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Possibilities and Directions for the Export of Fruit from the Republic of Serbia

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Abstract

The export of fruit is a significant foundation for the increase the total domestic production and the intensification of this branch of agriculture. Entering the international market and marketing of fruit produced in the Republic of Serbia is conditioned by multiple factors, such as a quality, price, range, competitiveness, foreign exchange regime, as well as quantitative and qualitative restrictions and signed agreements with certain economic groups, i.e. countries. The average value of the achieved export of fresh fruits for the period 2010-2011, amounts to nearly 45 million U.S. dollars with a growth tendency at a significant rate of 31.11% per annum with expressed variation (CV = 83.9%). In the last studied year the export reached 126 million U.S. dollars. The average amount of fresh fruit exports amounts to nearly 85 tons. The apple is the leading product in the export of fresh fruit from the Republic of Serbia. The export is concentrated primarily to the neighboring countries, i.e. to CEFTA member countries, who signed the multilateral free trade agreement, followed by the Russian Federation and the European Union.

Key words: *export, fruit, standards, perspectives, Republic of Serbia*

JEL Classification: *Q13, Q17*

Introduction

Fruit growing represents a very significant branch of agriculture, dominating the structure of export of agricultural and food products. This paper analyzes the export of fresh fruit from the Republic of Serbia for the period 2001-2011. The main sources of data are the internal data from the Department of Foreign Trade Statistics of the Republic Institute for Statistics Belgrade, for the corresponding years, i.e. for the defined time period. The research was based on the so-called “desk research”), which encompasses the processing of primary data using standard statistic-mathematical methods. The intensity of change is quantified by calculating the rate of change, with the application of functions with the trend lines best adapted to the original data. The stability of export is achieved with the application of the coefficient of variation.

Research Results

The export of fresh fruit from the Republic of Serbia

The average value of the achieved export of fresh fruits (continental) for the period 2010-2011, amounts to nearly 45 million U.S. dollars with a growth tendency at a significant rate of 31.11% per annum with expressed variation (CV = 83.9%). Manifested variation of the realized value of export of fresh fruits indicates, first of all, a significant impact of climatic factors on the amount of yields; therefore, the extensive fruit production is dominant primarily with the production of a large number of fruit varieties in our country. In turn, this greatly affects the amount of fruit on disposal for export and the profits from the export. With regard to the volume of export of fresh continental fruits, the apple by far takes the first place. In the text that follows, an analysis of the fresh fruits export from the Republic of Serbia according to the major varieties as well as according to the regional destinations dominating in the export was conducted.

Apple - the leading fruit variety in the export of fresh fruit from the Republic of Serbia. Its participation in the structure of total export is just over 50%, or on average over 40.000 t per annum year with a significant export growth rate of 57.37% per annum and expressed variation (CV = 104.55%). The largest quantity of apples exported in the last year of the study period was 130.000 t. In relation to the overall production, nearly 40% of the produce was deemed for export, due to exports in the last two years. The favourable growing conditions provide a strong foundation for the increase of export possibilities of Serbia. With this goal in mind, the government of the Republic of Serbia enacted the *Regulation on the Use of Funds for the Stimulation of Export of agricultural and food products*. The amount of incentives for the export price in 2010 ranged from 5 to 20%. The stimulation for the export of fruits and fruit products was 7% for fresh fruit (sliced plums, pitted cherries, rollend raspberry etc.) and 10% for the export of fruit products (dry plums, jams, fruit jelly, jams, purees etc.), (www.minpolj.gov.rs). The export of apples is directed towards more than 20 countries worldwide.

The most significant among them is the Russian Federation where almost one half of the total export from the Republic of Serbia is exported, which is over 20,000 t. Less than three per cent of the total volume of imported apples (nearly 1.1 million t) in this country comes from the Republic of Serbia onto the Russian market. Russia represents a significant potential for the placement of apples as well as other quality fruit. However, problems regarding fragmented and disorganized apple production in our country, or obsolete technologies and varieties have to be solved. A free trade agreement with the Russian Federation was signed in 2000, which gives Serbia a privileged position and is one of the best advantages that Serbia should take regarding the export of fruit, and which has so far not been sufficiently exploited.

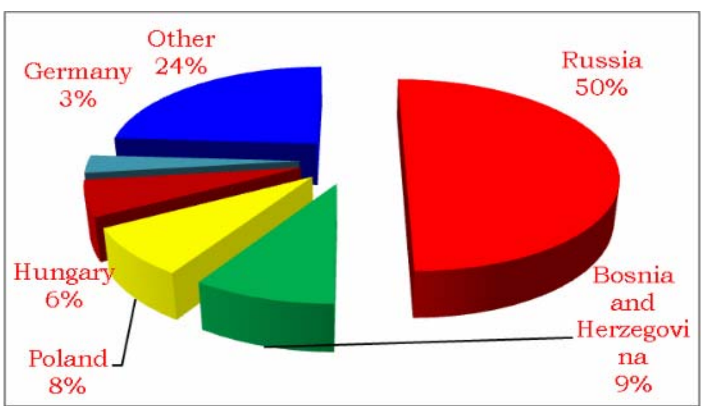

Fig. 1. Regional destinations for the export of apples from the Republic of Serbia

The second largest amount of apples exported from the Republic of Serbia is to Bosnia and Herzegovina where an average of 3.600 t (9%) is exported. Followed by export to Poland in the amount of 2.600 t, or around 8% of the total export, export to Hungary is just over 2.000 t or 6.2% of exports, and export to Germany, with more than 900 t, or just under 3% of the total exports from the Republic of Serbia (Figure 1). The aforementioned countries absorb nearly 80% of total exports of apples from our country. Exports to all the above mentioned countries record a rising trend, most intensely in the Russian Federation, where it is 113.60%, while the slowest growth was recorded in Germany and is 10.8% per annum. Calculated coefficients indicate to high variations in exports, which are especially expressed in exports to the Russian Federation (CV = 130.1%), followed by Bosnia and Herzegovina (CV = 67.7%), the exports to Germany are also characterized with expressed variation which is 58.0%.

Plum - represents 19.4% of the structure of exports of fresh (continental) fruit. Its exports on average are over 16.000 t. Despite the expressed variation (CV = 61.9%), the export records a positive trend at relatively significant rate of 21.63% per annum. The plum is exported to 30 countries. The largest portion is exported to the Russian Federation, on average of over 6.000 t per annum and has recorded a significant growth rate of 118.30%. Also, the export to this market is quite unstable as evidenced by the coefficient variation of 81.0%. Russia became the export market in 2004 when a small amount of 234 tons of plums was exported, only for that amount to be increased multiple times, reaching over 16.000 t in 2007. This unstable export trend reflects the many problems in the field of plum growing.

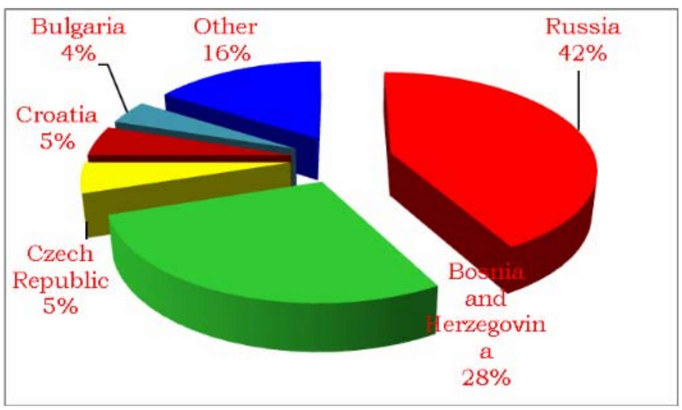

Fig. 2. Regional destinations for the export of plums from the Republic of Serbia

The plums from Serbia are of exceptional quality, but are characterized by extensive production and the absence of long-term policy and marketing strategies for sales on foreign markets. The export to Bosnia and Herzegovina represents 28% of total exports, or about around 4.500 t. The export to this country records a slight growth trend rate of 0.20% with variation, which is the most minor deviation from the average compared to other countries. The Czech Republic, Croatia and Bulgaria together absorb over 13% of the exports of plum from the Republic of Serbia (Figure 2). Exports to Croatia record a downward trend at the rate of 10.1% and with significant variation. More than 80% plum production from Serbia is placed on the market of these five countries. In the future we can expect an export growth trend but with a significantly reduced intensity.

Cherries and sour cherries - are in the third place and account for 10.3% of the amount of fresh fruits export, or more than 8.500 t per annum (the statistics records both fruit varieties jointly). The export records a growth trend at a rate of 8.5% per annum with variations (45.76%) per annum. The export is directed to over 20 countries in the world with variations in the amount. The largest export is to Bosnia and Herzegovina, an average of over 2.000 per annum, with a total share of 25.3%. The export volume records a rising trend at the rate of 2.88% per annum with recorded variation being on average (CV = 76.2%). There is significant export to Germany of around 2.000 t. i.e. 24%, to Austria with 1.200 t, or approximately 14%, to the Russian Federation with over 1.200 thousand t, or approximately 15% and to Croatia with around 500 t, or approximately 5.3% (Figure 3). The volume of export to these markets records a growth trend except for the placement on the markets of Austria and Croatia where we record a present significant decline in export to Croatia with the rate of 38.11% per annum and export to Austria records a slight decline at a rate of 2.83% per annum. The most expressed variation is in exports to Austria (CV = 120.6%) and lowest in exports to Germany (32.1%). Placing cherries and sour cherries may be increased as the international market records a significant import demand; however, this is primarily related to the fresh sour cherry.

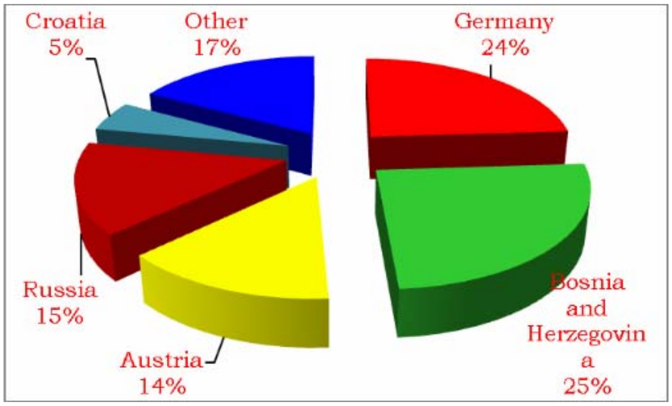

Fig. 3. Regional destinations for the export of cherries and sour cherries from the Republic of Serbia

Peaches and nectarines - occupy the fourth place in the overall exports of fresh fruit with more than 7.500 t per annum. The stated amount of peaches and nectarines placed on the world market represents a 9.3% share in total exports of fresh fruit from the Republic of Serbia. Although the export of this fruit has an expressed deviation from the average (CV = 64.0%), the same records a significant growth trend at the rate of 30.76% per annum. Export is directed to in 25 countries around the world; however, significant amounts are exported to just ten countries. The largest importer is the Russian Federation with an average of 2.600 t per annum, or a 37% share in the total amount of exported peaches and nectarines. The continuity in the export of peaches and nectarines to this country has been present since 2003.

The significant importers are: Romania, where just over 30% of the total amount of peaches and nectarines for the foreign market is exported or more than 2.000 t, Bosnia and Herzegovina has a share of more than 12%, or about 900 t, the Montenegrin market in the export is represented with about 9% or about 600 t exported, and slightly more than 3% of the total exports of fruits or below 300 t is exported to Slovenia (Figure 4). The exports record a growth trend in all countries except Slovenia, where the placement is significantly decreased with the rate of 41.30% per annum. The largest increase in export intensity is present in Romania at an average annual rate of 84.24%, while the lowest growth in the export is recorded in Bosnia and Herzegovina (average annual growth rate is 20.62%). Export to Montenegro records continuity as of 2006 in smaller amounts only to reach a record of 2.600 t in 2009. The aforementioned countries absorb approximately 91% of total exports of peaches and nectarines from the Republic of Serbia.

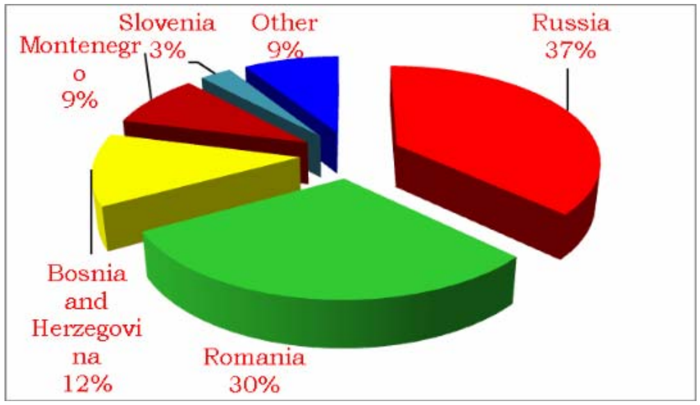

Fig. 4. Regional destinations for the export of peaches and nectarines from the Republic of Serbia

Raspberry - On average almost 6.000 t per annum of raspberry are exported in fresh form and the raspberry has a share of 7% in the total export of fresh fruits. It occupies the fifth place in the overall export of fresh fruit. However, the significance of raspberries for our country is reflected in the exports of frozen raspberries, which is not the topic of this paper. The placement of frozen raspberries on the international market is ten times larger than the placement of fresh raspberries. The export of fresh raspberry is decreasing at a rate of 5.5% per annum and has an expressed deviation from the average from year to year (CV = 58.6%), which indicates the instability of exports. Raspberries are exported to twenty countries in the world.

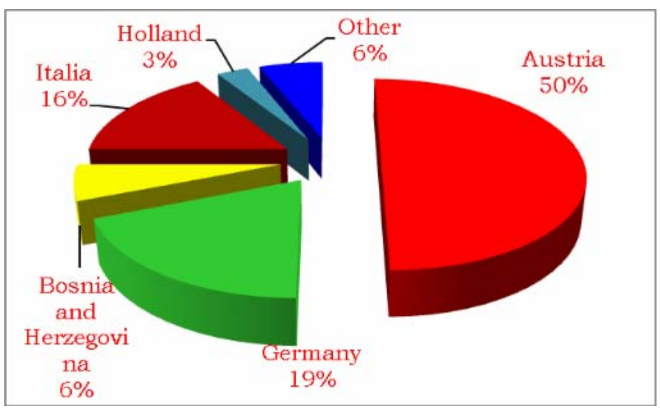

Fig. 5. Regional destinations for the export of raspberry from the Republic of Serbia

Austria takes the first place regarding the quantity of imported raspberries, with an average of about 3.000 t per annum, which represents one half of the total export of raspberries. The export volume records significant variation (CV = 85.0% ¬) and the decrease of placement at a rate of 7.07% per annum. Austria is followed by Germany, where almost 19% of the total placement of raspberries on the foreign market is exported, Italy with the share of over 16%, Bosnia and Herzegovina, to which 6% of fresh raspberries is exported and the Netherlands with the share of about 3% (Figure 5). The volume of export to Germany is declining at a rate of 7.62% per annum, while the export to Italy records a significant growth trend at the rate of 26.47%. The placement of raspberry on the Dutch market has been present continuously from 2005to 2009, in the final year of study there was no export of raspberries to this country. Also, export to Bosnia and Herzegovina has no continuity, however this market showed continuity in the period from 2001 to 2006, in the two following years there had been no exports to this market and in 2009 fewer than 70 tons of raspberries were exported to this market. Exports to all of these markets have significant deviation from the average, and it most expressed in Germany (CV = 86.9%), while the least variation is recorded on the Italian market (CV = 67.63%). The above five aforementioned countries absorb 94.7% of fresh raspberries that are exported from Serbia. The main competitors to the raspberry produced in the Republic of Serbia are raspberries produced in Poland with an average annual production of over 50.000 t, followed by raspberries produced in Chile, Mexico and Spain.

In order to increase the export it is necessary to collect the amounts of fruit from small producers, since the dominant holders of the production are those households that own smaller land properties. With the aim of positioning the products on the global market it is necessary to ensure, above all, the improvement of agricultural technologies, the changing of varieties, the modernization of technology - from primary production to processing and packaging.

As for the primary production that would entail the following: the introduction of irrigation systems, hail protection and the modernization of mechanization in the production process. The extension of fresh fruit season is limited by the possibilities for storage. The problem is in the fact that the existing facilities are inadequate with an outdated manner of storing and without air conditioning resulting in large losses. Of 180 reefers in Serbia, only a small number has modern conditions for storing with the ULO (Ultra Low Oxygen) technology, with only a dozen in Serbia, and the required number is significantly higher. A part of the processing facilities still doesn't have implemented quality control systems. When it comes to packaging, first of all, it is referred to the modernization of packaging for packing and transportation, as well as to the introduction of modern technologies for product classification and calibration. The classification and packing of fresh fruits is still not present enough, especially when it comes to small packages (http://www.tehnologijahrane.com).

Customers are putting greater emphasis on quality and safety international standards, such as GlobalGAP and ISO. Today, these standards are a prerequisite that is required from the suppliers when purchasing products. Since standards related to food safety becoming are stricter in the importing countries, the fruit exporters are, following the demands of foreign customers, currently in the process of implementing standards such as HACCP (Hazard Analysis and Critical Control Points), GlobalGAP (Good Agricultural Practices), BRC (British Retail Consortium) and ISO 22000 (Food Safety Management System), so quality products find the customers all over the world. International standards prescribed by the International Standardization Organization define the implementation and management of quality in all phases of production, processing and trade.

Many of these standards are adopted by organizations around the world and are replacing the so-called "domestic" standards. Quality management system ISO 9000 is the basis of modern production. HACCP is used in the production, processing and services with the aim of protecting human health and the environment from chemical, biological and physical agents. The control system protects the domestic market from the import of goods posing risks to the health of the population and encourages exports (Vlahović et al., 2008, 67).

The industrialization of production in farming, the use of resources such as additives, hormones, pesticides, antibiotics etc., has led to consumer dissatisfaction and a loss of trust in the institutions responsible for the control of food safety in the European Union. EUREPGAP is an initiative of retailers a part of the Task Force of European Retailers (EUREP). EUREPGAP is also used under the name Global GAP (Since exceeding the framework of the European Union). GlobalGAP is one of the world's most widespread standards related to the primary production of fresh fruit and vegetables. In addition to these product groups GlobalGAP certification system includes flowers, ornamental plants, fishery, animal breeding and integrated agricultural production and is used in more than 80 countries (http://www.kvantas.rs/component/content/article/201-global-gap/708-global-gap-u-u-srpskoj-poljoprivredi). The GlobalGAP is regulated by law in any of the Member states in the EU, but it is voluntary and compulsory for manufacturers who wish to sell their products to large retail stores. In Serbia, *good agricultural practice* is not isolated as a separate document, it is integrated within framework of the law and regulations on the agricultural production. Since 2005, the implementation of “Good Agricultural Practices” (GAP) is a legal requirement and a condition for accession to the EU and world markets *(http://www.serbia-business.com/serb/images/M_images/globalgap.pdf)*.

Lately, there is a growing number of HACCP and *Safety standards in the food* belonging to third parties, adopted by national standards organizations as well as industry groups, such as BRC in the UK which defined its standards on food and packaging. ISO 22000 is aimed at harmonizing these standards and ensuring that in the future a single certification system of will suffice *(http://www.serbia-business.com/serb/images/M_images/izvozeuswiss.PDF).* The standards are the result of advances in science and technology and as result of experiences of good practice in all areas.

Keeping in mind the latest trends regarding the protection of the environment and the growing demands for food production with less usage of synthetic and chemical products, the integral and biological concept of production is more and more discussed. The integral production represents a transition towards a sustainable i.e. organic production. In perspective, the export of fruit will be based on the organic products. Bacciferous fruit varieties (the raspberry is the leading fruit variety when it comes to export), due to their adaptability can be relatively easy to produce according to organic principles and in the future we can expect a rapid increase in the share of these fruits in the export of Serbia.

Here, it should be noted that the placement of fruit from the Republic of Serbia is not limited by the quality, but the incompliance with the strict procedures of harvesting, freezing, and packaging, loading and transportation. Namely, the quality of fruit from Serbia (plums, raspberries etc.) is without flaw on the rigorous European market, but the price often lowered by the bad packaging or the failure comply with some elements clearly defined in contracts (e.g. delivery deadlines). Hence, due to their superior packing and properly harvested fruits, plums from Poland, the Czech Republic, Hungary and Turkey have higher prices, which usually lag far behind in quality than the plums produced in the Republic of Serbia (*Paraušić Vesna et al. 2007.*).

In regard of positioning on the global market, it is necessary to ensure, above all, a quality product, competitive price, but also to have a high level of professionalism, organization and association of a greater number of exporters and producers for joint presence at the market. The marketing concept of economic operations of the business subjects should get the dominant place in the design of production and export, in order to satisfy the needs of the foreign markets and gain profit, and therefore improve the fruit growing, as well as the agricultural activity.

Conclusion

The average value of export of fresh fruits in the period from 2001 to 2011, amounts to nearly 45 million U.S. dollars with the growth tendency at the significant rate of 31.11% and with expressed variation (CV = 83.9%). In the last studied year the export reached 126 million U.S. dollars. The average volume of fresh fruit exports amounts to nearly 85 tons. The apple is the leading fruit variety in the export of fresh fruits from the Republic of Serbia. The export is concentrated, primarily, to the neighboring countries and CEFTA Member Countries which signed the agreement on free trade, followed by the Russian Federation and the European Union. The most common are: Hungary, Poland, Czech Republic, Bulgaria and Slovenia, countries bordering with Serbia and the former Yugoslav republics. In the export of fresh raspberries, cherries and sour cherries the following countries dominate: Austria, Germany, the

Netherlands and Italy, countries with a relatively high standard of living that enables a significant level of demand for raspberry as an exclusive fruit product.

The growth of export has been present in the CEFTA member countries for a period of years, especially after the liberalization and the signing of the unique Trade Agreement in 2006. The leading import country is Bosnia and Herzegovina, followed by Croatia and Montenegro. Other signatory countries are less represented in the export. The same conclusion applies to the Russian Federation, in terms of the constant increase in trade and export of fruit to this large market, and on the basis of the Free Trade Agreement between the Republic of Serbia and the Russian Federation. Almost all fruit varieties in fresh form end up on the market of the Russian Federation. The marketing concept of economic operations of the business subjects should get the dominant place in the design of production and export, in order to satisfy the needs of the foreign markets and gain profit, and therefore improve the fruit growing, as well as the agricultural activity.

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Posibilităţi şi direcţii pentru exportul de fructe din Republica Serbia

Rezumat

Exportul de fructe reprezintă o bază semnificativă pentru creşterea producţiei totale interne şi pentru intensificarea acestei ramuri a agriculturii. Intrarea pe piaţa internaţională şi vânzarea de fructe produse în Republica Serbia este condiţionată de diverşi factori, precum calitate, preţ, gamă, competitivitate, regimul schimbului extern, precum şi de restricţiile de cantitate şi calitate şi acordurile semnate cu anumite grupări economice, anumite ţări. Valoarea medie atinsă de exportul de fructe proaspete în perioada 2001-2011 se ridică la aproape 45 de milioane de dolari americani cu o tendinţă de creştere la o rată semnificativă de 31.11% pe an, cu o variaţie exprimată CV de 83.9%. În ultimul an studiat, exportul a atins 126 milioane de dolari. Cantitatea medie de exporturi de fructe proaspete se ridică la aproape 85 de tone. Mărul este produsul de top în exportul de fructe proaspete din Republica Serbia. Exportul se concentrează în principal pe ţările învecinate, spre exemplu pe ţările membre ale CEFTA, care au semnat acordul multilateral de comerţ liber, urmate de Federaţia Rusă şi de Uniunea Europeană.