

HAIK TAKVOR GARABEDIAN

**THE INFLUENCE OF THE COMMON AGRICULTURAL
POLICY FOR MANAGEMENT AND DEVELOPMENT OF
THE BEEKEEPING SECTOR IN BULGARIA**

ABSTRACT

of a dissertation for awarding an educational and scientific degree
"Doctor" in a scientific specialty
"Organization and management of production"

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Reviewers:

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The dissertation was discussed and focused on the defense of a meeting of the Department of Management and Marketing at the Faculty of Economics, Agricultural University of Plovdiv.

The dissertation is a doctoral student in the same department.

The defense of the dissertation will take place on 2022 from in the hall CDO of the Agricultural University - Plovdiv.

I. General characteristics of the dissertation

1. Relevance and motives for choosing the topic

Bulgaria has a long tradition in the production of honey and bee products, a prerequisite for which are the diverse and rich honey vegetation of the Balkan Peninsula, creating excellent conditions for beekeeping. The favorable natural, climatic and ecological conditions, which contribute to the gradual increase of the yield of these products over the years, also have a favorable influence.

Favorable natural and climatic conditions are one of the important factors for achieving competitiveness of the sector. Thanks to the influence of the CAP in recent years, Bulgaria has become a leader in the production and export of copper as a member of the EU. This proves that the favorable natural and climatic conditions are only a prerequisite for successful development of the sector. In order to achieve lasting competitive advantages, it is necessary to implement an adequate policy to promote the development of the sector. The industry is defined as one of the few in which there is a large number of young entrepreneurs and start-ups. A significant part of the financial support of the measure "Young Farmer" from the Rural Development Program (RDP) supported the development of beekeeping in Bulgaria. That is why intervention in the sector is considered mandatory in the future.

2. Conceptual thesis of the dissertation

In the present dissertation research the thesis is defended. The management and development of the beekeeping sector is influenced by the Common Agricultural Policy (CAP) and in order to achieve sectoral competitiveness it is necessary for this policy to create a competitive environment.

3. Purpose and tasks of research

The aim of the dissertation research is to analyze the role of the CAP in the management and development of the beekeeping sector. Achieving the goal is sought by solving the following research tasks:

- Clarification of the nature of beekeeping as an object of influence by the CAP;
- Clarification of the financial instruments of the CAP for support of beekeeping as a business model for realization of the made investments;
- Establishing the state and development trends of the beekeeping sector, in the context of the CAP;
- Evaluation and analysis of the sector before and after the CAP programs for the period 2007-2020;
- Defining recommendations for improving the CAP for the new programming period.

4. Subject and object of the dissertation research

The subject of research is the influence of the CAP on the development of beekeeping in the Republic of Bulgaria.

The object of the study is the beekeeping sector both at the macro and at the farm level. Such a holding is considered to be an agricultural holding in which at least 50% of the cash income from its activity is generated as a result of the production of honey and bee products.

5. Research approaches and methods

The following approaches are used to assess the impact of the CAP on the sector studied:

System approach. In the study, the economy of the sector is perceived as a production and economic system.

Expert approach. In the analysis and assessment of the processes taking place in the sector, the approach of the expert assessment is applied in the stages at which official information about the condition of the site cannot be obtained.

The following methods are used to prove the conceptual thesis in the research process: systematic analysis; index method; statistical methods - descriptive statistics, t-test, one-way analysis of variance, chi-square analysis and the method of multiple comparisons.

The specialized software product SPSS and statistical package of MS Excel were used in the processing of the empirical information.

Study period- 13 years. This study analyzes the sector in the period 2007-2020, the period in which the previous CAP (2007-2013) and the current CAP (2014-2020) operate. The indicators characterizing the condition of the studied objects are calculated for the indicated period. The present study is limited in time, place, methodology and scope. Specific approaches and methods are used due to the opportunities they provide for analysis and solving the research tasks of the dissertation. An attempt has been made to answer the most important questions, without believing that they are completely exhausted and developed.

6. Main literary and information sources

The dissertation is developed using: scientific publications and works of Bulgarian and foreign authors; MAFWE data, Agrostistics Directorate, Rural Development Directorate, Compensatory Measures Directorate, data contained in the MAFWA Agrarian Report, Eurostat data and the system of agricultural accounting information as well as a number of normative documents of the European Commission and the Republic of Bulgaria. Most of the information was collected through surveys among farmers operating small farms.

Empirical information about the research is also provided by sample surveys and in-depth interviews conducted at the enterprise level on questionnaires prepared by the author.

The specialized software product SPSS and statistical package of MS Excel were used in the processing of the empirical information.

7. Volume and structure of the dissertation

The dissertation is presented in an introduction, six chapters and a conclusion, located on 131 pages, used literature and appendices. The study is illustrated with 38 figures and 2 tables.

8. Content of the dissertation

Introduction

Chapter I. Methodological approach for analysis and assessment of the impact of the CAP on the development of the sector

1. Features of beekeeping in Bulgaria
2. Specific tools for beekeeping intervention
3. Approaches and methods for analysis and evaluation of the CAP
4. Approach to CAP analysis and evaluation
5. Methodological approach for analysis and assessment of the impact of the CAP

Chapter II Analysis of the impact of the CAP on the development of the sector

1. Analysis of production and trade in honey
2. Analysis of market positions
3. Assessment of the effects of the application of the CAP on the development of the sector
4. Needs of farms in terms of the CAP
5. Conclusions

Chapter III. Profiling of barriers to beekeeping with a view to improving the application of the CAP

1. Profile of beekeeping farms
2. Effects of the application of the CAP on the beekeeping sector
3. Identification of strengths and weaknesses as well as opportunities and threats of beekeeping farms
4. Identification of critical factors and assessment of the interaction between them in the SWOT-matrix
5. Strategic orientation of beekeeping farms
6. Conclusion
7. References

II. Main content of the dissertation

Introduction

In Bulgaria, beekeeping is a traditional activity in all areas of the country. According to historical data, beekeeping developed in our lands even before the founding of the Bulgarian state in 681. The Slavic tribes initially collected honey from wild bees. Later, they learned to grow them in hives, as well as to prepare enchanting mead (a low-alcohol beverage with recognized medicinal properties). When the Bulgarians, led by Khan Asparuh, settled on the Balkan Peninsula, they brought their skills in the field of beekeeping, which they practiced in their previous territories. According to the chronicler John the Exarch, beekeeping was well developed in Bulgaria as early as the ninth century. Foreign historians (including Abu Hamid) mention that Bulgaria maintained a lively trade with

Genoa, Venice, Dubrovnik, Byzantium. Among the goods exported by the Bulgarians, there were large quantities of honey and wax. Our country was considered one of the largest producers of these products.

Chapter I. Methodological approach for analysis and assessment of the impact of the CAP on the development of the sector

Features of beekeeping in Bulgaria

Beekeepers from Bulgaria and the EU face many challenges in order to preserve their beehives and maintain honey production. Rising costs, strong competition in the form of cheap honey imported from third countries, losses of bee colonies, diseases, aggressors in beehives, combined with the deteriorating environment for fodder crops, are factors that are putting pressure on the sector.

The Common Agricultural Policy (CAP) provides various tools to support the beekeeping sector and to reduce the negative impact that some agricultural activities may have on domesticated pollinators.

The EU has been providing direct support to the beekeeping sector since 1997. A series of market regulations allow Member States to draw up national programs for their beekeeping sector. These programs aim to improve the general conditions for the production and marketing of bee products, which include not only honey, but also royal jelly, bee pollen, propolis (bee glue) or beeswax. The programs receive 50% co-financing from the European Union and last for three years.

The problems in the beekeeping sector are not small, the various beekeeping associations insist on receiving funding under the de minimis program of BGN 40 for a bee family with a promised BGN 5 from the Ministry of Agriculture, Food and Forestry. Beekeepers want a national laboratory to test for bee diseases, as well as an active policy of the government in negotiations with the EU in the new programming period to pay compensatory support to the sector for "eco-service pollination". According to beekeepers, there is no control by the Bulgarian Food Safety Agency regarding the qualities of honey imported from third countries.

In the last 10-15 years, bees around the world have begun to disappear. The term empty hive syndrome also appeared. Whole bee colonies leave their hives, and the causes are related to viruses, parasites and worms. The biggest problem nowadays is the use of various poisons - insecticides and pesticides in agriculture, especially in the cultivation of wheat, corn and sunflower. Scientists believe that a class of insecticide called neonicotinoid is largely to blame. This neurotoxin is used to kill plant pests. It also affects the central nervous system of bees when they consume nectar infected with it. Once this nectar is taken to the hives, all the bees in them can also be affected. This in turn leads to mass confusion and disorientation. This reduces the health status of the whole family, and the damage begins with the eggs and larvae. The link between the use of neonicotinoids and the death of bees has been proven to be 100%. Another major

problem is the various diseases of bees. In 2016, an opinion prepared by the Center for Risk Assessment reflected that nosematosis, along with varroasis, are the most serious health problems for beekeeping in Bulgaria.

According to the great scientist Albert Einstein, if bees disappear from the Earth, humanity will survive no longer than four years. The reason is simple - about a third of the plants that are a source of food for humans and animals are pollinated by insects, and 80% of these insects are bees.

Specific tools for beekeeping intervention

Interventions in the sector take place in the following logical sequence in the planning, implementation and evaluation of the intervention policy:

1. For each specific objective, Member States shall select in their CAP strategic plans one or more of the following types of intervention in the apiculture sector:

- (a) technical assistance for beekeepers and beekeeping organizations;
- (b) action to combat aggressors and diseases in the hive, in particular varroasis;
- (c) actions for rationalization of the mobile beekeeping;
- (d) actions to support laboratories for the analysis of bee products;
- (e) renewal of hives in the Union;
- (f) cooperation with specialized bodies for the implementation of research programs in the field of beekeeping and bee products;
- (g) market monitoring actions;
- (h) actions to improve product quality.

2. Member States shall justify in their strategic CAP plans their choice of specific objectives and types of intervention. They define the interventions within the selected types of interventions.

3. Member States shall indicate in their CAP strategic plans the funding they provide for the types of intervention selected in their CAP strategic plans.

4. Union financial assistance for interventions shall not exceed 50% of the costs. The rest of the costs are borne by the Member States.

5. When drawing up their CAP strategic plans, Member States shall consult representatives of beekeeping organizations.

6. Member States shall notify the Commission annually of the number of hives in their territory.¹

The National Beekeeping Program for the period 2017-2019 was approved by the European Commission with Implementing Decision (EU) 2016/1102, as the total

¹ *Proposal for a Regulation of the European Parliament and of the Council establishing rules for the support of strategic plans to be drawn up by the Member States under the common agricultural policy (CAP strategic plans) and financed by the European Agricultural Guarantee Fund (EAGF)) and the European Agricultural Fund for Rural Development (EAFRD), and repealing Regulation (EU) № 1305/2013 of the European Parliament and of the Council and Regulation (EU) № 1307/2013 of the European Parliament and of the Council. Art. 48.art.49.*

budget of the beekeeping program amounts to approximately BGN 14.28 million, of which 50 percent are provided by the EU and 50% - from the national budget. A budget of BGN 4,758,590 has been provided for 2017, the financial resource for 2018 is BGN 4,758,594, and for 2019 - BGN 4,758,590.

Measures B, D and E of the National Beekeeping Program 2017-2019 include activities to combat varroasis, to perform laboratory analysis of honey and purchase hives, bee families and queens.

Under measure A, the applicants are assisted in the purchase of small beekeeping equipment, while measure B is aimed at mobile beekeeping.

Measure E finances research at universities, universities, research institutes and research organizations in the field of beekeeping.

The main goal of the Program is to improve the conditions for production and trade in honey and bee products, increase the efficiency of production, quality and competitiveness of Bulgarian honey and bee products, protection of the bee population, its sustainable development, ensuring better employment. and higher incomes for beekeepers.

The National Beekeeping Program for the period 2020-2022 complies with the requirements of Regulation (EU) № 1308/2013 of the European Parliament and of the Council of 17.12.2013 establishing a common organization of the markets in agricultural products. The NPP for the new three-year period 2020-2022 was approved by the EC on June 12, 2019, and the following budget was determined: 2020 - BGN 6,399,307, 2021 - BGN 6,400,203, 2022 - BGN 6,399 02 leva.

Measures under the National Beekeeping Program

MEASURE A "Technical assistance for beekeepers and beekeepers' associations" for the activities: (a) support for the purchase of technical equipment for the primary production and processing of bee products "; b) exchange of knowledge and good technological practices for beekeeping; c) popularization of the Bulgarian bee products by organizing bazaars in which local beekeepers participate.

MEASURE B "Fight against aggressors and diseases in the hive, especially against varroasis" for the activities: a) purchase of veterinary medicinal products (VMP) against varroasis; (b) testing for resistance of Varroa destructor to VMPs authorized for use in the control of varroasis; c) examination of bee colonies for the presence of nosematosis and its spread on the territory of the country.

MEASURE C "Rationalization of mobile beekeeping" for the activities: a) support for the purchase of new attached equipment for mobile beekeeping (trailers, platforms); (b) reimbursement of the costs of mobile beekeeping for the movement of bee colonies.

MEASURE D "Measures to support laboratories for the analysis of bee products" for the activities: a) physicochemical analysis of honey; (b) examination

of samples of food stocks of bee colonies (honey, pollen) for residues of pesticides above the limit values.

MEASURE E "Measures to support the renewal of beehives in the European Union" for the following activities: (a) purchase of various systems of new hives to replace old unusable hives and / or to increase the apiary; b) maintaining or increasing the number of bee colonies; c) purchase of queen bees.

MEASURE E "Cooperation with specialized bodies for the practical implementation of applied research programs in the field of beekeeping and bee products" for the activities: a) inventory of honey plants in the country; b) cryopreservation of drone semen (mixing of semen); (c) monitoring of pesticide residues in bees from areas with intensive agriculture.

Methodological approach for analysis and assessment of the impact of the CAP

Methodology for analysis and assessment of the market positions of the sector. The market analysis of the industry covers the following stages: (1) analysis of honey production; (2) analysis of trade in honey and (3) analysis of market positions.

The main indicators used to perform market analysis are: production, imports, exports, trade balance, prices and consumption of honey. When calculating the indicators, the method of graphical analysis is applied to diagnose the state of the sector in perspective.

The analysis of the market positions of the industry on the world market is carried out using the indicators - (1) comparative index of export advantages (RXA), also known as the Balasa index (Freebairn 1986); (2) comparative index of import advantages (RIA) and (3) index of relative trade advantages (RTA), developed by (Borisov, Radev, Dimitrova, 2014). The indicators are calculated as follows:

$$(1) RXA = (X_{di} / X_d) / (X_{wi} / X_w)$$

X_{di} - the value of honey exports from the country;

X_d - the value of the total exports of the agricultural sector of the country;

X_{wi} - the value of honey exports of the leading honey producers;

X_w - the value of total exports of the agricultural sector of the leading honey producers.

$$(2) RIA = (X_{di} / X_d) / (X_{wi} / X_w)$$

X_{di} - the value of imports of honey from the country;

X_d - the value of the total imports of the agricultural sector of the country;

X_{wi} - the value of imports of honey from the leading honey producers;

X_w - the value of the total imports of the agricultural sector of the leading countries producing honey.

$$(3) RTA = RXA - RIA$$

By covering a longer period of time (an 18-year period was studied), we aim to trace the market orientation of beekeeping before and after its contact with CAP financial assistance.

Methodology for assessing the impact of the CAP on the development of the sector. A systematic approach is used to assess the contribution of subsidies to the competitiveness of farms. The indicators used are grouped into two categories - (1) indicators assessing the input of the system, namely the level of subsidization of production on the farm and (2) indicators assessing the output of the system - this is the competitiveness of the farm. The first group of indicators includes the following: amount of SAPS payments received, agri-environmental payments, NATURA 2000 payments, payments for less-favored areas and investment subsidies. The second group of indicators includes: (1) gross margin (Nikolov, et al., 2012); (2) net operating income (Basev, 2009) and (3) profitability of subsidies paid (ratio between subsidies received and gross output received) (Meadows, 1999).

Regression analysis seeks answers to the following questions concerning bee farms. By definition, a bee farm is a farm in which over 50% of the production is bee products - honey, bee pollen, honeycombs, propolis:

What is the strength of the impact of subsidies on the competitiveness of bee farms?

What is the relationship between the subsidies received and the achieved competitiveness of bee farms?

Does the increase in subsidies increase the competitiveness of bee farms?

What is the sensitivity of the competitiveness of bee farms to changes in subsidy levels?

In the regression model, the amount of subsidies received is defined as a factorial indicator. The following three indicators are used for performance indicators in the model - gross margin, net income and profitability of paid subsidies (see Fig. 1).

Data from the Agricultural Accounting Information System (FADN) are used to construct the regression model and its analysis. According to the bulletin of the FADN (bulletin 269 / 02.2016) the data that are published are average results. A special weighing system is used to calculate the results. It is based on the principle of "free extension": the weight calculated for bee farms applies to all bee farms on the stratum (extrapolation coefficient). The individual weight is equal to the ratio between the number of beekeeping farms of the same stratum (SZSI region x type of specialization x economic size) in the field of observation and in the sample. The representative sample of FADN for 2013 includes 1950 beekeeping farms with market orientation, selected on the basis of their specialization and economic size.

Type of relationship studied	Factorial indicator	Performance indicator
Influence of the amount of subsidies received on the gross margin	Subsidies received (BGN)	Gross margin (BGN)
Influence of the amount of subsidies received on net income	Subsidies received (BGN)	Net operating income (BGN)
Influence of the amount of subsidies received on the profitability of subsidies	Subsidies received (BGN)	Profitability of subsidies

Figure 1. Regression model for estimating the impact of the CAP on the profitability of beekeeping farms. Source: Own.

Methodology for organizing the survey and SWOT analysis.

Questionnaire survey. In order to gather the necessary information, the following research activities are used to calculate the above indicators (see Figure 2):

- preparation of a questionnaire to study the condition and needs of small bee farms;
- conducting a survey and focus groups of the beekeeping sector in Bulgaria in the period March 4, 2020 - April 31, 2020;
- conducting a survey and organizing focus groups of bee farms in Plovdiv (04.03.2020-17.03.2020), Stara Zagora (01.05.2020-14.05.2020) and Asenovgrad (14.05.2020-30.05.2020), Smolyan (01.06.2020-07.06.2020);
- processing of primary data from questionnaires and focus groups, as well as building a database (04.03.-10.06.2020);
- analysis of the strengths and weaknesses, opportunities and threats for the development of bee farms in Bulgaria (11.06 - 15.06.2020);
- identification of the main needs for increasing the competitiveness of beekeeping farms in the future (15.07-18.07.2020);
- identification of the specific needs related to the restructuring of agricultural sectors, characterized by a large number of bee farms (15.08-20.08.2020).

The database of the Rural Development Directorate and the Compensatory Measures Directorate at the Ministry of Agriculture and Food - Sofia was used as a source for the formation of the sample. The obtained general population consists of 10,542 organizations that meet the criteria defining them as the Ministry of Foreign Affairs on the territory of the country. In the formation of the sample, the

method of simple random sampling was used, as its constituent units were selected by irreversible selection. The sample size is from 31 surveyed bee farms.

Area	Number	Survey period
Plovdiv	15	04.03.2020-17.03.2020
Stara Zagora	5	01.05.2020-14.05.2020
Asenovgrad	5	14.05.2020-30.05.2020
Pazardzhik	16	01.06.2020-07.06.2020
Total:	31	
Focus group 1 (Plovdiv)	45	10/08/2020
Focus group 2 (Asenovgrad)	24	12/05/2020
Total:	69	

Figure 2. Planned number of surveyed farms by regions and size of the focus group. Source: Own.

SWOT - analysis. The identification of the strengths and weaknesses as well as the opportunities and threats for the development of beekeeping is carried out using the SWOT-analysis method. This method is among the most popular in the scientific literature, which is used in defining strategic goals and choosing a strategy for the development of the organization (Dimitrova, 2013), (Koprivlenski, 2011), (Yavuz, Baycan, 2013), (Rachid, Fadel, 2013), (Mehmood, Hassannezhad, Abbas, 2013). The technique of SWOT-analysis requires knowledge of all specific factors that have a direct and indirect impact on the business organization in order to analyze them in detail so that the organization can easily adapt to their requirements. The present study defends the hypothesis that farmers are those who fully know the internal factors (agriculture) of the business environment, which determine the future development of their business. Therefore, farmers are used as the main source of information to identify the strengths and weaknesses of small farms. Opportunities and threats arising from the external environment are defined in advance by an expert council (composed of experts who know the environment) and are the subject of discussions by farmers in specially designed focus groups. Figure 5 shows the methodological approach for performing SWOT - analysis of agricultural holdings. Therefore, farmers are used as the main source of information to identify the strengths and weaknesses of small farms. Opportunities and threats arising from the external environment are defined in advance by an expert council (composed of experts who know the environment) and are the subject of discussions by farmers in specially designed focus groups. Figure 5 shows the methodological approach for performing SWOT - analysis of agricultural holdings. Therefore, farmers are used as the main source of information to identify the strengths and weaknesses of small farms. Opportunities and threats arising from the external environment are defined in advance by an

expert council (composed of experts who know the environment) and are the subject of discussions by farmers in specially designed focus groups. Figure 5 shows the methodological approach for performing SWOT - analysis of agricultural holdings.

The first stage (see Figure 5, stage A.) of the application of the methodological approach is the identification of strengths / weaknesses as well as opportunities and threats to the activity of small farms. Through focus groups of farmers, the strengths and weaknesses as well as the opportunities and threats to farms are discussed and determined. The choice of geographical areas and farmers owning small farms is random. The register of agricultural producers was used as a source for forming the sample. Group discussions (focus groups) are used as a method in the research, which allows in-depth study of the research topic, while using the advantages of the group effect. During the discussions, through spontaneous and thorough discussion of a predetermined range of issues in small groups of people, it is clearly formulated what are the strengths and weaknesses of small farms and what opportunities and threats the external environment provides for their future development. The discussions are organized and directed by a moderator, who asks the questions for discussion, observes the equal participation of the persons, directs in new interesting directions, spontaneously expressed by the participants.

During the second stage (see Figure 1, stage B.) the aim is to construct a SWOT-matrix, which is a result of the discussions in the four focus groups on the territory of the country. The most frequently mentioned strengths / weaknesses as well as opportunities and threats in the derived focus groups find a place in the matrix. This matrix is subsequently used as a technique to identify two very important elements in the strategic orientation of farms, namely: 1) what are the most important strengths, weaknesses, opportunities and threats and 2) what is the interaction of strengths and weaknesses with the indicated opportunities and threats.

In the third stage, the most significant factors for the success of small farms are sought (see Figure 3, stage C.). The method of expert assessment ranks the most significant strengths, weaknesses, opportunities and threats in a SWOT-matrix. The role of experts in evaluating these four building blocks of the SWOT matrix is played by the farmers themselves.

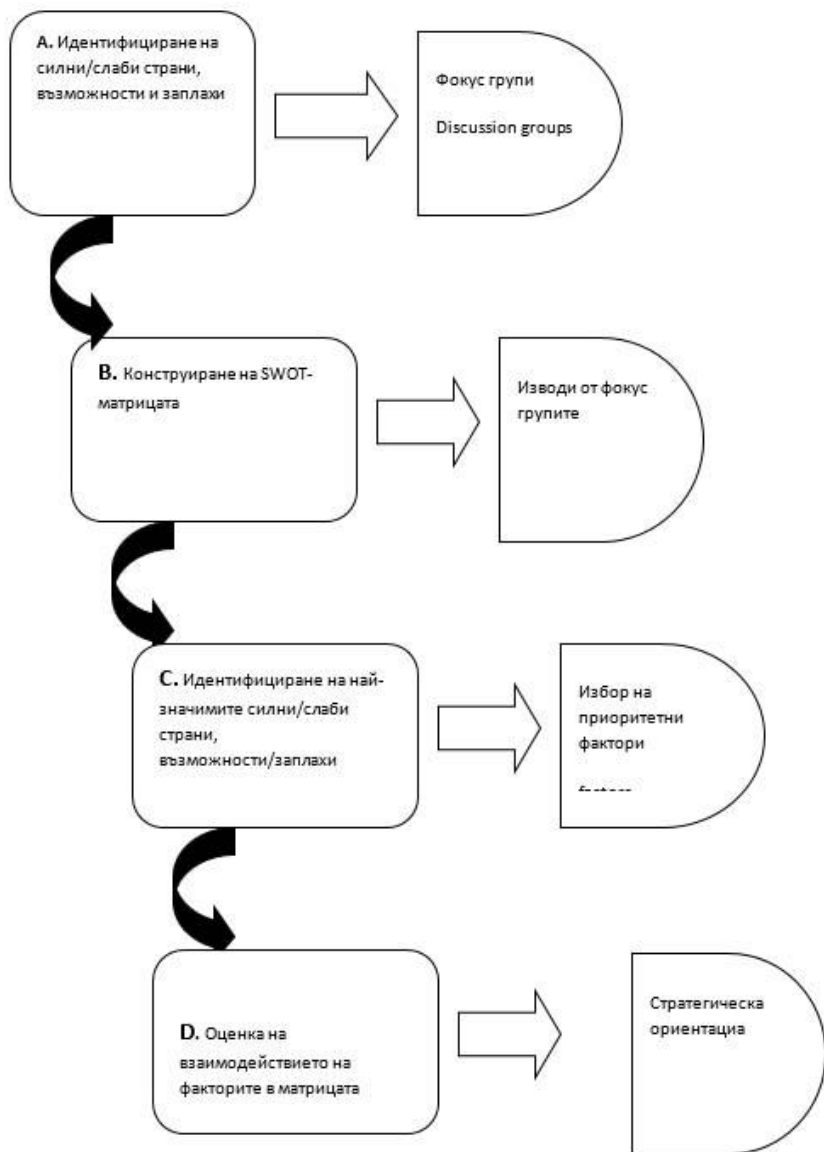


Figure 3. Methodical approach of SWOT-analysis of bee farms. Source: Borisov, 2020.

The expert assessment organized in this way aims to determine the most significant factors for the success of small farms from the point of view of their owners. The organization of the expert evaluation itself includes the following: instructing the experts (farmers) on how to express their expert opinion; selection and application of an assessment scale; developing a map of the expert opinion and performing the expert assessment by the respondents. Each expert

independently fills in a specially created map of the expert opinion. The SWOT matrix constructed in the previous stage of the study is used as such. In this matrix, the respondent assesses the interaction of strengths and weaknesses with the identified opportunities and threats. The expert handles a 4-point rating scale, which contains the following ratings: 0 - no interaction,

Four types of interactions between the factors in the matrix are studied as follows: (1) interaction between the strengths and the identified opportunities. This connection of research seeks to answer the question: to what extent these strengths can be used to realize the identified opportunities for farm development; (2) the interaction between the strengths and the threats, so the assessment made seeks an answer to the question: to what extent these strengths can be used to protect against the threats that the external environment contains; (3) interaction between the weaknesses and the identified opportunities, thus the answer to the question is sought: to what extent the weaknesses can hinder the realization of the identified opportunities and (4) the interaction between the weaknesses and the indicated threats. This link indicates the extent to which weaknesses will prevent farms from adapting to external threats.

During the fourth stage of the application of the SWOT-analysis, the interaction of the factors in the SWOT-matrix is determined (see Figure 5, stage D.). At this stage, the results of the expert evaluation are summarized. The individually completed SWOT-matrices of each respondent are aggregated into one generalized SWOT-matrix, which is a map of the summarized results of the expert assessment. The row "Sum" summarizes the individual estimates in the cells by columns of the matrix. This order identifies the most significant opportunities and threats to the future development of small farms. The higher the amount for the respective opportunity or threat, the more significant it is, according to experts. In the column "Amount" are the individual estimates in the cells by rows in the matrix. This column identifies the most significant strengths and weaknesses, which can be used to establish the competitive advantages of agricultural holdings. The higher the amount for the respective strengths or weaknesses, the more significant it is, according to experts. The generalized matrix can be used as a tool for identifying the strategic orientation of agricultural holdings in their future development. In other words, the compilation of this matrix achieves two useful effects - (1) determines the direction of future development of farms and (2) identifies a set of alternative strategies for the development of these production structures. The strategic orientation of small farms is determined by the SOR-analysis method (abbreviation of three key success factors, which are: strengths, opportunities and roadblocks).

Chapter II Analysis of the impact of the CAP on the development of the sector

Analysis of production and trade in honey

The present study traces the development of the market orientation of the industry by analyzing the main product that is formed by this industry - honey. This product is a structural determinant in production and export. In 2018, Bulgaria is defined as a leading EU member state in the production and export of honey.

There are two clear stages in the dynamics of honey production during the study period (see Figure 4). In the first stage, covering the period 2000-2007, sharp fluctuations in production are observed. In 2000, honey production amounted to 5,337 tons per year. In the period 2001 - 2006 there was a sharp increase in the quantities of copper produced, and the peak at this stage was realized in 2005 (production reached 11,221 tons). There is a sharp decline in production just before the country becomes a full member of the EU - in 2007 the quantities of copper produced were only 6,139 tons. The sharp changes in the production volumes during this stage of the development of beekeeping are determined by a number of factors such as - outflow of labor from the industry, start of a process of market restructuring of the products,

The year when the country joined the EU marks the beginning of the second stage of development of the industry. In 2008 the production of honey increased sharply and reached the level of 11 378 tons per year. In the period 2008 - 2018 there is a clear trend of stabilization of the beekeeping sector, referring to the dynamics of production. The fluctuations of the indicator are within 9 529 tons - 11 807 tons per year for the period 2008 - 2018. In these last 10 years the stabilization of production is due to the completed process of market restructuring of the industry. Through the financial framework of the CAP, farmers are given the opportunity to calmly plan their production needs and smoothly follow their business development strategy.

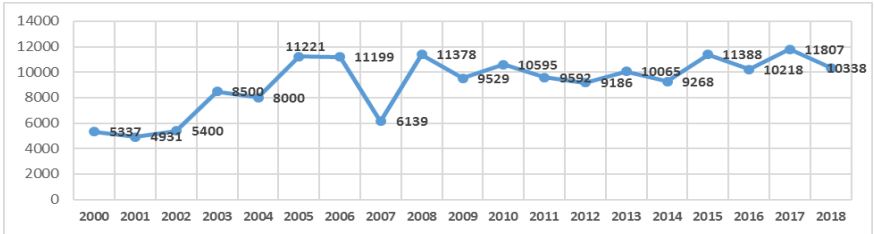


Figure 4. Dynamics of honey production. Source: Own database of FAOSTAT, 2000 - 20018.

Figure 5 shows the dynamics of imports, exports and trade balance in trade in honey for the period 2000 - 2018. Within the study period significantly increased imports of honey in the country, expressed in value - thousands of US dollars. In 2000, Bulgaria imported only USD 63,000. e. honey per year, and in 2018 the import reaches 3 4441 thousand USD. e. Along with the increase and stabilization of production, an expansion of the value of imports can be seen.

Given the large-scale expansion of honey exports from the country, it can be concluded that Bulgaria is improving its market position in the world market, relying on re-exports and stabilization of domestic production of honey. The country manages to add value to the production and export of honey and to derive net benefits from trade in this product. Applying the single index method, the trend of a sharp increase in copper imports in the country is clearly outlined (see Figure 6). The data in Figure 6 show that in recent years exports have increased by thresholds every 3 years, followed by a decline. Despite the realized peaks and troughs, cumulative imports increased significantly (almost 7 times) during the study period. Reasons for the sharp fluctuations in imports can be found in the market orientation of the country in the trade of honey on the world market. The honey market is determined by intense competition, without significant barriers to entry or exit. The data show that the country relies on re-exports, which defines imports as a derivative factor of re-exports. Copper exports during the study period as well as the trade balance increased significantly.

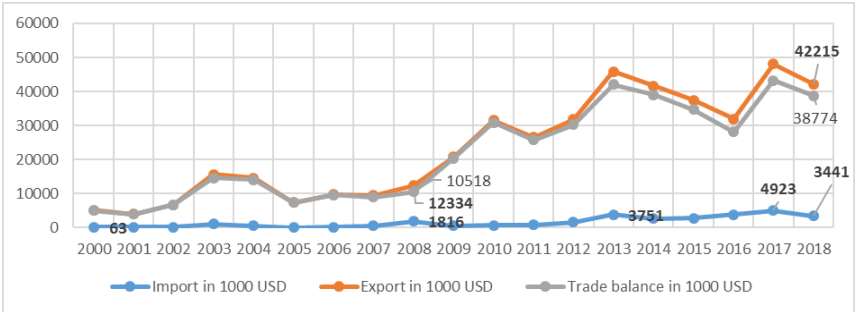


Figure 5. Dynamics of import, export and trade balance - thousand USD e.
Source: Own calculations based on FAOSTAT database, 2000 - 2018.

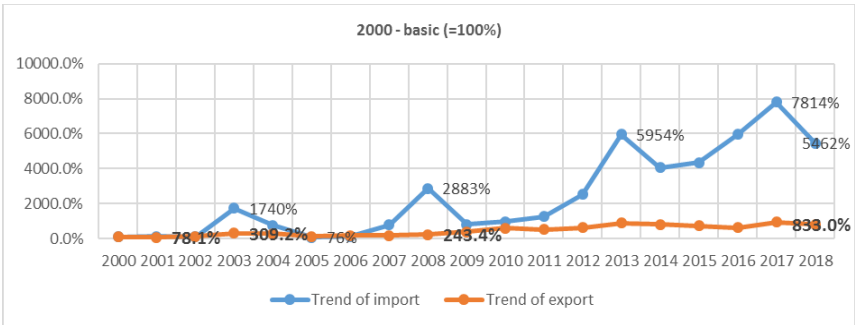


Figure 6. Dynamics of import, export and trade balance - relative change of the database realized in 2000. Source: Own calculations on the basis of FAOSTAT database, 2000 - 2018.

The dynamics of exports show that, unlike imports, there are no sharp fluctuations in value in exports, and it increases smoothly and significantly upwards (see Figure 7). The graphical analysis of the data shows that Bulgaria stands out as a country - an expanding producer of honey, which has significantly increased its activity on the world market of honey over the years. Bulgaria is defined as one of the leading EU member states in the production and trade of honey, thanks to its resources and production conditions as well as the experience of farmers in developing their business.

Over the years, there has been a restructuring of the market orientation of the sales of Bulgarian honey on the world market.



Figure 7. Market orientation of honey exports. Comparative analysis of data in 2006 and 2018. Source: own calculations based on FAOSTAT database.

Prior to the country's accession to the EU, typical markets for Bulgarian honey were the countries - Germany (with annual imports of copper in the amount

of USD 5003 thousand), Poland (with annual imports of honey in the amount of USD 811 thousand).), Great Britain (with annual imports of Bulgarian honey in the amount of USD 649 thousand), Austria (with annual imports of copper in the amount of USD 438 thousand), the Netherlands (with annual imports of copper in the amount of USD of USD 427 thousand) and Italy (with annual imports of copper amounting to USD 425 thousand). After Bulgaria's accession to the EU, the main importers of Bulgarian honey are the following countries - Germany (with annual imports of Bulgarian honey amounting to USD 18,013 thousand), Greece (with annual imports of Bulgarian honey amounting to USD 7,181). (USD), Poland (with annual imports of Bulgarian honey in the amount of USD 5,656 thousand) and France (with annual imports of Bulgarian honey in the amount of USD 2,460 thousand). From the data presented in Figure 8 it is clear that Bulgarian honey is beginning to rank well on the EU market.

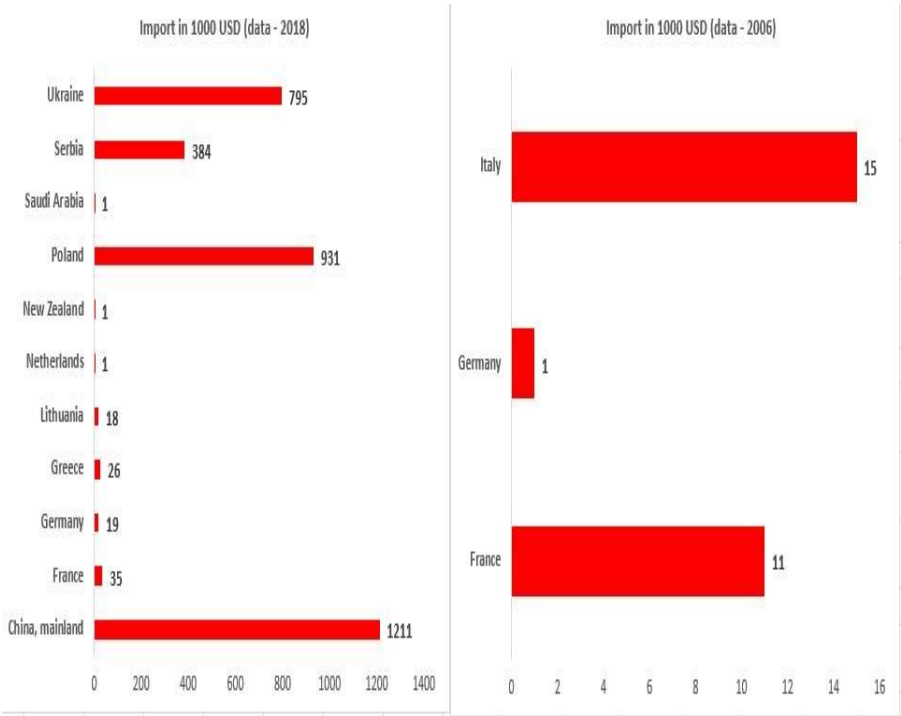


Figure 8. Market orientation of honey imports. Comparative analysis of data in 2006 and 2018. Source: own calculations based on FAOSTAT database.

Exports are being restructured from third countries to EU member states. The volume of exports is many times higher in the new market (EU market) compared to those sold in the old market. Of course, the leading factors for this are the expansion of domestic production, the increase in re-exports based on the

expansion of copper imports from other countries, the expansion of investment in the industry, the trigger of which is the financial assistance of the CAP.

The restructuring of imports is also an important feature of the market orientation of the industry. Figure 8 shows information on the change in honey imports.

Traditional competitors on the domestic market of honey before the country became part of the EU are the following countries - China (imports from this country amounted to 1 211 thousand USD), Poland (imports from this country is 931 thousand USD). .), Ukraine (imports from this country are 795 thousand USD) and Serbia (imports from this country amount to 384 thousand USD). All these countries are outside the EU and it is normal due to customs tariffs and other formal restrictions of the union to import honey to Bulgaria (which as of 2006 is not yet part of the EU). After Bulgaria's accession to the EU, imports from these countries were suspended. The main factors behind this market trend are the formal restrictions that the EU imposes on trade with third countries. The main importers of bee honey on the Bulgarian market are beginning to be EU member states, such as Italy with imports of USD 15,000. e., France - 11 thousand USD e. It is noted that imports from these countries remain insignificant in size over the years.

Analysis of market positions. Using the indicators for analysis of the comparative advantages, interesting information is obtained about the market positions that our country occupies on the world market of honey during the studied period of time. The graphical analysis of the data presented in Figure 9 shows that two phases can be distinguished in the development of the comparative advantages in the export of products produced by the studied industry. The first phase covers the period from 2000 to 2011. In this period the dynamics of the comparative advantages in the export of Bulgarian honey shows stability - the values of the studied indicator vary in the range from 0.02 to 0.012. The second separate phase covers the period from 2011 to 2018. During this phase there is a sharp increase in the comparative advantages in the export of honey. The value of the comparative advantages in export from 0.012 increases to 0.018, and this increase shows stability over the years. This shows that Bulgaria has stabilized its market position on the European market and more precisely on the following markets - Germany (which is the main consumer of Bulgarian honey), Greece and Poland (see Figure 8).

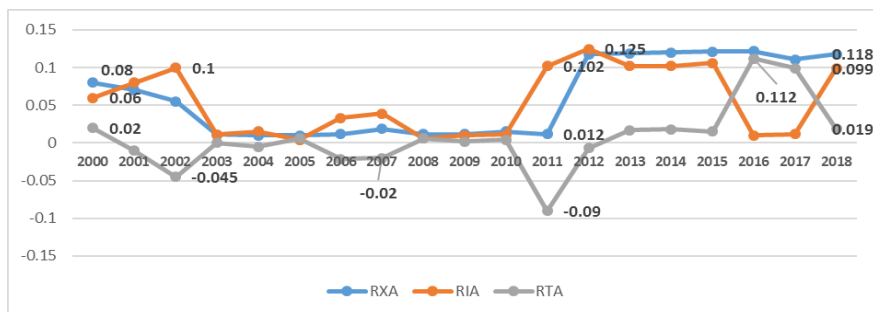


Figure 9. Comparative advantages in export, import and trade in honey of Bulgaria for the period 2000 - 2018. Source: own calculations based on FAOSTAT database.

The graphical analysis of the comparative advantages of honey imports also shows two phases of import development. The first phase covers the period 2000 - 2010. In this phase there are sharp fluctuations in the values of the studied indicator. The value of the comparative advantages at import from 0.06 decreased to 0.012 (in 2008). The sharp fluctuations are due to the restructuring of exports to typical for Bulgaria countries exporting honey, such as China, Ukraine and Serbia. These countries are converting their exports to other countries, fearing that Bulgaria will soon become a full member of the EU (as is the case in 2008). After 2008, the second phase in the dynamics of the comparative advantages in the import of honey begins. The country began to sharply increase its import advantages as the value of the indicator was maximized in 2012 reaching a value of 0.125. Then there is a gradual decrease in the comparative advantages in imports until 2015. In the period 2015-2016, Bulgaria sharply lost (reduced) its comparative advantages in imports of honey. The indicator - comparative advantages of trade advantages, shows to what extent the state retains or loses, comparative advantages in trade with a given product on the world market. Figure 10 shows the values of the studied indicator. The dynamics of the indicator is a mirror of the dynamics of the indicator - comparative advantages in imports. The graphic analysis shows that in three moments of the studied time period Bulgaria loses significant comparative advantages in the trade in honey. The first moment is in the period 2001 - 2002. During this period the value of the indicator is - 0.045, which determines that Bulgaria has lost a tangible comparative advantage in the world market of honey. The next moment of significant loss of comparative advantages in the trade in honey is in 2005. - 2008, when the value of the indicator became negative again - 0.02. And the third moment of tangible loss of comparative advantages is in 2010 - 2012, the value of the indicator is - 0.09. Going through these three critical moments in the market development of Bulgarian beekeeping comes a moment of expansion of trade advantages. In the

period from 2012 to 2016, the trade advantages significantly increased as the indicator was maximized in 2016, reaching a value of 0.012.

The dynamics of honey sales prices is shown in Figure 7. The data show that in the period 2000-2007 the prices gradually increased from the level of 1420 USD / ton to 1878 USD / ton (in 2007). Immediately after the country's accession to the EU, a threshold increase in the price of Bulgarian honey was observed. In 2011 the realization price was maximized, respectively it was 3 652 USD / ton. After reaching this price peak, the price began to gradually decrease and reached in 2018 a level of 2,767 USD / ton. The reasons for the increase in the sale price is the increased demand on both the domestic and foreign markets. During this period, exports of honey to EU member states increased significantly, in whose markets the prices are higher and thus the country realizes higher added value from the trade in honey. Market restructuring and the orientation of the industry towards the European market lead to higher revenues and profits for the participants in the value chain. The favorable trend of rising market prices leads to attracting more investment in the industry and the inclusion of more "new players" in this type of activity. Another factor favoring the production expansion in the industry is the increase in the consumption of honey by Bulgarian households. As can be seen from the data in Figure 11, consumption has increased nearly 2.3-fold in 18 years. The graphic analysis of the consumption of honey in the country shows two peaks in the quantities of honey consumed - the first is in the period 2004 - 2006, when the annual consumption reaches 990 tons per thousand people. The next peak is realized just at the moment when Bulgaria became part of the EU in 2008. The consumption of honey reaches 1180 tons per 1000 people. After 2009, the consumption of honey in the country has stabilized and varies slightly between 440 - 490 tons per thousand people. In the same period (after the accession of Bulgaria to the EU) there is a threshold change in the price of honey, which together with the stabilization of honey consumption led to a steady increase in revenues from the activities of participants in the value chain. The next peak is realized just at the moment when Bulgaria became part of the EU in 2008. The consumption of honey reaches 1180 tons per 1000 people. After 2009, the consumption of honey in the country has stabilized and varies slightly between 440 - 490 tons per thousand people. In the same period (after the accession of Bulgaria to the EU) there is a threshold change in the price of honey, which together with the stabilization of honey consumption led to a steady increase in revenues from the activities of participants in the value chain. The next peak is realized just at the moment when Bulgaria became part of the EU in 2008. The consumption of honey reaches 1180 tons per 1000 people. After 2009, the consumption of honey in the country has stabilized and varies slightly between 440 - 490 tons per thousand people. In the same period (after the accession of Bulgaria to the EU) there is a threshold change in the price of honey, which

together with the stabilization of honey consumption led to a steady increase in revenues from the activities of participants in the value chain.

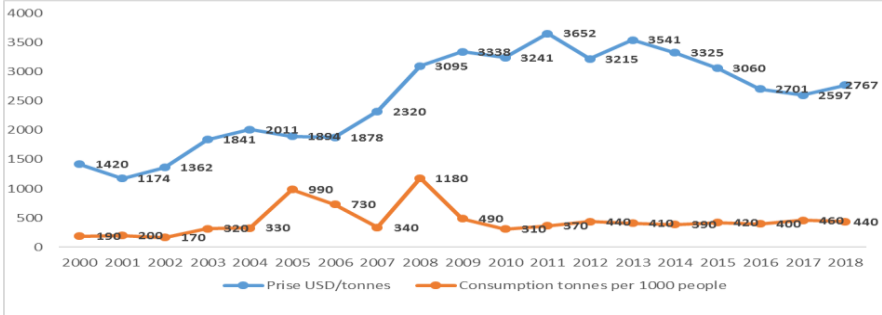


Figure 10. Dynamics of consumption and market prices of honey. Source: FAOSTAT own calculations.

As a result of the analysis, several strokes in the market orientation of Bulgarian beekeeping can be summarized:

- Thanks to the skillful use of natural and climatic conditions as well as the accumulated experience of the participants in the chain in this type of activity, Bulgaria remains one of the dominant participants in the European market of bee products. The expansion of production caused by the industry's contribution to the financial assistance provided under the CAP is valorised, achieving market positions in markets where honey is traded at higher market prices.
- Thanks to the financial instruments of the CAP, the market orientation of beekeeping has been significantly restructured within the last 18 years and this restructuring leads to higher added value of Bulgarian honey. In addition to using domestic production capacity, Bulgaria, thanks to its market position in the European market, manages to re-export by deriving additional benefits from trade in bee products. This is evidenced by the growing value of imports, exports and trade balance in trade in honey.
- Bulgaria's accession to the EU leads to an increase in the income of Bulgarian households, which in turn leads to an increase in the consumption of honey, and hence in market prices. These factors favor the investment process in the industry by creating conditions for a greater return on investment in this type of business.

Effects of the application of the CAP.Figure 11 shows information on the available and utilized financial assistance intended for the development of the sector over the years. The data show that the available financial assistance of BGN 2.37 million in 2008 increased significantly and reached a maximum of BGN 8.57 million in 2018. This proves that the country recognizes the beekeeping sector as

strategically important for development of agriculture and over the years seeks to attract more investment in the sector by increasing almost 3 times the available financial assistance. The rate of absorption of financial assistance over the years also increased and from BGN 1.3 million in 2008 reached a maximum value of BGN 6.86 million in 2018. The National Program for the Development of Beekeeping over the years has become one of the most successful financial mechanisms to support Bulgarian agriculture, beekeeping is given as a successful example of attracting young and new entrepreneurs in the agricultural sector. However, the levels of absorption of financial assistance are not satisfactory. Figure 11 provides information on the extent of absorption of the planned financial assistance under the Program.

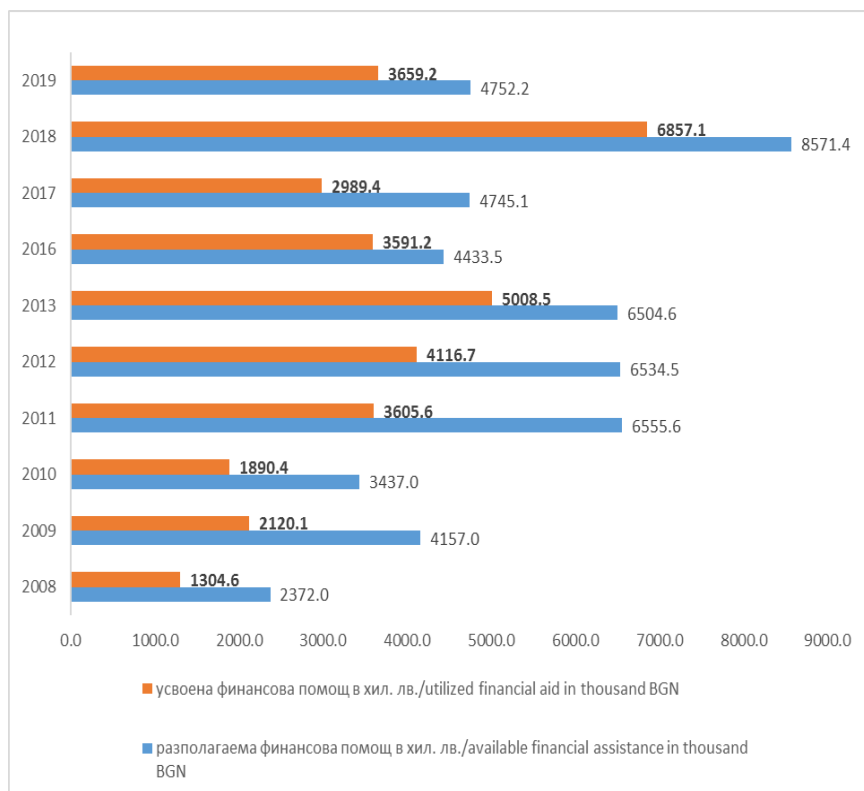


Figure 11. Available and utilized financial assistance within the National Program for the Development of Beekeeping by years (in the period 2008 - 2020). Source: own calculations based on data from the published reports of the State Fund for Agriculture - 2010, 2012, 2014, 2018, 2020 and data of the Beekeeping Development Program - 2008-2010, 2011 - 2013, 2017 - 2019.

In the current conditions of the CAP, the bee farms in our country identify the following obstacles to increase the competitiveness of the industry - organic access to certain production resources and high production costs; insufficient working capital; limited market access; competitive imports of bee products from China, as well as frequently changing regulations; the lack of sufficient experience in the management of the projects financed under the individual measures of the Program. One of the main factors for increasing competitiveness and better market access is to increase the production capacity of bee farms and accelerate the process of diversification towards the production and sale of bee products with higher added value.

The main limiting factor in increasing the size of the bee farm is the access to credit resources and the low market price of honey. Farmers point out that production costs have increased significantly and even with the help of individual measures that support them, they cannot achieve a satisfactory return on investment. This discourages them from investing in expanding the size of the farm. The other limiting factor is the difficult access to credit. The banking sector has high requirements for securing investment loans and thus limit farmers' access to credit. This is the other main reason why beekeeping does not invest in expanding production capacity or adding value to the honey they produce. Another critical factor for the successful development of bee farms is the low market price of honey. Beekeepers say that this market is extremely dominated by resellers, who set low levels of purchase prices, so these actors in the value chain derive higher added value without sharing the natural risk. Another factor that determines lower purchase prices is competitive imports of honey from China. The low levels of income, as well as the achievement of financial stability with exclusively own funds objectively limit the available finances of the bee farms, necessary for investments and structural development. which set low levels of purchase prices in this way, these actors in the value chain derive higher added value without sharing the natural risk. Another factor that determines lower purchase prices is competitive imports of honey from China. The low levels of income, as well as the achievement of financial stability with exclusively own funds objectively limit the available finances of the bee farms, necessary for investments and structural development. which set low levels of purchase prices in this way, these actors in the value chain derive higher added value without sharing the natural risk. Another factor that determines lower purchase prices is competitive imports of honey from China. The low levels of income, as well as the achievement of financial stability with exclusively own funds objectively limit the available finances of the bee farms, necessary for investments and structural development.

Effects of the CAP on specialization and productivity. As a result of the absorbed financial aid, the bee farms for the most part have specialized in the production of honey. This is evidenced by the fact that in recent years Bulgaria is

defined as a major producer and exporter of honey on the European market. The main product that the country imposes on the international market in polyfloral honey, which has low added value and is traded in low price segments. A limiting factor in the specialization of bee farms is market access. Farmers also point out that the consumption of honey on the domestic market is very low and highly competitive in terms of price. The added value to bee products requires additional funds, which they are not able to do at this stage. The specialization is not in line with market requirements due to ignorance of the marketing approach in beekeeping management. Farmers do not consider marketing activities to be important in the overall management of the farm, but on the other hand they point out that other actors in the value chain unfairly benefit more.

Needs of farms in terms of the CAP

Innovation needs. The main needs of beekeeping in the field of innovation are: the need for up-to-date market information; providing more access to new technologies and knowledge. Beekeepers are interested in organic production. The transition from conventional to organic production is limited by the high costs of certification, the location of the farm, the costs of labeling and packaging of the bee product, which are mandatory to use in this type of production, as well as low awareness of market trends. Another limiting factor is the lack of experience and knowledge in the construction of organic production. Another need of bee farms is to innovate in the prevention of the appearance of enemies in apiaries.

- subsidizing the costs of certification of organic production in small farms;
- building a system for up-to-date market information and its popularization among honey producers as an information source;
- promoting the technological transfer from scientific organizations to bee farms, through the structures of the National Agricultural Advisory Service, which can be the link between science and industry;
- encouraging the creation of local structures between research institutes and bee farms for the creation and testing of new bee products and technologies;
- Promotion of organic production as a successful form of business in the industry;

Marketing application needs. Beekeepers practically do not perform marketing functions. This function is reduced to the search for effective ways to market the product in the shortest possible time. The reason for this is the ignorance of the marketing approach as an effective approach to farm management, as well as the inability to make marketing expenses. The main obstacles in performing the marketing functions are: the complexity of the management of the farm; the small volume of production, which does not presuppose marketing functions, but more commercial skills in the placement of production; the lack of actually functioning agricultural markets nearby; the presence of a gray sector; impossibility to standardize the produced production. The main measures that need to be taken to promote the marketing of bee farms are:

- promoting cooperation of beekeeping in the field of marketing;
- the creation of local agricultural markets;
- creation of standard contracts for the sale of bee products with mandatory elements such as delivery times, production quantities and purchase prices;
- introduction of quality standards for the produced bee products;
- introduction of short food chains and vertical integration with processors.

Business risk management needs. The main sources of risk for bee farms are natural disasters, unstable market prices, financial risk and theft of products. In general, honey producers do not give priority to risk management in the management of the overall activity of the farm, but take into account its importance. The use of insurance organizations in sharing these risks from agricultural activity is not a popular measure. The reasons for this are: the low trust of farmers in the activities of these organizations, the high insurance costs and the low interest of insurance organizations to impose their insurance products in the industry. The following support actions need to be taken in risk management:

- higher levels of insurance premium subsidies;
- higher activity on the part of insurance organizations in sharing the risk in agricultural activity;
- to create mutual guarantee and insurance funds with the active participation of the state;
- promoting cooperation among farmers in the marketing of products;
- creation of joint structures among the local population for protection of bee farms;
- a clear calendar deadline for the payment of subsidies by the state (by the end of March). In this way the farmer will better plan his financial needs during the year.

Recommendations to the state. The needs of the bee farms identified above require the following important decisions to be taken by the state:

- effective state control over the activity of the suppliers of resources, providing the activity of the bee farms;
- working state guarantees for granting credit for the needs of small bee farms, as well as the creation of conditions for the establishment of mutual credit, guarantee and insurance funds;
- to have more advance payments under the individual measures of the Program and to increase the amount of these payments;
- clearer presentation of the application rules for the individual measures, the necessary documents and requirements to be specified in advance;
- state support in hiring additional labor on farms;
- to remove the age limit of 60, which is required if the person wants to apply for financial assistance under the individual measures;
- more flexible regulations. In the case of beekeeping, the obligatory requirement for the agricultural producer to cultivate at least 10 decares of land should be abolished;

- encouraging the establishment of local agricultural markets, where only registered agricultural producers in the region have the right to sell agricultural products;
- encouraging local processing enterprises as well as tourist sites to work with local raw materials produced by beekeeping;
- to increase the capacity of the National Agricultural Advisory Service with a view to promoting the transfer of knowledge from science to practice and thus increasing the innovation of beekeeping and the industry.

Assessment of the impact of subsidies on the profitability of farms

The analysis of the support of farms by subsidizing their costs is carried out through the application of the method - regression analysis. In the regression model, the amount of subsidies received is defined as a factorial indicator. The following three indicators are used for performance indicators in the model - gross margin, net income and profitability of paid subsidies

Table 1 shows the results of the regression analysis of the data. The model shows that in the formation of gross margin and net income, subsidies have a significant impact. This is evidenced by the correlation coefficient, which in the relationship paid subsidies and achieved gross margin is 0.8307 (see Table 2). When the subsidies are related to the achieved income, the correlation coefficient has even higher values, namely 0.9703.

Table 1. Statistical assessment of the impact of subsidies on gross margin, net income and profitability of subsidies on farms. Source: Own database from FADN.

Statistical indicators	Performance indicators		
	Gross margin BGN	Net income BGN	Profitability of subsidies
Multiple R	0.8307	0.9703	0.1670 th most common
R square	0.6900	0.9415	0.0279
Adjusted R Square	0.6797	0.9399	-0.0045
Degree of dependence	Great	Great	Very weak
Type of dependence	Right	Right	Right
Regression coefficient b0	6843.66	-1753.48	3.23
Regression coefficient b1	2.2423	1.2596	1.9550
Statistical importance	There is	There is	There is no

The regression analysis proves the expected dependence that with the increase of subsidies in a farm, its gross margin and net income increase in direct proportion. The regression coefficients show the step with which the gross margin and the net income increase when the subsidies increase by BGN 1.

When assessing the sensitivity of the gross margin to changes in subsidies, it is established that it increases by BGN 2.24 to an additional BGN 1 subsidy paid. The results of the analysis of the sensitivity of net income to changes in subsidy payments show that net income increased by BGN 1.26 compared to BGN 1 subsidy paid to the farm. In general, the rate of change in gross margin is higher than that of net income. This is because gross margin is directly affected by the amount of subsidies received, while net income has a relatively indirect effect on subsidies. This indirect effect is determined by the fact that with a threshold increase in subsidies on the farm, the farmer tends to increase production costs following good production practices. The main stimulus in the farmer's behavior is, that by ensuring higher productivity of the production resources invested in the farm, it can achieve a larger volume of gross output. More gross production on the farm also means a greater opportunity for sales and the formation of higher incomes. In this context, it is interesting to measure the structure of the farm's income, namely the extent to which subsidies are a structural factor in them.

According to calculations made in 2013, revenues from subsidies are 33.1% of the total revenues generated by farms during the marketing year (see Figure 12).

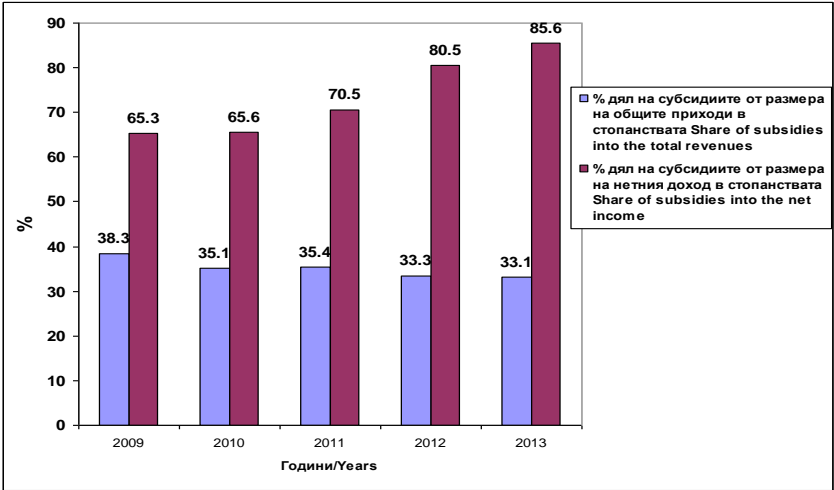


Figure 12. Dynamics of the contribution of subsidies in the formation of revenues and net income of beekeeping farms Source: Own calculations based on FADN data.

Over the years, as subsidies have increased, farmers have been able to increase sales revenues and thus reduce the relative share of subsidies in revenues.

This can be interpreted in two ways. First, subsidies lead to a multiplier effect, namely more production and more sales on equal terms. Second, more subsidies entering the farm lead to higher levels of production costs.

Which of the two statements is true can be verified by analyzing in a dynamic aspect what happens to the gross margin. Using this indicator, one can assess the extent to which farmers manage their sales revenues and direct costs on the farm well. Figure 18 shows the relationship between subsidies and the achieved gross margin on farms. It can be seen that the majority of the surveyed sites are grouped in the following interval values of the surveyed indicators - from 0 to 50 000 BGN received subsidies and from 0 to 200 000 BGN achieved gross margin. This means that the subsidies received on the farm lead to higher sales revenues. It can be concluded that, other things being equal, subsidies lead to higher sales revenues during the marketing year.

Conclusions

As a result of the performed sector analysis the following conclusions can be summarized:

- Thanks to the skillful use of natural and climatic conditions as well as the accumulated experience of the participants in the chain in this type of activity, Bulgaria remains one of the dominant participants in the European market of bee products. The expansion of production resulting from the industry's contribution to the financial assistance provided under the CAP is valorised, achieving market positions in markets where honey is traded at higher market prices;
- Thanks to the financial instruments of the CAP, the market orientation of beekeeping is significantly restructured within the last 18 years and this restructuring leads to higher added value of Bulgarian honey. In addition to using domestic production capacity, Bulgaria, thanks to its market position in the European market, manages to re-export by deriving additional benefits from trade in bee products. This is evidenced by the growing value of imports, exports and trade balance in trade in honey;
- Bulgaria's accession to the EU leads to an increase in the income of Bulgarian households, which in turn leads to an increase in the consumption of honey, and hence in market prices. These factors favor the investment process in the industry by creating conditions for a greater return on investment in this type of business activity;
- The majority of beekeepers point out that they need information on good production practices as well as the need for training to increase the special skills needed to manage their farms.

As a result of the conducted focus groups, the following needs arising from the application of the CAP in the sector can be summarized - needs from the application of innovations, from the application of adequate marketing and needs

for better risk management. The needs of beekeeping farms identified above require the following important decisions to be taken by the state:

- effective state control over the activity of the suppliers of resources, providing the activity of the bee farms;
- working state guarantees for granting credit for the needs of small bee farms, as well as the creation of conditions for the establishment of mutual credit, guarantee and insurance funds;
- to have more advance payments under the individual measures of the Program and to increase the amount of these payments;
- clearer presentation of the application rules for the individual measures, the necessary documents and requirements to be specified in advance;
- state support in hiring additional labor on farms;
- to remove the age limit of 60, which is required if the person wants to apply for financial assistance under the individual measures;
- more flexible regulations. In the case of beekeeping, the obligatory requirement for the agricultural producer to cultivate at least 10 decares of land should be abolished;
- encouraging the establishment of local agricultural markets, where only registered agricultural producers in the region have the right to sell agricultural products;
- encouraging local processing enterprises as well as tourist sites to work with local raw materials produced by beekeeping;
- to increase the capacity of the National Agricultural Advisory Service with a view to promoting the transfer of knowledge from science to practice and thus increasing the innovation of beekeeping and the industry.

Thanks to the CAP phase 2007-2013 and phase 2014-2020, the expansion of the use of utilized agricultural area (UAA) in the sector is achieved, as well as an increase in the production of agricultural products. These are the factors that affect the following factors:

- Exports have increased 1.4 times in the last 10 years. The positive trend of increasing exports in the period 2007-2017 proves that the CAP has a positive impact on the international competitiveness of Bulgarian agriculture;
- The financial mechanisms for support of agriculture included in the CAP as well as those included in the state direct sectoral support have a multiplier effect and cause secondary effects in other (related) sectors (lending, tourism, agriculture, renewable energy sources, construction, education, etc.). One of the important sectors for competitive development of agriculture is the credit sector. The implementation of projects for sustainable management of the competitiveness of beekeeping requires co-financing by the entrepreneur (farm - private or public), which co-financing affects the demand for credit. The banking sector is a major provider of loans for agricultural development in the country. Over the last 10 years, lending to the sector has increased almost 20 times,

- Financial support under the CAP, as well as the active role of the banking sector in lending to the beekeeping sector, lead to an increase in gross value added (GVA). Over the last 10 years, GVA has increased almost 1.3 times. The increase in GVA in both production and exports proves that the CAP has a positive effect on the competitiveness of the sector. The growth rate of GVA of Bulgarian beekeeping follows the positive growth rate of GVA at EU level (28);
- The main source of R&D funding is the state budget, 98% of R&D in the sector is done annually by the state. There is still a lack of private enterprises to carry out R&D in the sector. At present, the contribution of science to the development of the agricultural sector is insufficient due to the low costs of research and development.

During the programming period 2007-2013, there is a constantly growing interest on the part of beekeeping farms in the measures in the RDP. The large-scale information and consulting activity carried out by the NAAS has a significant contribution in this respect. Increasing the competitiveness of the Ministry of Agriculture is carried out mainly through Measure 141, Measure 121 and Measure 212. These are the main instruments under the CAP 2007-2013, which contribute to the competitiveness of beekeeping farms;

- The following intervention instruments in Pillar I of the CAP phase 2007-2013 and phase 2014-2020 have the greatest contribution to increasing the competitiveness of beekeeping farms: (1) Single area payment scheme; (2) Payment scheme for agricultural practices that are favorable for the climate and the environment and (3) Redistributive payment scheme. The single area payment scheme covered 17 264 holdings, which is 58% of the total number of holdings eligible to be beneficiaries under this scheme. The payment scheme for agricultural practices has been applied to 16 666 beekeeping holdings, which is 50% of the total number of holdings eligible for financial assistance. 14,646 holdings have benefited from the Redistributive Payment Scheme, which is also 50% of the total number of beekeeping holdings eligible under this support scheme;

- The National Program has the largest role in the sector's intervention in the area of "Market Support Mechanisms";

- Under Pillar II of the CAP, RDP 2014-2020 measure Measure 13 "Payments for areas facing natural or other specific constraints" has the largest contribution to the absorption of financial assistance provided for beekeeping farms;

- The direct effect of the subsidies paid is that they lead to a threshold increase in the profitability of farms. By absorbing more and more subsidies, the farms increase the quality of the produced bee products by investing in the direction of following the good production practices;

- The subsidies paid have a multiplier effect on the activity of beekeeping farms, namely they lead to an increase in gross output, operating income and the amount of investment for the construction of production facilities;

- Subsidies lead to an increase in farm incomes during the marketing year as they are the reason for the increase in the volume of gross output. Most of the gross output produced on farms also leads to higher sales volumes, which determines their higher operating income. Thanks to the subsidies, the beekeeping farms become more and more market-oriented and adaptable to the requirements of the consumers;
- Subsidies are "addictive" and farms are becoming increasingly dependent on them. This is a sign that it will be very difficult to pursue economically sound policies to regulate subsidies in the sector. Changing the structure of farms through the regulation of subsidy payments will exacerbate the opposition between the various actors in the sector.

Chapter III. Profiling of barriers to beekeeping with a view to improving the application of the CAP

Identified critical development factors. After the construction of the SWOT-matrix, the analysis proceeds in the direction of determining the most significant strengths / weaknesses, opportunities and threats for the development of small farms as well as assessing the interaction of factors in the matrix. For this purpose, the method of expert assessment is used. Figure 38 shows the summary expert assessment of the experts (31 honey producers) who took part in the assessment of the factors of the SWOT-matrix. In general, experts have indicated that strengths outweigh weaknesses. This is shown by the strengths sector, which is higher (8212) than the weaknesses sector (8094) in the matrix. Therefore, according to the expert assessment, beekeeping farms can adapt to changes in the business environment by relying on their strengths, which are more pronounced than their weaknesses.

The results of the expert assessment also show that the most significant opportunities for beekeeping farms are:

- The tendency to increase the demand for organic products on the market (this opportunity has received the highest result in the generalized matrix, respectively 2371 points);
- Establishment of local brands of bee products (1778 points);
- The financial support of the state for the development of the sector (1449 points);

The most significant threats that limit the development of beekeeping are:

- Unstable market prices (1226 points);
- The strong market power of distributors of imported bee products (832 points);
- The upward trend in the prices of production resources (552 points).

The development of bee farms and their establishment as a competitive structure is determined by the following strengths:

- The high motivation of the owner for the development of the beekeeping (1844 points);

- The ability to easily adapt to market requirements due to the small volume of production (1072 points);
- Production of quality bee products (885 points).
- The variety of bee products produced (852 points);

The strategic orientation of beekeeping farms. It is based on the SOR-analysis method, which determines through which the most significant strengths will be realized the most attractive opportunities for farms by removing obstacles to this. Within this method as a leading element of strategic planning are considered the two most important opportunities that the business environment provides for development, namely according to expert assessment these are the opportunities - expanding demand for organic products (2371 points) and establishing local bee brands. products and food (1778 currents). In the upper part of the assessment pillars bearing the name of the respective two opportunities, the interaction of the strengths with these factors of the business environment is traced. In the generalized SWOT-matrix at the top of the ladder entitled "Trend of increasing demand for organic products worldwide" stand out three cells with a high score, showing the interaction of strengths with the specific opportunity. Experts are of the opinion that beekeeping farms can develop in the future by relying on the organic production of bee products. The arguments for this future development of these structures in the industry are the following: beekeeping farms strive to follow good production practices (look at a cell with a value of 205 points in the relevant column of the matrix), they are active in conserving natural resources (this is the second important relation strength □ opportunity, respectively rated at 202 points) and have the ability due to their small size to easily adapt to market trends (the relationship is rated at 201 points). The main obstacles to the realization of the identified opportunity can be identified by examining the lower part of the ladder, which gives the relation weak side □ opportunity. According to the expert opinion, the main obstacles to the establishment of organic production as a leading industry in beekeeping are: high production costs (180 points) and insufficient working capital available to these structures (169 points).

The second possibility - the establishment of local brands of bee products and food can be realized through the use of the following most significant strengths of beekeeping farms, which are: the maintained variety of products produced in these structures (205 points) and high personal motivation to develop economy (198 points). Obstacles to the realization of this opportunity are: the low degree of standardization of production (192 points) and the weak influence of the producer on the purchase price (189 points).

Conclusion

It can be summarized that the future development of beekeeping farms cannot take place without the active financial support of the CAP. This support is

necessary due to the fact that these farms are the backbone of rural economic development. Farmers have a strong motivation to develop their farms, which is determined by the desire to ensure a better way of life. In the present study, the realization of these opportunities is based on the strengths of beekeeping. However, it is pertinent to point out that the imposition of its own brand, the conversion of production into organic creates business activities that require large investments, which are accompanied by high risk. The weak influence of small producers on the purchase price, high production costs, determined by the rapid rate of increase in the prices of veterinary medicinal products and services and the reluctance to cooperate among these circles make significant the organic for the future development of beekeeping farms. That is why the number of these farms will remain large in the future and the decisions for their survival are difficult to give. One of the opportunities for development on farms in the field of organic production of bee products is the so-called joint investments, which are provided for in the new rural development program. This program will create the conditions for the promotion of joint investments for the needs of small farms, which for the most part include beekeeping farms, and the implementation of investment decisions does not require the prior establishment of associations and cooperatives. If this condition becomes part of the new program, farmers will have another alternative to share investment risk in the organizational development of their farms.

III. Information about the contributing moments in the dissertation

The following contribution moments of scientific and applied nature can be highlighted in the dissertation:

- The nature of beekeeping in the context of the Common Agricultural Policy (CAP) has been clarified;
- The essence of the CAP support for the development of the beekeeping sector has been clarified;
- An objective methodology for analysis and assessment of the impact of the CAP on the development of bee farms has been developed
- The influence of the CAP on the development of beekeeping farms as well as on the sector has been established;
- The needs of beekeeping farms in the conditions of the CAP have been identified.

IV. Publications

1. Borisov, P., **H. Garabedian** (2020). THE IMPACT OF THE PRODUCT STRATEGY ON THE MARKET SHARE. THE CASE OF BULGARIAN WINERIES. Journal of Bio-Based Marketing, vol.2 / 2020, 42-51, ISSN 2683-0825

2. Borisov, P., **H. Garabedian** (2020). EFFECTS OF THE APPLICATION OF THE CAP ON THE DEVELOPMENT OF BEE FARMS AND PROFILING OF THEIR NEEDS IN THE FUTURE. Journal of Bio-Based Marketing, vol. 3.2 / 2020, 39-51, ISSN 2683-0825
3. **Garabedian, H.** (2020). MARKET ANALYSIS OF HONEY PRODUCTION - BEFORE AND AFTER THE ACCESSION OF BULGARIA TO THE EU. Journal of Bio-Based Marketing, vol. 3.2 / 2020, 5-14, ISSN 2683-0825
4. **Garabedian, H.** (2021). IDENTIFICATION OF STRENGTHS AND WEAKNESSES, OPPORTUNITIES AND THREATS FOR THE DEVELOPMENT OF BEEKEEPING IN BULGARIA. Journal of Bio-Based Marketing, vol. 1/2021, 67-76, ISSN 2683-0825

V. Citation

1. Borisov, P., **H. Garabedian** (2020). The impact of the product strategy on the market share. The case of Bulgarian wineries. Journal of Bio-Based Marketing, vol.2, 2020, 42-50
- Cited by Borisov, P. (2021). Strategic analysis for identifying the sources of competitive advantages of wine companies in Bulgaria. Journal of Bio-Based Marketing, vol.1 / 2021, 5-23, ISSN 2683-0825