

# CORN PRODUCTION IN FUNCTION OF INTEGRAL LOCAL DEVELOPMENT<sup>1</sup>

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## Abstract

*Corn production represents significant component of economic stability of region in which is cultivated, considering the numerous possibilities for exploiting. In paper will be given an overview of corn production on administrative territory of the Upper Danube region, which for the purposes of this research includes the territories of the following municipalities: Sombor, Apatin, Bač and Bačka Palanka. Based on these results, we can conclude that the observed region has a natural predisposition for improvement of this type of production. By investing in the corn production would be enhancing the strength as well state properties, but also individual farms; which would lead to the preservation of local resources and local development, reduction of import and strengthening corn prices in the market.*

**Key words:** *corn production, Upper Danube region, local development*

## Introduction

Corn (*Zea mays* L.), besides wheat and rice occupies the most important place in world production of field crops. Economic importance arises from its versatile use in nutrition of humans, livestock and industrial processing, as well from the volume of production. It has a high yield potential and ranks among a group of plants with the highest production of organic matter per unit area, because it is possible to use almost all aboveground organs of plants. So today from corn plant, with numerous technological procedures, produces more than 1.500 different industrial products (*Glamočlija, 2004.*)

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Based on data of world database<sup>3</sup>, corn production is increasing from year to year, so that the production of commercial maize performed on 166 million hectares with a yield of 860 million tonnes (2012.), from which 2 of 3 tonnes goes to the production of fodder corn and 120 million tons of corn intended for the production of bioethanol. Maize production globally in 2013. achieved significant increase from the 2011th and 2012., when was recorded 965 million tonnes corn.<sup>4</sup> In five countries are almost half the world's area under maize: USA, China, EU-27, Brazil and Mexico. USA leads the world in the international exchange of commercial maize (export largest in MT), and Japan on the other side of the country with the largest importation of this grain.

In Europe, the production of corn (season 2012/2013) performed on an area of 15,5 million hectares, which is about 4% more than the 14,9 million hectares sown in 2011/2012th years.<sup>5</sup> The countries who are largest producers: France with 13,6 MT; 11,9 MT Ukraine; Romania 9;7 MT.

Corn represents a plant which in production of animal feed can be used in several ways: as a concentrated feed (in grain) or in the form forage. Grain can be used as a concentrated animal feed or as a component of feed mixtures. Utilization of the whole plant can also be performed in several ways. It can be used for pasture, then a fresh green fodder, like as silage, dry plant mass and as cornstalks. For making silage corn is very convenient, because besides grain and other edible parts of plants are suitable for making silage and fodder have value (*Vučković, 1999.*).

In the world production fodder corn performed at 12.5 million hectares and represents most economical forage crop for producers. The largest area under corn cattle are found in the EU-27, with more than 40% of the world's surface. As the largest producers stand out: 5.6 Mha - EU; 2.25 Mha - USA; 1.3 Mha - Russia; etc.. In Europe, the largest producers are located in the territory of Eropske Union (7.5 million ha), of which 2/3 area located in France and Germany. According to data from 2011. Serbia is producing 0.5 Mha of field corn.

Republic of Serbia has natural potentials for orientation in maize production in rural areas. However, we see substantial oscillation yields of corn per year,

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<sup>3</sup>CIC, STRATÉGIE GRAINS, FNPSMS, CEPM, USDA, BRAZILSKO MINISTARSTVO, AGRESTE, EVROSTAT, ONU TRADE

<sup>4</sup><http://www.fao.org/news/story/en/item/175772/icode/>

<sup>5</sup><http://usda01.library.cornell.edu/usda/fas/worldag-production//2010s/2013/worldag-production-04-10-2013.pdf>

which is caused by low investment in production, especially in dry farming conditions, and the plants are sensitive to changes in meteorological conditions during the growing season.

Due to the availability of a large number of hybrids for different purposes and extremely large yield potential, in the next period would be the main goal should be intensification of agricultural technology. In this way it would be possible to achieve sufficient yield of grain and vegetative biomass for the growing needs of the food industry, livestock production and exports.

Another model of production improvement would be reflected in changes in our ways of using corn and its use as a forage plant, especially growing in mixtures with legumes. This could cause a development from manufacturing in the hilly and mountainous regions, where it is possible to successfully plant hybrids a short period of time and use them for the production of silage (*Bekrić, V.; 1980*).

### **The needs of corn according environmental conditions**

Corn, in the first place thanks to expressed polymorphism, can be grown over a wide geographical range and variety of climatic and soil conditions. According to *Kovačevića (1995)*, „intensive maize production is characterized by a large number of the operations that have an immediate impact on soil characteristics, weed infestation and yield with high load of costs of production. In order of costs reducing its must be rationalized cultural practices, especially tillage, which is the largest consumer of energy“.

Corn plants are susceptible to frost and lack of moisture in the soil. The minimum temperature required in the initial stage of growth and development is 8-10°C, while the optimum temperature, which requires corn during the growing season is between 22-25 °C. In the initial stages of development (germination and phase from the first to third leaf) plants tolerate short frosts, and to -3 °C. As a thermophile plant tolerates high temperatures (above 35 °C), but not in the stages of flowering, pollination and fruit set.

With regard water needs, the needs are uneven and largely depend on the phenological phases. Demand for water increases with plants, so the crop is necessary to provide about 300 to 550 mm of water during the growing season, in order to achieve a stable yield. The greatest need for water residue was recorded and stages of growth trees, tasseling silking, fruit set.

It has expressed needs according light to provide intensive photosynthetic activity. Although the short-day plant, it can be grown in areas that are characterized by long days and over 20 hours, as the result of the breeder.

For growing corn are the best soil slightly acidic to slightly alkaline (pH 6.5-7), loose, permeable and well aerated soils with high capacity for water. These types of land belonging to the middle and lake clays, such as chernozem, meadow black soil, clay soil more fertile cultivating soils and smonitza of the favorable physical characteristics.

Majority of the land in Serbia is more or less dense due to inadequate treatment and the heavy mechanical composition. Such lands is characterized by unfavorable water-air regime, which may result in reduced microbial activity, and in them can overcome anaerobic chemical processes that lead to an increase in acidity. Therefore, on such land necessary to introduce additional investments in land reclamation repairs.

Corn positively responds to growing the crop rotation, the best preceding for him is: grain legumes, cereals, grass-legume mixtures, potatoes, red clover. Such cultivation is achieved effectively combat weeds; pests and plant diseases; better utilization of plant assimilative from land; rational use of agricultural machinery and reducing production costs. This provides a significant provision of raw materials for the food industry and food for domestic animals.

With the proper performance of the farming operations, a force for stability in corn production is the proper selection of varieties and hybrids. Corn production in dry farming conditions become unsafe due to all the unfavorable distribution of rainfall during the growing season, especially during periods of critical water. (*Glamočlija, 2004.*)

Diversified use of corn in different industries is a task that needs to be addressed properly, with respect to the ability to adapt to our climate and land conditions, drought resistance, solid stem, earliness and uniformity of maturation, as well as the suitability for mechanical harvesting and grain quality.

Depending on the type (purpose) of application (hybrids that are grown for grain for direct use in human or group of hybrids that develop large biomass grown for preparing roughage) and earliness (maturity group), it is possible to improve maize production the existing environmental conditions.

## Natural potential of Upper Danube region

Municipality of Sombor, Apatin, Bač and Bačka Palanka is the administrative areas that belong to the territory of AP Vojvodina, which for the purposes of the present study will include the Upper Danube region. They are located on the right bank of the Danube River and represent a specific site, where agricultural production and widespread as possible in terms of natural conditions, and in terms of economic viability.

Area of the Upper Danube region in Serbia is characterized by favourable relief, straight and slightly wavy, which influences the development of micro- and nano- landforms that affect the changes in vegetation composition and distribution of plant vegetation. In terms of climatic parameters on the Upper Danube basin average long-term value of the minimum air temperatures ranging from -13,0 °C (January) to 10,3 °C (July). The values of the maximum temperatures are in the range of from 0,0 °C (December) to 21,9 °C (July). The average amount of rainfall is 613,0 mm for the whole year, while the vegetation period (April-October) was 360,6 mm.

On the Upper Danube region represented a wide variety of soil types and subtypes: chernozem, black soil, meadow black soils, saline (solonchak and solonetz), alluvial soil and black soil. The land could be used for agricultural production. Dominantly represented intensive conventional agricultural production of basic agricultural products for mass consumption, processing and exporting. The production structure of primary agricultural products the most common is the production of wheat, oilseeds and sugar beet; as the availability of advisory services, existence of processing facilities and proximity to developed markets and encourage the development of organic agriculture, primarily vegetables and herbs, aromatic plants (*Popović i sar., 2013.*).

A special feature of region Upper Danube is the presence of the Danube River, which is the main watercourse. Danube is the second longest river in Europe, with a catchment area 817,000 km<sup>2</sup>. An important natural resource, but also the backbone of the development of the municipalities of the Upper Danube region, which gravitate toward her. Together with its tributaries makes hydrographical system is important for the development of a waterway for tourism, hunting and fishing. It is important from the aspect of agricultural activity, because in this way may require the creation of specific economic niche where there is a layered development of micro-activities in the production and linking producers, processors and consumers in the interest

groups. Area of the Upper Danube basin represents a special nature reserve; that in his area of 19,500 ha includes unique plant and animal ecosystems, which play an important role in preserving the biodiversity of the observed region. Therefore, this is an interesting area and to introduce methods of agricultural production that would ensure sustainable use of natural resources - organic farming.

In order to strengthen local communities of the observed region, agricultural production has an important place as a factor of stability and competitiveness. It is therefore an important factor given corn production, and in that respect and the importance of recognizing the resource potential of this crop, which can be exploited in various ways. By investing in the production of corn, the selection of new production technologies and the use of varieties and hybrids, can be provided integrally observed strengthening of municipalities of the Upper Danube region.

### **Methods and materials**

For the purpose of this research is defined administrative area that includes the municipalities of Sombor, Apatin, Bač and Bačka Palanka. In the following text, the entire project area will be called the Upper Danube region. Based on the data of the National Bureau of Statistics will be carried out to analyse the current state of corn production in the territory of the Upper Danube region, AP Vojvodina and Republic of Serbia; based on the parameters of the total agricultural area; structures using arable land and gardens. The survey was conducted for the period from 2003 to 2012. year. For a better overview explanation will be displayed and maize production in the surveyed municipalities. The research will be presented and Costing of mercantile corn on the basis of variable costs.

### **Results and discussion**

The basis for the improvement of plant production is situated in the existence of farmland on which is possible flow of current production and future expansion needs for the production of crops. In Serbia, maize production occurs in 1 to 1.2 million hectares each year, of which 2/3 of the production is located in the plain area of the country.

Area of the Upper Danube region is characterized by a favourable geo-strategic location, natural resources, richness in flora and fauna, as well as good infrastructure connections of all municipalities and distribution

capabilities of primary agricultural products and products in developed markets in Serbia. In terms of regionalization, Upper Danube is located in Vojvodina (Bačka region), with the southern and western parts are the most favourable area for corn production (due to above average natural conditions, together with the eastern and southern Srem and Podrinje-Kolubara region, in the area of the three produces about half of the total corn production).

Summary of total agricultural land in the Upper Danube region, as well as an overview of the AP Vojvodina and Serbia, is the basis of further analysis corn production (*Table 1*).

**Table 1.** Total agricultural areas in period 2002-2011. year (in ha)

	<b>Republic of Serbia</b>	<b>AP Vojvodina</b>	<b>Upper Danube region</b>
2002	5.106.900	1.783.175	198.974
2003	5.115.072	1.793.572	200.698
2004	5.113.307	1.792.159	199.876
2005	5.112.323	1.790.565	199.836
2006	5.105.008	1.780.950	198.798
2007	5.052.957	1.747.441	194.136
2008	5.093.192	1.781.253	199.606
2009	5.096.646	1.780.756	198.392
2010	5.091.507	1.784.352	201.271
2011	5.096.267	1.780.588	200.949

**Source:** *Municipalities in Serbia 2003-2010; Municipalities and regions in Republic of Serbia 2011-2012, NBS, Serbia*

In the ten-year period covered by the study, it can be concluded that there is a strong track surface on which to carry out agricultural activities. On the level of **Republic of Serbia**, most agricultural land was recorded in the 2003<sup>rd</sup> year, after which he ended the 2007<sup>th</sup> there was a decrease in areas that are used for agricultural purposes. The 2008<sup>th</sup> and 2009<sup>th</sup>, coming to increased investment and expansion of agricultural land, then a slight decline in 2010., but a slight increase in 2011 year.

Following the same trend and the share of agricultural land in **AP Vojvodina**, it's a noticeable decrease in agricultural land after the 2003<sup>rd</sup>, which lasts until 2007<sup>th</sup>. In the 2008<sup>th</sup> is noticeable increasing of the area for agricultural purposes; a trend increase in the area lasted until 2010<sup>th</sup>; while in the final year of study (2011.), noticeably re-reduction of agricultural land.

On the territory of the **Upper Danube region** are favourable characteristics for agricultural activities in terms of agricultural land. The share of agricultural land follows the same trend, as is the case in Serbia and AP Vojvodina. It is noticeable that in the course of 2010<sup>th</sup>; mostly surfaces separated it for agricultural production during the whole of the period when it recorded the highest proportion in relation to the agricultural areas of the Republic of Serbia (0,003%), as compared to the AP Vojvodina (11,29%) . Further, in the observed period of ten years was awarded alternating trend of increase and decrease of agricultural land.

The total agricultural land use in the territory of the Republic of Serbia is 3.355.859 ha. According to the "*Statistical Yearbook of the Republic of Serbia in 2012*," the total agricultural area in 2011<sup>th</sup>, arable land accounted with 64,6%, with 4,7% of orchards, 1,1% of vineyards, 12,2% accounted meadows and pastures with 16,6%. The structure of sown areas of arable land, grain accounted for 58,0%, industrial crops with 13,0%, vegetables with 8,3% roughage with 13,8%.

On territory of AP Vojvodina, the structure of utilized agricultural lands consists of arable land and gardens with 90,33%; orchards with 1,03%, vineyards with 0,57%; meadows with 2,35% and pastures with 5,72%.<sup>6</sup>

According to the *Statistical Yearbook of the Republic of Serbia 2013<sup>th</sup>* total rural agricultural land use in the Republic of Serbia in 2012. Was distributed in the following categories: Arable land (64,97%), fruit (4,71%), vineyards (1,69%); meadows (12,09%) and pastures (16,54%).

At the level of AP Vojvodina, in the course of 2012. we recorded the following structure of utilized agricultural land: arable land (90,33%), fruit (1,03%), vineyards (0,51%); meadows (2,41%) and pastures (5,72%).<sup>7</sup>

The structure of agricultural land in the municipalities of the Upper Danube region is dominated the production of grain and industrial crops, while orchards, vineyards; as well as meadows and pastures are in a small percentage.

When we talk about the structure of the use of arable land and gardens (data for 2011.), in municipalities the Upper Danube region (Sombor, Apatin, Bač i Bačka Palanka) is dominated production of wheat (60,50%) and industrial

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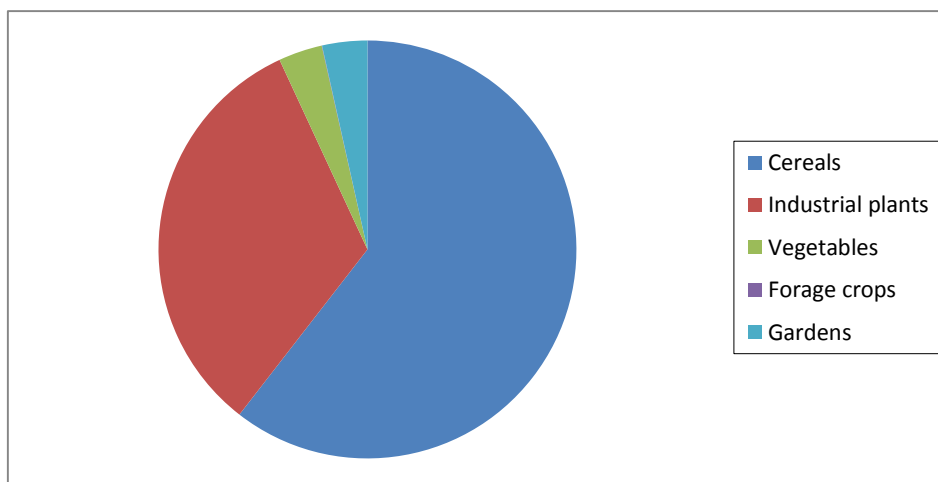
<sup>6</sup> <http://pod2.stat.gov.rs/ObjavljenePublikacije/G2012/pdf/G20122007.pdf>

<sup>7</sup> <http://pod2.stat.gov.rs/ObjavljenePublikacije/G2013/pdf/G20132010Knjiga.pdf>



products (32,59%); while vegetable production is performed at 3,39% arable land and gardens. The smallest proportion of occupied forage crops with 0,03%. Production that is performed on individual plots (Garden) occupies an area of 3,49%. (*Graph 1*).

**Graph 1.** *Structure of used arable land and gardens in Upper Danube region in 2011 year (%)*



**Source:** *Municipalities and region in Republic of Serbia, 2012. NBS*

At the Republic level, corn production is observed in the ten-year period, characterized by cyclic but stable yield. In 2007. and 2012., is recorded the lowest yields as a result of bad weather conditions during the years, which had resulted in reduced yields (*Table 2*).

Vojvodina, as a province of Serbia, has an exceptionally favourable natural conditions for the production of corn and the products are over 50% of the total maize production in the Republic of Serbia (*Table 2*). Production in the period is characterized by the trend of output growth from 2003 to 2005. year; followed by a decline that lasts until the 2008th year as a result of the global crisis, and therefore less investment in agricultural production. Since 2009. until 2011., corn production in Vojvodina was to grow while in 2012. is recorded the highest variation in corn production in comparison to 2011., production fell by half (51,84%) .

The area of the Upper Danube region, which geographically belongs to the region of Bačka, together with the eastern and southern Srem and Podrinjsko-Kolubara region, is the area which produces about half of the total maize production. Favourable temperature conditions in the growing season allows

the cultivation of hybrid maturity groups as a basic or stubble crop. Schedule and the total amount of rainfall enable breeding a large number of plants per hectare and cost-effective use of large amounts of mineral fertilizers, as corn production more economical than in other parts of Serbia.<sup>8</sup>

The municipalities in observed area is characterized by relatively stable corn production in the period, with most production is realized in the municipality of Sombor; where production is almost twice bigger than in other municipalities in observed region.

**Table 2.** *Production of corn in municipalities of Upper Danube region (in tones)*

Year	Republic of Serbia	AP Vojvodina	Municipality			
			Apatin	Sombor	Bač	Bačka Palanka
2003	3817338	2123968	26762	136929	36768	83429
2004	6569414	3726497	42419	252508	43012	118843
2005	7085366	4248695	56342	299704	43227	127868
2006	6016765	3665852	39184	260717	38166	112885
2007	3904825	2677223	33048	152130	31170	86839
2008	6158122	3959261	54466	283288	35277	116780
2009	6396262	4000283	52116	255012	26327	101948
2010	7207191	4688616	12376	56840	35042	136763
2011	6479564	4404542	59630	314259	36404	128813
2012	3532602	2283398	29734	156931	22955	67446

**Source:** *Municipalities in Serbia 2004-2013; NBS, Serbia*

In a large extent, corn is grown in monoculture, and greater number of years in the same areas, particularly on family farms, which significantly affects the yield and this is definitely one of the reasons why the amount of corn produced varies from year to year. However, one of the major reasons for the unbalanced production of the occurrence of drought, or unfavourable climatic conditions during the analyzed period of ten years, which are due to lack of irrigation particularly pronounced. The coverage of the territory of the Republic of Serbia with irrigation systems is extremely poor, and given the area that is irrigated, and is under the grain and corn silage situation is also very unfavourable (*Table 3*).

<sup>8</sup>Milisav Stojaković, Mile Ivanović, Đorđe Jocković, Goran Bekavac, Božana Purar, Aleksandra Nastasić, Dušan Stanisavljević, Bojan Mitrović, Sanja Treskić, Rajko Laišić ( ): Izbior hibrida kukuruza na osnovu multilokacijskih ogleda, Ratarstvo i povrtarstvo, 103-112, ISBN 978-86-80417-28-8, 45. Savetovanje agronoma srbije, Zlatibor, 30.01-05.02.2011.

**Table 3.** *Irrigated area of cereal and corn for silage*

Area	Cereals and corn for fodder	
	ha	share of irrigated area in total area under crops, %
Republic of Serbia	36.154	2,1
AP Vojvodina	22.062	2,2
Apatin	927	7,2
Sombor	515	0,9
Bač	42	0,5
Bačka Palanka	717	3,1

**Source:** *Census of Agriculture 2012, Agriculture in the Republic of Serbia, Statistical Office of the Republic of Serbia, Belgrade 2013*

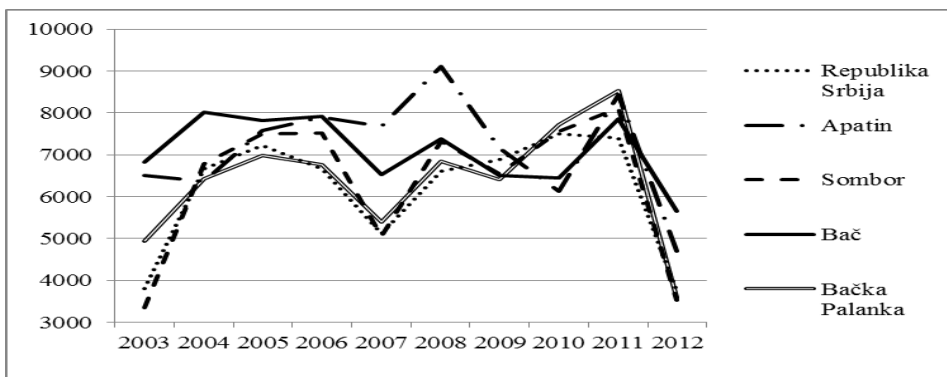
The largest share of irrigated land in total area under cereals and corn silage is (from the analyzed area) in the municipality of Apatin (7,2%), while in the area of Bač least a share of irrigated area (only 0,5%). It is notable that the share of surface grains and corn are irrigated in the municipality of Apatin increasing almost 3,5 times the area irrigated in Serbia.

Extremely dry year in analyzed ten-year period were in 2003 and 2007. Properly in the past three years, as a result of drought, achieved extremely low corn production in all areas, and accordingly are average yields for commercial companies and cooperatives, as well as family farms were significantly reduced (*Graphs 2 and 3*).

Fragmentation of land properties can certainly be a problem in improving the production not only of corn, but other crops. Associating by small farmers and fragmentation of land holdings in one unit will make it easier applying for grants, as well as more stable and higher price to purchase the product.

The average yield of maize in business companies and cooperatives in the municipalities of the Upper Danube region is analyzed in most years above the average for the Republic of Serbia, and is by far the highest yield was achieved in the area of Apatin in the 2008<sup>th</sup> year. Yields of corn in business companies and cooperatives are at a much higher level compared to the yields of family farms.

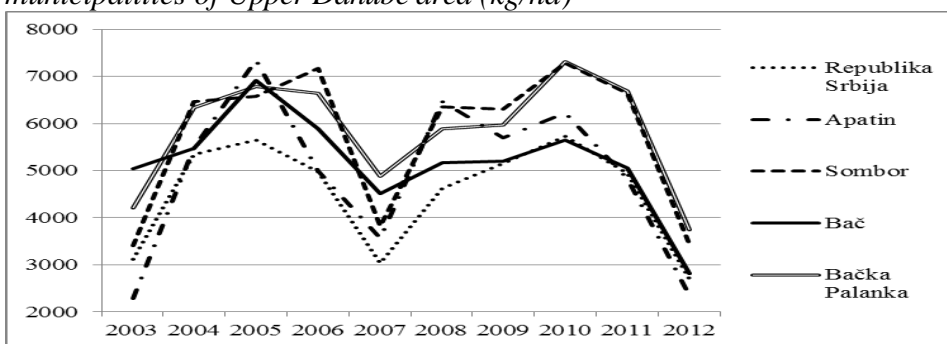
**Graph 2.** *Average yield of corn in business companies and cooperatives on Upper Danube area (kg/ha)*



**Source:** *Municipalities in Serbia 2004-2013; NBS, Serbia*

On family farms highest average yield per hectare in most of the analyzed was achieved in Sombor and Bačka Palanka and are far above the average for the Republic and Vojvodina.

**Graph 3.** *Average yield of corn on family farms in Republic of Serbia and municipalities of Upper Danube area (kg/ha)*



**Source:** *Municipalities in Serbia 2004-2013; NBS, Serbia*

Corn during 2012. was the most important agricultural export product and by the data of the Serbian Chamber of Commerce export value of yellow maize in the period January - December 2012. Amounted to 541 mil. USD.<sup>9</sup>

The value of exported maize during the period 2006-2011 year is increasing, with the exception of 2007, when the reduced amount of corn exported due to falling yields due to drought (*Table 4*).

<sup>9</sup> <http://www.pks.rs/PrivredaSrbije.aspx?id=13&p=2&>

The value of imports of maize is negligible compared to the value of exports and is in the range of 1,20% to 5,12% of the value of exports of corn during the analysis period 2006-2011 year.

**Table 4.** *Quantity and value of export and import of corn in Serbia*

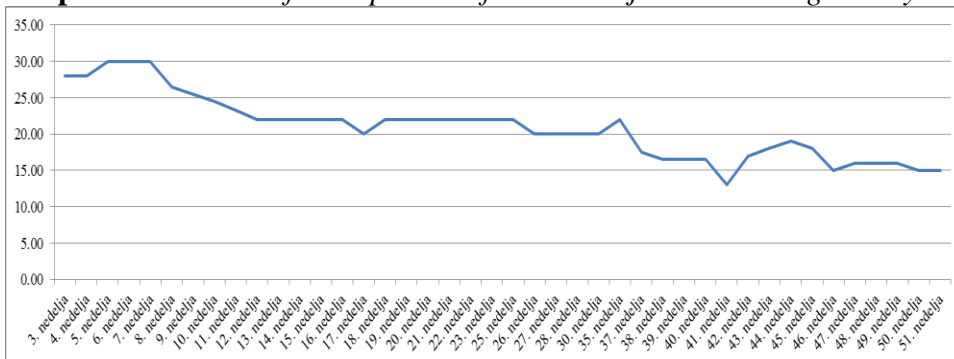
Year	Uvoz		Izvoz	
	Quantity (tones)	Value (1000 \$)	Quantity (tones)	Value (1000 \$)
2006	1545	3,064.00	1350512	179,712.00
2007	951	2,934.00	415740	85,099.00
2008	2233	6,629.00	551059	129,577.00
2009	2841	7,991.00	1602073	288,129.00
2010	1670	4,005.00	1662151	334,923.00
2011	3509	11,326.00	1630891	455,504.00

Source: <http://faostat.fao.org/site/535/DesktopDefault.aspx?PageID=535#ancor>

Movement of the price of corn on farms in Vojvodina during the 2013. according to the data of STIPS-a is shown in Figure 4 As you can see, during the year marked a negative trend, and the price of corn has a tendency to fall.

But the price of corn during the 2013. Allegations are farmers from family farms were lower than the above, during the year appeared the problem with increased alfatoksin above the statutory amounts in corn, and therefore in the milk.

**Graph 4.** *Movement of corn price on farms in Vojvodina durring 2013 year*



Source: <http://www.stips.minpolj.gov.rs/stips/nacionalni>

Calculation of mercantile maize production is made based on of variable costs, based on information from family farms where corn is produced on large areas and to achieve higher yields per hectare than the average.

**Table 5.** Calculation of mercantile maize production based on variable costs for 2013. year

	RSD / ha	€ /ha
<b>INCOME</b>		
Corn in grain (7.500,00 kg per ha X 14 RSD per kg)	105.000,00	914.95
Total	105.000,00	914.95
<b>VARIABLE COSTS</b>		
Corn seeds (2,4 SJ per ha X 3.500,00 RSD per SJ)	8.400,00	73.20
Mineral fertilizer NPK 8:16:24 (200 kg per ha X 55 RSD per kg)	11.000,00	95.85
Mineral fertilizer UREA (250 kg per ha X 47 RSD per kg)	11.750,00	102.39
Protection agents	4.900,00	42.70
Fuel, lubricants and maintenance machinery	15.093,00	131.52
Services (with harvesting)	10.500,00	91.50
Other variable costs	2.727,00	23.76
Total	64.370,00	560.91
<b>COVER MARGINS (GROSS MARGIN)</b>	<b>40.630,00</b>	<b>354.04</b>

**Source:** Author's calculation.

Based on data from the analytical calculation shows that after covering the variable costs in the production of corn still remains 40,630.00 dinars per hectare which should cover the fixed costs of production and achieve positive financial results.

The structure of the variable costs have the largest share costs for mineral fertilizers (NPK and urea), and then the cost of fuel, oil and maintenance of machinery. Also, an important point is the service side, or a combine harvesting corn.

## Conclusion

Based on the observed indicators, the territory of the Upper Danube region and municipalities that make this area one can conclude that the agricultural production of corn economically feasible for several reasons:

- On the territory of the Upper Danube region exist a natural, climatic and geographical conditions for the production of corn; Agriculture is intensive character.
- Although the observed period comes to the variation of total agricultural land, corn production is based on almost 50% of their land.
- The structure of the use of arable land and gardens, the share of maize (with the share of wheat) is the most important.
- Representation of different varieties and hybrids with high yield potential causes high yield per unit area, with the largest production in the Upper Danube region was recorded in the municipality of Sombor.
- Due to the stable and high yields obtained depend on the intensity of irrigation and the reclamation measure the phase advancing, so that it can not be expected in the future a more stable yield.
- Maize production is intensives, while corn yields in the companies and cooperatives are at a much higher level compared to the yields of family farms.
- The value of exported corn is higher than the value of exported corn, so the corn was in 2012. Was the most important agricultural product in the Republic of Serbia.

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