

*Katica Radosavljević**

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THE MARKET CHAIN OF FRUIT PRODUCTION IN SERBIA – A CASE STUDY OF RASPBERRY AND SOUR CHERRY CULTIVATION

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ABSTRACT: *The trade in fresh and frozen fruit is complex and fragmentary. Currently producers are forced to use a variety of marketing channels - farmers' markets, processing industries, trade companies and brokers. To increase quality, production, profitability and exports, it is essential to maximize cooperation between producers, processors, wholesalers and retailers. Vertically and laterally integrated fruit marketing channels demand the smallest number of intermediaries and direct relations with consumers. In past decades,*

fruit production in Serbia was characterized by irrational resource allocation. Neglect of the agribusiness marketing concept led to supply shortages. As a result, prices increased while quality decreased. Only integrated marketing concepts can boost quality, yields, profitability and competitiveness.

KEY WORDS: *marketing channels, raspberry, sour cherry, agribusiness, Serbia*

JEL CLASSIFICATION: M3, Q13, M31

* Faculty of Economics, University of Belgrade

1. Introduction

Logically, economic progress triggers the development of marketing channels. The structure of the marketing channels for fruit and fruit products is influenced by: aggregate production, transport and communications, education, science and technology, income and savings, internal and external trade, demographics, culture and healthcare. The length of marketing channels also depends on economic development. Low levels of economic development are characterized by short and direct marketing channels, i.e. farmers' (green) markets. As economic development proceeds, the number of intermediaries increases, while advanced economic development results in the tightening of marketing channels. The beginning of the 21st century has been characterized by the development of a network economy, where marketing channel members work together in strategic alliances and integrated supply chains, in which role of consumers has increased. As agricultural production increases in volume and degree of specialization, intermediaries appear, e.g. traders, food processors, agents, speculators, secondary marketing institutions and direct (personal) sales.

One approach to making Serbia competitive on the global market is to ensure horizontal and vertical integration within marketing channels. Horizontal integration allows economies of scale, while vertical integration results in bigger, more efficient marketing systems (more distribution channels, packaging, transport, direct sales and production of inputs).

Fruit cultivation is dependent on natural factors - soil-type, climate, water supply, pests etc. – which means output is unpredictable. Fresh fruit is of variable quality and perishable. To minimise the distribution of fruit production, the organized marketing channels must be made as efficient as possible through vertical integration. The fruit must be purchased, stored and sold to meet market demand. Fresh fruit is bulky and of relatively small individual value, and requires rapid, cost-efficient transportation to buyers and consumers. Industrial fruit processing provides opportunities to overcome these time constraints imposed by fruit perishability (this topic is expanded on below). Structural changes of wholesale and retail trades can streamline future flows of agricultural produce.

2. Raspberry and Sour Cherry Marketing Channel Model

The raspberry is the most significant fruit in Serbia. It is consumed fresh and in processed form – jam, preserves, fruit yoghurt etc. Raspberries are supplied to the market mostly through organized trade channels, specialized purchasing and trade organizations, as well as directly via markets. At 84,000 tonnes, raspberry production in 2005 was 8.7% less than in 2004, due to adverse weather conditions at the most critical time of ripening. Production and processing facilities are located in around Sabac, Valjevo, Ljubovija, Bajina Basta, Uzice, Ivanjica, Arilje, Guca, Kopaonik and in a few small areas in Southern Serbia. The predominant varieties are “Willamette” and “Meeker”.

Sour cherries are usually processed and rarely consumed fresh. They are also used in a variety of products/industries: confectionery, alcoholic beverages, dairy, pharmaceutical, energy (cherry stones are used in a form of briquette due to their high-calorific value).

Sour cherry production and processing areas are Macva, Central Serbia and, predominantly, Southern Serbia. The dominant variety is “Oblacinska”. Competitor countries for sour cherry production are Poland, Hungary, Macedonia and Bulgaria. A positive general opinion about Serbia will significantly help exports to international markets. This can be reached through persistent government efforts to establish Serbia as a reliable trading partner with stable political and social institutions, thus eliminating previous negative connotations.

There is a great opportunity for Serbia to increase raspberry and sour cherry production and become a market leader in this part of the world. However, to improve its position internationally, old bushes must be renewed, and new standards of cultivation/processing introduced. Oversight of raspberry and sour cherry production in Serbia is a matter of concern, since the leading countries in raspberry and sour cherry production (e.g. Chile) have made great strides in implementing international quality assurance and protection standards.

There are approximately 220 chilling plants in Serbia, with storage capacities ranging from 100 tonnes to 10,000 tonnes. It is difficult to estimate the full storage and freezing potential at state level since only a certain number of these currently function. Others are still in privatization process (those in the ownership of cooperatives), while one group is facing bankruptcy. The largest concentration, 87 chilling plants is within the municipality of Arilje. Current capacities for fruit freezing in Serbia exceed fruit production itself.

Two types of chilling and freezing technology are currently present in Serbia:

1. Ammonium-based chilling plants (for drupes and berries);
2. Freon-based chilling plants (mostly for berries, rarely for drupes).

In the older chilling plants, ammonium-based equipment dominates, while newer ones are mostly freon-based. Equipment in the older plants is largely obsolete and requires frequent maintenance. The biggest chilling plants in Serbia are of this type. This technology is the most efficient in fruit freezing but poses great environmental risks in the case of accidents. Newer plants have freon-based technology, which is cheaper to install and costs less to maintain.

Raspberry and sour cherry producers mostly follow YUS standards, but need to introduce appropriate international standards, such as EUREPGAP or GLOBALGAP. Implementation of these standards should bring significant improvements in, for example, pesticide type/ dosage. Some chemicals allowed in Serbia are banned in the EU and will need to be phased out for exports. The marketing efforts of Serbian producers are handicapped through lack of implementation of following standards: ISO 9001, HACCP and BRC.

The importance of raspberry and sour cherry production is illustrated in the tables below, which show the quantities and values of agricultural products in Serbian foreign trade in 2006.

Table 1. Fruit Varieties with Highest Share in Imports and Exports in 2006¹

EXPORT		
FRUIT	Quantity (kg)	USD
Watermelons, fresh	6,270,224	1,360,238
Apples, fresh, other	35,175,761	11,431,288
Sour cherries	6,248,466	2,286,244
Peaches, fresh	7,500,106	1,370,449
Plums, fresh	16,471,548	4,444,392
Raspberries, fresh	5,656,170	5,765,679
Raspberries, Blackberries, Strawberries, other	2,689,502	3,877,193
Strawberries w/o sugar, frozen	730,770	1,216,767
Raspberry "Rolend", cooked or uncooked	24,378,588	48,326,528
Raspberry "Griz", frozen or cooked	25,410,833	30,065,679

¹ Customs Administration

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Raspberry "Bruh", frozen or cooked	7,182,775	10,988,703
Raspberry "Blok", cooked or uncooked	5,481,481	4,081,612
Raspberry, frozen	2,084,304	2,786,126
Blackberry "Rolend", frozen or cooked	13,644,336	23,175,593
Blackberry "Konfitura"	345,971	531,099
Blackberry "Blok"	2,769,794	3,151,932
Sour cherry w/o stone, "Rolend", frozen or cooked	15,101,921	17,790,971
Sour cherry with stone, frozen or cooked	3,733,909	2,466,110
Other frozen fruits	10,234,652	7,937,890
Prunes	1,388,505	2,963,122
IMPORT		
Watermelons, fresh	201.470	1.429.446
Apples, fresh, other	950.177	6.028.219
Sour cherries	202.241	992.656
Peaches, fresh	55.950.664	34.637.386
Plums, fresh	803.627	1.126.916
Raspberries, fresh	403.227	455.057
Raspberries, Blackberries, Strawberries, other	28.606.235	13.753.100
Strawberries w/o sugar, frozen	7.084.220	4.020.753
Raspberry "Rolend", cooked or uncooked	5.787.218	3.387.496
Raspberry "Griz", frozen or cooked	4.256.103	2.232.077
Raspberry "Bruh", frozen or cooked	3.183.492	1.720.896
Raspberry "Blok", cooked or uncooked	3.104.566	2.017.335
Raspberry, frozen	16.190.719	8.899.802
Blackberry "Rolend", frozen or cooked	11.114.661	5.681.780
Blackberry "Konfitura"	3.268.856	1.317.489
Blackberry "Blok"	9.405.764	1.175.682
Sour cherry w/o stone, "Rolend", frozen or cooked	12.106.373	2.889.219

Table 2. Agricultural Products Foreign Trade Exchange in 2005 and 2006, in USD mil.²

	EXPORT		IMPORT	
	2005	2006	2005	2006
Serbia, total	4,481.8	6,427.9	10,461.3	13,172.3
Agriculture, total	920,9	1,265.5	772.3	905.5
Fruits and Vegetables	261,9	326.00	159.3	189.8

² Customs Administration

Table 3. Agricultural Products Foreign Trade Exchange in 2006, in USD mil.³

	EXPORT	IMPORT
	2006	2006
Serbia, total	6,427.9	13,172.3
Agriculture, total	1,265.5	905.5
Fruits and Vegetables	326.00	189.8
Fruits	186.02	93.55
Raspberry	102.00	0
Sour cherry	22.00	0

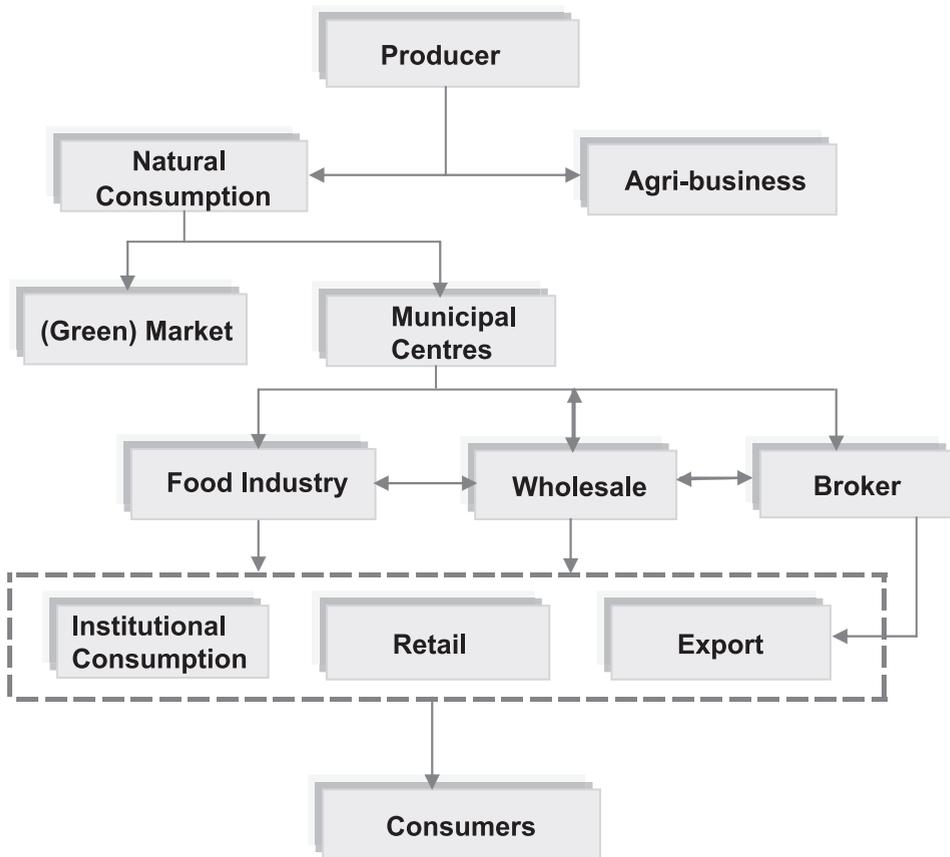
Combining data from tables 1 and 2, we get table 3, which shows the importance of raspberry and sour cherry production in agricultural foreign trade. Raspberries constituted 54% of total fruit exports in 2006, with no imports. Serbia's share of total world raspberry exports is about 45.16%, the largest of any country. However, in terms of the value of exported raspberries Serbia is only third, with a share of 13.3%. The massive difference between export quantity and value is due to the low level of competitiveness and profitability in raspberry production and sales. This confirms the importance of upgrading all fruit marketing channels, including raspberries, to increase competitiveness in domestic and international markets.

The share of sour cherries in total fruit exports in 2006 was 11.8%, second only to raspberries. Raspberries comprised 8.06% of total agricultural exports and sour cherry's 1.74%. Of Serbia's total exports, raspberries constituted 1.59% and sour cherry's 0.34%. In 2007, raspberries comprised 18% fruit exports, with cherries at 11%. This was the result of significantly raised exports of plums and apples. In 2004 and 2005, raspberries were dominant and sour cherries were next. For the above reasons, this paper concentrates on these fruits.

Sour cherry and raspberry marketing channel models do not differ significantly in technological processes, participants or length, so a single integral marketing channel is suggested for both types.

³ Personal assessment

Figure 1. Suggestion – Raspberry and Sour Cherry Marketing Channels⁴



The sour cherry and raspberry markets in Serbia are characterized by a lack of professional supervision in production process, incompetent market presence, and illegal sales. The marketing chain is comprised of producers, municipal centres, cold storage and processing facilities, industry, commodity market, wholesalers and retailers.

Producers: Following the collapse of communism, production properties and assets were split into smaller units. Marketing organizations and infrastructures, i.e. cold storage and processing facilities, were no longer easily accessible to producers, and alternative solutions were not offered. As a result of this sour

⁴ Personal assessment

cherry and raspberry producers sell the major part of their crop to intermediaries. There is a lack of trust between the various business operations. To avoid unfair competition and ensure the success of any future marketing organization, it is necessary for the state to impose universal marketing channels. Cooperation between all marketing participants in a unified system could greatly increase the profitability of fruit production. A producers association could represent the interests of all growers through general advice, pricing policy, promotion. The current fragmentation of the fruit industry in Serbia limits economies of scale that could greatly increase profitability with regard to transportation and infrastructure, such as cold storage and processing facilities.

Due to this lack of marketing infrastructures and organizations, Serbian raspberry and sour cherry producers are underperforming in the global arena. In addition to the deficiencies listed above, Serbian producers do not possess the modern techniques and technologies that monitor EUREPGAP, EU and other global agricultural standards (American and Japanese). For example, we know global raspberry production in 2007 was disappointing (Chilean warehouses empty, American and Polish yields dropped 60% and 10% respectively, due to weather conditions).

To satisfy the demands of the American and Japanese markets, Serbian raspberries are imported through the EU, as a guarantee of health and quality standards. Organic and healthy food production requires compliance with regulations in all production phases, starting with selection and choice of a fruit variety, to selection of agro-technical operations, to fruit gathering, sorting and processing.

Supermarkets demand product quality and continuous delivery. Producers currently lack the necessary information about markets, due to their fragmented nature. They need to be integrated into the total marketing chain. The competitiveness of Serbian sour cherry and raspberry producers could be greatly increased by integration into producers' marketing organizations, with fruit quality guaranteed by production and packaging international standards, and a modern infrastructure of cold storage, processing and transportation facilities.

Under the current system producers are paid in cash. Due to the large amounts of money circulating in the market, it is impossible to establish proper cash flow controls, which leads to irregularities. There are two ways to define product prices. One price is based on single day pricing, which requires payment by the end of the day for purchased goods. The other is based on the "end price" policy, which is paid at the end of the harvest period. Some producers choose to

be paid according to single day price, while others wait for the end price to be defined, because the latter is always greater. For example, at the start of the sour cherry harvest, the single day price was approximately 18 dinars per kilo, while the end price was 30 dinars per kilo. Additionally, for several years producers have been deceived by some resellers who paid either in part or not at all. A regulated system of payment needs to be imposed if production is to increase and the market function properly. A consistent policy for fresh and processed fruit pricing/payment should minimize fraud, deception of producers and tax evasion. Every producer should have a bank account in order to secure payment (using bills of exchange).

Some storage and chilling facilities are facing bankruptcy. Certain firms, mostly limited liability companies (LLCs, in Serbian DOO), use these entities to provide illegal cash flow for one or two years. These LLCs rent chilling plants to process fresh fruit, but essentially use them for illegal money transfers which, through these rented entities, enter legal financial channels. After this illegal money has been laundered, the rented entities go into bankruptcy, the renters close the LLCs and every trace of illegal trading is erased. Some private chilling facilities are buried under long-term debt. These facilities are legally registered as limited liability companies – the owners’ liability is limited. In this situation, owners often register a new LLC, which is used solely for product distribution. Thus the processing facility makes a loss, the goods are sold to the new LLC, registered for distribution and trading, which is profitable. When banks attempt to recover their loans, they discover the facilities are ruined and the equipment removed. Thus many processing plants are used primarily for laundering the proceeds of crime.

To sustain internal agricultural production, governments in developed countries have introduced various incentives and protectionist measures. These actions make their farmers more competitive to those in transition countries. Serbian raspberry and sour cherry production problems can be resolved if the individual producers are organized through cooperative municipal centres. The producers will still own the goods and will gain direct control over marketing channels.

Municipal Centres: Buyers (purchasing locations) are currently intermediaries in the raspberry and sour cherry marketing channel. They are the connection between small producers and the cold storage/processing facilities. Buyers group producers’ fresh fruit deliveries and organize transportation to final destinations. They deliver 75% of fresh fruit to cold storages in Serbia. As intermediaries, buyers charge for their services by taking commission from cold stores. This fragmented

process results in an inability to control raspberry and sour cherry origin, fruit speculation, and irregular payments to producers.

One solution is to integrate purchasing locations into cold storage and processing facility systems, or into association of producers (who would have more control over the fate of their own crops), by applying vertical integration. Costs arising on the way from producers to cold stores would be decreased. Both would end up being profitable, while control of sour cherry quality and safety would be enhanced. Such vertical integration shortens the marketing channel.

Another solution would be organized buyouts at the level of municipal centres. Municipal centres would be equipped with warehouses and sorting and packaging equipment and could – in compliance with required standards – distribute fruit to wholesalers, retail supermarket chains, hotels, restaurants, etc. Municipal centres are essential in any effective raspberry and sour cherry marketing process. Sales space in a wholesale facility could be rented by a municipal centre representing the individual sour cherry and raspberry producers of a specific municipality. Continuity is an essential attributable in the creation of an organized and regular fresh raspberry and sour cherry market. Large integrated and municipal centres could develop their own brands, by guaranteeing sour cherry and raspberry quality and standards.

Cold Storage and Processing Facilities (Cooperatives): The nutritional value of fruit and processed fruit products (as well as their ultimate financial value) largely depends on their quality and characteristics, the sorting, packaging, warehousing conditions, transportation method and duration, and treatment and manner of display at sales locations. Fruit processing technology encompasses operations such as selection, packing and canning. Each operation alters certain features of the raw material in order to preserve nutritional value, generate organoleptic characteristics (taste, colour, smell, texture) and create an economically desirable product.

Table 4. Fruit Freezing Points⁵

TYPE OF FRUIT	FREEZING POINTS (°C)
Raspberry	-0.9
Strawberry	-1.2
Peach	-1.4
Pear, Apple	-2.0
Plum	-2.4
Cherry	-4.5
Walnut	-6.7

After washing, the fruit is moved to the inspection belt. Subsequent processing depends on the desired product. The final products from frozen raspberries (after treatment in a cold storage and processing facility) are as follows. Raspberry “Rolend” – whole, prime berries of identical colour. Initially in 4 packs of 2.5kg each, after checking origin and adequacy of protection (in compliance with standards), “Rolend” is put into 300g, 450g or 1kg packages that end up as the final product in EU shops (comprising 10% of total raspberry exports). Raspberry “Griz” is ground frozen raspberry, packed in 10kg and 15kg containers and intended for industry. Very small amount of ground raspberry end up in shops. Raspberry “Blok”, the third class of frozen raspberry, is solely for the fruit juice industry.

Raspberry processing is done manually in Serbia although higher efficiency could be achieved by investing in fruit-sorting machines. Each machine requires 10 workers but can do the same amount of work as 100 manual sorters.

Fresh sour cherry can be frozen with or without the stones. Some facilities produce sour cherries in alcohol for the confectionery industry but the bulk is intended for industry. Only small quantities end up in shopping centres as consumers rarely consume frozen cherries. Sour cherry processing is competitive, as the same technology as is used in other countries e.g. Poland.

Additional investment is needed in sorting and cherry-stone-detecting technologies. Optimally, cold storage and processing facilities would enhance their operations with final product processing in order to complete vertical integration with industry. Currently, these facilities produce semi-finished goods at the level

⁵ Zlatkovic B., *Fruit Processing and Preserving Technology*, School of Agriculture, Zemun, 2003

of 90% of the total process. Industry exploits this situation by maximizing profit margins when supplying the final product to the market. There should be more investment in facilities for late-stage processing within cold storage facilities, since the final steps generate the highest margins and profits. Larger facilities also benefit from economies of scale.

EU policy provides another idea to increase the competitiveness of Serbian raspberry and sour cherry production. The EU provides subsidies only to legal producers' marketing organizations (cooperatives). Subsidies are granted to cooperatives with minimum yields of 10,000 tonnes, while most process at least 20,000 tonnes. If Serbian production is to survive in the EU market, producers must be persuaded to work together. Individually they cannot raise the capital to develop the necessary infrastructure. Additionally, through cooperatives they can procure new seedlings to increase quality and gradually introduce the required EUREPGAP standard.

A cooperative is a voluntary membership association where people working in the same profession join together to individual and mutual benefit, in accordance with the law and the rules of the cooperative. Negative experiences from old-style socialist cooperatives make producers suspicious. However, the new organization would not be a cooperative in the traditional sense, but would encompass additional marketing operations (quality control, promotion, market analysis) and enable the construction of cold storage and processing infrastructure. The capacity of these facilities would be based on the current production of each region, although strategic planning would allow for growth and enhancements. Such facilities must be managed by motivated professionals and incorporate modern technology. They must be located in areas with significant raspberry and sour cherry production. Investment would come from the public sector, municipalities, local government, trade associations and the local producers. Quality control would be best achieved with a cooperative or an authorized wholesaler managing the facility. Local producers would individually, or through their cooperatives, financially support the facility, thereby consolidating the partnership. It would be beneficial if at least one of the cooperative members was a wholesaler with experience of the marketing standards required to sell fresh raspberries and sour cherries to supermarket chains.

Industry: Total quality management as a concept is increasingly used by enterprises to integrate quality improvements. The essence is that quality improvement systems should include the entire organization along with suppliers and consumers. Processing companies should implement vertical marketing

integration to protect raspberry and sour cherry products from market position uncertainties. The industry should guarantee production contracts and future prices to producers. Legally-enforceable standards would define required product characteristics and oblige producers to deliver goods under strictly determined conditions. A business certified under ISO 9000 requirements should be able to produce quality merchandise and offer quality services.

Municipal centres would also be part of raspberry and sour cherry industry production, rather than the wholesalers. The processing industry will increasingly streamline towards agricultural production and start implementing standards - existing food industry standards include HACCP, ISO 9001, ISO 9002, ISO 14000, ISO 21000, BRC, etc. The industry will have an obligation to monitor new developments in processing technology in order to stay competitive. They must have skilled professionals with experience in all forms of raspberry consumption markets - types of raspberry final products include jams, stewed raspberries, gelatines, toppings, alcohol, chocolates, candies, cookies, cakes, juices, syrups, aromas, creams and medications.

Ideally, the industry and the wholesaler should be integrated in such a way that raspberry and sour cherry products are made under the wholesaler's brand name. In this way, the industry would avoid market-positioning uncertainties, secure continuous sales and penetrate part of a niche market.

Wholesale Trade: The wholesale trade should integrate with the production process. If wholesalers become part of cooperatives as stockholders, unnecessary competition, risk and marketing costs will all be reduced. Competition would be preserved through different cooperatives working with different wholesalers. Within this organizational scheme, producers are specialized for production, and product concentration, while cooperatives and wholesalers specialize in storing, manipulation/processing, transportation, sales and marketing. Terms and obligations would be determined by contract. Wholesalers are professionals who can fulfil the high expectations of retail supermarket chains' requests, secure continuous supplies of high quality products and who know exactly what kind of product consumers want. They will be essential in future producing organizations that lack marketing skills.

The second type of vertical integration concerns raspberry and sour cherry product-positioning in trade company organizations. This will enable wholesalers to rapidly develop their own brands, centralized physical distribution, ensure reliability of supply, lower distribution costs, and offer a wider assortment of

products. Wholesalers should try to be leaders on domestic markets as a prominent domestic position will support efforts to penetrate foreign markets.

Industries can organize their finished-goods trade in several ways:

- Industry positioning, under own brand name for domestic wholesaler
The industry sells finished goods through a wholesaler under its own brand name and complies with requirements dictated by the wholesaler. Industries are required to lease sales space, offer delayed or late payment options and take the risk that perishable goods carry. The advantages of this type of market positioning are that the industry owns a powerful brand name and can become a leader in its field.
- Industry positioning, under the brand name of a domestic wholesaler
The industry sells finished goods through a wholesaler under the wholesaler's brand name. In this situation a wholesaler determines quality of finished goods, and chooses packaging and labels. The advantages for the industry are no space leasing, payment options are much more flexible as deadlines are shorter and no carried risks in trading with perishable goods.
- Industry positioning under own brand name for foreign wholesaler on domestic market
Advantages: domestic market sustainability and domestic market wholesale coverage. Exported goods sold in the country of origin of the foreign wholesaler will benefit from the wholesaler's home experience, and promote the brand name (the industry).
- Industry positioning under the brand name of a foreign wholesaler for the domestic market
The main advantage is higher export volumes as the foreign wholesalers promote their own brands in all their outlets. This results in the promotion of Serbian raspberries in the global market. In the French wholesale chain "Legave", the raspberry "Rolend" packaging reads "Drina Valley Raspberry" ("Framboises de la vallee de la Drina").

Fruit products are positioned on the market in their original packaging. Unless otherwise regulated, all products that are put on sale in their original packaging must contain – on the packaging or the label – a declaration of the product name, name and address of the producer, manufacturing date, quality category, net

weight, information about preservatives, colours, aromas, main ingredients and expiration date.

Large foreign companies with a famous brand name that take over domestic companies will greatly influence marketing processes, enabling external growth as well as selling goods on the domestic market. Positioning in foreign markets has the aim of getting a larger share of the sales pie. Access to raw materials and their proximity to processing facilities (increased quality due to freshness, and reduced transportation costs) enables a company to become the most competitive in foreign markets, compared to competitors based abroad.

Selling in foreign markets also entails 4 different types of market positioning:

- Foreign industry wholesaler under own brand name
The industry targets foreign wholesalers and sells its finished product under its own brand name. The advantages and disadvantages are the same as in the domestic market.
- Foreign industry wholesaler under brand name of foreign wholesaler
The industry sells its finished product to a foreign wholesaler under the wholesaler's brand name. Advantages and disadvantages are the same as on the domestic market.
- Domestic wholesaler on foreign market under brand name
The domestic wholesaler and industry combine to conquer foreign markets. Operations are the same as on the domestic market. This way the industry promotes its own brand. Quality of product - due to speed/proximity of processing - is the main advantage.
- Domestic wholesaler on foreign market under brand name of domestic wholesaler
Wholesaler buys the finished product from the industry under its own brand name and enters foreign markets alone. The aim is to compete with foreign wholesalers. The advantages are same as above.

Retail: There are many and various features which determine if a product satisfies the needs of the customer, including technical, physical, chemical, mechanical, functional, aesthetic, etc. Fruit is packed and sold in materials that are regulated for certain types, sorts and classes. Fruit sold in retail stores can be in packaging of a variety of materials and designs which must include a declaration in compliance

with the relevant regulations. The declaration generally gives information about product name, producer's name and address, manufacturing date, expiration date, harvest year and quality category.

Due to increased standards of living, consumers in the future are likely to prefer shopping for fresh fruit weekly in modern supermarkets. This alone lowers direct sales. The arrival of international retail chains and expansion of foreign supermarkets is an on-going process that increases their share of the retail market.

Establishing a position with regard to the increased power of retailers is an important aspect in modern EU trade. Trends in Serbia confirm that large processing factories (known for a variety of products) as well as small and medium enterprises, must focus their efforts on promoting regional characteristics, through innovations and strengthening of private brands. This strategy increases opportunities for trade with large retailers and allows producers and retailers to build stronger relationships.

Having a retail strategy for own-brand development enables control over marketing channels and future integration with the production system.

Commodity Market: Currently, two types of broker operate in Serbia. Independent brokers who have companies in Serbia and who sell goods in foreign markets for different industries. In this case health and safety responsibility is with the Serbian factory since the broker acts as the intermediary. Brokers who represent specific industries control the market and are responsible for quality and standards compliance in Serbian companies. This type of broker participates in all aspects of company development, from improving standards in factories, to promotion of those factories and their products.

Agricultural production and commodity reserves financing through securities might be one of several new financial instruments in the future. Such instruments open opportunities for development of different trade channels and market institutions. Commodity markets, commodity reserves, futures and options trading constitute a type of trading.

Hedging, a risk reduction method, is a set of activities enabling efficient use of the futures market. These are contracts based on forwards, futures and options. A forward contract is an agreement between two parties to buy or sell goods for cash at a set price agreed at the time of the contract that will be paid on the day

of delivery. A futures contract is a type of a forward contract. However, there are differences between forward and futures contracts. These differences are:

- In cases of futures contracts, the seller picks any day as the delivery date;
- Futures contracts are exchange-traded derivatives;
- Futures contracts are rebalanced every day to the daily spot price.

Options are financial instruments that convey the right of a holder to buy or sell agricultural futures contracts at a set price within the given timeframe. There are two types of options: put options (sell) and call options (buy). Put options actually convey the right to sell a futures contract at a set price at any given time before expiration. Call options convey the right to buy an agreed quantity of a commodity before or on the date marked in the “call”. Selling these options reverses rights in relation to buying.

Consumer: Ultimately, the consumer determines the fate of any marketing channel. The goal of any channel is the satisfaction of consumers’ needs through acceptable quality, safety, presentation and price.

All intermediaries in the raspberry-marketing channel must be aware of end user demands and respond to them. Raspberry-based products are purchased by consumers of different economic status. Marketing channel intermediaries have to adjust to the requirements of the different consumer categories.

Thanks to the internet, consumers today can access information about producers and other marketing-channel participants. Consumers demand rapid service and a quality product. Functional costs such as time, transportation and product adjustment to the end user, are shifted from retailers to consumers but these costs are counterbalanced by meeting the consumers’ demands. Consumers directly influence all marketing channel participants, and thus indirectly influence all their internal relationships in the chain.

3. Conclusion

In conclusion, all the marketing-channel participants must work together in a vertically integrated supply chain in order to generate higher profits, achieve better market positioning and satisfy the demands of consumers for sour cherry and raspberry products. Complex operating conditions, business environment changes, pressure from competitors, fruit perishability and huge oscillations in

demand also compel the development of an integrated system. Current actions must be directed towards establishing the optimal balance between producers and trading institutions, and increasing the interest of all marketing parties in this integration process.

To promote growth, sector profitability and competitiveness must be enhanced through investment in all stages (production, processing, marketing) and changes in export structures. To increase the quality of fresh fruit, new varieties of seedlings and international standards (including on pesticide use and general health and safety) need to be introduced. Packing materials and their design need to be improved, and transportation needs to be upgraded, especially for export markets. The first step would be the integration of producers into cooperatives at a Municipal level. These proposed groups would be called Municipal Centres for Agriculture Development.

Fruit products are mainly unfinished goods for export to EU markets for further processing into end products. This late-stage processing tends to generate the highest profit margins, so the aim should be for 50% of exports based on raspberries and cherries to be end-products made in Serbia. Serbia is already the world's largest raspberry exporter, so restricting exports of raw materials will increase demand in world markets for high-value Serbian end products.

There is no common export policy because there is no coherent grouping of currently independent cold-storage plants, and hence no common production, processing and marketing policies. Horizontal and vertical integration is essential to cope with today's complex business environments. Joint enterprises of producers, processors and marketers would be better informed and prepared to deal with fluctuations in supply, demand and price in world markets. Control of the largest part of the world's raspberry crop should allow smoothing of the business cycle to obtain the optimum price for all contributors, regardless of circumstances.

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