

UDC: 3.33

Original scientific paper

Received: -

Accepted: October 18, 2018.

Corresponding author: Aleksandra Gajdobranski
aleksandra.gajdobranski@fppsp.edu.rs

RENTABILITY ANALYSIS OF SERBIAN CEREALS WITH REFERENCE TO GROSS SOCIAL PRODUCT AND THE EUROPEAN MARKET

Aleksandra Gajdobranski¹, Maja Andjelkovic², Milan Jankovic³

¹*Faculty of Business Studies and Law, University "Union – Nikola Tesla", Belgrade,
E-mail:aleksandra.gajdobranski@fppsp.edu.rs*

²*Faculty of Informational Technologies and Engineering University, Union – Nikola
Tesla", Belgrade, E-mail: maja.andjelkovic@fiti.edu.rs*

³*Faculty of Business Studies and Law, University "Union – Nikola Tesla", Belgrade,
E-mail: milan.jankovic@fppsp.edu.rs*

Abstract: *The paper presents the profitability analysis of the most important cereals in Serbia (wheat and corn) with a turn onto the European market. The main aim of the research is to perceive the characteristics and tendencies in improving the profitability of wheat and maize in our country by using scientific methods and analyzing the trend of production and transport trends in the European market. In this regard, we have covered the time period from 2012 to 2018, through primary and secondary data, which implies consideration and comparative analysis of the following economic indicators: the share of agriculture in gross domestic product (GDP), the arithmetic mean (average values), the trend movement (rate of change), standard deviation, coefficient of variation, dynamics of changes (structure of motion), discovery of comparative advantages by the years being analyzed, using RCA index, etc. Therefore, the profitability analysis of cereals is aimed at examining and evaluating the performance of the business within the final result of business achieved in the sphere of production and trade of this type of herbal culture.*

Keywords: *profitability, cereals, domestic and European market, methodological procedures.*

INTRODUCTION

A special place belongs to agricultural and vegetable production in the share of the total economic value of producing food of vegetable origin. Wheat is in the first place and it belongs to cereals grown on an agricultural area that is among the largest of all other types of food, but the world trade in this cereal is also higher than all other cereals together (Curtis, Rajaraman, MacPherson, 2002). As a grain-oriented culture except wheat, corn is the most important and widespread crop in the world and it is grown starting from tropical areas to the Scandinavian countries. For centuries, a large part of the population, especially the economically underdeveloped countries, use wheat and corn in an unmodified form as a basic food. On the contrary, in economically developed countries, the use of wheat and maize as a variety of products is mainly used for animal nutrition, industrial processing, and for human food in the refined form. Such technological process can be expected in the near future in other countries as well, since in the literature it is noted that, for example, we can get about 500 different products from the whole corn plant by industrial processing, which means that this plant culture can alleviate many world troubles in the crisis of energy and food (Lapcevic, 2000).

Dj. Radic points out: "In order to examine the possibility of increasing yields of seeds with the best qualities, we have studied the density of hybrids of seed corn, harvest time, as well as the biological value of the seed, and new ways of sowing hybrid corn in order to achieve higher values per unit area. The areas under seeds of corn since 1970 have been growing steadily depending on the quantities needed for domestic needs and for export because our country has become a serious exporter of hybrid corn seeds in some countries in Europe and other continents (Radic, 1972).

In order to achieve better competitiveness in the European market, we need to be more productive, to achieve as much profits as possible with less investment. In this regard, the prominent Croatian economist S. Babic points out: "Profit can be established in two main ways. This is the difference that arises when the value of an asset, being expressed at the end of the accounting period, is deducted from the initial value of the asset. It is, of course, assumed that the final value of the property was greater than the initial one. In the opposite case, the difference would present a loss" (Babic, 2014). It can equally be said that the gain is the difference that occurs when revenues are deducted from revenues generated in a certain accounting period, or business. And it is assumed that revenues are higher than expenditures. If revenues are less than expenditures, the difference is again a loss. This double way of determining the gain / loss / is supported by the fact that it is precisely expenditures and income that, during the accounting period, work in the direction of changing the initial state of a certain asset. Accordingly, the gain / loss is equal to the difference in the assets at the end of the accounting period and assets at the beginning of the accounting period or the gain / loss is equal to the difference between income and expenses in a certain accounting period. When we put such calculating profit or

loss in relation with the initial property, the profitability indicator is obtained. The profitability indicator often referred to as the rate of return on invested funds is the most important indicator, which shows for how many years with business making the amount of invested funds in the investment and development policy, or the allocation of capital will be returned. Namely, where the rate of profitability or return is low, investors are not interested in investing and vice versa.

Similar is the case with crop production, because if producers have fewer subsidies and fewer areas for incentives than the European Union, then they cannot be competitive with their products on the foreign market. So, for example, within the framework of a joint project titled "Strengthening of the Association of Cereals and Export Activities in Serbia", the Food and Agriculture Organization of the United Nations (UN FAO) and the Association for the Advancement of Cereal Production and Export "Zita Srbije", signed an agreement on cooperation with which the expert and financial support of the UN FAO development of this sector of agriculture and trade in Serbia is continued. With this agreement, the sector analysis and market research is planned to identify the basic opportunities and problems in production and trade, starting from the quality of cereals, through infrastructure and logistics, to the successful placement of products from Serbia on European markets (Business Association "Zita Srbije", 2018). The corn and wheat markets are divided into two groups: the surrounding countries where the goods are delivered by trucks and railways, and on sales on the FOB Danube port parity where buyers are large grain international companies, which most often through the Romanian port of Constanta, sell Serbian corn worldwide (Southeast Asia, Middle East, Africa and European Union countries). One of the messages of the market movement is: "If we would sort wheat and corn primarily in terms of quality, we would have achieved a higher market price, which would, on the other hand, reflect on the profitability of making business."

RESEARCH METHODS AND DATA SOURCES

The research was carried out for the period from 2012 to 2018, with special reference to the statistical indicators of wheat and corn production. In addition to scientific methods, in this paper tables will be used in which summary data for the most important regions of wheat and corn production will be presented and which will be processed by standard mathematical and statistical methods (arithmetic mean, standard deviation, variation coefficient and paromene rate).

In order to show the average size of the observed phenomena, the average form method was used:

$$\bar{X} = \frac{\sum_{i=1}^n X_i}{n}$$

The degree of variation of individual occurrences was calculated by using the shape variation coefficient:

$$V = \frac{\sigma \cdot 100\%}{\bar{X}}$$

where σ represents a standard deviation, obtained in the following way:

$$\sigma = \sqrt{\frac{\sum_{i=1}^n (X_i - \bar{X})^2}{n}}$$

For most part of the processed time series in the observed time period according to Jancuric (1978), the average rates of change are calculated, using the form function:

$$G = \sqrt[n-1]{\frac{Y_n}{Y_1}}$$

p = average rate of change

G = average rate of development of the phenomenon

Y_n = the absolute value of the last member

Y_1 = the absolute value of the first member of the time series

n = the number of members of time series

RCA (Revealed Comparative Advantage) is an indicator that determines the turnover (import / export) and is defined as the ratio / proportion (in percentage expression) as the net export / import of a particular product in the total value of the turnover of that product.

$$RCA = (X_i - M_i) / (X_i + M_i)$$

X_i = export of products and

M_i = import of products

Based on quantitative statistical calculations, ranking of regions and countries in the international trade of these cereals, as well as the location of Serbia in relation to European countries, has been carried out.

The main sources of data used in this scientific research are the annual statistical data of Serbia for certain years, the internal material of the business association "Zita Srbije", studies on the competitiveness of agriculture in Serbia, data collected through the Internet, as well as research by authors published in books, other journals and publications. From foreign statistical sources, the most widely used database is www.fao.org, www.eurostat, foreign trade statistics, USDA (United States Statistical Date).

BALANCE ANALYSIS OF WHEAT AND CORN IN THE INTERNATIONAL MARKET

Foreign trade includes two directions of import and export. When the value of exports exceeds the value of imports, a positive balance in exports or an active foreign trade balance has been realized, and vice versa, if the value of imports exceeds the value of exports, a negative balance in exports or a passive foreign trade balance is realized. Balance of foreign trade, therefore, can be active, passive and balanced, depending on the relationship between imports and exports (www.scribid.com/dok/51702762/pojam-spoljne-Trgovine-i-Prva-Teorija/ - downloaded on October 20, 2018).

Wheat and corn as two main cereals have for years been contributing to the positive balance of foreign trade, both in value and in quantities. During 2016, the total grain exports were realized in value of 481 mil €, which was more than 10% compared to the value of exports in 2015, and also in relation to the five-year average (from 2011 to 2015 years). Wheat and corn were among the top ten export agricultural products in 2016, both in terms of value and quantity of exports. In 2016, maize achieved the highest export value of 348 mil €, but this value was slightly lower (by around 0.5%) compared to the previous year. Unlike maize, wheat in 2016 achieved export value of 128 mil €, which was about 66% higher export value compared to the previous year. As for the import of cereals, during 2016, wheat was imported in about the worth of 438 thousand €, which was about 2.8% lower than in the previous year. Unlike wheat, in May 2016, corn was imported in worth of 21 mil €, which was about 1.2% more than in the previous year (Ministry of Agriculture and Environmental Protection, 2017).

Import and export of wheat and corn by appropriate years (2015-2017) can be calculated on the basis of the comparative advantage index (RCA). The RCA index is an indicator that determines the turnover (export-import) and is defined as a pro-

portion / ratio in a percentage expression, where values higher than zero suggest that comparative advantages in export have been achieved in certain years, and vice versa. Table 1 shows the export-import balance that can be positive, negative or zero, as well as the comparative advantage index calculated using the following formula: $RCA = (X_i - M_i) / (X_i + M_i)$, where X_i = export of the product and M_i = import of the product.

Table 1 Import-export of wheat and corn in the international market (2015-2017)

(in mil./t)

Wheat				
<i>Year</i>	<i>Import</i>	<i>Export</i>	<i>Balance</i>	<i>RCA (%)</i>
2015	175	173	-2	-0,6
2016	175	183	8	2
2017	179	182	3	0,8
Corn				
<i>Year</i>	<i>Import</i>	<i>Export</i>	<i>Balance</i>	<i>RCA (%)</i>
2015	138	120	-18	-7
2016	147	160	13	4,2
2017	150	153	3	1

Source: SORS, External trade statistics by years (based on the author's calculations)

In the import and export of wheat in analyzed years, the largest export was achieved in 2017, where RCA was 2%, which represented a positive balance in exports. The smallest export of wheat was achieved in 2016, whose index of comparative advantages (RCA) was -0.6%, which was a negative balance in exports.

In the import and export of maize in analyzed years, the largest export was achieved in 2017, where RCA was 1%, which represented a positive balance in exports. The smallest corn export was achieved in 2016, whose index of comparative advantages (RCA) was -7%, which was a negative balance in exports. So, for the wheat and corn, the best was in 2017 when the export surplus was achieved, and the worst in 2016 when the export deficit was realized.

According to the US Department of Agriculture, it is estimated that wheat is the most important grain where it is planted under $\frac{1}{4}$ of field crops in the world, followed by corn. In the previous 2016/2017 about 751 million tons of wheat was produced in the world, which was about 9 million tons less than in the current 2017/2018 when it was produced about 760 mill./t of this cereal. World wheat production, for the fourth consecutive year, has reached a record level. The increase in production was in Russia, the USA, Argentina and India, while the decline in production was in the

European Union, Morocco, Turkey and China. It is estimated that about 740 mil./t is required for the consumption of the population on the globe. The direct consequence of trends in world production and consumption is the high level of wheat reserves, which at the beginning of 2018 has been about 255 million tons. This level of world wheat reserves covers average wheat consumption in about four months.

As far as corn is concerned in economic year 2016/2017 about 1.075 mil./t was produced in the world according to the data of the US Department of Agriculture published in the report on the current global agricultural supply and demand, while according to the latest data, the total production of corn in the world in the economic year 2017/2018 was about 1.036 mil./t. (which is about 39 million tons less than the production in 2016/2017), while worldwide corn consumption reached about 1.069 mil./t (which was about 11 mil. / t less than the consumption in 2016/2017) (<http://fao.org>). The ten largest producers of corn in the world from 2015 to 2018 (USA, China, Brazil, European Union, Argentina, Ukraine, South Africa, Mexico, Russia, India) participate in production with 86.92%, while the other 226 produce 13.08% of the total produced amount. The world production, consumption and supplies of wheat and corn expressed in millions and tons are shown in Table 2 (Zita Srbije, 2018).

Table 2 The world production, consumption and supplies of wheat and corn (2015-2017)

(in mil./t)

Wheat	Initial supplies	Production	Consumption	Export	Final supplies
2015/2016	218.69	735.21	711.16	172.84	242.74
2016/2017	242.74	750.68	738.83	183.28	254.60
2017/2018	254.60	759.75	743.13	182.01	271.22
Corn	Initial supplies	Production	Consumption	Export	Final supplies
2015/2016	209.73	972.21	968.01	119.74	213.93
2016/2017	213.93	1,075.49	1,058.53	159.78	230.90
2017/2018	230.90	1,036.07	1,069.19	152.57	197.78

Source: Business association "Zita Srbije" (2018). Monthly Report 4.18 / Belgrade, April, 2018, p. 3

In April 2018, the International Grain Advisory Council slightly increased monthly estimates of total world cereal production in the economic year 2018/2019 to 2,088 bln./t, and the total consumption was at the level of 2,139 bln./t. It is estimated that the world wheat stocks will be at the level of 271 million of tons, which is more than 17 million of tons compared to the final supplies for the economic

2017/2018 year. For world corn supplies, it is estimated that it will be at the level of 198 million tons, which is less by 33 mil / t in relation to the final supplies for the economic 2017/2018 year. Predictions of final corn supplies in the world are less than expected by market participants, while corn production anticipations for South American countries, as well as global demand, have increased. Predictions of corn production are reduced in Brazil for 2.5 mil/ t, Argentina for 3 mil / t, while the anticipations of the final corn supplies in Argentina decreased by 1.3 mil/ t which on annual level is less by 3% which could cause a significant rise in domestic prices.

BALANCE ANALYSIS OF THE WHEAT AND CORN ON THE DOMESTIC MARKET FOCUSING ON THE PARTICIPATION OF AGRICULTURE IN GROSS DOMESTIC PRODUCT (GDP)

The production of food of plant origin, where a special place per share in the total value belongs to crop and vegetable production in Serbia, is about 3.3 mil./ ha. Serbia with an average amount of 6.89 mil./t and an average yield of 6.8 t / ha in total sowing area participates with 0.57% and in the total amount of 0.65%. The most intensive cultivation is of the following agricultural crops: corn up to 1.2 mil./ ha, wheat about 500 thous. / ha, oilseeds up to 400 thous. / ha, vegetables about 160 thous. / ha, fruit about 270 thous. / ha which can be seen in Figure 1 (<http://www.mpzps.gov.rs/> - downloaded on October 22, 2018).

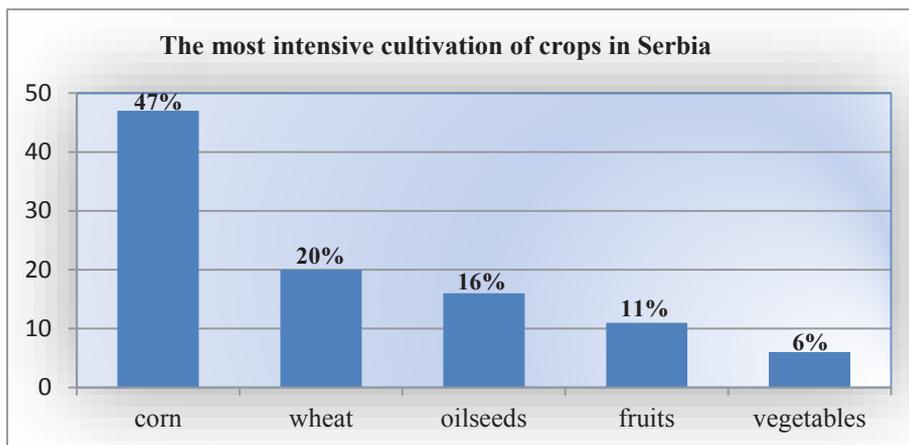


Figure 1.The Structure of crops in R. Serbia (based on the author's assessment)

In the following tables 3 and 4, we will present summary data on production and consumption of wheat and corn of Serbia for the period from 2012 to 2018,

which will be processed by standard mathematical and statistical methods (RZS, Statistical Yearbooks of Serbia by years).

Table 3. Parameters of production and consumption of wheat in Serbia (2012-2018)

<i>Parametres of wheat production in Serbia</i>					
Labels	Average value (in 000)	Interval of variation (in 000)		Coefficient of variation (%)	Change rate (%)
		min	max		
- surface (ha)	581	481	675	10,76	5,81
- production (t)	2.675	2.087	3.375	17,81	8,34
- yield (t/ha)	4,6	3,8	5,1	10,16	2,39
- initial supplies	255	53	464	49,69	3,98
- import	8	7	12	22,82	-6,53
<i>Parametres of wheat consumption</i>					
Labels	Average value (in 000)	Interval of variation (u 000)		Coefficient of variation (%)	Change rate (%)
		min	max		
- consumption (t)	1.496	1.400	1.650	5,58	1,1
- loss (t)	25	20	30	10,69	3,79
- final supplies	286	53	464	49,51	42,08
- export	1.131	722	1.700	28,98	12,42

Source: Statistical Office of the Republic of Serbia, Statistical Yearbooks of Serbia by years (based on the author's calculations)

In the observed period, **the surface** under wheat in Serbia is 581 thousand hectares on average, and about 43% less than the area under corn, which is 1.021 thous/ha. The area under wheat recorded a tendency to increase at an average rate of 5.81% and a coefficient of variation of 10.76%.

Production of wheat in Serbia is on average 2.675 thous/ t, and for 57% is lower than the production of corn, which is 6.221 thous/ tons. The production of wheat showed a tendency to increase at an average rate of 8.34% and a coefficient of variation of 17.81%.

The average yield of wheat in Serbia is 4.6 t / ha, and for about 20% it is lower compared to corn yield of 5.7 t / ha. The yield of wheat showed a tendency to increase at an average rate of 2.39% and a coefficient of variation of 10.16%.

Initial supplies of wheat in Serbia are on average 255 kilograms / t, and about 51% lower than the initial corn supplies of 519 thous/ t. Initial supplies of wheat tend to increase at an average rate of 3.98% and a coefficient of variation of 49.69%.

Imports of wheat in Serbia are on average 8 000 thous / t, and for 40% are higher than the import of corn, which is 4.8 thous / t. Imports of wheat recorded a decline in the average rate of -6.53% and a coefficient of variation of 49.69%.

The consumption of wheat in Serbia is 1.496 thous / t on average, and about 66% less than the corn consumption, which is 4.394 thous/ t. Wheat consumption recorded a tendency to increase at an average rate of 1.1% and a coefficient of variation of 5.58%.

The loss of wheat in Serbia is on average 25 thous / t, and for about 62% is lower than the loss of corn, which is 65 thous/ t. The loss of wheat showed a tendency to increase at an average rate of 3.79% and a coefficient of variation of 10.69%.

The final supplies of wheat in Serbia are on average 286 thous/ t, and for about 44% are less compared to the final supplies of corn, which is 506 thous/ t. The final supplies of wheat recorded a tendency to increase at an average rate of 42.08% and a coefficient of variation of 49.51%.

Export of wheat in Serbia is on average 1,131 thous/ t, and for about 39% is lower compared to the export of corn, which is 1,848 thous/ t. Exports of wheat recorded a tendency to increase at an average rate of 12.42% and a coefficient of variation of 28.98%.

Table 4. Parametres of production and consumption of corn in Serbia (2013-2018)

<i>Parametres of corn production</i>					
Labels	Average value (in 000)	Interval of variation (in 000)		Coefficient of variation (%)	Change rate (%)
		min	max		
- surface (ha)	1.023	900	1.100	7,6	4,09
- production (t)	6.221	4.074	7.854	22,62	1,04
- yield (t/ha)	5,7	4,2	7,7	25,24	3,02
- initial supplies	519	121	1.189	78,19	4,67
- import	4,8	1	10	84,21	58,49
<i>Parametres of corn consumption</i>					
Labels	Average value (in 000)	Interval of variation (in 000)		Coefficient of variation (%)	Change rate (%)
		min	max		
- consumption (t)	4.394	3.995	4.541	4,57	2,27
- loss (t)	65	50	76	18,42	-7,79
- final supplies	506	42	1.189	83,47	-38,72
- export	1.848	650	3.021	44,92	-3,58

Source: Statistical Office of the Republic of Serbia, Statistical Yearbooks of Serbia by years (based on the author's calculations)

In the observed period, **the surface** under corn in Serbia is on average 1,021 thous/ ha, and it is about 43% higher than the area under wheat, which is 581 thous/ ha. The area under corn showed a tendency to increase at an average rate of 4.09% and a variation coefficient of 7.6%.

The production of corn in Serbia is 6,221 thous/ t, and is about 57% higher than the production of wheat, which is 2,675 thous/ t. The production of corn showed a tendency to increase at an average rate of 1.04% and a coefficient of variation of 22.62%.

The corn yield in Serbia is on average 5.7 thous / ha, and is about 20% higher than the wheat yield of 4.6 t / ha. Corn yields tend to increase at an average rate of 3.02% and a coefficient of variation of 25.24%.

The initial supplies of corn in Serbia are 519 thous/ t on average, and are about 51% higher than the initial supplies of wheat, which is 255 thous/ t. The initial supplies of corn recorded a tendency to increase at an average rate of 4.67% and a coefficient of variation of 78.19%.

Import of corn in Serbia is 4.8 thous./t on average, and about 40% less than the import of wheat, which is 8 thous/ t. Imports of corn recorded a tendency to increase at an average rate of 58.49% and a coefficient of variation of 84.21%.

Corn consumption in Serbia is 4,394 thous/ t on average, and for about 66% is higher than wheat consumption which is 1,496 thous/ t. Corn consumption recorded a tendency to increase at an average rate of 2.27% and a coefficient of variation of 4.57%.

The loss of corn in Serbia is 65 thous / t on average, and for about 62% is higher than the loss of wheat, which is 25 thous/ t. The corn loss recorded a tendency to decline in the average rate of -7.79% and a coefficient of variation of 18.42%.

The final supplies of corn in Serbia are 506 thous/ t on average, and are about 44% higher than the final corn supplies of 286 thous/ t. The final corn supplies recorded a decline in the average rate of -38.72% and a coefficient of variation of 83.47%.

Export of corn in Serbia is 1,848 thous/ t on average, and is about 39% higher than the export of wheat, which is 1,131 thous/ t. Exports of corn recorded a decline in the average rate of -3.58% and a coefficient of variation of 44.92%.

The foreign balance of trade, as a basic indicator of a successful transition, has been showing unfavorable results in our country for years. The causes of the deficit (where exports of goods cover only 40-50% of imports and are significantly lower than the balance of goods deficit) are, in addition to structural problems, the lack of competitiveness of the domestic economy, overestimated dinar exchange rate and excessive liberalization of imports. Serbia's biggest problem is that consumption significantly exceeds production, which is the result of long-term structural problems

in the economy. In the medium term, a growth rate of 6-7% is needed to significantly increase the export offer. The extremely unfavorable indicator is that investments account for only 15% of Gross Domestic Product (GDP), while domestic savings are half the size. Without an investment rate of 20-25% of GDP, it is difficult to achieve any developmental ideas, and especially reduce unemployment and make an acceptable deficit in the current balance of payments, which causes excessive consumption in relation to production (Gajdobranski and the group of authors, 2016).

Analyzing GDP in Serbia with GDP in other European countries, data have emerged that our country has almost the lowest GDP per capita, which can be seen in Table 5 (First Business List of Farmers and Advisors - Household, 2018).

Table 5 Comparison of GDP in Serbia with GDP in other European countries

No.	Country	GDP per capita (in €)	<i>The amount of GDP increase in Serbia in case of an increase of 1% in other countries</i>	<i>Increase of 1% (in €)</i>
1.	Bosnia and Herzegovina	4.200	0,84	42
2.	Macedonia	3.600	0,72	36
3.	Slovenia	17.200	3,44	172
4.	Croatia	10.300	2,06	103
5.	Serbia	5.000	1	50
6.	Poland	9.900	1,99	99
7.	Cyprus	20.400	4,14	207
8.	Italy	25.700	5,14	257
9.	Finland	31.100	6,22	311
10.	Germany	32.600	6,52	326
11.	Austria	36.400	7,26	364
12.	Denmark	49.800	9,96	498
13.	Switzerland	61.900	11,36	619
14.	Norway	77.500	15,50	775
15.	Luxembourg	82.600	16,52	896

Source: First business list of farmers and advisers-Household, 2018, p. 16-17

From Table 5 we notice that our country has almost the lowest GDP per capita in Europe. If, for example, GDP in Bosnia and Herzegovina rises by 1% then our growth would be 0.84% or 42 €, etc. all the way to Luxembourg, where the increase of 1% of GDP per capita is 16.52% or € 896, which indicates that the difference is in-

creasing in absolute sum between Serbia and other European countries. So, in terms of GDP growth, the situation in Serbia is completely different from the situation in other European countries, for example, growth of 3% means an increase of 150 € in our country, in Slovenia an increase of 3% means an increase of 516 €; in Germany the increase of 3% means growth of 978 €, while the increase in Luxembourg of 3% means increase of 2.688 €.

There have been predictions that the increase in GDP in Serbia will be from 3.5 to 4% in 2018, while in 2012 when there was drought, the participation of agriculture in GDP was 1.3%, and in 2017, it ranged from 0.8 up to 1%, while other activities had the same or slightly higher participation. In order the forecast to be realistic in 2018, agriculture should have an increase of 0.8% to 1%, and other production branches from 2.5 to 3%.

All this emphasizes the low competitiveness of our products on the foreign market, which is reflected in high production costs and low prices for purchase, low productivity, and outdated technical and technological equipment, low quality that does not meet the standards of the European Union. Furthermore, there is a low agrarian budget, low subsidies, an unresolved system of financing and investment, an under-developed network of advisory services, a lack of an integrated information system and a number of other problems that impede growth and development not only in the agricultural sector, but also in other sectors of the economy as well.

CONCLUSION

In the framework of plant production, a special place per share in the total value belongs to crop and vegetable production, which takes place in Serbia at the surface of 3.3 mil/ ha. The trends in the international agricultural product market have influenced the significant changes in the sowing structure in Serbia over the last few years. Surfaces under the cereals remained relatively constant and are up to 1.9 mil./ ha, but within them there has been a change in the direction of the increase in the share of corn at the expense of reducing the area under wheat in total planted areas. The growth in grain prices on the world market has set the producers for the reorientation of corn production, whose sown areas have increased by about 10% in recent years, while the areas under wheat half of the past decade have fallen to below 500 thous/ ha for the first time (The strategy of agriculture and rural development in the Republic of Serbia for the period from 2014 to 2024)

According to the "US Department of Agriculture", it has been estimated that wheat is the most significant cereal which occupies the $\frac{1}{4}$ of the country among the crop seeds in the world, followed by corn. Predictions for corn supplies in the world is less than expected by market participants, while corn production anticipations for South American countries, as well as global demand, have increased. Based on pub-

lished data, wheat and corn, as the two main cereals, have contributed to the positive foreign trade balance for years, both in value and in quantities.

According to the estimates of the “ZitaVojvodine”, which are in agreement with the estimates of the Ministry of Agriculture “Zita Srbije” and the Serbian Chamber of Commerce (as evidenced by the flour mark), we find that the annual wheat milling is about 1,200 thous/t. This amount of wheat produces about 860 thous./ t of flour, which is further used for the production of bread and pastry, direct consumption of the population, pasta, confectionery industry and exports. Research, carried out in Serbia, showed that out of 240,000 registered and active farms, 105,000 of them are breeding wheat from 1 to 5 ha, and only 253 farms breed wheat on an surface greater than 50 ha. This confirms that small farms are mostly the producers of bread grain.

Based on the results obtained in the research on the profitability of Serbia’s cereals focusing on the European market, we have come to the following findings: what needs to be improved in production, how to organize business, what needs to be changed, how to enter the market, how to be competitive in changed market conditions, etc. . For this reason, it is very important to intensify this type of crop production through technology advancement, consolidate small and medium-sized holdings, build storage and silo, develop processing capacities, reduce raw material costs, increase exports, achieve a consistent price ratio (parity) , etc.

It has been proven that the parameters of average values of wheat are calculated, which refers to: surface area, production, yields, initial stocks, consumption, production losses, final supplies and exports are lower than those in corn. On the other hand, the calculated parameters of average values for wheat imports are higher than those for corn.

Lastly, the government must create conditions for dividing GDP more evenly, where, as the creator of the Agrarian Policy, it will create a clear and predictable environment enabling companies and individuals to make long-term strategic decisions needed to increase profitability, to ensure the availability of quality of raw materials, but also to provide incentives that regulate competitiveness, which will contribute to higher profitability that will positively affect the growth of the living standards for the rural population.

LITERATURE

1. Babić Š. (2014). Effect. D:O:O: za reviziju i ekonomski konzalting. 23 godine razumjevanja (1990-2013). Dubrovnik
2. Curtis, Rajaraman, MacPherson (2002). *Bread Wheat*. Food and Agriculture Organization of the United Nations, Rome 2002

3. Gajdobranski A., i grupa autora (2016). Komparativna analiza proizvodnje uljarica i jestivih ulja u svetu, Evropskoj uniji i Srbiji. Fakultet za poslovne studije i pravo Univerziteta UNION "Nikola Tesla" Beograd, str. 50
4. Ministarstvo poljoprivrede i zaštite životne sredine (2017). Nacionalni program poljoprivrede Srbije
5. Nova trgovina (2016). Časopis za pitanja robnog prometa, 114
6. Prvi poslovni list poljoprivrednika i savetodavaca–Gazdinstvo (2018). Učešće poljoprivrede u bruto proizvodu, Novi Sad, br. 127/II, str. 16-17
7. Poslovno udruženje "Žita Srbije" (2018). Mesečni izveštaj 4.18/Beograd, april, 2018., str. 3
8. Radić Đ (1972). Sve o kukuruzu. Društvo za poljsku privredu. Beograd, str. 22
9. Republički zavod za statistiku, Statistika spoljne trgovine od 2015. do 2018. godine, Beograd
10. Republički zavod za statistiku, Statistički godišnjaci Srbije od 2012. do 2018. godine, Beograd
11. Strategija poljoprivrede i ruralnog razvoja Republike Srbije za period 2014-2024. godine, "Sl. glasnik RS", br. 85/2016, Beograd
12. Lapčević R (2000). Agroekološki uslovi proizvodnje semena kukuruza u Južnom Banatu. Zadužbina Andrejević, 2000., str. 13
13. USDA (United States Statistical Date) od 2015. do 2018. godine
14. <http://www.scribid.com/dok/51702762/pojam-spoljne-Trgovine-i-Prva-Teorija>
15. <http://www.fao.org>
16. <http://www.eurostat>
17. <http://www.mpzss.gov.rs/>

