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TRENDS IN THE DEVELOPMENT OF THE STRUCTURE OF THE AGRICULTURAL HOLDINGS IN BULGARIA[2]

Bulgarian agriculture has to correspond with the goals for sustainable growth of food production in order to create and develop more productive, economically efficient and ecological agricultural holdings. Tracking the trends in the development of the structure of the agricultural holdings outlines the current state, the problems and the opportunities in the sector. The aim of the paper is to present the main trends in the structure of the agricultural holdings in Bulgaria in the sector for the period 2000-2020. The paper uses data from the agrarian reports of the Ministry of Agriculture and the last three national censuses of the agricultural holdings of the National Statistics Institute.
Keywords: agriculture; production; trends
JEL: Q10; O13; Q18

1. Introduction

In the recent past, the return of the land to the owners has had a strong impact on the agricultural holdings and their development. One of the main factors influencing the overall development of agriculture is the privatization process, which involves the redistribution of not only land but also buildings, facilities and machinery related to agricultural activities (Yovchevska, 2019). This reflects on the efficiency and competitiveness of the agricultural holdings. From a theoretical and practical point of view, the evaluation of the influencing factors and the efficiency of the types of agricultural holdings in different productions is extremely important (Kopeva, Madzharova, Nikolova, 2012). Bulgarian legislation depends on European legislation and is influenced by legislative changes at the EU level, so anticipating such changes is extremely important for the country (Angelova, 2021). The aim of the paper is to present the main trends in the structure of the agricultural holdings in Bulgaria in the sector for the period 2000-2020.

After 1990, agriculture fell into a serious economic and structural crisis. The main factors for the created unfavourable situation are both the political and the economic instability during

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the transition years. The delay in the agrarian reform processes, specifically regarding the restoration of the private ownership of the land and other production factors, also has a negative impact. The liquidation of the cooperative agricultural holdings without a prepared alternative to create new types of agricultural forms is also a factor worsening the conditions in agriculture. The drastic decrease in the production volume and the loss of traditional markets for Bulgarian agriculture complement the reasons for the economic and structural crisis. During the transition years, the agriculture share in the gross domestic product of the country has changed significantly in a negative direction (Bencheva, 2005).

The privatization process ended in 1995, but bankruptcies in agriculture continued in the following years (Mishev, Ivanova, 2006). After the end of the privatization and the liquidation of numerous cooperative structures, a slow process of agricultural development began, continuing to this day. "The size of most agricultural holdings does not allow the harmonious combination of the production factors, which determines also their low productivity and the insufficient competitiveness of their products" (Valchev, 1999).

The existing agricultural holdings on the territory of the country are characterized by great heterogeneity concerning indicators like organization form, management method, production structure, distribution of labour and land, access to agrarian support, etc. Authors Valchev (1999) and Yovchevska (2016) analyze and forecast the formation and development of agricultural holdings and the agrarian sector in general in the period up to 2010. They take into account the implemented land reform and the trend of development of the agricultural structure in the 20th century. Despite the expected dynamics in its rationalization, the main characteristics of the Bulgarian agricultural structure are incomparable to the characteristics inherent in the agricultural structures of the EU member states. There is a need for own national strategy concerning the development, rationalization and reform of the structure of the agricultural holdings in four main areas:

- creating alternative employment in branches and activities other than agriculture;
- overcoming the unfavourable impact of the inheritance law on the agricultural structure;
- encouraging the economic and legal emancipation of the land relations;
- using organizational-economic forms of corporative type for consolidation of agricultural holdings (Doitchinova, Wrzochalska, 2022).

The modern structure of the agricultural holdings receives social and economic support, but the problem is that it is not rational. One reason for this is that, due to certain social and economic instability and lack of perspective of the transition to a "Bulgarian-type" of the market economy for a significant part of the Bulgarian population, those people do not find a place on the labour market and turn to natural self-satisfaction. This part of the population includes small landowners who cannot develop a business, are outside the labour market and consume mainly services in insignificant amounts. Their agricultural activity is reduced to feeding their families, with no real commodity surplus directed to the market (Petkov, 2008).

Studying the efficiency of the structure of the agricultural holdings before and after the accession of Bulgaria to the European Union allows determining the direction of development of the new agricultural holdings. Economic efficiency determines to what

extent the agricultural holdings effectively use the production resources, as well as what combination of them, at given relative prices, leads to an increase in their efficiency (Paliova, 2021; Kopeva, Madzharova, Nikolova, 2012).

The production structure, including the agricultural structure, is defined as a unit that is in continuous interaction with internal and external structures. The structure of the external environment includes the main economic institutions, including those studying demand, supply and processing of agricultural products. The external and internal structures determine the factors of influence on agriculture. Depending on the size of the holding, the influence is different (Jongeneel, Tonini, 2003). The production markets and the access to them also provide a solution for the farm owners to invest in agricultural activities, for which there is a market at favourable prices. The markets of raw materials and labour are also an important element, when there is a change in their price or quality parameters, or the production cost changes (Keremidchiev, Kirilova, Velkova, 2018).

The internal structure refers to the characteristic features of the production structure. It is determined by the type of production structure, which may be subject to changes in the short and long term. Also important are the size and the specialization of the holding, which largely determine how it is affected by the external environment, its dependence, as well as how the holding can change the external environment (Jongeneel, Tonini, 2003). According to the system approach, the production agricultural structure is compared to an enterprise and is considered a system of interconnected elements aiming at common actions to achieve common goals. The individual branches of the economy are subordinated to the requirements of the leading branch and are built according to its needs.

The design and the successful functioning of the agricultural production system largely depend on the knowledge of the external business environment and the ability to respond adequately to its dynamic changes (Georgieva, 2020).

The functional aspect of the "organizing" function is associated with the continuous change of both the elements and the system (agricultural enterprise) in order to meet the requirements of the external environment – the market economy conditions. This aspect requires continuous change in the elements – production, economic, legal and social subsystems, and this leads to the realization of the main goals of the enterprise (Keremidchiev, 2021). The agricultural holding is an input-output system where the input is featured as a buyer of production factors needed for the production, and the output appears as a seller of the already produced products. By this definition, agricultural holding assumes the inherent features of any enterprise (Stankov, Hayzenhuber, Cedis, 1997).

According to Drakar (2001), the size of the organizational structure does not affect the management of the business, labour and work, but it affects the way of management. Different sizes require different behaviour of the managers in the structure. There are three main requirements for the organizational structure of management:

- to create an organization of business action;
- to have as few levels of management as possible;
- to be a prerequisite for training and monitoring future senior managers.

Despite the claim that the small production structures are more flexible and adaptive than the large ones, they are the ones that generate capital and work for profit. From the point of view of management, agricultural holdings differ in their nature.

In order to reveal the specifics of the structure of the agricultural holdings, it is necessary to review the possible types of holdings and their characteristics.

Haap (2004) considers the agricultural holding as a production structure that is shaped by a number of factors (economic, cultural, historical, technical and geographical). The author concludes that agricultural holdings cannot be studied solely as static structures. Undoubtedly, the interaction of multiple factors is a good approach for a wider view of agricultural holdings and their definitions.

Kanchev and Doitchinova, (2005), unlike foreign authors, do not classify the agricultural holdings according to the volume of the input resources, but according to a number of other indicators, like input labour, production purpose, used agricultural land, status, and many other, which largely contribute to a more complete understanding of the agricultural holdings and their characteristics. Stoyanova (2009) divides agricultural holdings into large and small organizational structures. For the purpose of her study, she calls the small ones "small family agribusiness". The author analyzes the advantages and disadvantages of each of the types based on the main management definitions of both family business and agricultural holding.

Again, Kanchev and Doitchinova, (1996) use the term "agricultural holding", proving that the agricultural holding in the agribusiness, as a name, can be replaced by the term "agricultural enterprise" with its own production, organizational, economic, juridical, legal and social individuality and represents "a complex unity of technological and organizational-economic relationships that predetermine its internal mechanism of functioning as an independent economic unit". The authors define the holding also as an open system, the parts of which are under continuous influence and highly dependent on the external factors of the business environment. Unlike Stankov, who defines the holding as an input-output system, here more outlined is the interaction of the economic unit with, on one hand, the production technology, internal and external relations of interaction with the external and internal environment, and, on the other hand, the economic aspect of the holding. Many definitions of agricultural holding are specified through the management prism. Management of agricultural holding they consider "a decision-making process of distribution and organization of the use of the available limited resources to achieve the goals of the holding" (Kanchev, Doitchinova, 1996).

According to the European Commission, there is no difference between a farm and an agricultural holding. A definition of an agricultural holding is given in Regulation 1782/2003 establishing general rules for direct support schemes under the Common Agricultural Policy (CAP) (Velkova, Kirilova, 2023). According to the Regulation, "holding" means "all production units managed by one farmer located within the territory of the same Member State".

According to the Law on Census of Agricultural Holdings in the Republic of Bulgaria, an "agricultural holding" is an independent technical and economic unit, subordinate to a single management, producing agricultural products and meeting certain criteria. This definition is

used by the statistics, on the basis of which the state policy in the area is developed. In both European Commission regulation and census law, the definitions are too general (Nestorov, Branzova, 2022). The reason is that all different types of holdings with their specific characteristics can be covered by the definition of a holding. It can also be noted that, according to the regulation, no distinction is made between a farm and a holding, since in this way the Bulgarian agricultural holding corresponds to the same characteristics of a farm in other EU member states.

In order for agricultural holdings to be classified and attached to a certain type of structure, it is necessary to use certain indicators, which, on one hand, are specific to the agrarian activities, and on the other hand, have the inherent aspects of a business. Since agriculture is a specific sector affected by the climate features of the terrain, it is necessary to reflect this in the indicators for distinguishing the holdings (Mishev, Ivanova, Shterev, Harizanova, 2009).

There are many classifications and combinations to characterize the holdings. Some classifications distinguish agricultural structures by type depending on a number of indicators (size, technical support, market orientation, type of production, etc.). This classification describes the holdings in a global aspect. Other classifications consider the holdings based on territorial principle and divide them into Asian and American types (Stoyanova, Doitchinova, Todorova, Peycheva, Blagoev, Dineva, 2022).

The classification indicators used by the national statistics allow to conduct of census and registration of the agricultural holdings with their resources. A typology and criteria for determining the type of holdings have also been developed. The first census in Bulgaria is carried out in 1897 (Valchev, 1999).

One of the most commonly used indicators for classifying agricultural holdings and determining the size is the agricultural land used by the holding. It distinguishes the holdings into small, medium and large. In many countries, this is still the only indicator used to determine the size and type of the holding. The disadvantage is that it is not possible to fully cover the agricultural activities, since even a small holding can produce and sell a significant amount of production, and vice versa. Usually, this classification method is combined with other indicators that give a more accurate idea of the production structures and their characteristics. Each country determines the minimum size of the holdings for their entry into a certain group. Comparing different countries according to this criterion is difficult and not precise, because in one country a holding is classified as small by its size, in another country the same holding falls into a different group (Totev, Mochurova, Kotseva-Tikova, 2021). Studies of agricultural holdings reveal a relationship between the size of the agricultural holding and its economic performance, based on the net profit indicator. This indicator is based on the variety of production techniques chosen by the holdings of different sizes. Large holdings can more easily diversify risk than small ones (Harizanova, 2015).

According to many of the indicators, the agricultural holdings can hardly be compared. For this reason, introduced is the economic size, which allows us to evaluate the activity of one type of holding/production compared to another. “Economic size” is conventionally expressed by the term “European economic unit” and is calculated as the difference between the gross agricultural product and the costs related to this product. One economic unit equals

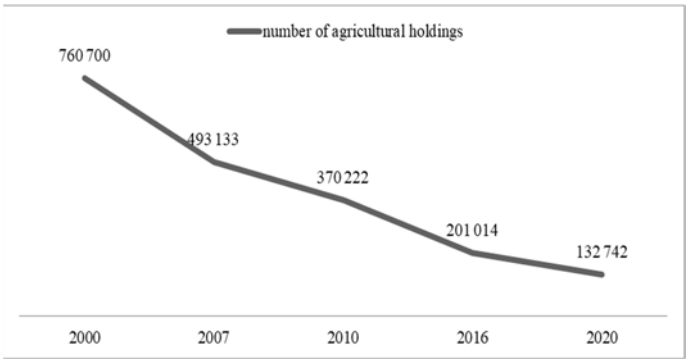
to 1200 EUR (CAP, 2005), which means how many acres of a certain crop or how many animals of a certain species form an economic unit.

2. Analysis of the Structure of Agricultural Farms in Bulgaria

The role of the production structures in agriculture in ensuring the country's food security is extremely important. Food security can be increased by outlining the types of agricultural holdings that have a significant contribution and others that need assistance and support. For this purpose, diversification of the holdings is done according to selected criteria.

Figure 1 presents the number of agricultural holdings in Bulgaria for the period 2000-2020. A drastic decrease in the number of holdings is observed for each subsequent year. At the beginning of the period in 2000, there are 760 700 agricultural holdings. By 2007 their number decreased by 267 567 (35%). From 2007 to 2010, the number of agricultural holdings continued to decrease and in 2010 they were 122 911 (25%) less than in 2007. The negative trend continued in the following years and in 2016 the number of agricultural holdings decreased by 169 208 (45%) compared to 2010. In the last studied year (2020), the number of agricultural holdings on the territory of the country is 132 742 (a decrease by 68 272 (34%) compared to 2016). If the number of agricultural holdings at the beginning of the studied period is compared with their number at the end of the period, in 20 years the agricultural holdings in Bulgaria have decreased by 627 958 (83%). This can be explained by the consolidation of small agricultural holdings into larger ones, on the one hand, but on the other hand, the reason for the negative trend can be the desertification of the rural areas and the reluctance of young people to engage in agriculture.

Figure 1. Number of agricultural holdings in Bulgaria in 2000-2020



Source: Ministry of Agriculture – "Agrostatistics".

Table 1 presents the distribution of agricultural holdings in Bulgaria by economic size in the last three national censuses of agricultural holdings (in 2010, 2016 and 2020). The holdings are divided into 9 groups, according to their economic size (defined and accepted by CAP of the EU). The total economic size of the country during the studied years increases every year.

In 2010, the total economic size was 2 458 263 EUR, in 2016 it increased by 1,318,206 EUR (54%) compared to 2010, and reached 3 776 469 EUR. In 2020, the total economic size continues to increase and its value is 4 091 460 EUR. This is an increase of 314,991 EUR (8%) compared to 2016. Compared to 2010, the indicator increases by 1 633 197 EUR (66%). Throughout the studied period, the agricultural holdings with an economic size equal to or greater than 250,000 EUR predominate. They represent about 1/2 of the production volume of the country's agriculture.

In 2010, 42% (1 032 710 EUR) of the agricultural holdings had an economic size equal to or greater than 250,000 EUR. The agricultural holdings with an economic size from 100,000 to 250,000 EUR are 12.3% (302 467 EUR). Usually, these two groups of economic size include agricultural holdings that grow Cereal and Industrial crops. In 2010, the agricultural holdings with the smallest economic size – below 2000 EUR were 9% (221,488 EUR). The remaining six groups of economic sizes are approximately equal and in the range of 5 to 7%. The smallest share of agricultural holdings with an economic size of 15,000 to 25,000 EUR is 4.7% (115,888 EUR).

Table 1. Classification of agricultural holdings in Bulgaria by classes of economic size

Year / Economic size by Standard Output (SO)	2010		2016		2020	
	EUR	%	EUR	%	EUR	%
I - < 2 000 EUR	221 488	9.0	97 643	2.6	47 535	1.2
II - > = 2 000 & < 4 000 EUR	164 064	6.7	98 956	2.6	62 990	1.5
III - > = 4 000 & < 8 000 EUR	144 664	5.9	130 045	3.4	104 800	2.5
IV - > = 8 000 & < 15 000 EUR	135 307	5.5	150 391	4.0	162 849	4.0
V - > = 15 000 & < 25 000 EUR	115 888	4.7	158 824	4.2	178 692	4.4
VI - > = 25 000 & < 50 000 EUR	164 246	6.7	234 070	6.3	293 792	7.2
VII - > = 50 000 & < 100 000 EUR	177 429	7.2	273 491	7.2	324 907	7.9
VIII - > = 100 000 & < 250 000 EUR	302 467	12.3	423 013	11.2	494 520	12.1
IX, X, XI, XII, XIII, XIV - > = 250 000 EUR	1 032 710	42.0	2 210 036	58.5	2 421 374	59.2
Total	2 458 263	100.0	3 776 469	100.0	4 091 460	100.0

Source: Ministry of Agriculture – "Agrostatistics", 2018.

In 2016, 58.5% (2 210 036 EUR) of the agricultural holdings had an economic size equal to or greater than 250,000 EUR – an increase of 16.5% compared to 2010. Agricultural holdings with an economic size from 100,000 to 250,000 EUR are 11.2% (423,013 EUR) – a decrease of 1.1% compared to 2010. In the same year, agricultural holdings with the smallest economic size (below 2000 EUR) fell to 2.6% (97 643 EUR – 6.4% less than in 2010). Agricultural holdings with an economic size from 50,000 to 100,000 EUR maintained their share in 2010 and are 7.2% (273 491 EUR). The remaining five economic size groups decrease and are in the range of 2.5 to 6%. The most drastic decrease is observed in agricultural holdings with an economic size from 2000 to 4000 EUR and from 4000 to 8000 EUR, respectively from 6.7% to 2.6% (98 956 EUR) and from 5.9% to 3.4% (130 045 EUR). A reason for the increase in the group of agricultural holdings with the largest economic size can be the consolidation of the land, which also reflects on the decrease of the groups with a smaller economic size.

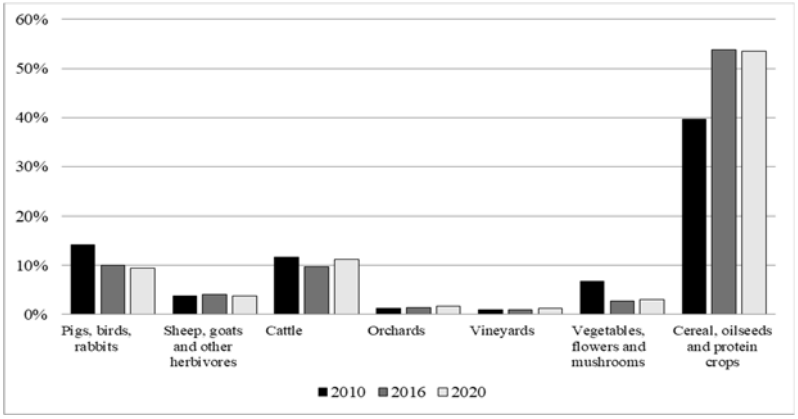
In the last census in 2020, 59.2% (2 421 374 EUR) of the agricultural holdings have an economic size equal to or greater than 250,000 EUR – an increase of 0.7% compared to 2016. Agricultural holdings with an economic size from 100,000 to 250,000 EUR are 12.1% (494

520 EUR) – an increase by 0.9% compared to 2016 and approaching their values in 2010. In the same year, agricultural holdings with the smallest economic size (below 2000 EUR) fell to 1.2% (47 535 EUR), which is 1.4% less than in 2016. Agricultural holdings with an economic size from 50,000 to 100,000 EUR report insignificant growth and their share rises to 7.9% (324 907 EUR). In 2020 there is an increase in the agricultural holdings with an economic size from 25,000 to 50,000 EUR – 7.2% (293 792 EUR), compared to 6.2% in 2016. Agricultural holdings with an economic size from 8000 to 15,000 EUR and from 15,000 to 25,000 EUR have not changed their share since 2016 and are around 4%. Compared to 2016, there is a decrease in the agricultural holdings with an economic size from 2000 to 4000 EUR and from 4000 to 8000 EUR, respectively from 2.6% to 1.5% (62,990 EUR) and from 3.4% to 2.5% (104,800 EUR). In 2020, the 2016 trend of consolidation continues, agricultural holdings of smaller economic size almost disappear and those of large economic size continue to increase.

When the three studied years are compared, it is noticeable that the distribution by economic size of the agricultural holdings is almost the same in 2016 and 2020. There is a difference in 2010, when the distribution is more balanced between the groups, with the only exception being the group with the largest economic size prevailing throughout the analyzed period.

Figure 2 shows the economic size of the agricultural holdings by specialization type in 2010-2020. The specialization types are considered in both crops and animal husbandry.

Figure 2. Economic size of agricultural holdings by specialization type



Source: Ministry of Agriculture – "Agrostatistics".

Cereal, oilseed and protein crops have the largest economic size in the three studied years. In 2010, their economic size was 39.7%, and in 2016 it is up to 53.8% (an increase of 14.1%). In 2020, the economic size of Cereals, oilseeds and protein crops decreased insignificantly to 53.5%.

The economic size of the agricultural holdings growing Vegetables, flowers and mushrooms was the highest in 2010 (6.8%). In 2016 there was a drastic decrease of 4.1% and the economic size dropped to 2.7%. In 2020, the studied indicator changed in a positive direction

to 3.1%, which is an increase of 0.4%, compared to 2016. Despite the increase, the economic size of Vegetables, flowers and mushrooms in 2020 is 1/2 of the one in 2010.

The economic size of agricultural holdings growing Vineyards remains relatively unchanged during the studied years, but the highest values are in 2020 (1.2%). In 2010 and 2016, the economic size of Vineyards was 1%. This is the sector with the smallest economic size both for the three studied years and of all the considered specializations of the agricultural holdings.

After Vineyards, the next sector with the smallest economic size is Orchards. In 2010, its economic size is 1.2%, and in 2016 and 2020 it increased slightly by 0.2% and 0.5%, respectively, compared to 2010.

In animal husbandry, with an almost unchanged economic size during the three studied years, are the holdings raising Cattle. In 2010 their economic size is 11.7%, in 2016 it dropped to 9.8% (a decrease by 1.9%). In 2020 (the last studied year), the economic size of Cattle holdings increase by 1.4% and close to the values in 2010.

The economic size of agricultural holdings raising Sheep, goats and other herbivores in 2010 is 3.8%. In 2016, the value of the indicator is 4.1% (an increase by 0.3%). In 2020 (the last studied year), the economic size of such holdings decreased and got to the values in 2010 (3.8%).

In 2010 agricultural holdings raising Pigs, birds and rabbits had the largest economic size in animal husbandry (14.2%). In 2016, the value of the indicator was 10% (a decrease by 4.2%). In 2020 (the last studied year), the economic size of such holdings continued to decrease and reached 9.4%. This is a drop of 0.6% from 2016 and 4.8% from 2010.

Table 2 presents the harvested areas of the agricultural holdings in Bulgaria in hectares (ha) by their production specialization for the period 2000-2020. During the entire analyzed period, the harvested areas of Cereal crops are the most. In 2000, the harvested areas with Cereal crops were 1,965,500 ha – the highest value of the studied indicator for the entire period. From 2000 to 2007, there was a decrease of 432,365 ha (22%), and the harvested area was 1,533,135 ha. In 2010, the harvested areas increased by 15% (236,920 ha), compared to 2007. In 2016, there was also an increase in the size of the harvested areas with Cereal crops by 2.6% (45,843 ha), compared to 2010. In 2020, the studied indicator increased by 7.8% (141,223 ha), compared to 2016. From 2007 to the end of the studied period, the trend is positive and the harvested areas with Cereal crops increased gradually to 1,957,121 ha in 2020. The change in the size of the harvested areas with Cereal crops at the end of the studied period (2020), compared to the beginning of the period (2000), is insignificant – 0.4% in a negative direction, i.e. 8,379 ha less.

In 2000, the harvested area with Industrial crops was 700 ha, which is the lowest value of the studied indicator for the entire period. From 2000 to 2007, there was an increase of 102 713 ha (17%), and the harvested area was 704,413 ha. In 2010, the harvested areas increased insignificantly by 4% (31,310 ha), compared to 2007. In 2016, there was a significant increase in the size of the harvested areas with Industrial crops by 45% (335,959 ha), compared to 2010. This is also the highest value of the studied indicator for the entire period. In 2020, the harvested areas decreased by 7% (78,565 ha) compared to 2016. From 2000

almost to the end of the studied period, the trend is positive and the harvested areas with Industrial crops increased gradually to 1,071,682 ha in 2016. The change in the size of the harvested areas with Industrial crops at the end of the studied period (2020), compared to the beginning of the period (2000), is significant – 65% in a positive direction, i.e. 391,417 ha more.

Table 2. Harvested areas by specialization of the agricultural holdings in Bulgaria for the period 2000-2020 (ha)

	2000	2007	2010	2016	2020
Cereals	1 965 500	1 533 135	1 770 055	1 815 898	1 957 121
Industrial crops	601 700	704 413	735 723	1 071 682	993 117
Vegetables	66 017	23 982	22 007	35 496	22 666
Perennial crops	54 055	28 361	38 778	37 191	41 385
Vineyards	128 717	72 906	49 438	36 551	28 744
Legumes	17 000	9 650	6 640	13 644	1 092
Root crops	48 731	22 557	13 904	8 514	9 946

Source: Ministry of Agriculture – "Agrostatistics".

In 2000, the harvested area with Vegetables was 017 ha – the highest value of the studied indicator for the entire period. From 2000 to 2007, there was a serious decrease of 42 035 ha (64%), and the harvested area became 23,982 ha. In 2010, harvested areas continued to decrease by 8% (1975 ha) compared to 2007. This is also the year with the least harvested areas with Vegetables. In 2016, there was a significant increase in their size by 61% (13 489 ha), compared to 2010. In 2020, the studied indicator decreased by 36% (12,830 ha), compared to 2016, and reached the values in 2010. Almost throughout the studied period, the trend is negative and the harvested areas with Vegetables decreased gradually to 22,666 ha in 2020, with the exception of 2016 when the areas increased. The change in the size of harvested areas with Vegetables at the end of the studied period (2020), compared to the beginning of the period (2000), is significant – 66% in a negative direction, i.e. 43,351 ha less.

In 2000, the harvested areas with Perennial crops were 055 ha, which is the highest value of the studied indicator for the entire period. From 2000 to 2007, there was a significant decrease of 25,694 ha (47%), and the harvested areas were 28 361 ha. In 2010, the harvested areas increased by 37% (10,417 ha), compared to 2007. In 2016, there was a small decrease in the size of harvested areas with Perennial crops by 4% (1587 ha), compared to 2010. In 2020, the studied indicator increased by 11% (4194 ha) compared to 2016. During the studied period, the trend is dynamic, there is an increase and decrease in the harvested areas with Perennial crops and they increase to 41,385 ha in 2020. The change in the size of the harvested areas with Perennial crops at the end of the studied period (2020), compared to the beginning of the period (2000), is 23% in a negative direction, i.e. 12,670 ha less.

Throughout the studied period, the harvested areas with Vineyards decreased. In 2000, the harvested area with Vineyards was 128,717 ha, which is the highest value of the studied indicator for the entire period. From 2000 to 2007, there was a decrease of 55,811 ha (43%), and the harvested areas became 72,906 ha. In 2010, the harvested areas were reduced by 32% (23,468 ha), compared to 2007. In 2016, the negative trend continued, there was a decrease

in the size of the harvested areas with Vineyards by 26% (12,887 ha), compared to 2010. In 2020, the studied indicator decreased by 21% (7807 ha), compared to 2016. From 2000 to the end of the studied period, the trend is negative and the harvested areas with Vineyards decreased gradually to 28,744 ha in 2020. The change in the size of the harvested areas with Vineyards at the end of the studied period (2020), compared to the beginning of the period (2000), is significant – 78% in a negative direction, i.e. 99,973 ha less.

In 2000, the harvested areas with Legumes were 17,000 ha, which is the highest value of the studied indicator for the entire period. From 2000 to 2007, there was a serious decrease of 7350 ha (43%), and the harvested areas became 9650 ha. In 2010, harvested areas decreased by 31% (3010 ha) compared to 2007. In 2016, there was a significant increase in the size of the harvested areas by 105% (7004 ha) compared to 2010, so they doubled. In 2020, the studied indicator decreased by 92% (12,552 ha) compared to 2016. This is also the year with the least harvested areas with Legumes. Almost throughout the studied period, the trend is negative and the harvested areas with Legumes gradually decreased to 1092 ha in 2020, with the exception of 2016, when the areas increased. The change in the size of the harvested areas with Legumes at the end of the studied period (2020), compared to the beginning of the period (2000), is significant – 94% in a negative direction, i.e. 15,908 ha less.

Throughout the studied period, with the exception of 2020, the harvested areas with Root crops decreased. In 2000, those harvested areas were 48,731 ha, which is the highest value of the studied indicator for the entire period. From 2000 to 2007, there was a decrease of 26 174 ha (54%), the harvested areas decreased by half and became 22,557 ha. In 2010, the harvested areas decreased by 38% (8653 ha), compared to 2007. In 2016, the negative trend continued, there was a decrease in the size of the harvested areas with Root crops by 39% (5390 ha), compared to 2010. In 2020, the studied indicator increased by 17% (1432 ha), compared to 2016. From 2000, until almost the end of the studied period, the trend is negative and the harvested areas with Root crops gradually decrease to 9946 ha in 2020. The change in the size of the harvested areas with Root crops at the end of the studied period (2020), compared to the beginning of the period (2000), is significant – 80% in a negative direction, i.e. 38,785 ha less.

If we compare the first and the last year of the studied period, it can be concluded that there is a decline in the harvested areas of all groups of production specializations, with the exception of Industrial crops, which increase their areas by 1/3. The biggest difference is in the harvested areas with Legumes, Root crops, Vineyards and Vegetables. Cereals change insignificantly their harvested areas from 2000 to 2020.

3. Conclusion

With each passing year, the agricultural sector occupies a smaller and smaller part of the country's economy. The number of agricultural holdings and their harvested areas significantly decreased. If the number of agricultural holdings at the beginning of the studied period is compared with their number at the end of the period, in 20 years the agricultural holdings in Bulgaria have decreased by 627 958 (83%). This can be explained by the consolidation of small agricultural holdings into larger ones, on one hand, but on the other

hand, the reason for the negative trend can be the desertification of the rural areas and the reluctance of young people to engage in agriculture. If we compare the first and the last year of the studied period, it can be concluded that there is a decline in the harvested areas of all groups of production specializations, with the exception of Industrial crops, which increase their areas by 1/3. The biggest difference is in the harvested areas with Legumes, Root crops, Vineyards and Vegetables. Cereals changed insignificantly their harvested areas from 2000 to 2020.

There is a big difference between the various specializations of the agricultural holdings. The Cereals and Industrial crops dominate, at the expense of all other productions. There is an imbalance regarding the cultivation of various agricultural crops and livestock, i.e. harvested is the crop that is most subsidized at the given time. A more drastic decline in the number of holdings is reported in stock-breeding, compared to plant-growing, but the trend is negative for both branches. Of the specializations considered in both crop and livestock production, Cereals, oilseeds and protein crops were the ones with the largest economic size during the study period. If the three studied years (2010, 2016 and 2020) are compared, it is noticeable that the distribution of the agricultural holdings by economic size is almost the same in 2016 and 2020. There is a difference in 2010, when the distribution is more balanced between the groups, with the exception of the group with the largest economic size, which prevails throughout the analyzed period. Agricultural holdings with a large economic size increase, while those with a small size almost disappear.

Agriculture is a high-risk sector and some risks in it are uncontrollable. In Bulgaria, risk management in agricultural production structures is relatively new and has great potential for development. An option to stabilize the sector and increase resilience to risk events is the implementation of an effective risk management strategy that is tailored to the specific risks in agriculture, their complexity and the extent of the consequences. The effective impact of innovation on economic development is closely linked to the legal, institutional and financial environment. They have an impact on all the economic agents that transform existing and newly created knowledge into advanced competitive products and services for the market (Chobanova, Ilieva-Naydenova, Bakardzhieva, 2005). Of great importance is also the intervention of the state, which supports risk management and creates prerequisites for the easy application of the various instruments to influence risk events. Both risk management and application of innovative practices in the activity of the agricultural holdings are new to Bulgarian agriculture and the capacity for development in this area is great.

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