
MARKET OF AGRICULTURAL AND FOOD PRODUCTS IN THE REPUBLIC OF SERBIA: POSSIBILITIES AND IMPLICATIONS

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ABSTRACT

The main topic is Serbian agro-food potential. Serbia possesses exceptional natural resources having in mind it is located in the most favourable region of the north latitude. If this potential is used in an optimal measure, it would bring exceptional results. According to agriculture census in 2018 in Serbia there was registered 628.552 family agricultural farms, and 562 896 are family households. By adequate strategic planning, agriculture can provide a significant contribution to the economic development of a country. Agriculture encourages employment, takes a significant part in foreign trade, provides food security for citizens, contributes to the rural development and ecological balance. Therefore, it affects the development of entire country by being related to different sectors.

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Introduction

Countries that have reached a high level of development also have a well-developed agricultural production, although this sector does not take a significant part in total employment and creation of gross domestic product. In that aspect, developing countries spot an opportunity for agriculture development to bring them the reduction of import dependence, increase of exports and economic growth rate. In that aspect, significant funds are provided for the import of energy sources, capital equipment and other industrial products.

Agricultural and food products represent the basis of population's nutrition. FAO⁴ estimates that in 2050. in the world there will be between ten and twelve billion people,

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4 FAO (Food and Agriculture Organization).

which will result in a need for a greater amount of food. Main task of agricultural production is to provide sufficient amounts of food for the population (Vlahovic, 2015; Stanković et al., 2020; Đorđević & Mitić, 2020).

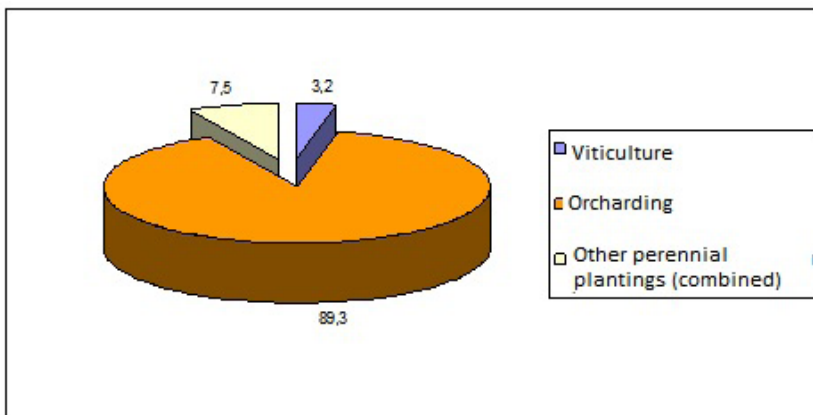
The goal is to point out that greater investments in this area it would be achieved significant economic effects, revival of rural areas and ecological balance. Secondary data sources were used for this article, statistical data processing and analysis, as well as modern literature about agricultural potential and rural development. Taking into account the extraordinary natural resources of Serbia, agriculture represents a development opportunity which can be presented through the following link: agriculture-economic progress-rural areas-ecologic equilibrium. From the presented relations arises the basic hypothesis which reads, HO: *Greater investments in agricultural holdings in Serbia can lead to positive economic effect, encourage employment in rural areas and ecological balance.*

Structure of agricultural households in our country in 2018

According to agriculture census in 2018 in Serbia there was registered 628.552 family agricultural farms, and 562 896 are family households. However, the data of the Republic Bureau of Statistics show that age structure of household holders is such that even 42,5% are older than 65, then there is a category of those aged between 55 and 64 (27,9%), while 17,8% of agricultural household holders are between 45 and 54. It can be concluded that population who are engaged in agriculture belong to the category of old people. The exception from the above-mentioned in the region of Sumadija and Western Serbia, which has the greatest number of young holders of households (up to 40 years).

In the structure of households specialized for perennial plantings, the ones specialized for fruit production are the ones that dominate (89,3%), while 3,2% of households are specialized in viticulture sector (Figure 1).

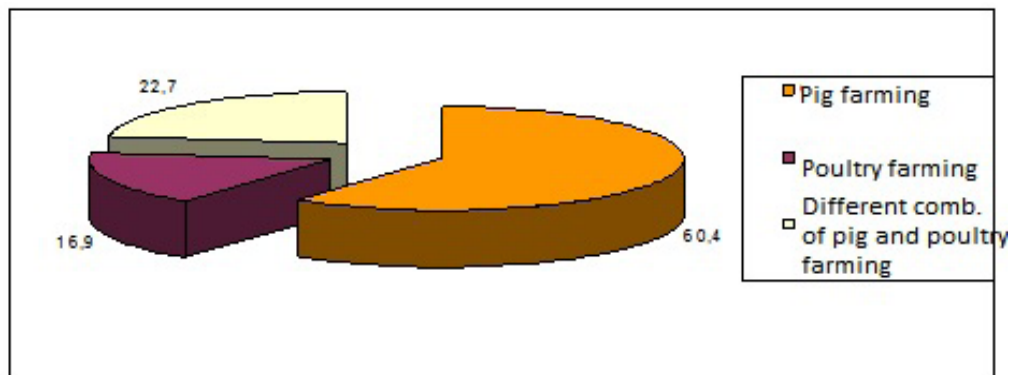
Figure 1. Structure of agricultural households specialized for perennial plantings



Source: Presentation of the author based on RBS, Statistical base, Agriculture, Forestry and Fishing, survey, 2018. (expressed in %)

Based on the data presented in Figure 1, we can see that in the structure of households specialized for perennial plantings there dominate households specialized for fruit production (89,3%), while only 3,2% of households are specialized in the sector of viticulture.

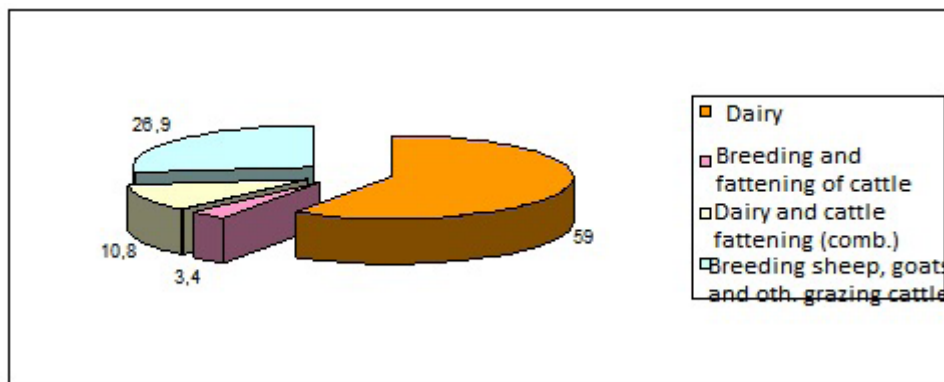
Figure 2. Structure of agricultural households specialized within cattle breeding – pigs and poultry breeding



Source: Presentation of the author based on data from RBS, Statistical base, Agriculture, Forestry and Fishing, survey, 2018 (expressed in %)

Figure 2 shows the structure of households specialized in pigs and poultry breeding. Data show that agricultural households are dominantly oriented on breeding and fattening of pigs (60,4%), while 16,9% of them are engaged in poultry breeding.

Figure 3. Structure of agricultural households specialized in cattle breeding sector – breeding of cattle, sheep and goats



Source: Presentation of the author based on data from RBS, Statistical base, Agriculture, Forestry and Fishing, survey, 2018 (expressed in %)

Of the total number of agricultural households specialized for breeding cattle, sheep and goats, 59% deal with milk production and only 3,4% with breeding and fattening the cattle (Figure 3).

Cultivate crops in arable lands and gardens in 2018.

In our country, corn and wheat are traditionally most widely spread crops. Among them, in our country, there are also rye, barley and oats. Each of the corns mentioned is useful in nutrition, both of people and animals.

Table 1. Total production of grain in the Republic of Serbia, during 2018 – presentation according to regions

	Republic of Serbia		Region of Belgrade		Region of Vojvodina		Region of Sumadija and Western Serbia		Region of Southern and Eastern Serbia	
	(ha)	(t)	(ha)	(t)	(ha)	(t)	(ha)	(t)	(ha)	(t)
Wheat and corn	369566	2941601	29042	121304	315925	1917446	148284	1796142	146315	1024155
rye	4408	13418	529	788	1146	5631	2003	4843	730	7787
barley	102125	410138	8485	29309	45032	201246	29125	171937	19483	208892
oats	27174	74707	2690	6346	1983	15588	16525	9242	5978	59119
Corn for grain	900047	6964770	36868	213319	201296	4870664	203990	4657345	157893	2094106
Other crops for grain	29507	10986	1876	1652	13894	3571	9858	1981	3879	7415

Source: Presentation of the author based on data of RBS, Survey on agricultural households structure, 2018– What is confirmed, what is denied and what is pointed at, Republic Bureau of Statistics, Belgrade 2019.

Note: Region of Kosovo and Metohija is left out from the presentation of total production

Based on data presented in Table 1, we can conclude that at the level of entire country the greatest yield was achieved by corn (6.964.770 t). Second place according to the amount of yield in tons is occupied by wheat with the achieved yield of 2.941.601 t, while third place is occupied by barley yield in the amount of 410.138t.

The greatest yield of corn in 2018 expressed in tons is achieved in the region of Vojvodina and it is 4.870.664 tons. In the region of Belgrade, corn is most widely spread and the achieved production in 2018 is 213319 t. In the region of Vojvodina, corn is also most frequently cultivated, with an important difference that the yield is by far higher in this region, i.e. it is the highest in entire country.

Region of Sumadija and Western Serbia (4.657.345 t) and region of Southern and Eastern Serbia also record the highest production of corn for grain (2094106 t). Based on the above mentioned, we can conclude that in 2018, as well as in previous years, the highest frequency of total corn production for grain was recorded in region of Vojvodina.

Table 2. Total production of vegetables in the Republic of Serbia, during 2018 – overview according to the regions

	Republic of Serbia		Region of Belgrade		Region of Vojvodina		Region of Sumadija and Western Serbia		Region of Southern and Eastern Serbia	
	(ha)	(t)	(ha)	(t)	(ha)	(t)	(ha)	(t)	(ha)	(t)
Potato	27701	487909	361	17186	3881	95704	17394=63%	239391=50%	6062	135628
Tomato	8629	131868	977	18526	2241	19728=38%	2966	37342	2445	26273
Cabbage	8251	209353	601	12148	1313	40560	3449	94189=45%	2888	62456
Paprika	12016	135072	593	4449	1421	21137	5225	57647=43%	4777	51839
Onion	3618	27967	188	773	1335	16108=58%	996	5620	1099	5466
Garlic	1441	3615	82	154	461	1524	714	1616=45%	184	321
Carrot	1385	22203	71	1001	708	15468	522	4974	84	760
Peas	6736	29261	783	3166	3609	17991	1361	5023	983	3081
Cucumber	3220	42539	142	1588	569	7624	1320	18782	1189	14545
cauliflower	347	4817	33	444	134	2172	99	1289	81	913

Source: Presentation of the author based on data from RBS, Survey on agricultural households structure, 2018 - What is confirmed, what is denied and what is pointed at, Republic Bureau of Statistics, Belgrade 2019.

Note: Region of Kosovo and Metohija is left out from the presentation of total production

The data presented in Table 2 show that according to the size of planted surface, potato occupies the first place, it is planted on 27.701 ha, then paprika which is planted on 12.016 ha, as well as tomato whose crops occupy the surface of 8.629 ha, as well as cabbage that is planted on 8.251 ha.

In total production of vegetables in entire country during 2018, the greatest yield was achieved by potato (487.909t). Even a half of the mentioned potato yield (239.391t) is recorded in the region of Sumadija and Western Serbia. A crop that occupies second place is cabbage, with a yield of 209.353t at the state level, and the greatest part of yield comes from the region of Sumadija and Western Serbia, where 45% of the total yield of cabbage was achieved. Although it is planted on smaller surface, cabbage has achieved greater yield in relation to tomato.

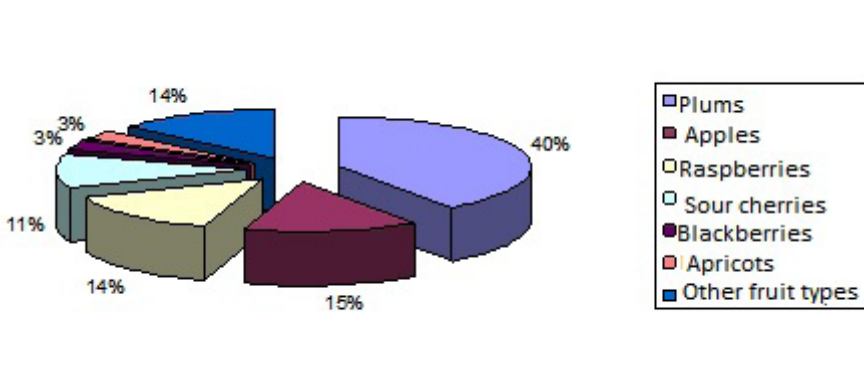
The next crop is paprika whose production reached 135.072 tons, and the highest yield (62.456 t) is achieved in the region of Southern and Eastern Serbia. Fourth place according to the recorded rate of yield is tomato with the achieved 131.868 tons in entire country, i.e. for the greatest part from the region of Sumadija and Western Serbia. Almost 60% of the total achieved production of onion comes from the region of Vojvodina, while garlic is the most cultivated crop in the region of Sumadija and Western Serbia whose share is 45% in total production of this culture.

When we observe the surface planted with carrot, peas, cucumber and cauliflower, based on data given in Table 2, we can conclude that among these four crops the greater surface is planted with peas, two times less with cucumber and five times less with

carrot. However, in spite of differences in surfaces, much greater yield has cucumber, 42.000 t, and peas about 29.000 t.

Fruit production makes approximately one tenth of agricultural production, and thus in that small scope it represents one important branch of agricultural production. Most widely spread and, in some aspect, most significant for agricultural production are, traditionally, plums, apples, sour cherries and raspberries, as it is presented in Figure 4.

Figure 4. Structure of surfaces under fruit types, 2018. (expressed in %)



Source: Presentation of the author based on data from RBS, Survey on agricultural households structure, 2018 - What is confirmed, what is denied and what is pointed at, Republic Bureau of Statistics, Belgrade 2019.

Data from the Figure 4 show the dominance of plums production, which occupy 40% of the total surface under fruit types.

In order to have a more adequate presentation of the achieved fruit production in our country during 2018, we have analyzed the surfaces with: stone fruit (apples, pears, peaches, nectarines, apricots, cherries, sour cherries, plums and quinces), berry fruit (raspberries, blackberries, blueberries, etc), as well as surfaces and yields planted with kernel fruit (nuts and hazelnuts).

When it comes to stone fruit, greatest surface is occupied by apples (26.658 ha), and thus they have the greatest production recorded. According to the total surface (orchards and plantation orchards), apples occupy 26.658 ha, i.e. 0,8% of the total available land. In 2018, there was produced 460.404 t of apples, i.e. about 66 kg per capita. Pears occupy 4.977 ha, i.e. 0,14% of the total available land.

Table 3. Total production of fruit in the Republic of Serbia, during 2018 – overview per regions

Fruit types	Republic of Serbia		Region of Belgrade		Region of Vojvodina		Region of Sumadija and Western Serbia		Region of Southern and Eastern Serbia	
	(ha)	(t)	(ha)	(t)	(ha)	(t)	(ha)	(t)	(ha)	(t)
Stone fruit										
Apples	26658	490404	1561	26390	7131	178266	11402	144784	6564	110964
Pears	4977	53905	369	3965	1114	9535	2262	24598	1232	15808
Quinces	1947	12318	65	5255	228	1336	605	3919	1049	7063
Plums	72923	430199	2289	25829	2559	32816	48682	267665	19393	103890
Sour Cherries	19579	128023	718	24338	1705	8811	3895	15527	13261	103685
Peaches	5176	50249	1949	28734	1003	16935	615	11800	1609	21515
Apricots	6040	25414	2784	11193	1030	6121	1566	5030	660	3070
Cherries	4335	19153	2095	8846	465	7429	1078	1417	698	10307
Berry fruit										
Raspberries	24901	127010	146	13731	733	5051	21413	113279	2609	8680
Blackberries	6055	35062	33	1461	23	676	5245	33601	754	785
Other berry fruit	495	5109	22	527	69	271	252	4583	152	256
Kernel fruit										
Nut	2796	9266	95	484	418	2478	1069	2499	1214	4985
Hazelnut	4564	5678	196	254	2335	3274	1006	1068	1028	1194

Source: Presentation of the author based on data from RBS, Survey on agricultural households structure, 2018 - What is confirmed, what is denied and what is pointed at, Republic Bureau of Statistics, Belgrade 2019.

Note: Region of Kosovo and Metohija is left out from the presentation of total production

Berry fruit in the territory of our country is planted on 31.451 ha and total yield of 167.181 tons was achieved. Most widely spread crop among berry fruit is raspberry, whose yield in total territory is 127.010 tons and the highest yield comes from the region of Sumadija and Western Serbia where 113.279 tons of this culture was recorded. As for the kernel fruit, in our country we have nuts and hazelnuts. Total yield of nuts is 9.266 tons, and the greatest part comes from the region of Southern and Eastern Serbia (4.985 t). The data of the Survey on agricultural households structure, 2018, show that the types mentioned are dominant in the year 2018 as well, and they are followed by apricots, peaches, pears, cherries and blackberries. Blueberry, chokeberry, currant and kiwi are also cultivated in our country.

Table 4. Agricultural products in Serbia - 2017 и 2018. (in thousands tons)

	2017	2018	Index 2017=100
Wheat	2275	2943	129,2
Corn	4018	6964	173,3
Sunflower	540	733	135,7
Soy	461	645	140,0
Sugar beet	2513	2325	117,3

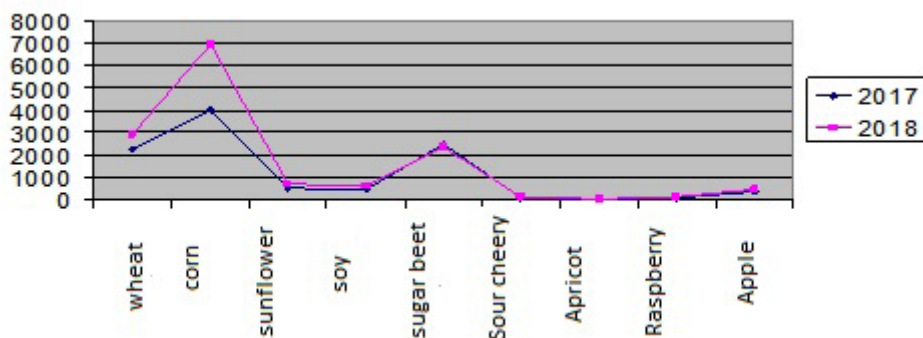
	2017	2018	Index 2017=100
Cheery	91	128	92,5
Apricot	41	25	61,5
Raspberry	109	127	115,7
Apple	378	460	92,3
Pear	52	53	121,6
Plum	330	430	130,1
Grapes	165	149	90,5

Source: RBS, Statistical base, Agriculture, Forestry and Fishing, Agriculture census. Note: Data presented are rounded to an integer.

When with the help of comparative approach we observe the total yield of particular agricultural and food products in 2017 and 2018 (Table 4) we can conclude that in 2018 there is a growth by 73,30% in relation to 2017 when it comes to corn cultivation. The next product is soy bean, which has achieved greater yield in 2018 by 40% in relation to the previous year, as well as sunflower which has recorded a growth of 35,7%. Therefore, we can conclude that the top of the list is occupied by livestock products, as well as that they show growth tendency, which is an encouraging facts. However, it is inevitable to mention that in 2018, compared to 2017, the production of sour cherries, apples and apricots was reduced.

In total production of fruit in 2018, pear occupies 3,2% and therefore it is on the sixth position. Total production of pears in 2018 is 53.905 t, so that would mean that at state level there was produced about 8 kg of pears per capita. According to the total surface (orchards and plantation orchards), quinces occupy 1.947 ha, i.e. about 0,1% of the total land available. Total production of quinces in 2018 was 12.318, i.e. 1,8 kg per capita. Quince occupies 0,7% and it is on the twelfth position.

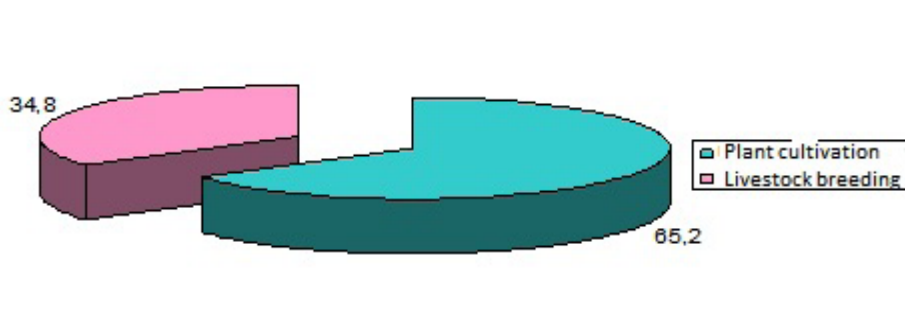
Plums occupy 72.923 ha, i.e. about 2,1% of the total land available. Total production of plums in 2018 was 430.199 t, i.e. about 61 kg per capita. In total production of fruit in 2018, plum occupies 25,7% and therefore it is on the second place. In 2018, the greatest amount of plum is produced in region of Sumadija and Western Serbia (267665t). Sour cherries are in 2018 produced in the greatest amount in the region of Southern and Eastern Serbia (10.307t), while peaches (28.734 t) and apricots (11.193 t) have achieved the greatest yield in the region of Belgrade.

Figure 5. Structure of agricultural production in the Republic of Serbia, 2018

Source: Presentation of the author based on data of RBS, Statistical base, Agriculture, Forestry and Fishing, Survey, 2018. (expressed in thousand tons)

Data from the Figure 5 show that in 2018 there was an increase of production of wheat and corn in relation to 2017. The greatest difference, i.e. the greatest yield in 2018 in relation to 2017 is achieved in the yield of corn.

In the production of other observed agricultural products (sunflower, sugar beet, sour cherry, apricot, raspberry and apple) there were no significant changes, thus on this occasion we will not consider and analyze them in details.

Figure 6. Structure of agricultural production in the Republic of Serbia, 2018

Source: Presentation of the author based on data from RBS, Statistical base, Agriculture, Forestry and Fishing, Survey, 2018 (expressed in %)

Farmers in our country most frequently deal with plant production (65,2%) in relation to cattle breeding (34,8%). Within plant production, a special place in share in total value belongs to field and vegetables cultivation, which takes place in the surface of more than 3,3 million of hectares in the Republic of Serbia. In 2018, in a realized physical scope of agricultural production in Serbia, field production along with vegetables production had a share of 79.3%, and in total realized value of agricultural production with 51,67% (RBS, 2019). The significance of field products is reflected primarily in nutrition of people and cattle, which further points to the need of continuous improvement and

development of an organized market for these products. Industrial plants is cultivated on a surface of 400-440 thousand hectares, with an expressed variations of surfaces, for all the crops from this group. The production of industrial plants makes about 8% of the total value of agricultural production of the Republic of Serbia (Strategy of agriculture and rural development of the Republic of Serbia for the period 2014-2024.).

Share of agricultural and food products in total export of the Republic of Serbia

Some studies (Gollin, Parente & Rogerson, 2002) and main economic indicators point to a big significance of agricultural production and export of agricultural products for the economic growth of developing countries, which include our country as well. Central European Free Trade Agreement (CEFTA) and Customs Union (Russia, Kazakhstan and Belarus) are the most important trade partners for Serbia.

Sector of agriculture and food products is a very important sector of Serbian economy according to the resources available. Agriculture represents a development chance having in mind the growing tendency of food prices at global market (Puskaric, et al., 2009). Having in mind that agriculture is a significant activity in the Republic of Serbia, the state lead the policy of its encouragement through agrarian budget, in order to develop and bring even greater effects (Kuzman, et al., 2017).

In the period January-October 2017, the total export of agricultural food in Serbia has reached the value of 2,40 billion \$, which is a drop by 14% in relation to the same period in 2016. Total import of agricultural food in Serbia for the period January – October 2017 was estimated to 1,25 billion dollars, which is a drop by 17% in comparison to the same period 2016.

Export of agricultural food from Serbia consists mainly of grain, sugar, fruit and vegetables (fresh and frozen), confectionery products and drink. During the period January – March 2019, there was achieved the value of export 834,4 million \$, which is a growth of 12% in relation to the same period previous year (it was 745,3 million \$), with a share in total merchandize export of 18%. In addition, value of import (514,6 million \$) is by 1,9% less than the achieved in the period January-March 2018 (when it was 524,4 million \$), with a share in total merchandize import of 8,2%. Foreign trade exchange of agricultural and food products in the period January-March 2019., records a surplus of 44,8%, i.e. by 98,9 million \$ higher in relation to the observed period January-March 2018 and it amounts 319,8 million \$, with a rate of import coverage by export of 162,1%.

The most significant agricultural and food products in export in the period January-March 2019 are: mercantile corn (120 mil. \$), frozen raspberry (55 mil. \$), cigarettes (42 mil. \$), fresh apples (34, mil. \$), hybrid seed corn (33 mil. \$), as well other food products: mercantile wheat (22 mil. \$) and crude sunflower oil (19 mil. \$).

Table 5. Export and import of agricultural food products in the Republic of Serbia for the period 2018 and January-July 2019.

	Export		Import		Share in total export in %		Share in total import in %	
	2018	2019	2018	2019	2018	2019	2018	2019
Total	-	-	-	-	100,0	100,0	100,0	100,0
0 Food and livestock	138,8	159,4	81,0	92,4	12,4	13,3	5,5	5,7
00 Livestock, except animals from the section 03	3,1	2,5	2,4	1,7	0,3	0,2	0,2	0,1
01 Meat and processed meat products	7,1	6,8	9,1	9,5	0,6	0,6	0,6	0,6
02 Dairy products and eggs	8,2	10,5	5,1	8,6	0,7	0,9	0,3	0,5
03 Fish, crustaceans, mollusks and processed products from them	0,9	1,1	5,0	5,9	0,1	0,1	0,3	0,4
04 Grains and products based on grains	37,5	54,3	5,4	7,6	3,4	4,5	0,4	0,5
05 Vegetables and fruit	50,7	49,2	22,3	27,5	4,5	4,1	1,5	1,7
06 Sugar, sugar products and honey	3,7	5,1	2,6	2,6	0,3	0,4	0,2	0,2
07 Coffee, tea, coffee, spices and products made of them	5,7	6,1	11,7	13,3	0,5	0,5	0,8	0,8
08 Fodder (except corn in grains)	11,1	12,9	6,9	4,9	1,0	1,1	0,5	0,3
09 Various food products and processed products	10,7	10,9	10,4	10,7	1,0	0,9	0,7	0,7
1 Drinks and tobacco	31,6	33,7	20,4	24,3	2,8	2,8	1,4	1,5
11 Drinks	14,3	15,6	6,2	6,7	1,3	1,3	0,4	0,4
12 Tobacco and tobacco products	17,3	18,0	14,2	17,6	1,5	1,5	1,0	1,1
4 Animal and vegetable oils, fats and waxes	8,8	12,3	3,9	2,8	0,8	1,0	0,3	0,2
41 Animal oils and fats	0,2	0,2	0,7	0,6	0,0	0,0	0,0	0,0
42 Solid vegetable fats and oils, crude, refined	8,3	11,8	3,0	2,0	0,7	1,0	0,2	0,1
43 Animal and vegetables fats and oils, processed	0,3	0,3	0,2	0,2	0,0	0,0	0,0	0,0

Source: Republic Bureau of Statistics, Foreign Trade Statistics, Report, no. 236, LXIX, 30.08.2019.

Data presented in Table 5. show that the greatest share (4,5%) in total export was for fruit and vegetables, as well as grain, 4,5%. In the period observed, the greatest share in total import was achieved in case of products such as coffee, tea, cocoa, spices and their products in the amount of 0,8%. It is concluded that the yields are relatively lower in relation to more developed countries and record significant oscillations. The analysis of yield dynamics change expressed by ten-year average values in the last three decades, points that only industrial plants and some types of fruit (plums and raspberries) have

a permanent growth of yield. Seed material that is produced in the Republic of Serbia does not cover the needs of domestic market, thus significant amounts of vegetable seeds are imported.

Production of fruit took part in the last decade on a surface of almost 270 thousand hectares and it is about 9% of the value of agriculture production of the Republic of Serbia. Production mainly takes place in private agricultural households. In this sector, a significant progress in achieved in improvement of standards in primary production and processing, as well as the domain of business connection.

Variations in production scope are great, because the sector is still at relatively low technological level and its production is susceptible to the impact of weather conditions. Viticulture is present in the whole country with an average production of 350.000 tons of table and wine grapes. A greater part of grapes production is used for wine production. During the last five years, there has been a mild increase in the scope of planted surfaces and also a physical scope of production (Strategy of Agricultural and Rural Development of the Republic of Serbia for the period 2014-2024.).

Share of agricultural and food products in total import of the Republic of Serbia

When we observe the import side of agricultural and food products, we conclude that milled tobacco dominates (21 mil. \$), fresh bananas (18 mil. \$), raw coffee (14 mil. \$) cigarettes containing tobacco (14 mil. \$) and frozen pork (14 mil. \$).

According to the report of the Republic Bureau of Statistics (Table 5), our country has achieved the highest export of grain and products based on grain (54,3%), in current year (sex-month period January-July 2019), while in 2018 it was the export of fruit and vegetables (50,7%).

The circulation of agricultural and food products on domestic market

Total value of the circulation of agricultural products on the markets in the Republic of Serbia for the first six months in 2019, in relation to the same period last year, expressed in current prices, is higher by 16,4% (RBS, 2019).

In the structure of values of agricultural products' circulation on the markets for the first six months in 2019, most widely present are the following groups of products: vegetables (34,6%), fruit and grapes (19,2%), milk and dairy products (14,6%) and poultry and eggs (13,2%), (RBS, 2019).

Some authors (Puškarić, et al., 2016) stress the significance of promotional activities for the development of the market of indigenous food products. The authors mentioned state that development of rural areas is encouraged by production and sale of indigenous food products, with the preservation of national identity and they enrich the procurement of the region. Indigenous food products, in addition to sociological, also have economic significance, which is reflected in competitiveness, profitability of producers, who experience the performances from the aspect of consumers' satisfaction.

Specific institutions (traditional, domestic, natural, etc.) can create additional value when placing on domestic market. Based on the added value, these products achieve higher prices in the market, while consumers are satisfied with their consumption. Greater production and supply increase competitiveness, which has a positive impact on quality increase.

Foreign trade exchange of agricultural and food products of the Republic of Serbia

Foreign trade exchange of agricultural and food products of the Republic of Serbia mainly takes place with European Union and CEFTA countries, as well as Russian Federation by a smaller part. According to the data from the study of Markovic (2016), Serbia has placed about a half of the total food export to the countries of European Union (49,05%). Then, to the countries of CEFTA 33,38%, and 10,17% to Russia. To other countries it exports the remaining 7,4%. From the above-mentioned, there results a rather low geographic diversification of export and enormous dependence from economic and political circumstances in European Union, as the most significant foreign trade partner of the Republic of Serbia.

In tabular overview, the year 2001 was taken as base year (Table 6) in order to have a detailed overview and an insight to export-import of agricultural and food products of our country. We can see that in the initial year observed the balance is negative, and after that there is a growth recorded year after year, which points to the fact that in our country there is greater export than import, over a long period of time. In the last part of the table, there is an overview of the first quarter in 2018 and 2019, in order to make conditions for comparison. The results achieved in foreign trade exchange of agricultural and food products in the period January-March 2019., based on the data presented in Table 6, can be rated as positive. This is because the export shows a tendency of growth and import drops in relation to the same period previous year. In addition, we can notice the increase of export, both to EU and CEFTA and Russian Federation. Namely, import is reduced by EU and Russian Federation, while it remained the same in case of CEFTA countries.

Table 6. Regional structure of foreign trade exchange of agriculture and food industry of the Republic of Serbia 2001-(first quarter) 2019. (value in million \$)

	Total			EU			CEFTA			Russian Federation		
	Export	Import	Balance	Export	Import	Balance	Export	Import	Balance	Export	Import	Balance
2001	317	453	-136	170	168	2	114	124	-10	-	-	-
2002	534	549	-15	216	215	1	208	84	124	-	-	-
2003	651	582	-69	285	228	57	228	93	135	-	-	-
2004	866	823	42	441	390	51	360	116	244	2	1	1
2005	943	790	153	495	257	238	420	125	295	2	1	1

	Total			EU			CEFTA			Russian Federation		
	Export	Import	Balance	Export	Import	Balance	Export	Import	Balance	Export	Import	Balance
2006	1.265	905	360	580	363	217	613	220	393	7	3	4
2007	1686	1116	570	727	647	80	760	563	563	55	35	20
2008	1957	1468	489	796	641	155	1022	308	714	79	26	33
2009	1945	1308	637	629	551	375	895	288	607	65	33	32
2010	2241	1036	1205	1099	431	668	964	254	710	129	21	105
2011	2700	1400	1300	1296	658	638	1161	280	881	165	47	118
2012	2718	1473	1245	1396	744	652	1047	317	730	164	44	120
2013	2800	1564	1236	1351	831	520	1084	306	778	189	57	132
2014	3068	1639	1429	1505	1027	478	1024	201	823	312	60	252
2015	2865	1489	1376	1367	948	419	920	173	747	270	46	224
2016	3211	1551	1660	1541	941	600	1252	140	1112	321	48	273
2017	3179	1830	1349	1622	864	758	890	146	744	318	37	281
2018	3364	3026	1138	1716	1297	419	941	162	779	370	41	329
2018 (I-III)	745	524	221	381	335	46	209	42	167	82	10	72
2019 (I-III)	834	515	319	425	330	95	234	42	192	92	6	51

Source: Republic Bureau of Statistics, Foreign Trade Statistics, Report, no. 116, year LXIX, 30.04.2019.

In the study performed by Kocan and associates (2017), the factors that have a great impact on (un) successful business of agricultural households in Serbia were analyzed. The authors stress that application of prevention measures is of a particular importance in order to protect the crops from negative effects of climate changes. In addition to the above-mentioned, it is required to provide small and medium agricultural households a greater availability of knowledge, technique and technology and funding. They also need a greater impact in making decisions related to agricultural development and development of rural infrastructure.

As for the purchase of agricultural and food products in our country, in the study (Kovljenić, et al., 2016) there were analyzed the predictors that affect the purchase of these products. The sample of 201 respondents from the territory of the Republic of Serbia and the results of the study show that gender, financial situation and price represent a significant predictor of the purchase of agricultural and food products in the Republic of Serbia.

In a survey carried out by researchers *Slow Food* from Velika Plana during December 2018, there were 67 agricultural producers interviewed who are engaged in production and processing of agricultural and food products in the region of Branicevo-Podunavlje. The producers interviewed mainly get inputs/raw material from the producers from the places they live in (71,62%), exclusively from own production capacities or from

the nature. There is 13,51% of them who obtain raw materials for production from the producers from the region (or up to 200km distance). In addition, Serbia was mentioned as supply market by 13,51% of the respondents. Raw materials for product are imported by 1,35% interviewed producers only. When it comes to the technology of production that the respondents in the study mentioned apply, it was found that producers who use traditional technology and machines are the ones who dominate (68,7%). Partially modern process with modern machines is present in case of 16,4% interviewed producers, technology and machines that are old 10 years or more are present in case of 7,5% producers, and the same number of producers possess entirely modern process with modern machines (Radić-Jean & Mihajlović, 2019). In a context of contemporary social changes some authors (Ćirić et al., 2018) state that there is a connection between innovativeness of a farmer and his acceptance of the Internet and social media. The authors mentioned state that if the farmers are more open for new ideas and they try out new products, services and technologies, then they have a less resistance to changes of habits and thus their usage of Internet and social media is higher. The results of the study mentioned (Ćirić et al., 2018) show that farmers are mainly interested in Facebook and YouTybe, and their intensified usage is expected. Instagram and Twitter are the networks that still aren't widely accepted among farmers and they are used by those farmers with the highest innovativeness level and desire to try out new things.

Conclusion

By adequate strategic planning, agriculture in Serbia can give a significant contribution to the economic development of the country. Agriculture encourages employment, takes a significant part in foreign trade, provides a food security of citizens, contributes to rural development (Maksimović et al., 2019; Dašić et. al, 2020; Leković et al., 2020) and ecological balance. Having in mind that Serbia is rich in agricultural land it has a required precondition for an enormous potential of growth of export of agricultural food products, although the situation for many years was such that our country was mainly the country of the import. With an insight to the available relevant statistical data and by the analysis of empirical studies in our country, we believe that the main direction of future development of agriculture and food industry of Serbia must be directed towards optimal usage and preservation of available production capacities, increase of the scope of agricultural production, as well as change of production structure in favour of intensive productions meant for the export, production of high-final and high-quality products. All of this due to settle domestic supply and significantly increase the export of high quality agricultural and food products.

Subsidizing the inputs in agricultural production is a condition for cheapening of production, and thus a more competitive export. Therefore, it is required to strengthen the farmers and give them greater stimulants in the aspect of different tax reliefs and cheap long-term loans and subsidies, in order to keep people in the villages and thus prevent the village from dying. The increase of export in our country in addition to

everything above-mentioned is reflected in the possibility to form a recognizable “product brand” “Made in”, i.e. “Product of” which will guarantee a high quality of products and by which the products of our country will be recognized in foreign markets. In that context, some agricultural and food products of the Republic of Serbia who have this potential, among other things are: plum brandy, wine, plums, raspberries, sour cherries, mushrooms, greaves, kaymak, Zlatibor prosciutto, etc. however, in order to achieve that and for our products to be well-known and available to all countries in region, and widely, we must continuously work on quality because that is precisely the path to brand creation.

The next step refers to the increase of the level of agricultural production by applying modern technologies and tracking trends in the world. Here we primarily refer to the application of innovative procedures in agriculture and application of modern marketing concepts, such as application of Internet and social networks, and all of that in order to promote agricultural products and understanding their importance for nutrition of both people and animals.

The sector of agriculture and food products has an exceptionally important role in the development of a country and the creation of competitive agricultural market can greatly contribute to strengthening of export potential of domestic economy. The export can be increased only by greater production, and it will also reduce the import. Since the Republic of Serbia faces a long-term deficit of trade balance, the improvement of foreign trade with agricultural and food products becomes necessary. In this manner, it is required to radically change the structure of export in order to increase the competitiveness of these products and eliminate the constraints that are the result of low work productivity, inadequate agricultural policy in the last decade and lack of funds to invest in the sector of agriculture. The mentioned measures would affect the growth of gross domestic product (GDP), aggregate demand, as well as total export of agricultural products. The hypothesis that with bigger investments in agricultural holdings Serbia will achieve significant economic growth, increase employment in rural areas and provide ecological equilibrium is proven with all cited above.

Conflict of interests

The authors declare no conflict of interest.

References

1. РЗС (2019): *Анкета о структури пољопривредних газдинстава, 2018, Пољопривредна газдинства према типу производње и економској величини*, Београд, Републички завод за статистику, Република Србија. [in English: RBS (2019): *Survey on the structure of agricultural holdings, 2018, Agricultural holdings by type of production and economic size*, Belgrade, Republic Bureau of Statistics, Republic of Serbia].

2. Bogdanović, S. & Hadžić, M. (2018). *Podsticanje izvoza poljoprivrednih proizvoda viših faza prerade*, *Ekonomija: teorija i praksa*, vol. XI, br. I, 35-50, Fakultet za ekonomiju i inženjerski menadžment u Novom Sadu Univerziteta Privredna akademija u Novom Sadu, Novi Sad. [in English: Bogdanović, S. & Hadžić, M. (2018). *Encouraging the export of agricultural products of higher stages of processing*, *Economics: Theory and Practice*, vol. XI, no. I, 35-50, Faculty of Economics and Engineering Management in Novi Sad, University of Business Academy in Novi Sad, Novi Sad].
3. Dašić D, Živković D. & Vujić T. (2020). Rural tourism in development function of rural areas in Serbia. *Economics of Agriculture*, Year 67, No. 3, 719-733; doi:10.5937/ekoPolj2003719D
4. Đorđević, S. M., & Mitić, N. (2020). Alternative accounting procedures, creative accounting and false financial reporting. *Oditor*, 6(2), 21-37. <https://doi.org/10.5937/Oditor2002021D>
5. Влаховић, Б. (2015). *Тржиште агроиндустријских производа*, Универзитет у Новом Саду Пољопривредни факултет, Нови Сад. [in English: Vlahović, B. (2015). *Market of agro-industrial products*, University of Novi Sad, Faculty of Agriculture, Novi Sad].
6. Gollin, D., Parente S.L. & Rogerson, R. (2002). *The role of agriculture in development*. *American Economic Review*, vol. 92, no. 2, 160–64.
7. Đurić, D., Ristić, J., Đurić, D., & Vujanović, I. (2017). Export of agricultural and food products in the function of economic growth of Republic of Serbia. *Economics of Agriculture*, vol. 64, no. 3, 887-900.
8. Koveljenić, M., Raletić-Jotanović, S., Nestorov – Bizonj, J. (2016). Prediktori kupovine poljoprivredno - prehrambenih proizvoda u Republici Srbiji. *Agroekonomika*, vol. 45, br. 72, 95-102. [in English: Koveljenić, M., Raletić-Jotanović, S., Nestorov - Bizonj, J. (2016). Predictors of purchase of agricultural and food products in the Republic of Serbia. *Agroeconomics*, vol. 45, no. 72, 95-102].
9. Kočan, E., Pejanović, R. & Cvijanović, S. (2017). *Faktori uspešnog poslovanja poljoprivrednih gazdinstava u Srbiji*. Zbornik radova sa Prve nacionalne naučno-stručne konferencije sa međunarodnim učešćem - Trendovi u poslovanju, Kruševac, vol. 1, 139-151. [in English: Kočan, E., Pejanović, R. & Cvijanović, S. (2017) *Factors of successful business of agricultural farms in Serbia*. Proceedings of the First National Scientific and Professional Conference with International Participation - Business Trends, Kruševac, vol. 1, 139-151].
10. Kuzman, B., Djuric, K., Mitrović, Lj., Prodanovic, R., (2017). Agricultural budget and agriculture development in Republic of Serbia, *Economics of Agriculture* 64(2), 515-531. DOI: 10.5937/ekoPolj1702515K
11. Leković, M., Cvijanović, D., Pantić, N., & Stanišić, T. (2020). Evaluative bibliometric analysis of recent trends in rural tourism literature. *Economics of Agriculture*, 67(4), 1265-1282. DOI: 10.5937/ekoPolj2004265L

12. Marković, M. (2016). *Značaj poljoprivredno-prehrambenih proizvoda u spoljnoj trgovini Republike Srbije*. International scientific conference - ERAZ 2016: Knowledge based sustainable economic development, Beograd, pp. 406-412.
13. Maksimović, G., Ivanović, T., Milošević, B., & Sekulić, D. (2019). Factors of the rural tourism development of Sirinicka Zupa in Kosovo and Metohija. *Economics of Agriculture*, 66(4), 1187-1199. Doi:doi:10.5937/ekoPolj1904187M
14. Пушкарић, А., Јелочник, М. & Бекић, Б. (2009). Трговински биланс Републике Србије у контексту међународне размене хране и пољопривредних производа, *Економика*, вол. 58, бр. 1, 112-120, Ниш. [in English: Pushkaric, A., Jelocnik, M. & Бекић, Б. (2009). Trade balance of the Republic of Serbia in the context of international trade in food and agricultural products, *Ekonomika*, vol. 58, no. 1, 112-120, Niš].
15. Puškarić, A., Kuzman, B. & Maksimović, B. (2016). Impact of promotional activities on the development of autochthonous food products market. *Ekonomika*, 62(4), 85-94. doi:10.5937/ekonomika1604085P
16. Radić-Jean, I. & Mihajlović, B. (2019). *Istraživanje i analiza poljoprivredno-prehrambenih proizvoda sa dodatom vrednošću i tržišnim potencijalom u regionu Braničevo-Podunavlje*. Projekat "Ukusi Regiona – Promovisanje poljoprivrednoprehrambenih proizvoda sa dodatom vrednošću za unapređenje ekonomskih kapaciteta gazdinstava, Regionalna razvojna agencija "Braničevo-Podunavlje", Велика Плана, Република Србија. [in English: Radić-Jean, I. & Mihajlović, B. (2019). *Research and analysis of agri-food products with added value and market potential in the Braničevo-Podunavlje region*. Project "Tastes of the Region - Promotion of agri-food products with added value for the improvement of economic capacities of farms, Regional Development Agency" Braničevo-Podunavlje " , Velika Plana, Republic of Serbia].
17. Републички завод за статистику (2019). *Саопштење, Статистика спољне трговине*, бр. 236, год. LXIX, Република Србија, (доступно на: <http://data.stat.gov.rs/Home/Result/1702?languageCode=sr-Latn>). [in English: Republic Bureau of Statistics (2019). Announcement, Foreign Trade Statistics, no. 236, yr. LXIX, Republic of Serbia, (available at: <http://data.stat.gov.rs/Home/Result/1702?languageCode=sr-Latn>)].
18. Stanković, V., Mrdak, G., & Miljković, M. (2020). Economic-legal analysis of international investments. *Oditor*, 6(3), 89-122. <https://doi.org/10.5937/Oditor2003089S>
19. Ćirić, M., Carić, M., Kuzman, B. & Zekavica, A. (2018). Farmer innovativeness and its impact on internet and social media adoption, *Economics of Agriculture* 65(1), 243-256. DOI: 10.5937/ekoPolj1801243C