



INSTITUTIONAL SUPPORT AND LAW REGULATION OF WHEAT PRODUCTION IN BULGARIA

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ABSTRACT

The Common Agricultural Policy (CAP) is the link between agriculture and society, between Europe and its farmers. The CAP is based on three fundamental principles: free trade within the Community based on common prices, preferences for European production on Community markets, and common financial responsibility.

Agricultural production constitutes a significant part of Bulgarian exports, with cereals accounting for a high share of around 77% of total exports. The main cereal crop in Bulgaria is wheat. The aim of the report is to examine the main forms of subsidizing grain production in Bulgaria and legislation.

Keywords: CAP, grain production, legislation, EU funds

INTRODUCTION

The agricultural sector is an important part of the Bulgarian economy as well as the European Union economy. The sector is leading in economic point of view as well as sociological with the work positions that it provides. As a mainly produced culture in the sector for years we can highlight wheat. The production and export of wheat in Bulgaria is a long-established industry with key positions.

As part of the European community the sector is regulated by The European regulation and CAP. Meanwhile the agricultural sector is subsidized by financing and allocated funds of the European Union.

The sector functions as a key one for the entire European Union through exports and imports between member states, cooperation of producers and various associations.

PURPOSE AND METHODS

The **purpose** of this paper is to analyze the main forms of support of wheat production in Bulgaria and its legislation. The interest is sparked by the relevance of the problem and its key place in the overall framework of the economic functioning of the European Union.

The methods that are used in the current paper are a trend of a period of ten years for forecasting the production of wheat while not taking into consideration other variables, correlation and regression analysis. The methods applied in this article are based on data from the Ministry of Agriculture and Culture Agrostatistics and The Directorate-General for Agriculture and Rural Development of the European Commission for the period from 2006 to 2023 by performing correlation and regression analysis. The impact of specialized financial assistance during the period 2022 - 2024 and the rates of production growth are also analyzed. The calculations performed aim to examine the existence of an interrelationship between the amounts of funds absorbed in the sector and the volume of wheat produced.

LEGISLATION AND REGULATION OF THE SECTOR

The agricultural sector is main sector in the development of Bulgaria and the European Union. After the liberation of Bulgaria with the land redistribution processes or the so-called "agrarian revolution" the foundations of legislation in the sector are built. The first law of the sector is legitimated in November 1880 – "Law for improving the condition of the agricultural population on the manor and homestead lands". The changes at the beginning of the 20th century with the development of the country's infrastructure, the changes in taxation

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and the already functioning credit system contribute of the support of the condition of the sector and have a positive impact on agricultural production.

Besides the support the Bulgarian agriculture falls behind significantly to the modern 20th century standards. (10)

Nowadays the main forms of legislation in the sector that determine the support and regulation of the agricultural sector are:

- Agricultural Producers Assistance Act;
- Grain Storage and Trade Act;

The paying agency checks the compliance with the quality requirements of the batches of grain and rice offered for purchase, in accordance with Delegated Regulation (EU) 2016/1238, and control over the import and export of agricultural produce is carried out by the Minister of Agriculture, food and forests through the establishment of a permanent interdepartmental consultative committee on the import and export of agricultural products related to the implementation of the European Union's CAP, participants in which are representatives of the Ministry of Agriculture, Food and Forestry, the Ministry of Economy, the Ministry of Finance, including representatives of the Customs Agency and the Paying Agency - SFA.

Regulation No 1370/2013 lays down fixed aid and compensatory measures relating to the common organization of the markets in agricultural products, laying down European rules on fixed prices, taxation, support, compensation and quotas for various agricultural products. The Regulation is based on Article 43(3) of the Treaty on the Functioning of the European Union (TFEU), adopted by the Council.

The regulation manages the conditions for:

- The referent threshold for cereals, rice, sugar, beef and veal meat, milk and milk products such as butter, bacon meat and olive oil;
- Public intervention prices for wheat, hard wheat, barley, corn, rice, skimmed milk powder, butter, beef and veal;
- Ceilings for wheat (3 million tons), butter (50,000 tons) and skimmed milk powder (109,000 tons), which the EU can buy and withdraw from the market for a certain period;

- Financing from the European Union for subsidies of fruits, vegetables and milk for schools.;
- Taxes, refunds and quotas on sugar production until 30 September 2017.;

The regulation takes place since 01.01.2014 (7) For the finance payments supported by CAP for the period from 2023 until 2027 the following regulation are used:

- Regulation (EU) 2021/2116 in accordance to financing, management and monitoring of the common agricultural policy;
- Regulation of performance (EU) of the commission of regulating the rules for implementing Regulation (EU) 2021/2116 of the European parliament and the Council regarding paying agencies and other bodies, financial management, clearance of accounts, checks, guarantees and transparency;
- Regulation (EU) 2021/1060 for establishing the generally applicable regulations of the European fund of regional development, the European social plus fund, The Cohesion Fund, The Fund of fair transition and the European Maritime, Fisheries and Aquaculture Fund, as well as the financial rules for them and for the “Asylum, Migration and Integration Fund”, the Internal Security Fund and the Instrument for financial support for the governance of the Council and visa policy (8);
- Regulation (EU) 2021/2115 of the European parliament and the council of ascertainment of laws of supporting the strategic plans, which have to be written 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 Regulations (EU) No 1305/2013 and (EU) No 1307/2013 – regulates coupled income support, which may be provided only for certain sectors and industries or specific types of agricultural activity, when they are important for socio-economic or environmental reasons, **including the financing of cereals**;
- Regulation (EU) 2021/2117 of the European parliament and the council of amendment of regulations (EU) № 1308/2013 for establishing a common organization of the markets in agricultural products, (EU) No 1151/2012 on quality schemes for

agricultural products and foodstuffs, (EU) No 251/2014 on the definition, description, presentation, labeling and the protection of geographical indications of aromatized grapevine products and (EU) No 228/2013 for defining specific measures for agriculture in the outermost regions of the Union – for determining the marketing year for cereals. (9)

The state control bodies which regulate the compliance with legislation in the sector in Bulgaria are respectively:

- The Ministry of Agriculture and Food is a supreme body of state power that implements state policy in the field of agriculture, food and forestry.
- Interdepartmental Consultative Commission - The Commission carries out an ongoing analysis of the activities related to the implementation of the import and export of agricultural products in the Republic of Bulgaria and prepares proposals for changes in the legislation
- Paying Agency - The Paying Agency issues licenses and certificates related to the export of agricultural and processed agricultural products and pays refunds on the export of agricultural and processed agricultural products
- The Bulgarian Food Safety Agency controls the storage of cereals - the agency controls compliance with sanitary conditions, as well as the maintenance of registers by the storage holders
- State Agricultural Fund - Bulgarian beneficiaries receive financial support from the national budget, through the instruments of the Common Agricultural Policy (CAP) and the Common Fisheries Policy (CFP) of the European Union (EU)

The Common agricultural policy is created with aim of increase production of food. CAP is the longest implemented policy in the European Union, which offers basic financial support of farmers, rural areas and the whole agricultural system in the European Union. CAP amounts to 31% of the whole budget of the European Union for the period since 2021 to 2027. (6)

The Common agriculture policy is the policy that represents the relationship between agriculture and society, between Europe and its farmers.

Three basic principles are laid down:

1. Free exchange in the borders of the Union based on general prices;
2. Preferences for European production on Community markets;
3. General financial responsibility

The Common monitoring and evaluation framework (CMEF) gives reports with aim of improving efficiency of the Common Agricultural Policy (CAP) for the period since 2014 until 2020.

The agricultural economy contributes the society with providing of food and other basic materials for citizens by providing a backbone for rural societies.

The Common Agricultural Policy ensures that farmers can continue to provide services in the long term by strengthening the economic sustainability of agriculture.

The support helps to stimulate production and therefore exports of finished products. In the period 2011/12 the total number of wheat exports is directed to countries such as Spain, Italy, Greece and Romania. (11) The export for third countries is mainly for Macedonia, Ethiopia and Libya. In the next period 2022/2023 there is a decline in the export of all cereals with the main counterparties for the period – Greece, Spain, Italy, Romania and Portugal. The export to third countries is directed to Algeria, Tunisia, Indonesia and Bangladesh.

In the period 2023-2024 the export of wheat from Bulgaria peaks which can be explained by the decline in the previous period. The main counteragents of our countries remain Algeria, Spain, Greece, Romania as well as Egypt. The export for Indonesia, Thailand, South Korea and others increases. (12)

The agricultural sector is a main sector in the development of Bulgaria and the whole European Union.

A check made at the Agrostistics Department of the Ministry of Agriculture and Food revealed the following data on production and, accordingly, reclaimed land by year (**Figure 1 and 2**).

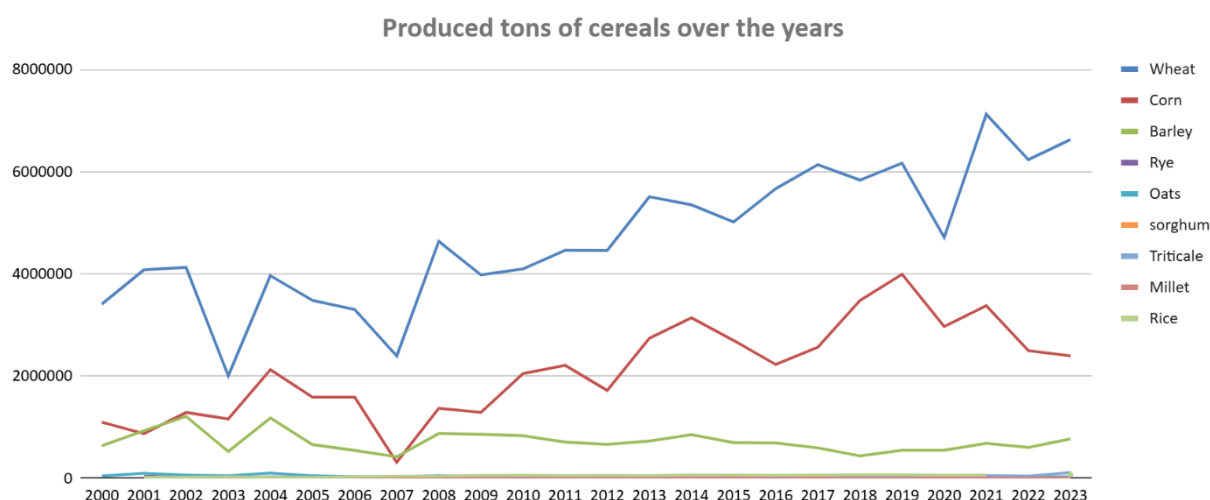


Figure 1. Graphical representation of the produced tons of cereals over the years

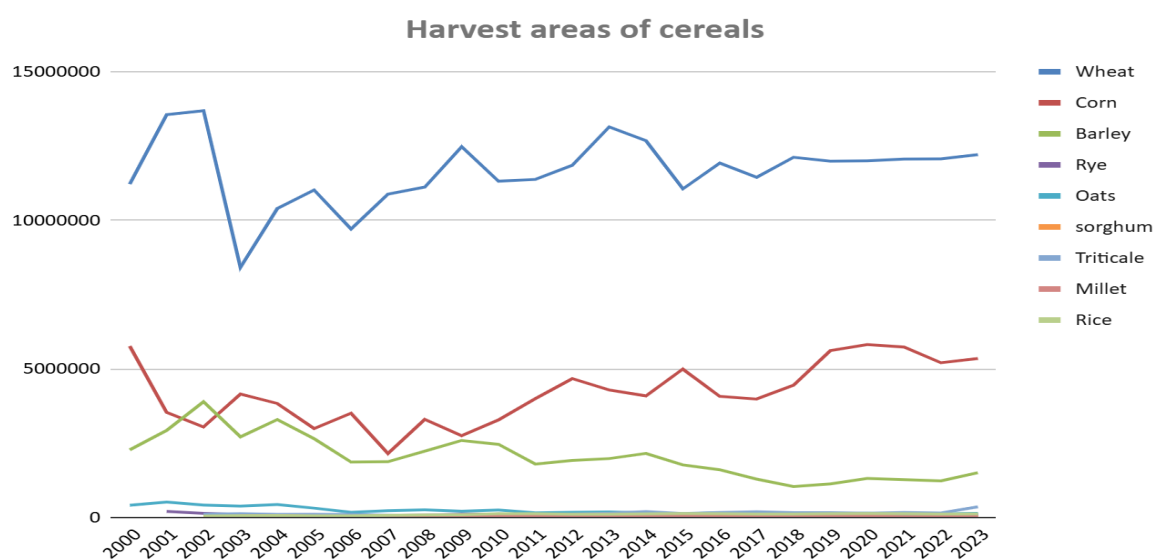


Figure 2. Graphical representation of the harvest areas of cereals (4)

Source: Data from Ministry of Agriculture and Food Department of Agriculture Bulgaria

There is a long-term preservation of the production and the occupied areas of wheat, corn for grain and millet. Wheat retains its main key positions in production as the largest share of the produced crop in our country. The produced quantities are increasing, although the size of the harvested areas of the crop remains relatively constant.

The other cereals such as rye, barley, oats, sorghum, triticale, millet and rice report low levels of production and harvested areas.

FINANCIAL SUPPORT OF THE SECTOR

The main forms of support of the sector are the so called “direct payments”. They consist multifunctional element of CAP, which

supports the income of the farms, ensuring the sustainability of agriculture, maintaining viable food production and food security. This support gives the farmers the benefit to provide vital public goods such as ecosystem services, employment, landscape management and maintaining the viability of the economy. This kind of support helps in the developing of resilience of agricultural holdings to address environmental challenges and efficient use of natural resources, ensuring a better age structure of those employed in agriculture and maintaining market orientation of holdings. Other form of support is the so called system of unified payments by areas, which is characterized with low level of bureaucracy, simplicity and clear requirements. SUPI gives

the basic support for farmers as the criteria are understandable, objective and simple.

The green payments are another way of proving the public importance of the CAP for securing food products as a factor for environmental sustainability of the territory. They stimulate overcoming the global challenge of combating climate change.

The coupled direct payments support sectors with hardships and contribute to solving of

specific regional problems. The coupled direct payments help the correct targeting of support in specific sectors, which is a prerequisite for increasing the resilience of agricultural holdings. Coupled payments contribute to maintaining economic activities and employment in rural areas. (5)

For Bulgaria the CAP spending has changed over the years as seen in **Figure 3**.

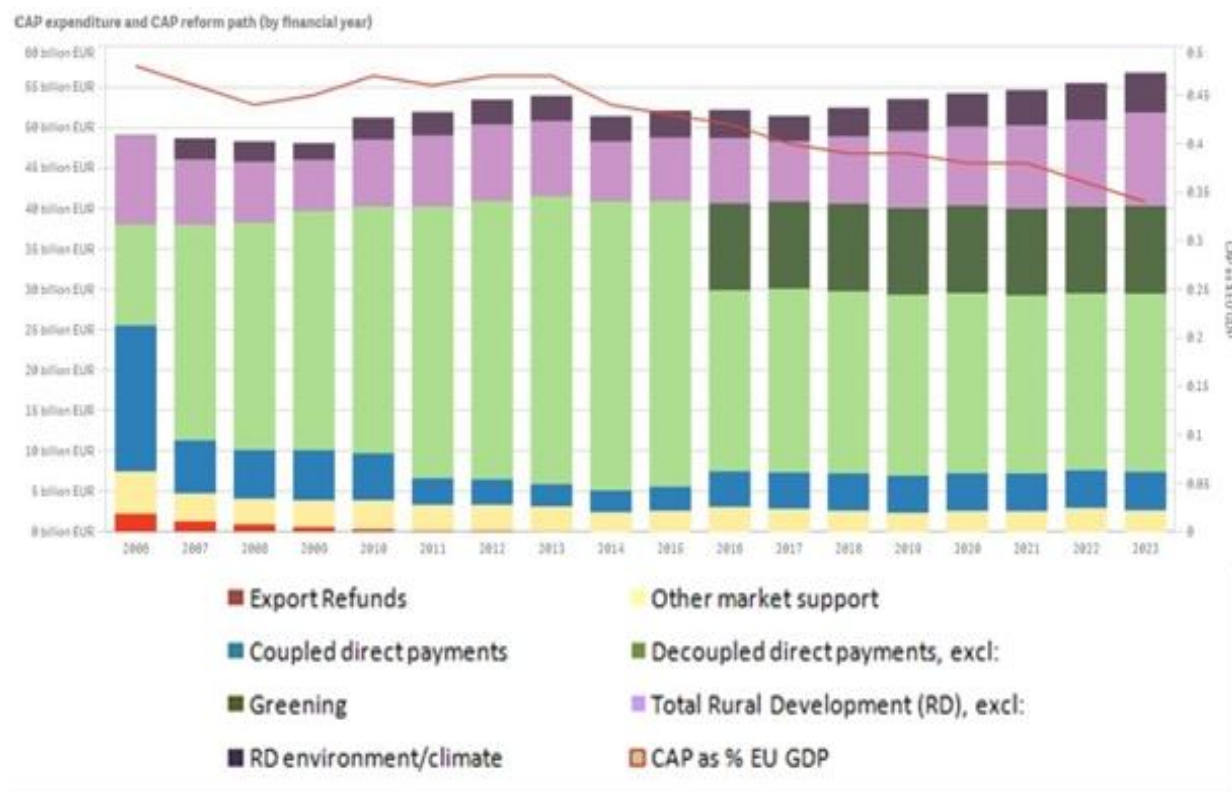


Figure 3. CAP expenditures and CAP reform path (by financial year) (1)

Source: Data from Directorate-General for Agriculture and Rural Development, European Commission.

The biggest part consists of the decoupled direct payments, excl. which significantly increases at the expense of production-related direct payments.

The „green” payments also increase since 2016. Around 50% of the direct payments are for other markets such as cereals, hops, textiles, meat, eggs, sheep and others. The export of wheat and rough cereal in the European Union also continues to increase, meanwhile the import of hard grain also increases. (2)

RESULTS

After conducting a correlation analysis between the types of allocated funding and the produced

quantities of basic cereals a certain dependencies are established as seen in **Table 1**.

conducting a correlation analysis, a direct connection is witnessed between the allocated green payments, Total Rural Developments (RD), RD environmental/climate and the produced tons of wheat.

Therefore, payments made to support farmers implementing environmental protection practices have an incentive effect on the quantity of tons of wheat produced. The correlation coefficient between the allocated green payments, RD environmental/climate payments and the produced tons of wheat for the period from 2006 to 2023 is high – nearly 1.

Table 1. Correlation table between the support and produced tons of cereals

	Tons of wheat	Tons of barley	Tons of corn	Export refunds	Other market support	Coupled direct payments	Decoupled direct payment, excl	Greening	Total Rural Develo- pments (RD)	RD environment/ climate	CAP as % EU GDP
Tons of wheat	1										
Tons of barley	-0,16444	1									
Tons of corn	0,716127	-0,25329	1								
Export refunds	-0,71138	0,190036	-0,6795	1							
Other market support	-0,61815	0,220372	-0,61514	0,877831	1						
Coupled direct payments	-0,42859	0,09757	-0,37598	0,882923	0,873389	1					
Decoupled direct payments, excl	-0,19079	0,106879	-0,07572	-0,35686	-0,32567	-0,65541	1				
Greening	0,741684	-0,27519	0,583877	-0,49391	-0,47616	-0,17074	-0,62139	1			
Total Rural Developments (RD)	0,38476	-0,20651	0,227285	0,061744	0,177296	0,303745	-0,50285	0,372576	1		
RD envirolmental/ climate	0,769806	-0,27296	0,556671	-0,83493	-0,85495	-0,73232	0,052904	0,679622	0,263872	1	
CAP as % EU GDP	-0,80986	0,295926	-0,5487	0,537263	0,610758	0,27646	0,460498	-0,88933	-0,3978	-0,80336	1

Source: Data from Directorate-General for Agriculture and Rural Development.-European Commission and Ministry of Agriculture and Food Department of Agriculture Bulgaria and own calculations.

Therefore, stimulating producers which support environmental measures leads to direct increase of the produced tons of wheat. For other basic cereals, produced in the period – barley and corn a weaker direct proportionality between the allocated funding and the quantities produced is established. The produce of barley for the period since 2006 to 2023 is highly influenced by other types of financing, and corn

production is directly influenced by the granted "green payments", but to a lesser extent than wheat.

After conducting a regression analysis with aim of forecasting the quantities of wheat produced in relation to the allocated funding for the period 2006 - 2023, we can witness dependencies in the summary report. **(Table 2)**

Table 2. Regression summary output CAP expenditures for Bulgaria and produced tons of cereals from 2006 to 2023 and ANOVA

SUMMARY
OUTPUT

Regression Statistics

Multiple R	0,916862865
R Square	0,840637513
Adjusted R Square	0,698981968
Standard Error	731063,6345
Observations	18

ANOVA

	df	SS	MS	F	Significance F
Regression	8	25373217264736,70	3171652158092,08	5,934377765	0,007584229
Residual	9	4810086339484,57	534454037720,51		
Total	17	30183303604221,20			

A high connection is observed between the variables relationship of probabilities between

variables in groups and between the groups themselves. **(Table 3)**

Table 3. Regression analysis of CAP expenditures for Bulgaria and produced tons of cereals from 2006 to 2023

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Intercept	27210114,98	27815281,74	0,978243371	0,353515229	-35712423,85	90132653,81	-35712424	90132654
Tons of wheat	-2497713,71	2675884,599	-0,933416078	0,374968844	-8550985,219	3555557,806	-8550985,2	3555557,8
Tons of barley	-38858,7602	1127629,283	-0,034460581	0,973262063	-2589733,421	2512015,9	-2589733,4	2512015,9
Tons of corn	-350300,244	744096,8843	-0,470772356	0,649004178	-2033564,34	1332963,853	-2033564,3	1332963,9
Export refunds	-232199,355	648346,14	-0,35814103	0,728494038	-1698860,219	1234461,51	-1698860,2	1234461,5
Other market support	-242413,005	658435,1408	-0,368165352	0,721260252	-1731896,776	1247070,765	-1731896,8	1247070,8
Coupled direct payments	396992,1849	327923,9179	1,21062284	0,256872007	-344823,2549	1138807,625	-344823,25	1138807,6
Decoupled direct payments, excl	-1130201,16	1173314,156	-0,963255369	0,3605851	-3784422,182	1524019,861	-3784422,2	1524019,9
Greening	-27764431,9	17484497,64	-1,587945645	0,146761104	-67317113,44	11788249,69	-67317113	11788250

Source: Data from Directorate-General for Agriculture and Rural Development.-European Commission and Ministry of Agriculture and Food Department of Agriculture Bulgaria and own calculations.

An extremely high percentage of correlation – R is observed between the years from 2006 to 2023 of the CAP expenditures and the produced tons of cereals in Bulgaria. Therefore the production of wheat is in direct dependence on the percentage financial incentives granted by the EU.

The coefficient represents proportion of variables in the dependent variable based on the independent variables. The high percentage of correlation represents better proportion of variables in the dependent variable based on the independent variables. A high correlation percentage indicates a better fit to the model. The high R square percentage of 0.84% of the model indicates a high correlation between the dependent variable (tons of wheat produced) and the independent variables, which represents a high correlation. The Significant F value is

drastically below 0.05%, which forecasts less than 5% probability of random manifestations and suggests that the analysis is statistically significant.

Besides the long-term financial stimulation of the sector through state aid such as payment per unit of area and direct payments has in recent years the following types of cash aid are being paid to grain producers under extraordinary support schemes:

- “Assistance in support of liquidity of farmers to overcome the negative economic impact of Russian aggression against Ukraine”;
 - “Assistance in support of liquidity of farmers, producers of grain and oilseed crops, to overcome the negative economic impact of Russian aggression against Ukraine”;
- The funds utilized by farmers under this item are shown in **Table 4 and 5**.

Table 4. Utilized extraordinary support schemes by Bulgaria for the period since 2022 to 2024 (3)

Year	Disbursed funds
2024	653081565,88 leva
2023	425837125,53 leva
2022	221655395,00 leva

Source: Data from State Fund Agriculture Annual reports 2024

Table 5. Correlation between the utilized extraordinary support schemes by Bulgaria and the produced tons of cereals for the period since 2022 to 2024

	Tons	Disbursed funds
Tons	1	
Disbursed funds	1	1

Source: Data from State Fund Agriculture Annual reports 2024, Ministry of Agriculture and Food Department of Agriculture Bulgaria and own calculations

After conducting the correlation analysis to establish the relationship between the extraordinary measure granted for financing grain producers and the funds utilized, a direct strong dependence is established between the funds utilized and the increase in the quantities of grain produced. The correlation index is 1.

After conducting a forecast of 10 year plan of the most reclaimed culture in the Bulgarian agro sector – wheat, based on variables such as produced quantity and harvested areas, it is expected that wheat production will continue to expand gradually, taken that other things being equal, and the European Union's policy towards the sector is maintained.

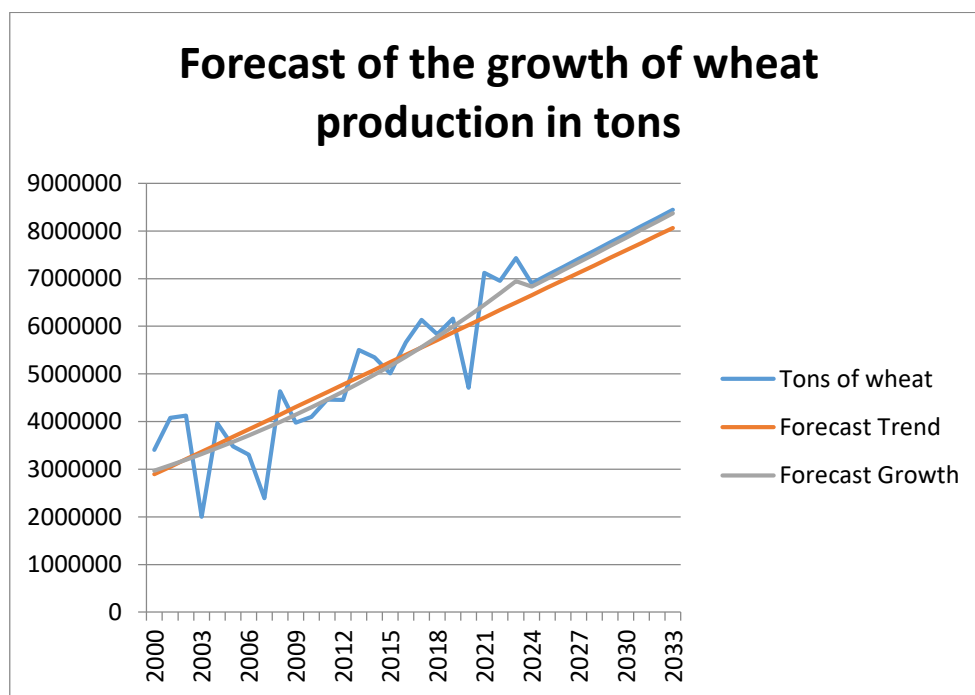


Figure 4. Forecast for the growth of wheat production in tons

Source: Data from Ministry of Agriculture and Food Department of Agriculture Bulgaria and own calculations.

The European Union policy in recent years is aimed at stimulating the small producers and supporting other types of legumes such as soybeans as seen from the graph.

After taking into consideration the changes in the financial stimulating of the sector and the redirection of financial resources, as well as the expected cessation of the allocation of extraordinary financial resources to stimulate grain producers, can lead to a change in the quantities of wheat produced and an imbalance.

CONCLUSION

The production of cereals in Bulgaria is influenced by the financial resources allocated during the period. The greatest impact on wheat production for the period 2006-2023 is exerted by the allocated green payments, as well as environmental payments. Supporting producers who produce environmentally friendly products directly contributes to increasing wheat production.

A direct correlation is also established between the specialized assistance provided to overcome

the negative economic impact of the Russian aggression against Ukraine for farmers and the volume of produced quantities for the period 2022-2024 by grain producers.

It is expected that in the near future the increase in the quantity of wheat produced will be maintained and will continue to grow, that is if there are no cessation of financial resources or change of politics.

The increase in the export of durum wheat can be explained by the increase in the quantity of wheat produced.

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