

DANUBE TOURIST SHIPS AS AN OPPORTUNITY FOR EXPORT OF AGRICULTURAL AND FOOD PRODUCTS

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Summary

The Danube is the most important European river that forms part of the trans-European navigation system Rheine – Main - Danube, which facilitates an intensive development of various forms of tourism. Currently we are experiencing the intense development of nautical tourism. Number of cruise ships and tourists is constantly increasing. The highest level of consumption while cruising is achieved on the ship itself. Countries that have not adapted well and developed the infrastructure needed for providing the material goods for the ships needs experience reduced tourist revenues. They mostly come from souvenirs and visits to cultural and historic resources. Supplies of fuel, water, food, drinks and other necessities are obtained in countries that have recognized the demand and quickly adapted its offer. Of all countries along the Danube, ours is the only one where no procuring is taking place. The purpose of this paper is to study the structure, market forms and quantities of vegetables, fruit and other foods and food products, which are yearly spent on ships analysed. This paper will point out the places and countries they are presently purchasing. The study involved six cruise ships of Grand Circle Corporation and the consumption they had during the 2011. The obtained data is systematized and presented in appropriate tables and graphs.

Key words: *tourism, export, groceries of vegetable origin, Danube.*

JEL: *L83, Q13, O13*

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Introduction

Danube is one of the largest tourism resources of Serbia, which is located at the very top of the current supply of European tourism in nautical tourism, which has an increasing growth rate. It is predicted that by 2020, ship cruises, respectively, the 'cruise business' will be one of the leading forms of tourism on the planet (Katić et al., 2011). This suggests that the Danube, as traffic is an important factor of economic development (Vitez, Raičević, 2008) is the future of domestic tourism, because of it being the connection Serbia, via Budapest and Vienna, has with the highly developed countries of Western Europe (Katić et al., 2011). A large number of cruise ships are going through our country. At the same time, the longest section of Danube course is through Serbia and yet, not one of business entities from Serbia deals in food supply to the ships (Tešanović et al., 2010a; Tešanović et al., 2010b), or any other goods. This is where the need for research and writing of this paper emerges.

It is well known that there is an interaction between tourism, agriculture and food industry (Hrabovski - Tomić, 2010) and that the expenditures for food and drink in the tourism industry make up for one third of total tourist spending in global tourist traffic (Cerović, Mueller, 2003). Nautical tourism in Serbia could become a significant segment of national export expansion strategy, by supplying cruise ships with agricultural food products (Hrabovski - Tomić, 2010). This paper aims to investigate the type and amount of foods of agricultural origin, which are consumed on the river tourist ships that sail through Serbia, and also to investigate the locations in the countries that are current supply source for the cruisers. Analysis and research will determine which of these foods are also produced in Serbia, and which could be further developed in order to be sold on the waterway, as do other countries and suppliers.

The selected analysis is of consumption of fruits, vegetables, grains and herbs and their products, due to the fact that these groups of food are consumed in highest quantities, in ship kitchens and other locations respectively. One reason is that this form of tourism practiced mostly by population of 55 to 70 years of age (Tešanović et al., 2010b), and their diet is dominated by vegetables, fruits, grains and other similar foods, by structure and amount. Another reason is that Serbia produces plenty of vegetables and fruit which are of the specific desirable quality that already represents a great potential. It can, with appropriate investments and export support, become an even more important source of income (Cioffi, dell' Aquila, 2004; Nikolić, Ševarlić, 2009; Munitlak, Ivanović et al., 2009). This can significantly contribute to better positioning and increase competitiveness of our country (Đenadić, 2010; Kalenjuk et al., 2012).

Literature review

The importance of the Danube in export

The Danube is the most important European river, which is contributed by the fact that it is an integral part of the trans-European navigation system - the Rheine-Main-Danube Canal (Mihic et al., 2011), the waterway which, with its length of 3505 km, connects the Atlantic and the Mediterranean, thus connecting West and East Europe. Its over 2888 km long is the second largest European river (after the Volga 3692 km long). The Danube flows from the

Black Forest Mountains in Germany and passes through ten countries, including: Germany, Austria, Slovakia, Hungary, Croatia, Serbia, Bulgaria, Romania, Moldova and Ukraine, and flows into the Black Sea in Romanian territory (Katić et al., 2011). Since the Danube in direct contact with the World Sea, it means that it's available to tourist vessels from around the world (Katić et al., 2011). The authors report that Danube Region is an area characterized by the greatest economic development in Serbia (Jovanović, 2009), including the fruitful region of Vojvodina, comparable to a granary that supplies the Danube region with agricultural foods (Đerčan et al., 2010).

Fruit, vegetables, grains and herbs in the country

The production of fruit, vegetables, grains and spices is an important traditional economic activity in R. Serbia, with all the prerequisites for the production of organic products, the demand for which is growing in the international market (Vlahović et al., 2010), and for the production of healthy and safe foods (Đenadić, 2010). Good growing conditions, uncontaminated arable land and water are significant advantages of Republic of Serbia (Vlahović, Štrbac, 2007). Agricultural food products in the world market are subjected to strict standards in order to protect the health of humans, animals and plants, following a number of international agreements.

The popularity of consumption of fruits and vegetables is increasing in the world yearly. The authors state that the consumption of berry fruits particularly stands out because of colored substances they contain, which are natural antioxidants, and green vegetables rich in folic acid, as well as those species that have anticancer properties (Štrbac, 2009).

The requirements for export to the European market

Requirements relating to the production and marketing of fruits and vegetables in the EU provide a high level of consumer, product and environmental protection. For export of fruits and vegetables to the EU to become a promising prospect, requires compliance to a number of demands this market demands (ie., continual supply of established quantities of merchandize of specified quality, planting of healthy seedlings, controlling the use of pesticides, pertaining to the European standards of packaging and transport, well-organized logistics and marketing, distribution centers with modern technology for quality products selection, and others (Štrbac, 2009, Goetz, Grethe, 2009). Fruits and vegetables produced in R. Serbia are of good quality, of full and aromatic flavor, which is particularly felt in the fresh state. The EU legislation and business environment are of particular importance for potential exporters of vegetables and fruits from our country (Štrbac, 2009).

However, these standards are often used as a cover for the imposition of non-tariff barriers intended to preserve the economic interests of companies in developed countries, often at the expense of exports from underdeveloped and developing countries. Relevant economic literature is predominantly devoted to the role of WTO negotiation rounds at the international level, neglecting the role of other forms of regulation that could have a strong impact on the volume and structure of foreign trade in agricultural food products

(Nikolić, Ševarlić, 2009). In our country, it is necessary to connect manufacturers in specialized professional associations in order to increase production and export (Vlahović et al., 2010), which would include the introduction of appropriate economic policies (Hrabovski - Tomić, 2010). Another major consequence of the openness of the European vegetables market is the exceptional offer of a rich assortment of products, which makes product placement more difficult, but in a way, motivates producers to try out new sale strategies (Đurovka et al., 2006).

Place and methods

The study was conducted on tourist boats at Grand Circle Corporation, which operates since 1958, with over 1.5 million tourists so far. Grand Circle Small Ship Cruises is part of the company, present in Europe for 12 years already, with 10 ships, three of which in France, six on the Rhine-Main-Danube Canal waterway, and one on the Elbe River. The study involved six ships on the river Rhine-Main-Danube Canal, namely: Ms River Adagio, Ms River Aria, Ms River Harmony, Ms River Melody, Ms River Rhapsody, and Ms River Concerto, with a capacity of 140 passengers. For research purposes, the internal documentation of boats operating from 2011 was used, displaying the structure and the amount of consumption of fresh vegetables, fruits, grains, spices and their products by type for each ship accordingly. Selected results are arranged in tables and graphs and presented in this paper. This paper also uses the methods of analysis, synthesis, description and abstraction.

Results and discussion

Procedures for procurement and delivery of food to the ships

Requisitions for the ship kitchen are the responsibility of the chef and they are done seven or fourteen days in advance. During a requisition, four companies are available for purchasing food, which allows the chef to order same products at different prices. The chef must comply with a previously determined 'master list', which is a pre-calculation of every menu and meal for 40 people. The state of food in warehouses and cold storage is also checked in order to plan for minimal stock of supplies, due to limited storage space.

Ships procure groceries from the following companies:

- HMS (frozen, fresh, durable and semi-durable products, every 14 to 16 days) from Netherlands - Germany - Austria and Hungary;
- Nordis (delivery of fresh fruit and vegetables, every seven to eight days) from Netherlands - Germany;
- Drissen (delivery of meat and fish every seven to eight days) from Netherlands - Germany;
- Penz (delivery of vegetables every seven to eight days) between southern Germany and Austria - Hungary).

Given that the acquisition is not made anywhere in our country, and given that the Danube has the longest course through Serbia - thus the ships spend the longest time within our borders - the last acquisition beforehand is performed at the Serbian - Hungarian border, near Budapest, and after in Ruse, Bulgaria.

Consumption of fresh vegetables, grains, herbs, fruits and their products

On the basis of insight into internal documentation of the Grand Circle Corporation tourist ships company, which sails along the Rhine-Main-Danube Canal, the data on the spending for the procurement of fruits, vegetables, grains and herbs in 2011 was obtained. Table 1 shows the types of fresh vegetables, grains and herbs that ships procured during the voyage.

Table 1. Consumption of fresh vegetables, grains and spices

Number	Name of foods that are purchased	UM	Consumption by ships						Total
			Ms River Adagio	Ms River Aria	Ms River Concerto	Ms River Harmony	Ms River Rhapsody	Ms River Melody	
1	Bell pepper green	kg	240.8	385.98	332.1	330.1	345.2	330.4	1964.98
2	Bell pepper red	kg	582.34	444.23	374.84	420.2	575.1	234.22	2630.93
3	Bell pepper yellow	kg	480.4	406.2	364.3	385.1	570	207.5	2413.4
4	Broccoli	kg	688.1	694.4	521.7	597.7	576.3	489.4	3567.6
5	Cabbage red	kg	243.82	291.4	317.7	360	378	395.8	2086.72
6	Cabbage white	kg	581.12	647.78	446.32	462.26	565.18	485.1	2725.44
7	Carrots large	kg	1733.4	2087	1023.7	1377.5	1504.5	1563.3	9289.4
8	Carrots small & Foliage	kg	333	173	375	301	420	378	1980
9	Celery root	kg	377.82	368.9	265	283.2	238	240.3	1773.22
10	Champignons white	kg	926	948	594	585	701	485	4239
11	Cucumbers	piece	1415.9	1859.84	1088.14	1712	1986	2313.48	8701.36
12	Eggplant	kg	363.08	371.4	217.7	240.6	370.3	278.2	1841.28
13	Garlic	kg	93.36	163	129.5	99	115	109.5	709.36
14	Leek	kg	520.8	697.3	638.1	532	740	421.2	3549.4
15	Lettuce Butterhead (400 gr/piece)	piece	1028	1240	826	912	936	835	3549.4
16	Lettuce Iceberg (500 gr/piece)	piece	1057.3	1154.6	855.76	726.2	514	950	5777
17	Lettuce Lollo Bionda (350gr/piece)	piece	1000	1104	867	912	448	1168	5499
18	Lettuce Lollo Rosso (350gr/piece)	piece	1116	1042	820	972	588	1188	5726
19	Onions large	kg	1986	2775	2075	2135	2397	2753	14121

Number	Name of foods that are purchased	UM	Consumption by ships						Total
			Ms River Adagio	Ms River Aria	Ms River Concerto	Ms River Harmony	Ms River Rhapsody	Ms River Melody	
20	Onions red	kg	152.5	127.5	75	128.28	91	176.1	75098
21	Onions Spring	piece	382	529	436	283	544	496	2670
22	Potatoes Nicola	kg	5730	7170	4200	3390	3655	3770	27915
23	Potatoes large	kg	640	540	880	2220	3200	2780	10260
24	Radish white	kg	275.6	454	343	373	379	434	1983
25	Tomatoes	kg	1700.1	1856.2	1543	1737	2043.1	2178.1	3280
26	Tomatoes cherry	kg	220.25	175.5	219.85	153.75	138	108.25	1015.6
27	Zucchini green	kg	648.82	565.6	447.4	509.5	653.7	521.3	3346.32
28	Cauliflower	kg	688	603	663	448	512	471	3385

Source: Internal documentation of Grand Circle Corporation, 2011.

Cruisers purchased about 70 types of fresh vegetables for their kitchen units. The table above presents the kinds that are purchased in large quantities. Other types of vegetables that are purchased and consumed in small quantities are: Alfalfa sprouts, Asparagus - white, Baby corn, Black salsify, Celery sticks, Fennel - fresh, Pumpkin - large, Radish - large – red, Shallots, Snow peas, Soybean sprouts, Sweet corn, Tomatoes - big, Chervil - fresh, Dill - fresh, Ginger, Lemon balm, Lemon grass, Marjoram -fresh, Parsley - curled, Rosemary - fresh, Sage - fresh, Tarragon - fresh, Thyme - fresh, Beetroot red - boiled, Cabbage - Chinese, Cabbage - green, Lettuce - Belgium Endive/ Chicory, Lettuce - Frisee, Lettuce - Oak leaf, Lettuce Radicchio, Lettuce Romaine, Lettuce Ruccola, Lettuce Field, Potatoes - sweet and Turnip – Kohlrabi.

The largest share of produced foods in Republic of Serbia in 2009 was taken by potato with 35% (Vlahović et al., 2011). In our study, as shown in table no. 1, potato consumption was the highest. In the list of requisitions we predominantly find two types of potatoes: Nicola (27.915 kg) and Large Potatoes (10.260 kg).

Onion is a widely used vegetable appreciated for its specific flavour, and abundance of minerals and vitamins (Vlahović et al., 2011). The onion consumption in the season of 2011 was 14.121kg.

Table no. 2 gives examples of types and quantities of fruit consumption.

Table 2. Consumption of fresh fruit

Number	Name of foods that are purchased	UM	Consumption by ships						Total
			Ms River Adagio	Ms River Aria	Ms River Concerto	Ms River Harmony	Ms River Melody	Ms River Rhapsody	
1	Apples red Elstar	kg	489.06	599.08	432.78	178.58	748	482	2769.5
2	Apples red Jonagold	kg	530.18	484.32	275.7	880.02	509.8	562.7	3242.72
3	Bananas green	kg	487.68	36.2	325.54	484	596.14	90.14	1579.7
4	Bananas medium ripe	kg	1739.62	1593.38	1035.3	1172.94	801.88	1452.26	7795.38
6	Grapefruit red	piece	1631	1434	1440	1201	2314	2001	10021
7	Grapes blue	kg	193.9	255.97	216.5	166.86	276.5	193.3	1303.03
8	Honeymelon	kg	1617.18	1491.72	794.16	1192.44	944.3	1314.8	7354.6
9	Kiwi	piece	2990	4281	3354	3248	3237.08	3376	20486
10	Lemon	kg	503.36	675.64	560.33	497.26	586.63	591.25	3414.47
11	Lime	piece	1854	1689	1263	988.7	1326	879	7999.7
12	Mango	piece	185	355	230	132	164	167	1233
13	Melon Cantaloupe	kg	1406.79	1059.5	522.03	515.26	368.2	1034.5	4538.08
14	Pears	kg	572.3	707	490.5	484.5	504.19	540	3298.49
15	Pineapple	piece	1625	1791	1092	1040	1602	1443	8593
16	Plums red	kg	31.5	150	111.4	73	138	97	600.9
17	Strawberries	kg	149.3	161.5	192.5	174	171	155	1003.3
18	Tangerines	kg	180	342.9	100	260	242.1	416	1541
19	Watermelon	kg	3299.12	2843.28	2009.98	1551.62	1780.2	2096.9	13581.1
20	Oranges	kg	1334.62	1322.7	1082.3	1247.7	1143.7	966.4	7097.42

Source: Internal documentation of Grand Circle Corporation, 2011.

The ships are supplied with 29 types of fresh fruit, and in addition to the species listed in the table, there are some that are consumed in larger quantities: avocado, blackberries, blueberries, cherries, papaya, passion fruit, raspberries, white grapes, physalis and starfruit. The watermelon production in Serbia has increased its significance in relation to other vegetable plants in the last few years. The reason for the increase in this area is lower price of cultivation and large yield of field crops. By area, the most important regions for growing watermelons in Serbia are Bačka, Srem and Mačva.

Table no. 3 presents the consumption of products made from vegetables, grains and herbs.

Table 3. Consumption of products from vegetables, grains and spices

Number	Name of foods that are purchased	UM	Consumption by ships						Total
			Ms River Adagio	Ms River Aria	Ms River Concerto	Ms River Harmony	Ms River Rhapsody	Ms River Melody	
Wheat products									
1	Flour wheat 405	kg	988	1407	708	1250	1073	960	6386
Other Products									
2	Rolled Oats small	kg	140	237	186	122	197	200	1082
3	Sugar white fine	kg	1135	1721	1312	1319	1250	1325	8062
Pasta and related products									
4	Noodles bavette	kg	192	164.5	136	119	138	136.5	886
5	Noodles penna rigat	kg	129	125	113	144	164	175	850
6	Noodles spaghetti	kg	239.9	434.4	88	151	120	104	1137.3
Pasteurized vegetables									
7	Beetroot stripes	kg	480.25	522.75	272	471.75	437.75	374	2358.5
8	Celery stripes	kg	212.75	191.25	216.75	289.05	246.5	229.5	1385.8
9	Kidney beans	lit	328.6	229.4	255.1	267	310	285.2	1675.3
Dried vegetables									
10	Paprika sweet	kg	14	36	11	12	7	9.7	89
11	Beans black dry	kg	15	32	60	60	70	132	369
12	Beans white dry	kg	70	23	17	22	35	57	224
Canned vegetables									
13	Gherkins pickled	lit	367.4	311.6	315.2	387.8	438.6	504.4	2325
14	Mixed pickles	lit	243.25	199.75	212.5	272	161.5	195.5	1284.5
15	Sauerkraut	kg	224.4	285.6	230.35	302	295.8	326.4	1664.55
Frozen vegetables									
16	French fries ^{cc}	kg	639.5	650	645	720	690	800	4144.5
17	Cauliflower	kg	10	25	75	87.5	105	190	492.5
18	Green peas	kg	181	172	108	110	140	210	921
19	Haricot beans fine	kg	230	245	157.5	182.5	185	360	1360
20	Sweet corn	kg	180	152.5	120	100	157.5	190	900
Vegetable sauce, ketchup and related products									
21	Ketchup	kg	460	420	346	454	430	412	2522
22	Tomatopaste	lit	178.25	123.25	144.5	110	127.5	97.75	781.25

Source: Internal documentation of Grand Circle Corporation, 2011.

About 73 items among vegetable products in the table are significant due to larger amounts spent on their procurement, some of which are: Flour wheat - whole, Semolina, Pearl barley - medium, Polenta, Couscous, Lentils - red, Rice - basmati, Rice - round corn, Milk rice, Rice parboiled - long corn, Rice risotto, Potato puree powder, Noodles farfalle, Noodles farfalle - three colours, Noodles lasagna, Noodles eliche, Noodles tagliatelle - verde, Noodles tagliatelle - yellow, Tomatoes - sun dried, White beans - big, Capers, Onions - pickled, Almond potato croquettes, Asparagus - green, Asparagus - white, Gnocchi, Balkan mix vegetables, Broccoli,

Carrots sliced, Chestnuts, Green beans - cut, Kohlrabi stripes, Mushrooms - mixed, Soup mix vegetable, Wax beans, Sugar icing, Oil vegetable, Tomatoes - peeled, Olives black - stone less, Olives green - stone less, Green peas - dry peeled, Hash browns, Pommes Macaire, Potato croquettes, Potato dumpling dough, Potato wedges, Black salsify, Romanesco, Vegetable mix Brunoise, White beans in tomato sauce, Brussels sprouts and Spinach leaves.

Fine white sugar has the highest level of consumption in quantities of 8062 kg, wheat flour type 405 in 6386 kg and, French fries 4144.5 kg.

Authors who have studied the analysis of the supply of our markets, through insight into the range of products in supermarkets, noted that domestic manufacturers are dominant in the supply of beetroot, peppers and cucumbers. Domestic manufacturers are exclusively present in the offer of mixed salads. Foreign manufacturers dominate the offer of green beans, peppers and mushrooms. The carrots, sweet corn and beans are offered only by foreign producers. The biggest offer is of cucumbers, peppers, beets and mushrooms, and the smallest of beans, green beans, sweet corn and carrots which depends, above all, on consumer habits and preferences (Vlahović et al., 2008).

What supports a variety of these products is the production of miniature vegetables (with the average weight of 10-30 grams), which became a trend ten years ago in Europe (Đurovka et al., 2006). Table 4 presents the consumption of fruit.

Table 4. Consumption fruit products

Number	Name of foods that are purchased	UM	Consumption by ships						Total
			Ms River Adagio	Ms River Aria	Ms River Concerto	Ms River Harmony	Ms River Rhapsody	Ms River Melody	
Compote									
1	Apple compote	lit	127.5	263.5	68	148	170	182.9	959.9
2	Apricots 1/2 fruit	lit	227.9	340.8	278.75	501.2	465.75	289.3	2103.7
3	Apricots 1/2 fruit	lit	321.36	255.68	284.4	200.25	203.47	312.85	1578.01
4	Pears 1/2 fruit	lit	572.3	707	490.5	484.5	504.19	540	3298.49
Pasteurized fruit puree									
5	Puree Apple	lit	8.5	8.5	80.75	106.1	68	85	356.85
Dried fruit									
6	Apricots dry stoneless	kg	107.3	162.5	87.5	123.5	114.5	134.5	729.8
7	Plums dry stoneless	kg	234.5	227.5	255	228	266	207	1418
8	Dry raisins	kg	131	153	73	184.7	96.5	100	738.2
Frozen fruit									
9	Apple segments	kg	180	550	200	207	510	285	1932
10	Blueberries	kg	110	81.5	83	97.5	60	97.5	529.5
11	Plumes	kg	130	107.5	105	160	160	95	757.5
12	Raspberries	kg	115.5	112.5	115	122.5	121.5	92.5	679.5
13	Sour cherries	kg	143	148	117.5	245	237.5	173	1064
14	Strawberries	kg	99	147	117.5	187.5	139	123	813
Jam									
15	Jam Cranberry	kg	130	175	157	170	220	158	1010

Source: Internal documentation of Grand Circle Corporation, 2011.

About 73 items among fruit products in the table are significant due to larger amounts spent on their procurement, some of which are: Apple rings - dried, Apple cubes, Blackberries, Cranberries, Mixed berries, Red currants, Jam apricot, Jam cherry, Jam orange, Jam raspberry, Jam strawberry, Fruit cocktails, Grapefruit segments, Mandarin segments and Pineapple - sliced.

Plums have the highest level of consumption, in the quantity of 1418 kg, pears (1/2 fruit) participate with a share of 3298.4 kg and apricots (1/2 fruit) are consumed in the amount of 2103.7 kg.

The possibilities of supplying the ships with domestic, imported or processed products

By the analysis of products in demand, or consumed on tourist ships, it was calculated which part of these is produced, processed or imported as a finished product in our country. It was started from the fact that other countries which supply the cruise ships import similar types of products, as is the case with the Mediterranean fruit and vegetables and herbs that are not from the European region.

Figure 1 shows the relation of fresh fruits, vegetables, grains and herbs that are procured by the ships and those which they can obtain from domestic production or imports.

Figure 1. Relationship between production and import of fresh fruits and vegetables, grains and herbs

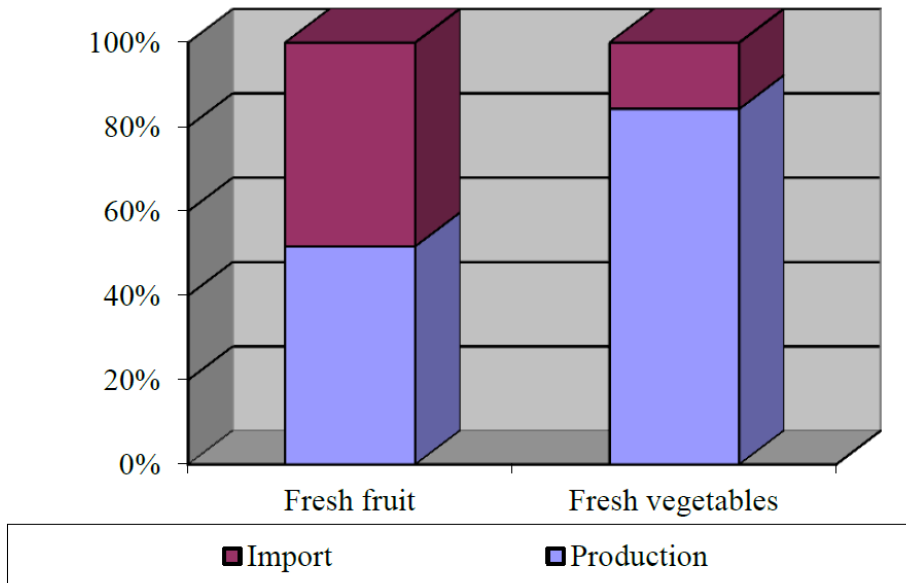
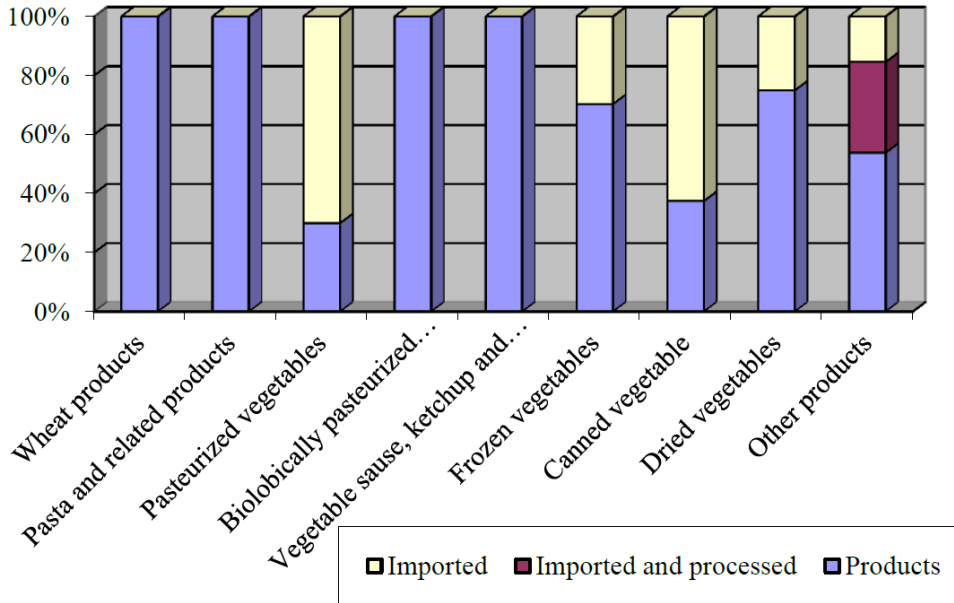


Figure 1 shows the consistency between the products that are produced in Serbia and the imported fresh fruit products. It is necessary to take into account the types and technology of vegetable production and the packaging, which must be suitable for

the placement at the EU market. ISO and HACCP and other European standards of quality of fruits, vegetables and other foods must be respect and strictly enforced. The results of research confirm that the domestic production of fresh vegetables, grains and herbs can satisfy 80% of demand of river cruise liners. Vegetables that Serbia imports consist of: Chinese cabbage, Black salsify and Celery sticks. Figure 2 and 3 show the relationship of domestic products, products which we import and process, and those imported as finished products.

The analysis of vegetable products displayed by figure 2 reveals that the Serbian market can meet the demand for cereal products, pasta and related products, biologically pasteurized vegetables and vegetable sauces, ketchup and related products. By analysing Figure 2, it is noticed that most products of frozen and dried vegetables are produced in Serbia, and a small percentage of those products is imported. A larger number of vegetable products which belong to the group of pasteurized vegetables are found to be imported into the market (Sun Dried Tomatoes, Capers, Pickled Onions, Black Olives – stone less and Green Olives – stone less) while gherkins pickled, sauerkraut and mixed salad can satisfy market. In the other groups of products, half of them are being produced in the country, one-third is imported and processed, and only 10% are pure imports (Couscous and red lentils), which allows our producers to sell most of their products.

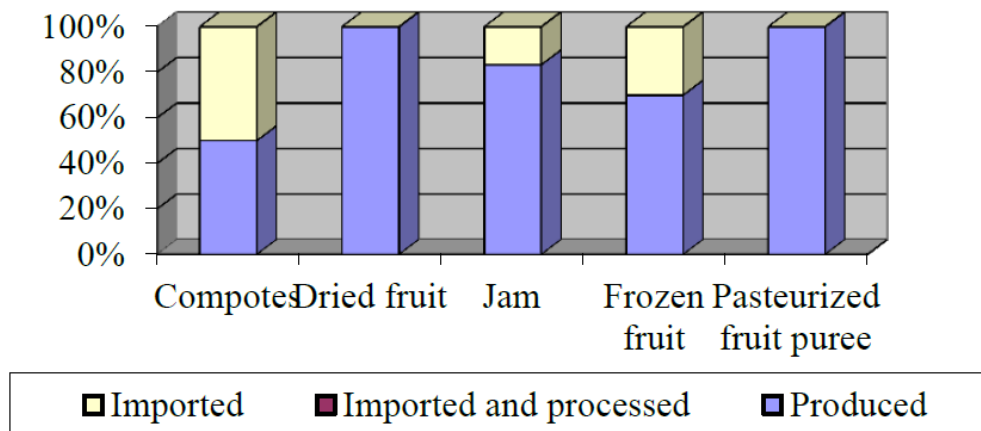
Figure 2. Ratio of production, processing and export of finished goods from vegetables, grains and herbs



Our country produces nearly all types of dried fruit and pasteurized fruit porridge that can meet the demand of tourist boats. As for other products, frozen fruits and jams, an assortment of demand can be satisfied with the present offer. 50% of market need for

compotes is satisfied by imports (fruit cocktail, grapefruit segments, mandarin segments and sliced pineapples) and 50% are compotes that are available in our market (apple compote, apricots (1/2 fruit) and pears (1/2 fruit)).

Figure 3. The ratio of production, processing and export of finished fruit products



One of the preconditions for exports is greater activity of all holders of agricultural policy in order to improve the position of our country in the international market. Lack of marketing concepts of our economic entities, government assistance and agricultural protectionism in developed countries is a limiting factor in improving the export of agricultural food (Vlahović et al., 2008), including its placement on the tourist ships.

Conclusion

While exploring the need for fruits and vegetables and other foods of agricultural origin on the Danube tourist cruisers analysed, studying of domestic and foreign literature, and using scientific methodology appropriate in the case studies in this work, this research has reached the following conclusions:

- 1) Marine tourism on the Danube is one of the more promising selective forms of tourism whose potentials Serbia is not using to the full extent. This conclusion requires a quick adjustment in the direction of growing demands for infrastructure and ports that offer full comfort for incoming ships, as well as the study of their needs for fuel, water, foods and other supplies. Bearing in mind that Serbia has the longest Danube flow through its territory, this creates the possibility for keeping people the longest amount of time and providing the longest and highest level of consumption.
- 2) Keeping in mind that this form of tourism is mostly practiced by population aged 55-70, and that their diet is dominated by vegetables, fruit, grains and other foods from plant sources, consumption of these foods, by structure and quantity, is the highest.

- 3) The consumption of fresh vegetables is dominated by two types of potatoes; 'Nicola Potatoes' (with 27,915 kg), and 'Potatoes - large' (with 10,260 kg). The emphasis is also on the onion ('Onions large') with consumption of 14.121 kg. As for the other product, sugar stand out with the highest consumption ('Sugar - white fine'), which is spent at the rate of 8062 kg, flour type 405 ('405 Wheat Flour') - 6386 kg spent, and French fries, by the amount of 4144, 5 kg. Concerning the consumption of fresh fruit, notable are: Watermelons, with a share of 13.581 kg, semi ripe bananas ('medium ripe bananas'), 7795.38 kg spent, and melons ('Honey Melon') with 7354.6 kg. Dried plums dominate in the production of fruit products ('plums - stoneless dry') in the quantity of 1418 kg, canned pear ('pears - 1/2 fruit') with the portion of 3298.4 kg, and stewed apricots ('apricots 1 / 2 fruit') which is spent in the quantity of 2103.7 kg.
- 4) Of the total of required types of food Serbia produces 50% of fresh fruit, as well as 50% imported. It should be noted that citrus fruit and some products are also imported by other Danube countries and sold to the cruise ships at supply points. Over 84% of fresh vegetables is produced in Serbia and only 16% of all is imported. Of the total required amount of vegetables, Serbia has a 100% production of following vegetable products: cereal products, pasta and related products, biological pasteurized vegetables and vegetable sauces, ketchup and related products. As for the dried and frozen vegetables, Serbia alone produced about 70% of the required products, and about 30% must be imported. Further on, the required amount of pasteurized vegetables that Serbia itself meets are 30% and 70% are imports. Over 52% of other vegetable products are produced in Serbia, 33% is imported and produced here, and 15% has to be fully imported. In the given graph 3, Serbia has a 100% production of dried fruit and pasteurized pulp of fruit. Of the total required amount, Serbia produces 82% of jams and only 18% has to be imported. Serbia also keeps the home production of frozen fruit at 70%, while 30% is imported. The production of compotes is in a proportional relation between home production and imports.
- 5) The pre - requirement for export of agricultural foods is the knowledge of internal quality standards of certain companies dealing with this type of tourism, which are aligned with ISO standards, with a particular focus on standards that dealt with the safety of food and drinks like HACCP, and some others. Forms and method of packaging, size of individual packages, as well as excellent safe packaging and design, adapted to the ship's consumption, are significant prerequisites for success.
- 6) To achieve success in increasing revenue from nautical tourism on the Danube, it is necessary to take a series of measures, including the association of producers and retailers in the form of clusters or other associations, in order to ensure sufficient quantity, quality and range of continuous delivery, superb packaging and design, and relevant promotional activities.
- 7) There is a great need for more coordinated activity of bearers of tourism development in Serbia and better agricultural policy, in the struggle to achieve support for the development of significant infrastructure facilities for the development of this form of tourism. Developing and implementing the standards of product quality as well as developing

a strong marketing concept of undertakings would enable us to stand opposed and shoulder to shoulder to other developed countries which practice tourist and agricultural protectionism as a limiting factor to promoting exports of fruit and vegetables from Serbia, and hence its placement on cruise ships.

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TURISTIČKI BRODOVI DUNAVA ŠANSZA ZA IZVOZ POLJOPRIVREDNO-PREHRAMBENIH PROIZVODA BILJNOG POREKLA

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Rezime

Dunav predstavlja najznačajniju evropsku reku koja je sastavni deo transevropskog plovidbenog sistema Rajna – Majna - Dunav na kojoj se intenzivno razvijaju različiti oblici turizma. Najintezivniji razvoj doživljava nautički turizam. Broj turističkih brodova i turista se neprestano uvećava. Tokom krstarenja najveća potrošnja se ostvaruje na samom brodu. Zemlje koje nemaju prilagođenu infrastrukturu i nisu izučile potrebe za materijalnim dobrima potrebnih brodovima, imaju male turističke prihode. Oni uglavnom potiču od suvenira i poseta kulturno-istorijskim dobrima. Snabdevanje gorivom, vodom, namirnicama, pićem i ostalim potrošnim materijalom se obavlja u zemljama koje su prepoznale tražnju i brzo prilagodile ponudu. Od svih podunavskih zemalja brodovi ne vrše nabavku jedino u našoj zemlji. Zadatak ovog rada je da izvrši istraživanje strukture, tržišnih oblika i količina povrća, voća i drugih namirnica biljnog porekla i njihovih proizvoda, koji se godišnje potroše na analiziranim brodovima. U radu će se ukazati na mesta i zemlje iz kojih se trenutno vrši nabavka. Istraživanje je izvršeno na šest turističkih brodova kompanije „Grand Circle Corporation“ i njihovoj potrošnji iz 2011. godine. Dobijeni podaci su sistematizovani i prikazani u odgovarajućim tabelama i grafikonima.

Ključne reči: turizam, izvoz, proizvodi biljnog porekla, Dunav.

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