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DOMESTIC AND INTERNATIONAL OILSEEDS MARKET IN THE CONDITIONS OF COVID-19

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Abstract: *The production of oilseeds (soybeans, sunflowers and oilseed rape) on the domestic market remains above average with a marked increase in production since 2018, while the area under oilseeds from 2018 remains stable. Compared to the five-year average, the area under oilseeds increased by about 12% in 2020 which contributed to this year's record. Based on data published in the "Green Book I", oilseeds in 2020 recorded a slight decline in production of 3.4% due to the decline in sunflower yields. Analyzing the time period from several years ago, significant changes have been noticed on the international market, which are reflected in the fact that the share of vegetable oils as oil products is increasing and the market price is increasing. In this regard, groups of oilseeds can be determined for which there are potential opportunities for export growth in the coming period, such as edible oil, seed goods and unmodified soybean products. This especially affects highly developed countries (such as the USA, Canada, Russia, Ukraine…) which have a developed processing industry, and which, thanks to high productivity, can realize the final, ie on the international market. more expensive products. According to the projections of the American Ministry of Agriculture, the covid-19 pandemic affected international trade, where a smaller decline in imports and exports was recorded at the international level. In this paper we apply the*

so-called. exponential trend, which is determined based on a review of the flow chart of the obtained data. The rate of change shows us the percentage of increase or decrease of individual phenomena with the application of the trend. Based on quantitative statistical indicators, such as arithmetic mean, coefficient of variation, interval of variation and rate of change, we will present areas, production, yields, imports and exports on both domestic and international oilseeds market in the period from 2019 to 2021.

Keywords: *domestic, international, market, oilseeds, covid-19.*

INTRODUCTION

Oilseeds belong to the field crop that is gaining more and more importance, regardless of the presence of accompanying problems. They are primarily reflected in the need to introduce modern technologies in order to produce the most profitable crops, improving agro-technical measures that would relate to more successful land cultivation, use of chemical pesticides (such as fertilization and other crop protection), further development of seed and oilseeds, and all to a system of precision agriculture that is accompanied by increasingly obvious climate change.

In the future, the production of GMO-free food, the production and packaging of products according to UNECE standards, the creation of new varieties, as well as the competitiveness of oilseeds in a particular target market in changing market conditions will be increasingly important. Globally, oilseed production is expanding due to growing demand for „green energy". Of industrial plants, the sowing structure of the Republic of Serbia is dominated by sunflower (42%) and soybeans (32%), where the high share of soybeans in the sowing structure is uncharacteristic of European countries. Europe is therefore completely dependent on imports of soybeans and soybean meal from the United States, Brazil and Argentina. On the other hand, areas under sunflower have a tendency to grow, but unlike in recent years, areas under oilseed rape are becoming increasingly important, due to the growing need for production of bio-renewable energy sources and export of this oilseed to the international market.

In 2021, the Republic of Serbia, in cooperation with the UN FAO, in cooperation with the European Bank for Reconstruction and Development (EBRD), signed the continuation of the Agreement on Cooperation within the joint project started in 2020. Within the cooperation on the mentioned project in 2021, the impact of the covid-19 pandemic and its consequences on the oil sector was presented [Zita Srbije Monthly Report 4.21 / Belgrade, JUNE 2021 / e-mail: zitasrbije@gmail.com]. The total yield of oilseeds in the Republic of Serbia in 2020 is lower by about 6% compared to 2019 and was around 3 t / ha, while compared to the recorded five-year average yields, the total yield of oilseeds in 2020. year was higher by 5% [https://www.freepik.com or Green Paper I - Horizontal Review]. Production and non-production consumption is significant in our edible oil market. Production consumption includes reproductive and investment consumption,

while non-production consumption includes personal and general or public consumption, where sunflower oil is given priority.

Bearing in mind that the international market is increasingly looking for quality products, that competition in the production of oilseeds in the world is growing, and that only quality products can find their way to the end consumer, therefore the United Nations Food and Agriculture Organization (UN FAO) is very important, because in the Republic of Serbia there are all the prerequisites for the production of safe food. Favorable conditions for the proper development of oilseeds, especially soybeans, are provided by an appropriate system of measures: appropriate crop rotation, undermining, sowing, fertilization, weed control, installation of irrigation and drainage systems, as well as timely harvest [Miladinović et al., 2018]. According to the report of the Republic Bureau of Statistics (RZS), in 2021 in the Republic of Serbia only about 52.5 thousand / ha of agricultural land was irrigated, which is 0.4 percent less than in 2021. Arable land and gardens (with 94 percent) have the largest share in the total irrigated areas, followed by orchards (with five percent) and other agricultural areas (with a share of one percent). In the fall of irrigated areas, we should also look for the causes of the physical decline of agricultural production in Serbia in 2021 by five percent.

Significant changes are noticeable on the international market, which are reflected in the fact that cereals are losing their position in the market they had in the 80s of the twentieth century, while the share of vegetable oils as oil products is increasing. This especially affects highly developed countries (such as the USA, China, Russia, Ukraine…), which have a developed processing industry, and which, thanks to high productivity, can realize the final production, on the international market of more expensive products [Gajdobranski et al., 2016]. The production of oilseed rape, especially oilseed rape, is becoming increasingly important from the aspect of production of biodegradable energy sources, and it is also an important raw material for the food and pharmaceutical industry. Rapeseed production is growing internationally, which is a consequence of increased demand primarily from the processing industry as well as the growing food needs of the population, primarily in Asian countries. Based on analysts' estimates, the international market should stabilize in 2022, with an increase in total production to about 30.4 million / t, which is about 10.5% more than in the previous period. Oil consumption is forecast to increase, primarily due to increased demand for animal feed and a recovery in demand for vegetable oil (both for food production and biofuel production), which will require up-to-date monitoring of the main export markets [Gajdobranski, 2022].

RESEARCH METHODS

The set research task requires the application of various methodological procedures. The research is mostly based on the so-called „Desk research", and on the collection of available primary and secondary data. The following scientific methods are used in the paper: analytical-synthetic, inductive-deductive, method of abstraction and concretization,

method of generalization and specialization. In addition to scientific methods, the paper also uses tables in which summarized data for oilseeds (soybeans, sunflowers and oilseed rape) are presented, and which are also illustrated. In this paper, the so-called exponential trend, which is determined on the basis of a review of the diagram of the obtained data, where the rate of change shows the percentage increase or decrease of individual phenomena with the application of the exponential trend [http://polj.uns.ac.rs/sites/default/files/udzbenici/Ud%C5%BEbenik_Beba%20Mutavd%C5%BEi%C4%87%20i%20Emilija%20Nikoli%C4%87%20%C4%90ori%C4%87.pdf].

To show the average sizes of the observed phenomena, the middle shape method was used:

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

The degree of variation of individual phenomena was calculated by applying the coefficient of variation of shape:

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

where σ represents the standard deviation, which is obtained as follows:

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

In the statistical literature, a large number of trends of different functional forms are known, among which the sum is made depending on the predominant form of the tendency of the development of the phenomenon in time. In this paper, an exponential trend is chosen, based on a review of the original data movement diagrams. Rate of change (showing either the percentage increase or the decrease percentage of individual phenomena using an exponential trend) using the following formula:

$$Y = a \cdot b^x,$$

where Y is a dependent variable, ie. a phenomenon whose motion is examined in time; X is independently variable (time); parameter a is the value of the trend for the period that has X = 0, ie. the ordinate value of the trend at the origin; b is a parameter (coefficient of function) of the trend, which represents a constant relative change in occurrence over time, ie, growth or decline. If the growth rate is denoted by r, then:

$$b = (1 + r),$$

and the rate is:

$$r = (b - 1).$$

Therefore, the previous exponential trend equation can be represented as:

$$Y = a\,(1 + r)^x$$

If b> 1, then the phenomenon has a tendency to increase, and if 0 <b <1, then the phenomenon has a tendency to decrease. If the value of r obtained from the previous equation r = (b - 1) is multiplied by 100, it will be obtained by how much the estimated phenomenon increases on average, or decreases annually in the observed subperiod.

Thus, based on the exponential trend, a constant rate of change is assumed over the entire observed time interval.

SOURCES OF DATA AND RESEARCH HYPOTHESES

The main sources of data used in this paper are statistical yearbooks of Serbia, USDA (United States Statistical Date), Internal material of " Žita Srbije", Internal material of "Ministry of Agriculture, Forestry and Water Management", research published in books, other journals and publications as well as data collected via the Internet.

The paper starts from assumptions (hypotheses) that should be based on logical inference, as follows:

- analyzes of oilseed production in covid-19 conditions with sufficient supply of unmodified soybean products;
- availability in the use of existing arable land with increased production of oilseeds;
- export of oilseeds and their products to world and EU markets;
- increasing the share of vegetable oils and market prices, ie increasing competitiveness;
- improvement of agro-technical measures for proper cultivation of oilseeds; as well as
- marketing the concept of business.

In the market of oilseeds, the marketing concept of business must become dominant, because only in that way can better business results be achieved, which means satisfying the demands of foreign consumers. In the market of the Republic of Serbia, cereals and oilseeds are still the most represented in exports, as well as their products, which dominate in terms of quality, but with which we cannot compete with much larger producers, such as Ukraine [Gajdobranski et al., 2020].

DOMESTIC OILSEEDS MARKET IN COVID-19 CONDITIONS

The covid-19 pandemic is changing the markets and working conditions within them on a daily basis, where the domestic oil market has seen a change in the trend of imports and exports. In the period from September 2020 to March 2021, about 137 thousand / t of soybeans were exported, which is about 11 thousand / t less than in the same period last year. The main reason for lower exports is the domestic price, which has grown significantly faster than the price on the international market in the last three months.

The prices of oilseeds on the domestic market are formed in relation to the situation on world markets and on the markets of the surrounding countries, but also according to the demand of domestic oil mills, which are still the largest buyers of oilseeds. Extreme climatic conditions, which cause climate change, in recent years have had a great impact on production in our region, and thus on prices. These changes had the greatest impact on soybeans, and somewhat less on sunflowers.

The domestic price of soybeans reached 80 dinars / kg in mid-April 2021, which is about 810 $ / t converted into dollars, and the price of American soybeans on the Rotterdam Stock Exchange in the same period was at the level of 580 $ / t, while Brazilian 565 $ / t. The difference is over $ 230 / t, which sufficiently indicates that we cannot expect more serious exports in the coming period. In order to export the planned 300 thousand / t in the period April-August, 163 thousand / t of soybeans should be exported, which is practically impossible with such a ratio of domestic and export prices. A decline in exports will lead to a change in the balance sheet positions of exports and final stocks where exports will fall and stocks will grow [Žita Srbije Mesečni Izveštaj 2.21 / Beograd, APRIL 2021. / e-mail : zitasrbije@gmail.com].

No new record will be set in soybean production, regardless of the record area under soybeans, due to the fact that climatic conditions had the most negative impact on the crops of this plant species. Compared to 2020, the decline in production was as much as 27%, and compared to the ten-year average, it is 524 thousand / t. The expected production is higher by 4.7% and will thus meet domestic needs, as well as certain surpluses for exports. The expected production of soy protein products would be about 340 thousand / t, which would enable the export of these products of about 65 thousand / t, while the export of soybean oil could exceed 60 thousand / t.

Table 1 presents summary data on soybean production in the Republic of Serbia for the period from 2019 to 2021, which are processed by standard mathematical and statistical methods:

Table 1. Soybean production parameters of the Republic of Serbia (2019-2021)

Marks	Average value (in 000)	Variation Interval (in 000)		Coefficient of variation (%)	Change rate (%)
		min	max		
1. area (ha)	221	196	237	9,71	9,96
2. production (t)	699	646	752	7,58	7,89
3. yield (t/ha)	3,2	3,1	3,3	3,12	-1,53
4. import	8	0,2	20	128,11	-90,00
5. export	167	70	182	54,24	88,98

Source: SBS, Statistical Yearbook of Serbia 2021 (based on the author's calculation)

In the observed time period from 2019 to 2021, based on the data obtained in Table 1, the structure of soybean movement in the Republic of Serbia is as follows:

The area under soybeans averages 221 thousand / ha, and is about 3% smaller than the area under sunflower which is 227 thousand / ha. The area under soybean shows a tendency to increase at an average rate of 9.96% and a coefficient of variation of 9.71%. According to the engaged areas, soy dominates in relation to sunflower. In the structure of total arable land, soybean participates with about 2.9%. Absolutely the largest areas are in AP Vojvodina about 93%, due to habits and traditions in production, soil quality, processing capacity.

The production of soybean averages 699 thousand / t, and is equal to the average area of sunflower which is 700 thousand / t. Soybean production has a tendency to increase at an average rate of 7.89% and a coefficient of variation of 7.58%. Average soybean production is lower than sunflower production by about 18%. The most important production region is AP Vojvodina with a share of 94%. The movement of production is influenced by climatic factors which are reflected in the occurrence of drought in one of the years of cultivation, which leads to a drastic reduction in soybean yield. In addition to climatic factors, economic factors also affect the movement of production, such as: the level of purchase prices, production costs, price parity with other lines of crop production, time of payment to producers, purchase conditions, etc.

The yield of soybean averages 3.2 t / ha, and is about 3% lower than the sunflower yield of 3.1 t / ha. Soybean yield shows a negative tendency to increase at an average rate of -1.53% and a coefficient of variation of 3.12%. In our country, quite satisfactory yields are achieved in relation to the European Union and the world. It is evident that we achieve higher average yields than the countries of Eastern Europe, but we lag behind the countries of Western Europe. The appearance of lower yields is influenced by the lack of water, which, primarily in addition to dry years, can be explained by insufficiently developed irrigation systems. The achieved yields are affected by a number of factors: climatic factors (especially the amount and distribution of precipitation during the vegetation period), application of agro-technical measures (especially fertilization and protection from diseases and pests), relatively large losses during harvest, etc.

Imports of soybeans average 8 thousand / t, and is about 77% lower than imports of sunflower, which is 24 thousand / t. Soybean imports recorded a negative upward trend at an average rate of -90 and a coefficient of variation of 128.11%. Soybean ***exports*** average 167 thousand tons, and is about 16% higher than sunflower exports, which amount to 141 thousand tons. Soybean exports recorded a tendency to increase at an average rate of 88.98% and a coefficient of variation of 54.24%.

In the period from the beginning of the harvest in 2021, about 682 thousand / t of wheat and about 69 thousand / t of flour were exported from the Republic of Serbia to the international market. According to the available data of the "Customs Administration", the export of wheat in the period from July 2021 to February 2022 was realized in: Romania (via the port of Constanta) about 251 thousand / t; Kosovo about 56 thousand / t; Montenegro about 6 thousand / t; Macedonia about 52.3 thousand / t; Bosnia and Herzegovina about 51.3 thousand / t; Italy about 226 thousand / t; Albania about 29 thousand / t; Germany about 810 t; Austria about 8 thousand / t; Other countries about 3 thousand / t. Exports of wheat flour in the given period were realized in: Bosnia and Herzegovina about 20 thousand / t; Montenegro about 27 thousand / t; Kosovo about 815 t; Macedonia about 22 thousand / t; Albania about 2.3 thousand / t; Greece 224 t; Croatia about 3 thousand / t; Romania about 21 t; Italy about 146 t; Other states about 536 t [https://agrosmart.net/2022/02/12/izvoz-psenice-i-brasna/].

According to statistical data, sunflower was sown on an area of 218 thousand / ha in 2020, which is 2.6% more than in the previous year and 16.2% more than the ten-year average. Spring sowing in 2020 took place in specific conditions, especially due to the epidemic caused by covid-19, as well as the lack of moisture in the soil. However, frequent rainfall in May and especially in June contributed to the accumulation of moisture in the soil, so the crops were in good condition. Based on five-year average sunflower yields of 2.92 t / ha, the production was about 660 thousand / t of sunflowers [http://www.minpolj.gov.rs/download/izvestaj-o-trzistu-suncokreta-jul-2020/?script=lat]. The sown area of sunflower in 2021 was 208 thousand / ha and took place in unfavorable temperature conditions. The decrease in sown areas compared to the previous year was 5.7%, and compared to the five-year average there was an increase of 4.8%. The realized production in 2021 is 620 thousand / t of sunflower, of which about 230 thousand / t of sunflower oil would be produced in industrial capacities as the most important export product of sunflower, of which 160 thousand / t would be available for the purpose. The expected export of sunflower meal would be at the level of over 100 thousand / t [http://www.minpolj.gov.rs/download/izvestaj-o-trzistu-suncokreta-jul-2021/].

Table 2 presents summary data on the production of sunflower in the Republic of Serbia for the period from 2019 to 2021, which are processed by standard mathematical and statistical methods:

Table 2. Parameters of sunflower production in the Republic of Serbia (2019-2021)

Marks	Average value (inu 000)	Variation Interval varijacije (in 000)		Coefficient of variation (%)	Change rate (%)
		min	max		
1. area (ha)	227	219	239	4,82	-3,84
2. production (t)	700	637	734	7,82	-6,84
3. yield(t/ha)	3,1	2,9	3,3	6,45	-3,28
4. import	24	20	29	20,28	-4,65
5. export	141	135	145	4,18	-0,34

Source: SBS, Statistical Yearbook of Serbia 2021 (based on the author's calculation)

In the observed time period from 2019 to 2021, based on the data obtained in Table 1, the structure of movement in sunflowers in the Republic of Serbia is as follows:

The area under sunflower averages 227 thousand / ha, and is about 3% higher than the area under soybean which is 221 thousand / ha. The area under sunflower shows a negative tendency to increase at an average rate of -3.84% and a coefficient of variation of 4.82%.

The production of sunflower averages 700 thousand / t, and is equal to the average soybean area of 699 thousand / t. Sunflower production recorded a negative upward trend at an average rate of -6.84% and a coefficient of variation of 7.82%.

The yield of sunflower averages 3.1 t / ha, and is about 3% lower than soybean yield of 3.2 t / ha. Sunflower yield recorded a negative tendency to increase at an average rate of -3.28% and a coefficient of variation of 6.45%.

The imports of sunflower average 24 thousand / t, and is about 77% higher than soybean imports, which amount to 8 thousand / t. Sunflower imports recorded a negative upward trend at an average rate of -4.65 and a coefficient of variation of 20.28%.

The exports of sunflower average 141 thousand / t, and is about 16% lower than soybean exports, which amount to 167 thousand / t. Sunflower exports recorded a negative upward trend at an average rate of -0.34% and a coefficient of variation of 4.18%.

The Republic of Serbia is the largest producer and exporter of unmodified soybeans in this part of Europe, as well as the only country that is self-sufficient in terms of soybean production, so it does not import this oilseed. Today, a soybean breeding program is being launched in countries where it did not exist, such as Austria, Germany and even Belgium [https://scindeks-clanci.ceon.rs/data/pdf/0354-5881/2018/0354-58811802001M.pdf]. On the other hand, the closure of certain markets for exports and exceptional imports to the People's Republic of China have influenced the price of soybeans and sunflowers, as well as oilseed rape, to reach a historical maximum. Thus, in September 2021 in the Republic of Serbia we recorded the following prices: sunflower 62-65 dinars / kg (in the same period in 2020 the price was 35 dinars / kg), soybeans 76 dinars / kg, and oilseed rape 64 dinars / kg. At the beginning of 2022, prices showed an increase again. The justification that the People's Republic of China is stockpiling a camp because of the war that is possible on several points in the world - is not true. In this crowded country, people migrated from

villages to cities due to industrialization. About 60 percent of the population, which needs food security, now lives there. By purchasing soybeans, sunflowers, wheat, corn and rice, the People's Republic of China has shown that it wants and knows how to ensure the consumption of all foods for its population.

The market of oilseeds is considered to be very sensitive due to the seasonal offer, the limited lifespan of the product, as well as the lack of financial resources. Oil factories on the domestic market, in order to provide enough raw materials for production, must provide seed goods, mineral fertilizers, protective equipment, oil and other raw materials in advance. The goal is to ensure quality production of oilseeds and oilseed products, where very often there is a natural exchange between producers and processors of oilseeds on the basis of pre-established parities. Parities, ie price ratios are important indicators of the economic position of individual production lines and income levels of primary agricultural producers, which can affect the profitability and expansion of turnover [Gajdobranski, 2015]. The following factors can contribute to the reduction of the expansion of oilseeds [Pejanović, Gajdobranski, 2012]: stability of prices on the international market, market reduction of import growth by the two largest world importers (India and China), reduction of export volumes of the two largest world exporters, Argentina and Brazil). The specificity of the domestic market of oilseeds is reflected in the lack of significant warehouses as separate economic entities. In many countries, warehouses of mercantile oilseeds play a very important role in the market, because they enable primary agricultural production to keep the goods in their ownership and sell them at a time when it is most convenient. In such circumstances, stock market trading is most pronounced, where the risk of price changes is shared between producers and processors of oilseeds. In the Republic of Serbia, oil factories appear as warehouses, where the purchase of seeds is mostly done once a year with a slight mediation of the product exchange. Such conditions provide oil producers with security in terms of providing raw materials for production, but they take the risk of a possible fall in the world price of oilseeds. On the other hand, in the case of rising prices of oilseeds and vegetable oils on the world market, conditions are created for additional earnings in the international exchange of these goods.

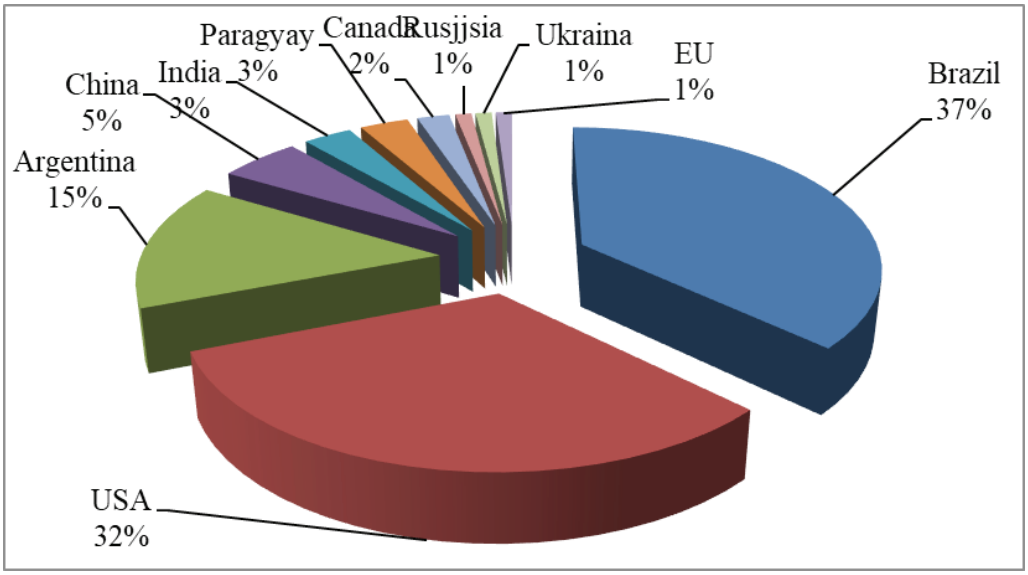
INTERNATIONNAL OILSEEDS MARKET IN COVID-19 CONDITIONS

According to the Report of the US Department of Agriculture (USDA), in 2021, there is a slight increase in world **sunflower** production, especially in larger producers such as Ukraine (with about 30% share) and Russia (with about 27% share). Total world production is estimated at about 57 million / t (about 3% higher than the previous year). Transitional stocks are at the level of 17%, where at the end of 2021 they will amount to about 2.6 million / t. According to analysts from UkrAgroConsult, the export of sunflower from Ukraine in 2020 amounted to 47.3 thousand / t, which is 45% less compared to the same period last year. The main importer in this analyzed period was the European Union, which bought about 49% of total exports, while Turkey reduced its purchase by

about 76%. Export growth was registered in Georgia, China and Iraq, while a slowdown in exports was observed in Azerbaijan, Sweden and Romania. Given that the covid-19 pandemic will affect international trade, a smaller decline in world-class imports and exports is estimated, and domestic consumption (both grain and sunflower oil and meal) is expected to grow. In the domestic market, sunflower was mostly exported to CEFTA countries, about 61% (of which most in BiH as much as 98%). Further, the export destinations are the countries of the European Union (Romania about 34%, Hungary about 29% and Bulgaria about 20%) [USDA United States Statistical Date, 2020-2021].

According to the Report of the American Ministry of Agriculture (USDA), in 2021, there is a growth of soybean production in the world by 5.5%, according to the growth of production and exports in Brazil and the United States. The four largest producers are Brazil, the United States, Argentina and China, which account for 86% of total production. China is still the world's largest importer of soybeans, the largest producer of soybean oil and the largest consumer of soybean meal. Argentina remained the world's largest exporter of soybean meal and soybean oil, while the European Union remained the world's largest importer of soybean meal. In the world, there are smaller initial stocks of this oilseed on an annual level, but with production higher by over 20 million / t compared to 2020. Therefore, in 2021, there is an adequate increase in consumption with closing stocks by almost 5 million / t higher on an annual level. Faster growth of consumption than production in the last three years has led to a decline in soy stocks in the world. The ten largest soybean producers in the world will participate in the total world production from 2019 to 2021 with about 97%. The four largest producers are Brazil, the USA, Argentina and China, and they participate in the total production with about 86.5%. Bearing in mind that China is the world's largest importer of soybeans (about 97 million / t) and the largest processor (about 91 million / t), it is obvious that the soybean crop in these four countries has a decisive influence on price formation on the international market. R. Serbia with average gender in the period 2019/2020. year of about 731 thousand / t in the total world share participates with 0.21%, so with such participation can not affect international prices. Brazil, as the largest producer of soybeans with a production of 128 million / t, accounts for a third (36%) of world production. It is followed by the United States (31%), which together with Brazil accounts for more than half of world production (67%), Argentina (14%), China (5%), India (3%), Paraguay (3%), Canada (2%) , Russia (1%), Ukraine (1%), EU (0.7%) and Others (3%). Based on the presented data, the ten largest soybean producers in the world are presented in Figure 1:

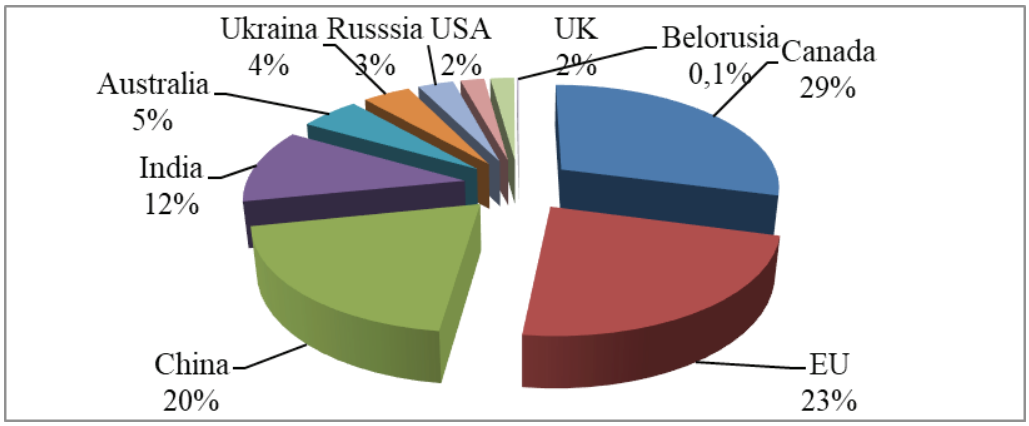
Figure 1. The world's largest soybean producers (2019-2021)



Source: Žita Srbije Monthly Report 2.21 / Beograd, APRIL 2021. / e-mail : zitasrbije@gmail.com

According to the Report of the American Ministry of Agriculture (USDA), the production of oilseed rape in the world from 2017 to 2021 recorded a constant growth. The record in production was achieved in 2017, when it amounted to 17 mil./t. With the growth of production, consumption also grew, which led to a decline in closing stocks, which were constantly decreasing from 9.82 million / t in 2019, where in 2021 they amounted to 5.53 million / t. The world's largest oilseed rape processors are the European Union, China and Canada, which own about 67% of the world's total oilseed rape stocks (USDA-United States Statistical Date 2020-2021). Canada is the world's largest producer of oilseed rape with a production of 20 million / t, which is a quarter (28%) of world production. It is followed by the EU (22.5%), which together with Canada (28%) accounts for half of world production (50%). It is followed by China (19%), India (11%), Australia (5%), Ukraine (4%), Russia (3%), USA (2%), United Kingdom (2%), Belarus (0.1) %) and Others (0.2%). Based on the presented data, the ten largest world producers of oilseed rape we present in Figure 2:

Figure 2. The world's largest producers of oilseed rape (2019-2021)



Source: Žita Srbije Monthly Report 3.21 / Beograd, MAY 2021. / e-mail : zitasrbije@gmail.com

Like the market for many other agricultural products, the global financial crisis caused by the pandemic has seriously affected the oilseeds market internationally. In the export of oilseeds and oilseed products, the most important markets will be the countries around the CEFTA agreement, followed by European Union countries such as Germany, Italy, Hungary, Romania and Bulgaria, as well as the markets of Russia and the Middle East. In order to strengthen its position in these markets, the Republic of Serbia, as a future member of the European Union, needs to accept international standards, fully modernize agricultural production and improve its quality. In addition, it should advocate for the modernization of storage facilities and expand the range of agri-food products for greater competitiveness in exports [Gajdobranski, 2020]. In many developing countries, agriculture makes the largest contribution to GDP (gross domestic product), where it employs approximately 1.3 billion workers worldwide and is the main source of accumulation for industrial development, which is why this branch of the economy is extremely important.

International trade in vegetable oils in the future according to *Thoenes and Milo* (2006) will depend on the following [Gajdobranski, 2015]: climatic conditions and demographic development; macroeconomic environment and the urgency of developing the bio-diesel market; diseases of plants, livestock and their spread (*Asian rust, Avian influenza, FMD*); overseas transport costs (IMO-MARPOL); development of international agricultural policy (including multilateral negotiations); growing importance in the international trade of agro-industrial products with China and India; changing the preference of porters for the type of diet; as well as technological developments and their implications for GM-free markets. In the future, groups of oilseeds can be determined for which there are potential opportunities for export growth in the coming period, namely edible oil, seed goods and soybean products. [Gajdobranski, et al., 2021]. Of particular importance is the research of the following target markets: CEFTA countries, EU-27 member states, Russian Federation member states, overseas countries (USA, Canada, Middle and Far

East) [Gajdobranski, 2022]. International Food Market 2021/2022 is very shaky, especially when you take into account the so-called escalating tensions between the world's major food suppliers and the world's largest sunflower producers - Russia and Ukraine, which will most likely force sunflower oil buyers to seek alternative supplies. Russia and Ukraine account for about 80% of world exports of sunflower oil, which is of particular concern to traders, as importers would be forced to replace stocks from the region. Thus, supply disruptions from the Black Sea region would affect overall global availability, and buyers in the Middle East and Africa would seek other alternative sources [https://biznis.telegraf.rs/agro-biz/3462756-preti-li-svetu-glad-upravo-je-skocila-cena-psenice-kukuruza-i-soje-rat-vec-trese-i-planetu].

CONCLUSION

According to the presented results, we conclude that the turnover of oilseeds on the domestic and international markets in the conditions of covid-19 has changed significantly. In the production and trade of oilseeds, the market economy will influence the better use of production capacities, with the lowest possible energy consumption, in order to increase the existing competitive advantages and develop new ones. Competitiveness in the international oilseeds market is reflected in the ability of exporters to conquer foreign markets, to impose themselves on the requirements of foreign buyers with favorable conditions of production and sales, and to win them over for themselves. The production restructuring of oilseeds was considered, where greater competitiveness on both the international and domestic markets will be increasingly based on environmental, energy and economic criteria. The oilseeds market is considered very sensitive due to the seasonal supply and limited lifespan. The volume of production on an annual level is very difficult to predict, and the greatest advantages are reflected on the side of the industry, so it is very important to establish a system of storage of oilseeds.

The production of oilseeds (soybeans, sunflowers and oilseed rape) is an important raw material for the food and pharmaceutical industries, of which the production of oilseed rape is becoming increasingly important in terms of production of bioreneable energy sources. Rapeseed production is growing internationally, which is a consequence of increased demand primarily from the processing industry as well as the growing food needs of the population, primarily in Asian countries. Oilseed rape is mostly produced in China, soybean is mostly produced in North America, while sunflower is mostly produced in South America. Based on analysts' estimates, the international market should stabilize in 2022, with an increase in total production to about 30.4 million / t, which is about 10.5% more than in the previous period. Oil consumption is forecast to increase, primarily due to increased demand for animal feed and a recovery in demand for vegetable oil (both for food production and biofuel production), which will require up-to-date monitoring of the main export markets. The most important export products from oilseeds are soybean and sunflower oil, where soybean oil is the product most exported

to European Union countries, while refined sunflower oil is mostly exported to CEFTA countries. Factors that can contribute to reducing the expansion of turnover are reflected in the following: price stability on the international market, market reduction in import growth by the world's two largest importers India and China, reduced export volumes of the two largest exporters: Argentina and Brazil. Compared to the main competitive palm oil, it is expected that soybean oil will have a higher share in the world market compared to sunflower oil [Gajdobranski, 2015].

In the Republic of Serbia, the quality and scope of supply of all types of inputs (seeds, mineral fertilizers and other protective agents) for the production of oilseeds, approximately corresponds to the standards of the most developed agricultural countries (Russia, Ukraine, China, USA, Brazil, Argentina…). On the other hand, the application of agro-technical measures (such as sowing and protection) as well as the cultivation of oilseeds in regions where there are good natural conditions (such as moisture, precipitation, appropriate soil quality) is not satisfactory, which can be seen on the basis of . Sunflower in the Republic of Serbia is experiencing a new renaissance with the use of varieties and hybrids of foreign companies that have been selected for stressful growing conditions. The main criterion in the cultivation of this oilseed is the content of crude oil in the grain, which affects the economy through processing. Experts have calculated that more than 2.3 kg of sunflower seeds to obtain one liter of oil makes this production unprofitable. Based on this data, the final price of oil in retail is formed, which increased by 50-60% during the pandemic in the Republic of Serbia, and some brands significantly more. The Republic of Serbia has great opportunities for the export of edible oil, as it has high quality and suitable packaging, as well as production facilities that can produce sufficient quantities for export. Therefore, production must be planned and adjusted to the needs and requirements of the market in the changed conditions marked by the pandemic crisis, where edible oil, seed goods and soy products will have priority.

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