crops –** forage peas.

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- **Orchards and vineyards –** apples, peaches, plums, cherries, pears, apricots, strawberries, wine vines, dessert vines.

The main grain cereals in the municipality are wheat and barley and less maize (Table 103). During the reported three-year period there was a decrease of the areas and the main crops. In 2015, triticale is sown on small areas.

Table 103. Main grain cereals in Strumyani municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Wheat	2500	3300	2400	210	350	215	525	1155	472
Barley	200	250	350	200	280	154	40	70	54
Spring Barley	400	-	100	-	-	-	68	-	12
Triticale			100			150			15
Oats	-	120	100	-	-	-	-	27,6	14
Maize	200	30	100	300	153	80	60	5	8
Total:	**3300**	**3700**	**3150**	**710**	**783**	**599**	**693**	**1257.5**	**629**

Source: MAFF

Due to the mountainous nature of the municipality and the warm climate, little vegetables are grown, mainly potatoes, and very limited tomatoes, pepper and peas (Table 104). As a whole, vegetable production shows a decline in sown areas and yields for the period 2013-2015.

Table 104. Main species of fresh vegetables in Strumyani municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Pepper	20	6	5	800	667	1300	16	4	6.5
Tomatoes	45	50	35	-	-	-	675	60	385
Potatoes	100	360	230	-	-	-	120	360	150
Garden Peas	10	5	5	-	-	-	1	1	1
Total:	**175**	**421**	**275**	**800**	**667**	**1300**	**812**	**425**	**542.5**

Source: MAFF

A negligible amount of tobacco is grown in Strumyani municipality (Table 105). But for the reported three-year period there is an increase in 2014 and a further decline in 2015.

Table 105. Production of oriental tobacco in Strumyani municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Oriental tobacco	5	30	15	-	-	-	0.5	2.24	3

Source: MAFF

Of grain legumes in the municipality is grown beans (Table 106). Areas and yields are insignificant, but they have a slight increase over the three-year period.

Table 106. Production of grain legumes in Strumyani municipality for the period 2013-2015

Crop	Planted areas (daa)	Average yield (kg/daa)	Production in tonnes

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	2013	2014	2015	2013	2014	2015	2013	2014	2015
Beans	5	8	10	-	-	-	0,6	0,9	1,5

Source: MAFF

From the forage crops in the municipality there are data on the cultivation of forage peas in 2015 (Table 107), but the dynamics of production can not be traced due to a lack of comparative ground.

Table 107. Production of forage crops in Strumyani municipality for the period 2013-2015

Crop	Planted areas (daa)		Average yield (kg/daa)		Production in tonnes	
	2014	2015	2014	2015	2014	2015
Forage peas	-	300	-	-	-	105

Source: MAFF

Strumyani Municipality, due to its pronounced Mediterranean influence along Struma River valley, offers better conditions especially for viticulture development. Fruit growing is also developed and represented mainly by plums and apples, and more limited by pears, cherries, sour cherries, apricots, raspberries and strawberries (Table 108). Viticulture is well developed and in particular the production of wine varieties on 2700 daa, which do not change over the three-year period. Yields from grapes vary depending on the weather conditions, but in fruit growing there is a significant decrease in most of the crops.

Table 108. Orchards and vineyards in Strumyani Municipality for the Period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Apples	660	180	180	400	850	700	264	153	126
Pears	63	5	5	508	400	400	32	2	2
Peaches	110	20	20	1000	200	500	110	4	10
Apricots	10	10	10	300	300	100	3	3	1
Cherries	20	10	10	270	400	200	5	4	2
Sour cherries	39	-	-	200	-	-	8	-	
Plums	420	80	80	262	500	500	110	40	40
Strawberries	10	5	5	500	100	100	5	1	1
Raspberries	23	-	-	300	-	-	7	-	
Total:	**1355**	**310**	**310**	**3740**	**2750**	**2500**	**544**	**207**	**182**
Wine vines	2700	2700	2700	1000	350	800	2700	945	2160
Dessert vines	150	150	150	800	150	700	120	23	105
Total:	**2850**	**2850**	**2850**	**1800**	**500**	**1500**	**2820**	**968**	**2265**

Source: MAFF

The mountain character of the territory favors the development of livestock farming, despite the shortage and appreciation of the feed and effective realization of its production. The development of the sector for the last years has a tendency to reducing the number of animals kept and livestock production (Table 109). Past experience and practice and the availability of a feed base imply the promotion of sheep breeding.

Source: Municipal Development Plan of Strumyani Municipality

Table 109. Number of livestock in Strumyani Municipality for the period 2013–2017

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Livestock species	2013 –2014	2015 - 2016	2016 - 2017
Cattle-breeding farms	22	32	33
Cattle-total	850	1022	1268
Sheep-breeding farms	118	177	160
Sheep-total	4500	5168	4468
Goat breeding farms	168	140	171
Goats-total	1500	1727	2812
Pigs total	55	29	30
Farms for equidae	164	17	21
Equidae - total	224	29	32
Paultry farms	620	1958	
Back yards	420	1928	
Birds total	150	10	
Objects for quails	50	0	1
Registered apiaries	0	0	14
Bee families-total	564	595	563

13. HADZHIDIMOVO MUNICIPALITY

Hadzhidimovo Municipality occupies an area of **327778 daa.** The municipality climate is transitional Mediterranean with a mountainous influence, with a pronounced autumn-winter maximum and minimum summer precipitation. The municipality area is one of the warm in the country. The main livelihood of the rural population of Hadzhidimovo municipality is related to tobacco production. Tobacco is the crop that provides the most income to the population in the municipality and the entire region. The tobacco producers in the municipality are 2200 people.

With the European programs implementation in the previous programming period, in the lands of Koprivlen and Novo Leski village and the town of Hadjidimovo there were consolidated grain crops with cereals - wheat, maize, barley and others.

The municipality of Hadzhidimovo has 13.7% UAA in Blagoevgrad District and 13.0% of the total number of registered farms in the district.

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According to data of the Ministry of Agriculture, Food and Forestry from November 2012, the total number of agricultural holdings on the territory of Hadzhidimovo municipality is 2331, including:

- Up to 10 daa UAA – 1894;
- From 10 to 20 daa – 350;
- From 20 to 100 daa – 54;
- From 100 to 500 daa – 14;
- Over 500 daa – 1;

Structurally, agricultural land is distributed as follows:

According to NSI data for 2010 **the total municipal territory is 327778 daa** or **5.0%** of the municipal teritory. Of them:

- 178403 daa are the **total agricultural land,** which is **54.4%** relative share of the municipality's land fund, as the average for the country is **58.0%**;
- **The arable land** is 62325 daa; with fields having the largest share – 49000 daa (82.0% of the arable land);
- **Irrigated areas** are 17944 daa;
- **Perennials** are 2700 daa (4.5%);
- **Meadows** – 8000 daa (13.0%);
- **Pastures** are 93000 daa. Together with the arable land they form the so-called managed land - a total of 153000 daa, or 46% of the municipality's territory;
- **Used agricultural area** is **19564.9** daa, with an average size of 8.50 daa, including:
  - Up to 10 daa –9497.7 daa UAA
  - From 10 to 20 daa – 4371.3 daa UAA;
  - From 20 to 100 daa – 1691.5 daa UAA;
  - From 100 to 500 daa – 0 daa UAA;
  - Over 500 daa – 0 daa;
  - Holdings with 0.0 daa UAA – 17;

The main part of the utilized agricultural area in the municipality is occupied by:

- **Grain cereal crops** – wheat, triticale, maize, sunflower.
- **Vegetable crops –** pepper, tomatoes, potatoes.
- **Industrial crops –** oriental tobacco.
- **Grain legumes –** beans**.**
- **Orchards and vineyards –** apples, plums, pears, wine vines, dessert vines.

The main grain cereal crops in the municipality is maize (about 2/3 of the areas occupied by cereal-grain crops and less wheat and sunflower (oil-seeds)) (Table 110). In general, sown areas and yields are decreasing for all three crops over the three-year period.

Table 110. Main grain cereals and oilseeds in Hadzhidimovo municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Wheat	3300	6500	3000	250	270	190	825	1755	570
Sunflower	250	200	300	150	80	90	38	16	27
Maize	7000	6000	5000	350	700	250	2450	4200	1250
Total:	**10550**	**12700**	**8300**	**750**	**1050**	**530**	**3313**	**5971**	**1847**

Source: MAFF

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Due to the semi-mountainous character of the municipality, potatoes are the main vegetable crops, and peppers and tomatoes are grown negligibly (Table 111). For the period 2013-2015, vegetable production in general is decreasing, with the exception of tomatoes that retain the areas from 2014 and 2015, but the yields are decreasing.

Table 111. Main types of fresh vegetables in Hadzhidimovo municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Pepper	200	100	100	500	1000	500	100	100	50
Tomatoes	10	50	50	-	-	-	6	45,6	50
Potatoes	500	600	300	-	-	-	500	420	300
Garden peas	5	-	-	-	-	-	1	-	-
Total:	**715**	**750**	**450**	**500**	**1000**	**500**	**607**	**565.6**	**400**

Source: MAFF

Oriental tobacco production in Hadzhidimovo municipality was a significant branch of agriculture (Table 112). However, for the reported three-year period there has been a significant decrease in the area and crop yields, which is also observed at national level.

Table 112. Oriental tobacco production in Hadzhidimovo Municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Oriental tobacco	7000	4000	3000	-	-	-	1400	600	380

Source: MAFF

From the grain legumes crops are grown bean (Table 113). In 2015 there was a significant ten-fold production decrease.

Table 113. Grain-legumes production in Hadzhidimovo municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Beans	100	100	10	-	-	-	12	10	1

Source: MAFF

Due to the more pronounced Mediterranean influence along Mesta River, Hadzhidimovo Municipality offers favorable conditions especially for viticulture development. Fruit growing is poorly developed and represented mainly by apple gardens, but also by plums and pears (Table 114). Viticulture is relatively well developed and in particular wine varieties production. In general, there is a decrease in areas and yields of the main fruit crops as for vineyards they are stable.

Table 114. Orchards and vineyards in Hadzhidimovo Municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Apples	60	60	60	400	800	200	24	48	12
Pears	5	5	5	200	360	200	1	2	1
Plums	4	4	4	250	323	250	1	1	1

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Total:	**69**	**69**	**69**	**850**	**1483**	**650**	**26**	**51**	**14**
Wine vineyards	500	500	500	400	100	400	200	50	200
Total:	**500**	**500**	**500**	**400**	**100**	**400**	**200**	**50**	**200**

Source: MAFF

The main **livestock** sector is cattle breeding (Table 115). The number of cattle increases as well as that of goats, and there is a decrease in sheep.

Table 115. Number of livestock in Hadzhidimovo Municipality for the period 2013 – 2017

Livestock species	2013 –2014	2015 - 2016	2016 - 2017
Cattle-breeding farms	442	419	433
Cattle-total	1850	2102	2420
- Buffalo-breeding farms	1	2	2
- Buffaloes	9	21	22
Sheep-breeding farms	336	354	362
Sheep-total	3800	5550	4600
Goat breeding farms	292	276	257
Goats-total	1550	3000	3250
Farms for equidae	550	554	524
Equidae - total	560	602	625
Paultry farms	2000	1900	1900
Registered apiaries	20	26	27
Bee families-total	1275	1470	1475
Fisheries	1	1	1
Including trout	1	1	1
Rabbit farms			15
Rabbits-total			1100
California worms Objects			5

14. YAKORUDA MUNICIPALITY

Yakoruda Municipality is located in the northeastern part of Blagoevgrad region on an area of 339276 daa. The territory of Yakoruda municipality is characterized by mountainous and semi-mountainous relief,

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covering parts of Rila and the Western Rhodopes, as well as the narrow valley in the upper stream of the Mesta River.

Yakoruda Municipality occupies eleventh place by UAA in Blagoevgrad District with 3.4% and ninth in number of registered holdings, with 4.6% of total registered holdings in the district.

According to data of the Ministry of Agriculture, Food and Forestry from November 2012, the total number of agricultural holdings on the territory of Yakoruda municipality is 1767, including:

- Up to 10 daa UAA – 1295;
- From 10 to 20 daa – 282;
- From 20 to 100 daa – 150;
- From 100 to 500 daa – 18;
- Over 500 daa – 3;

Structurally, agricultural land is distributed as follows:

According to NSI data (Eurostat) for 2010 **the total municipal territory is 339276 daa** or **5.26%** of the municipal teritory. Of them:

- 113057 daa is the **agricultural land,** which is **33.3%** relative share of the municipality's land fund;
- **The arable land** is 54174 daa or **15.97%** of the municipal territory;
- **Irrigated areas** are 0.0 daa, there is no functioning hydromelioration system;

Used agricultural area is **19963.8** daa, with an average size of **11.40** daa, including:

- Up to 10 daa –5809.9 daa UAA;
- From 10 to 20 daa – 3663.1 daa UAA;
- From 20 to 100 daa – 5150.0 daa UAA;
- From 100 to 500 daa – 3121.5 daa UAA;
- Over 500 daa – 2220.0 daa;
- Holdings with 0.0 daa UAA – 19;

By form of ownership 24% of the agricultural land is private, 9% is municipal, 46% is state and 22% is municipal residual fund. The relative share of municipal lands is low and severely restricts the opportunities for stimulating agriculture development, by providing land to tenants for the creation of large holdings and farms.

The more fertile lands are cultivated and the low-productive land is abandoned, as the erosion processes provoked by the sloping terrain increase the uncultivated land. The absence of large agricultural holdings reduces the labor productivity and the possibilities for realization of lower production costs as well as its market realization. Obsolete agricultural machinery or a technique is used that results in harvest losses. The financial condition of the farms is poor, there are no funds for the purchase of modern equipment and for carrying out agro-technical measures with a longer duration, which seriously reduces the efficiency of the economic activity.

The main part of the utilized agricultural area in the municipality is occupied by:

- **Grain cereal crops** – oats, maize.
- **Vegetable crops –** pepper, tomatoes, potatoes.
- **Industrial crops –** oriental tobacco.
- **Grain legumes –** beans**.**

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Due to the mountain relief and climate the main grain cereal crops in the municipality are oats and maize (Table 116). In general, sown areas and yields of both crops are decreasing.

Table 116. Basic grain cereals in Yakoruda municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Oats	300	-	-	-	-	-	90	-	-
Maize	300	300	300	300	200	200	90	60	60
Total:	**600**	**300**	**300**	**300**	**200**	**200**	**180**	**60**	**60**

Source: MAFF

Due to the mountain character of the municipality, are mainly grown potatoes, and only small amounts of tomatoes and pepper (Table 117). The municipality is of great importance for the production of potatoes at regional and national level. However, for the period 2013-2015, in general, potatoes production marked a negligible decrease while pepper and tomatoes retained a negligible presence.

Table 117. Main species of fresh vegetables in Yakoruda municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Pepper	10	8	10	900	900	900	9	7.2	9
Tomatoes	10	10	10	-	-	-	8	8	8
Potatoes	4800	4200	4300	-	-	-	7200	5040	4000
Total:	**4820**	**4218**	**4220**	**900**	**900**	**900**	**7217**	**5055.2**	**4017**

Source: MAFF

Oriental tobacco production in Yakoruda municipality is important for the local economy (Table 118). But for the reported three-year period there is a threefold reduction in planted areas and yields, which is also observed at national level.

Table 118. Oriental tobacco production in Yakoruda Municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Oriental tobacco	366	250	60	-	-	-	51	37.5	9

Source: MAFF

From grain legumes beans are grown in the municipality (Table 119). For a three-year period, the basic parameters of bean production in the municipality are retained.

Table 119. Production of grain legumes in Yakoruda municipality for the period 2013-2015

Crop	Planted areas (daa)			Average yield (kg/daa)			Production in tonnes		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Beans	300	200	250	-	-	-	45	24	25

Source: MAFF

Livestock has a smaller share in agricultural output. Almost all species of domestic animals are present. Cattle, sheep, goats, pigs and poultry are reared (Table 120). The reduction in the number of animals in recent years has subsided as a process, but the difficulties associated with the realization of the production

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continue to be a major problem for the breeders. Family farms are not market-oriented, household surpluses appear on the market. The quality of production is low due to lack of knowledge of the farmers for feeding and rearing animals.

Yakoruda municipality's prospects for agricultural development are related to the introduction of alternative crops such as rye and triticale, herbs, raspberries and blueberries. Beekeeping also has potential for development. An important factor for the development of agriculture is also the development of the related branches, mainly agro-food industry and rural tourism.

Table 120. Number of livestock in Yakoruda municipality for the period 2013–2017

Livestock species	2013 –2014	2015 - 2016	2016 - 2017
Cattle-breeding farms	1268	1283	1328
Cattle-total	3172	3602	3432
Buffalo-breeding farms	0	1	1
Buffaloes	0	0	2
Sheep-breeding farms	548	554	594
Sheep-total	7650	7441	7475
Goat breeding farms	116	25	25
Goats-total	577	370	370
Pigs-total	0	0	
Farms for equidae	138	153	155
Equidae - total	563	568	614
Paultry farms	8496	8690	8490
Bee families-total	1251	1323	1323
Fisheries	2	2	
Including trout	2	2	
Rabbit farms			21
Rabbits-total			1050

15. BASIC CONCLUSIONS OF THE ANALYSIS

In the area of crop production in Blagoevgrad District, it is obvious that in all municipalities dominate farms, which cultivate up to 10 decares of the total UAA in the district. The reason is clear - fragmentation of the arable land, mainly due to the mountainous relief of the area. In recent years, farmers have registered small agricultutal holdings with up to 10 decares UAA. Small farms are important in terms of employment and economic activity in rural areas, predominantly in disadvantaged and mountainous areas, as well as in areas with intensive vegetable growing, fruit growing and tobacco production. Grain cereal crops (wheat, barley, rye) are predominant in the Blagoevgrad municipalities. Potatoes occupy the largest share of the vegetable areas. Tobacco is considered as a traditional crop for the area and a major livelihood for the population in the small settlements (villages). It is grown in all municipalities as its production drastically decreased in time, the livelihood declines. The causes are financial - 5% reduction in subsidies in 2017 compared to the previous year. On the other hand, the buyer company is delaying the tobacco producers' money for months, which demotivates them.

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In Blagoevgrad district livestock-breeding has less pronounced functions as it develops mainly in small family farms. There are almost all kinds of domestic animals as cattle and sheep breeding dominate. More exotic representatives of the animal world, such as pheasants, quail, California worms (Yakoruda, Hadjidimovo) are reared, albeit in limited quantities. Beekeeping has prospects for development, as the location of the area is suitable for the production and development of such business. Livestock problems are almost identical to those of the plant breeding - livestock farms are fragmented, livestock farms are not market-oriented, need to improve breeds and increase production. In recent years there has been a boost to the sector, with few livestock farmers receiving funding under the RDP.

XI. CONCLUSIONS AND RECOMMENDATIONS

The agrarian reform of the late 20th century led to organizational and managerial restructuring of agriculture, which in turn reflected on the efficiency and competitiveness of production structures. A key issue, both from a theoretical and practical point of view, is the evaluation of the effectiveness of the different production structures operating in different industries and the factors that influence them.

An incomparably larger internal market means stronger competition. Despite some comparative advantages - lower land and labor prices and the availability of unique conditions for the production of some agricultural products, in medium term, problems in regard to competitiveness and efficiency of production structures are serious. These come from both structural weaknesses due to the fragmentation of land ownership and the lack of stable land use, as well as lower production support than the old member states (direct payments and national support).

Applying standards of food security, product quality and environmental protection require significant investments. In fact, the achievement of European standards is one of the most serious obstacles for Bulgarian agricultural products to access the EU market.

Farm inefficiency stems from the fragmentation of land ownership, which in turn creates difficulties for long-term investments in agriculture, improving soil fertility and the efficient use of agricultural machinery. In this context, one of the most difficult problems to solve remains the question of helping sole farms and small farmers (especially in semi-mountainous and mountainous regions) whose production is expected to be related to the creation of specific food products such as organic farming. In this respect, the 2014-2020 CAP creates a number of opportunities, especially for small farms and areas with poor agricultural performance.

It is necessary to overcome the structural problems by consolidating land ownership and rationalizing land use. Urgent, targeted and consistent measures are needed to support agricultural restructuring and agriculture with CAP funds and the national budget. That is why the structural policy in agriculture must aim at creating a sufficient number of farms and market-oriented farms in certain production areas.

Another major problem for farms is the unfavorable age structure of farmers. The mass outflow of young people from agriculture is a serious problem and one of the reasons for the low farm efficiency. The low educational level of the employed in the farms is also an important problem. The shortage of qualified specialists, the amortised material and technical base, which does not meet the EU requirements and standards, is one of the reasons for the low productivity and efficiency of labor and low production results.

The transfer of knowledge and innovation in agricultural production is a long-term priority of agricultural policy. The conclusion is that particular attention should be paid to improving the opportunities for modernization and transfer of innovation in small and medium-sized farms and enterprises. This is needed because they do not have enough own resources to buy modern equipment, or if they do, it is questionable whether they can use it effectively. To a large extent, this disadvantage can be offset by the technology

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transfer offices that have been set up in recent years at various agrarian universities, especially those where the equipment is at the highest technological level. A good example of this is the Joint Genomic Center of the Sofia University "St. Kliment Ohridski ", which already serves as a bridge between science and small and medium-sized businesses in the field of agriculture and food industry.

The development of the agrarian sector and agriculture is of strategic importance both for the economy diversification and for the stability of the labor market and the raw material base for the processing industry development in the region. The main directions for recovery and development of agricultural production potential is the utilization of all natural resources. In this respect, it is particularly important to promote the development of agriculture as a traditional sector in the district and to provide technical and engineering infrastructure. The aim is to attract business at a modern technological level and to implement technologies in local companies as an important factor for the competitiveness of the municipal economy and the retention of highly educated local population. The development of local farmers should be stimulated through the creation of a cluster network. Despite the fact that cluster links are not yet popular in Bulgaria, their availability as good practices may be the basis for intensive growth of the agrarian sector in the near future. It is also an important tool for improving the competitiveness both at the company level and at the level of the municipal economy with the active collaboration and cooperation with the neighboring municipalities and the realization of projects of regional importance.

XII. LEGISLATION

Food industry is a highly regulated sector of the economy with numerous regulations in the field of food safety. Since 2007 Bulgaria has begun implementing the European Food Safety Law. Requirements for food producers and other stakeholders in the food industry (food business operators, competent control authorities and consumers) are regulated by the applicable sectoral legal framework.
The Ministry of Agriculture, Food and Forests implements the state policy in the field of agriculture and rural areas. Its activity is aimed at increasing the competitiveness and expanding the export capacity of Bulgarian agriculture, in compliance with strict standards for environmental protection, implementation of unified control over the food chain to ensure food safety and animal welfare, diversification of the economy and improving living conditions in rural areas.

At the moment, the individual elements of the food chain are regulated separately, under the laws listed below and the normative acts on their implementation:

- ***Food Act*** (Prom., SG, 90/15.10.1999, amended, 92/17.11.2017, in force since 1.01.2018.) - regulates food requirements, measures and conditions to ensure food hygiene and safety, packaging, labeling, presentation, including advertising; requirements for all stages of food production, processing and distribution; the terms and conditions of food production and trade; rights and obligations of persons who produce or trade food.
A new Food Law has been drafted, which will lead to a higher level of consumer confidence and confidence for the consumer of food that is available on the market. For the first time on the territory of the country will be regulated the online trade, the placing on the market of nutritional supplements and how will be offered meat in the food objects. Requirements for the vehicles transporting food are also regulated. A National Food Council will be set up with the presence of all branch organizations in the food chain as a consultative authority for the adoption and implementation of food policies and their safety. This special act regulates also the functions of branch industry organizations. The draft act is in the National Assembly and is expected to be adopted soon.

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- ***Risk Assessment Center on Food Chain Act*** (Prom., SG, 44/10.06.2016, in force since 10.06.2016.) - The law regulates the structure and operation of the Risk Assessment Center on Food Chain and the powers of its authorities. The Food Risk Assessment Center is a competent authority within the meaning of Art. 22 (7) of Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety. It will carry out a scientific risk assessment through an independent, transparent and impartial analysis of scientific information on issues that directly or indirectly affect animal and plant health, plant products and plant propagating material and food and feed safety; will collect data, including from structures external to the Ministry of Agriculture and Food necessary for risk assessment of the food chain; if necessary for the purposes of risk assessment, conducts surveys and gathers field information; will provide the competent authorities and bodies with scientific assessments that will guide decision-making on the management of risks in the food chain.
- ***Feed and Forage Act*** (Prom., SG, 55 of 07.07.2006, amend. and supplements, SG 17/23.02.2018, in force since 23.02.2018) – regulates feed requirements, measures and conditions to ensure feed hygiene and safety, packaging, labeling, presentation, including advertising; terms and conditions and requirements for all stages of production, distribution, processing, including use of feed; rights and obligations of persons who produce or trade feed;
- ***Veterinary Activities Act*** (Prom., SG, 87/1.11.2005, amend. and suppl. SG. 17/23.2.2018) - This Act regulates the public relations with the implementation, management and control of the veterinary activity and introduces the principles of the veterinary legislation of the European Union and the World Organization for Animal Health (OIE). In February 2018, amendments to the Act were adopted to ensure safety throughout the food chain by disciplining breeders, registered veterinarians and official veterinarians, and to minimize the risk of disease and contagious diseases, including in humans. Also, the amendments to the Act introduce a ban on the rearing of animals not covered by the prophylactic program, as well as the placement of animals outside the holding and unaccompanied breeding sites. Animals that do not meet the Act requirements, including identification requirements, mandatory surveillance and prophylactic measures and established health status, will be forfeited. In addition to the prohibition, changes make it possible not only for owners, but also users of disposal and storage of animal by-products to receive funds for the collection, transport, disposal and storage of animal by-products. Where necessary, the disposal of animal by-products and derived products may also be carried out in stationary and mobile incineration and co-incineration plants.
- ***Plant Protection Act*** (Prom., SG, 61/25.07.2014) - This Act regulates the public relations to phytosanitary measures under the International Plant Protection Convention, ratified by Act – SG, 32/2005) (SG, 75/2005) - regulates the requirements for phytosanitary quality and control of plants and plant products intended for the domestic market and for export; control of pollutants in plant raw materials, soils and irrigation waters; control of the organic production of plants, plant products and foodstuffs of plant origin, conditions, etc.
- ***Genetically Modified Organisms Act*** (Prom., SG, 27/29.03.2005, amend. 58/26.07.2016) – The purpose of the Act is to ensure protection of human health and the environment when working with genetically modified organisms under controlled conditions, subject to the precautionary principle, which means priority protection of human health and the environment in the event of potential adverse effects, despite the existing economic interests or the lack of sufficient scientific data.
- ***Livestock Act*** (Prom., SG, 65/08.08.2000, amend. SG. 26/6.4.2010) - This Act regulates the organization and management of livestock; breeding activities; the production of farm animals, semen, ova and embryos; status, activity and support of livestock organizations. The law aims to create conditions and prerequisites for: sustainable development of livestock breeding; management of genetic resources and their use for the efficient

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production of animal products; creation, conservation and improvement of livestock populations adapted to the individual agri-environmental regions of the country; harmonious development of livestock farming in order to protect the environment and human and animal health; efficient management and quality control in the production and marketing of live animals, semen, ova and embryos.

- ***Environmental Protection Act*** (Prom., SG, 91/25.09.2002, am. SG. 96/1.12.2017). This Act governs public relations to: the protection of the environment for present and future generations and the protection of human health; preserving biodiversity in accordance with the country's natural biogeographical feature; conservation and use of environmental components; control and management of environmentally damaging factors; control of the environment state and sources of pollution; prevention and reduction of pollution, etc.
- ***Health Act*** (Prom., SG, 70/10.08.2004, in force since 1.01.2005.) - regulates the state health control for compliance with and fulfillment of the health requirements established by the normative acts for the public purpose sites, the products, the goods and the activities with importance for the human health and the factors of the living environment.
- ***Beekeeping Act*** (Prom., SG, 57/24.06.2003, 43/29.04.2008) - The Act aims to create conditions for the development of beekeeping as a sub-sector of livestock breeding to create and maintain the necessary number of bee families, to maintain biodiversity and ecological equilibrium in nature, to obtain normal yields of crop plants and to produce quality bee products.
- ***Agricultural Producers Support Act*** (Prom. SG. 58/22.5.1998, Am. and suppl. SG. 2/3.1.2018, amend. and suppl. SG. 18/27.2.2018) The law regulates state support to farmers, including agricultural producers; the implementation of measures to stimulate exports and to regulate the import and export of agricultural products. The implementation of the measures of the Rural Development Program for the period 2007 - 2013 as well as of the measures and sub-measures of the Rural Development Program for the period 2014 - 2020 under Art. 21 (1) (a) and (b), Art. 28, 29, 30, 31, 33 and 34 of Regulation (EU) No 1305/2013 of the European Parliament and of the Council of 17 December 2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) and repealing Council Regulation (EC) No 1698/2005 of the Council (OB, L 347/487 of 20 December 2013).
- ***Protection of Competition Act*** (Prom. SG. 102/28.10.2008, am. SG. 7/19.1.2018). This act aims to provide protection and conditions for expanding competition and free enterprise in business. The law provides for protection against agreements, decisions and concerted practices, abuse of monopoly and market dominance and any other acts and actions which may lead to the prevention, restriction or distortion of competition in the country and/or affect trade between Member States of the European Union, and against unfair competition or abuse of a stronger negotiating position. The law governs also the control of concentrations between companies.

These laws were conceptually developed and adopted before Bulgaria's accession to the European Union, with the exception of the Plant Protection Act (Prom., SG, 61/25.07.2014).

The acts have been amended and supplemented many times for different purposes. The reasons for their change on the one hand are related to the introduction of European regulations in our national legislation or the inclusion of texts for technical corrections and updates due to references to other normative acts and, on the other hand, for refining the substantive texts. These changes lead to difficulties in their application, both by business operators and by the authorities responsible for official controls.

Problems and solutions

At present, in the Republic of Bulgaria there is no normative act - a legal framework that brings together all the activity along the food chain, clearly indicating its individual elements in its entirety as a continuous

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process, differentiating the competences of the bodies performing the risk assessment of the food chain, policy and control over them and related activities.

The national legislation does not clearly distinguish the competences and functions of the individual authorities implementing policy and official control and risk assessment of the food chain. Separate issues related to the interaction and coordination between the competent authorities are not settled either at national level or between the competent authorities of the Republic of Bulgaria, the European Commission and the competent authorities of the other Member States.

There are preconditions for circumventing the provisions that impede official control in tracing all elements along the food chain at every stage of their production. Insufficiently clearly defined and inadequate sanctions for persons committing offenses related to the different food chain elements. In view of the above mentioned problems with the current legislation, the Bulgarian Government has drafted a Food Chain Management Act that provides the creation of a common framework regulating the essence of the food chain and its elements. For the first time, the competent authorities responsible for the policy, the authorities responsible for official controls on the elements of the food chain and the food chain risk assessment body are specified. The law seeks to ensure the highest possible level of protection of human health and consumer interests.

The restoration of the land ownership to private owners in Bulgaria was a logical step in the transition from a socialist model of government to a market economy. Although it was originally the Agricultural Land Ownership and Use Act (ALOUA), which is actually the restitution land Act, was drawn up with the modern vision, so the properties of the owner to be no more than three in number, consequently the political interests prevailed and the idea was flawed and the law over time underwent more than 40 amendments, resulting in the fragmentation of land ownership. As the property was restored to the owners of the lands before the collectivization, effective divisions further deepened the problems. The average size of the properties is 5.5 daa and in many cases with different geometric shapes.

In connection with Bulgaria's EU membership, it is necessary to seek appropriate solutions in order to make it possible for farms to benefit from the EU funds in the field of direct payments and rural development schemes. Small, extremely fragmented farms face difficulties in submitting applications for direct payments schemes and the lack of micro-regional planning hampers the ideas of a comprehensive approach to rural development with a synchronized involvement of the government, regions, municipalities, non-governmental organizations, owners and users of agricultural land.

The problem of property fragmentation and disturbed infrastructure in rural areas is a priority of the MAFF, owners and users of agricultural land. It is necessary to support the process by preparing appropriate legislation in several stages. Preparation of specific land-use management and land consolidation acts is an urgent measure that must be accompanied by changes in legislation affecting the heritage. In order to establish a better legal environment in terms of land development, the relevant amendments to other laws must also be made - Agricultural Land Ownership and Use Act, Restoration of ownership of forests and forest land entirety Act, Agricultural Land Leasing Act, etc., while at the same time to initiate and reduce the legal decisions leading to the subsequent fragmentation of the agricultural lands.

After the voluntary consolidation under the gricultural Land Ownership and Use Act has been tried in practice, consideration should also be given to the creation of a new land development law. It could be a derivative of the Spatial Development Act by giving the procedures for the complex arrangement of agricultural territories.

Good land management requires a set of factors such as the creation of a good specialized information system (containing a specialized map and registers); appropriate legislation; funding and staff to perform the tasks and maintenance of the system; wide-scale implementation of land consolidation projects and complex development plans.

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After joining the EU, Bulgaria competes in the common European market with some of the most developed countries in the world. Each of these countries implements a modern land management system, including land-based banking, land consolidation, and land improvement measures.

EU Regulatios

Bulgaria, as an EU member state, has harmonized the national legislation with the Community legal framework. She has accepted and strictly adheres to the generally accepted regulations of the Common Agricultural Policy.

The Commission's proposal for a Multiannual Financial Framework (MFF) for 2014-2020 sets out the budgetary framework and the broad guidelines for the Common Agricultural Policy by presenting a set of regulations defining the legislative framework of the CAP for the period 2014-2020.

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XIII. SWOT- ANALYSIS - PROBLEMS AND POSSIBLE SOLUTIONS

CROP PRODUCTION SECTOR	
Problems	**Possibilities**
✚ Fragmentation of arable land and undeveloped land market; ✚ A significant share of agricultural land is heavily eroded, which requires the implementation of a number of expensive anti-erosion events**;** ✚ Agriculture as a whole is of a natural nature and low commodity; ✚ A high share of the agrarian sector, but this is due to the lack of other developed alternative economic activities; ✚ Fragmentation of land ownership, determined by the specific terrain in the area; ✚ Generally, many municipalities produce environmentally friendly agricultural produce, but most of it is to meet personal needs and have no commodity character; ✚ Still a small proportion of farmers are registered as such and can not benefit from state subsidies; ✚ Farmers do not have the necessary financial resources to buy high-quality seedlings and to apply modern agro-technology; ✚ Low purchasing prices and insufficient production opportunities have negative influence on agricultural production; ✚ Crop production creates seasonal employment for part of the labor force that have no alternative in other economic activities; ✚ Irrigated lands have limited space and irrigation facilities are largely neglected; ✚ Due to the monopoly imposed low purchase prices, tobacco production can not be considered as promising but rather as a substitute for the missing alternatives. ✚ There is no real land market, which is characteristic of the country as a whole;	✚ Improving the structure of land use through planning and land consolidation projects, which together with the land market will allow for a more integrated agriculture; ✚ Accelerating the consolidation process. ✚ Establishment of market infrastructure for the sale of agricultural produce; ✚ Establishment of a system of scientific and information services for the agricultural producers; ✚ Creating competitive livestock farms in the international market; ✚ Stimulating the creation of small and medium enterprises for the processing of agricultural and livestock production. ✚ Utilization of abandoned lands and increase the average size of cultivated areas; ✚ Improving the integration links between producers, processors and traders of agricultural products, by building up modern bases for storing and marketing of agricultural products; ✚ Establishing local markets for the purchase and storage of agricultural produce (of animal and plant origin); ✚ Support of traditional and new productions, through preferential financing; ✚ Building a local agro-info center to help private farmers; ✚ Establishment of an information system for agricultural producers; ✚ Restoration and active use of irrigation systems and irrigation facilities and use of available resources to increase permanent crops, vegetables and livestock; ✚ Implementation of new and efficient technologies, varieties and breeds in agriculture, incl. for finding an alternative to tobacco production;

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➢ Lack of science-related industries that will slow down the entry of innovation and technology; ➢ Insufficient educational level of the rural population; ➢ Relatively high share of unemployed people with low education and low qualification; ➢ Shortage of up-to-date agricultural information - especially with regard to the modern development of agrarian science and practice; ➢ The lack of agro-business centers and technical centers to advise manufacturers on market conditions to conduct training to improve their agro-technical culture and market skills; ➢ Farmers are hardly familiar with European requirements of quality production; ➢ Not using the opportunities of European agricultural development programs; ➢ Insufficient educational level of the rural population;	➢ Encouraging the cultivation of new crops suitable for the agri-meteorological conditions of the South-West Region (strawberries, raspberries, black currants, herbs, etc.); ➢ Creation of permanent crops with quality seedlings, mainly in viticulture and fruit growing; ➢ Creation of crops with cultivated herbs traditionally occurring and harvested in the region; ➢ Implementation of projects to stimulate fruit production, beekeeping and cultivation of herbs. ➢ Support for the expansion of greenhouse production; ➢ Supporting the establishment of young farmers' holdings; ➢ Creating/expanding contacts with foreign business partners by organizing and participating in business forums, seminars, meetings; ➢ Encouraging entrepreneurship to create micro and small businesses for processing agricultural produce; ➢ Ensuring easier access to targeted training, information activities, mainly for farmers and forest owners; ➢ Developing the professional skills of farmers; ➢ Information and advisory services for farmers.
LIVESTOCK SECTOR	
Problems	**Possibilities**
➢ The frequent lack of coordination and interaction in plant and livestock breeding; ➢ Livestock farms are not market-oriented, few breeds are grown, often low-productive; ➢ Fragmentation of livestock farms.	➢ Stimulating the creation of small and medium enterprises for the processing of agricultural and livestock production. ➢ Creating competitive livestock farms in the international market; ➢ Restoration of traditional subsectors: silk culture, beekeeping and livestock. Giving new life to these sub-sectors implies an appropriate ecological environment and will ensure sustainable employment and income for the local population;

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	✚ Development of mountain and ecological livestock production and construction of dairies. ✚ Modernization of livestock farms; ✚ Introduction of new breeds and restoration of some of the old and traditional breeds adapted for cultivation to the relevant conditions;
FUNDING	
Problems	**Possibilities**
✚ The financing is carried out with own funds and with state resources, through State Fund "Agriculture" and Tobacco Fund, the way of allocation of funds from the state is a difficult process because of unexplained relations between producer and creditor. Thus, funds do not go as intended to support the development of agriculture; ✚ Lack of funds for new investments in plant growing, reconstruction and new perennial plantations, for the purchase of seedlings, mineral fertilizers and plant protection products and activities in crop production, for efficient and modern agricultural machinery;	✚ Using EU funds and the national budget to develop business incubators and supporting knowledge transfer to enterprises (providing knowledge related to product, process and service innovation) from research organizations.; ✚ Using funds from the National Innovation Fund for priority financing of innovative projects for healthy foods, bioproducts, safe and attractive packaging of food products; ✚ Promoting the participation of Bulgarian companies and research organizations in the Horizon 2020 initiatives; ✚ Stimulating investments in green infrastructure; ✚ Introduction of preferential VAT for food (this measure is particularly necessary for foodstuffs with a registered decline in consumption - bread and pasta and basic canning products). ✚ Full use of CAP support funds. Improve the disbursement of funds under the RDP Agro-environmental measure; ✚ To seek new opportunities for financing of organic farmers under some of the RDP measures; ✚ Tax and credit relief.

XIV. PROPOSALS FOR GOOD PRACTICE

1. Creation of a cluster sectoral community in support of the agrarian business in the Blagoevgrad region, united for the purpose of creating a social network for the support of the main business.

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2. Creating an internet-based information platform with a rich database to inform a wider range of stakeholders in agribusiness and to transfer knowledge and innovation to agrocultural production and sharing good practice.
3. Creating an Internet platform with up-to-date information and easy access to state and scientific institutions in terms of administration and regulatory changes, to alleviate the agrarian business and its stakeholders.
4. Establishment of direct relations with all institutions regarding business - Ministry of Agriculture, Food and Forestry and their regional structures, Ministry of Environment and Waters and regional structures, National Agricultural Advisory Service, State Fund Agriculture, Sofia University of St. Kliment Ohridski, Agricultural Academy, Institute for Plant Protection, Bulgarian Academy of Sciences, Institute of Soil Science, Agrotechnology and Plant Protection "N. Pushkarov "and others.
5. Disclosure of information centers to raise awareness and to create contacts for the exchange of knowledge and experience between the concerned local agricultural community.
6. Conducting seminars, round tables for training and improving the qualification of the local agricultural business.
7. Control over the application of regulatory requirements – The good agricultural and environmental conditions (GAEC), specially developed for the conditions of our country for soil protection from erosion and preservation of the structure and organic substances in it. GAEC are mandatory for all farmers, owners or users of agricultural land to receive support under the various Common Agricultural Policy (CAP) schemes under the Rural Development Program.
8. Implementation of regular own "Soil and Ground Water Monitoring" - important for maintaining the purity of production and human and animal health.

XV. SOURCES OF INFORMATION

1. Ministry of Agriculture, Food and Forestry - "Agrostatistics".
2. Department of Agriculture Blagoevgrad regional office – annual reports.
3. Municipal plans for development of the municipalities in Blagoevgrad district.
4. NSI - Eurostat, Infostat.
5. MAFF - National Strategy for Agriculture in Bulgaria 2014 – 2020.
6. Center for Economic Research in Agriculture.
7. Union of the Processors of Fruit and Vegetables.
8. Federation of Independent Trade Union Organizations in the Food Industry.
9. Institute of Agricultural Economics - Sofia.
10. OP "Human Resources Development", Sofia, 2012.

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