
ADDING VALUE TO PLUM AS A POSSIBILITY OF ECONOMICS SUSTAINABILITY OF ITS PRODUCTION

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ABSTRACT

The subject of this research is plum production and the possibility of improving its economic value. The aim is to examine the economic justification of investing in dryers and distilleries. Three variants were analyzed: production and sale of fresh plum; dried plum; and plum brandy. From 100 kg of fresh plum, 25 kg of dried plum are obtained (ratio 1:4) with an average humidity of 26%, and from 100 kg of fresh plum, about 16.5 l of brandy (ratio 1:6) with an alcohol strength of about 40-45%, and in both variants, the economic value of plum is about 6 times higher. For every 100 euro invested, 36 euro of accumulation is achieved for fresh plum, 187 euro for dried plum and 171 euro for plum brandy. The cost-effectiveness coefficient for the variants ranges from 2.11 to 2.59, and the payback period is from half a year to two years. Adding value to plum through drying and producing plum brandy achieves good economic results, long-term stability and economic sustainability of its production.

Introduction

In terms of its useful value and economic importance, plum (*Prunus domestica* L.) occupies a significant place in fruit production, both in Serbia and in the world (Mišić, 2006; Milatović, 2023). Of the total plum production in the world, about 2/3 is made up of Chinese-Japanese plum. The largest areas under plum in Serbia are located in the region of Shumadiya and Western Serbia, with a share of 67% (Gazdić et al., 2024). In

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Serbia, European plum are almost exclusively grown commercially. (Milatović, 2019). The Stanley variety dominates the plantations, followed by the Čačanska rodna and Čačanska lepotica, and to a lesser extent the table varieties Čačanska rana and Čačanska sabrava are also present. In agricultural practice, Serbia has a high prevalence of old indigenous plum varieties, which give low and variable yields (Urošević, 2015). Due to the great interest in the production of brandy, the indigenous plum variety Crvena Ranka is increasingly being cultivated (Cvetković & Glišić, 2020; Milatović, 2023). In well-maintained plum plantations, with proper application of agricultural and support techniques, yields range between 20 and 30 t/ha (Mišić, 2006; Keserović et al., 2016). On the holdings where there are driers and distilleries, the remains of plum pruning are also significant. The weight of the remains of pruned mass in plum is from 2,895 to 4,780 kg/ha (Mika et al., 2015). The plum fruit is mainly used for fresh consumption, to obtain dried plum, brandy, juices, jams and jellies (Mahato et al., 2015; Milatović, 2023). Plum fruits are known for their nutritional and health values (Ertekina et al., 2006; Paraušić et al., 2025). Since ancient times, plum has been used for various health problems (Milošević et al., 2008; Matković, 2015).

Plum plantations are suitable for growing on soils of various configurations and positions, and plum fruits are good raw materials for processing (Blagojević & Božić, 2012; Mahato et al., 2015). Before planting plum, special attention should be paid to the choice of varieties cultivation method, cultivation form and production purpose (Milovanović et al. 2018). When establishing new plantings, more space should be given to new and more resistant plum varieties (Keserović et al., 2014). Pruning residues from fruit and viticulture production can be used as high-quality organic fertilizer (Bakhsh et al., 2022). Mechanical harvesting of plum allows for a significant reduction in harvesting costs, and therefore overall costs. The share of quality fruit within the mechanically harvested yield is around 80% (Mika et al., 2015). Harvest losses can be reduced by 5-9% if plum are harvested at the appropriate fruit maturity (Shahzad et al., 2013).

Processed fruit has advantages in strengthening the export capacities of the Serbian economy (Milošević et al., 2008). Every energy-saving process for drying plum has been accepted in the industry. Applying pretreatment to fresh plum is suitable for reducing the drying time of plum, while maintaining high quality and saving energy (Hedayatizadeh & Chaji, 2016; Seočanac et al., 2026). Plum processing depends on the process of drying, canning, preparation of jams, jellies, drinks, wine and brandy (Somogay, 2005). About 75% of the world's total prune supply is produced in California and the Pacific Northwest (Bhutani & Joshi, 1995; Gazdić et al., 2024). Plum brandy is one of the traditional Serbian products often produced in rural households (Ognjanov et al., 2007; Vakula, 2020). Since 2007, our plum brandy has been protected as a Serbian brand with a geographical origin in the EU under the name „Serbian Slivovitz“ (Milatović, 2023). In Serbia, about 66% of the total plum produced are processed into brandy, 7.20% are used for table use, 3.40% are used for the production of dried plum, while slightly more than 20% are processed into jam, compote, jam, juices and other products (Ognjanov et

al., 2007). The largest amount of plum in BiH is sold fresh (94.98%), dried plum in very small quantities, only 3.01%, while a smaller part of plum is processed into brandy, so-called plum brandy 2.01% (Spahić-Vukojević & Direk, 2021). When choosing a variety of plum for the production of brandy, one should take into account the characteristics of the fruit that affect the quality and yield of the plum wine (Popović et al., 2008). Modern technology imposes the need to apply an engineering approach in the production of brandy (Somsen & Capelle, 2002). In Serbia, for practical reasons, soft brandies are expressed in liters, with a certain ethanol content (most often between 25 and 30 vole %), which is obtained by processing 100 kg of raw material (Popović et al., 2008). In countries with developed fruit growing, producer associations monitor the state of fruit production in the country and in the surrounding area, as well as in more important competitor countries, and based on this data, they plan the production structure and assortment in fruit growing in their own country (Sredojević, 2011). The Serbian plum trade is characterized by a low degree of marketability and competitiveness on the international market (Radosavljević, 2015). For successful product placement, it is important to know the desires and attitudes of consumers (Vávra et al., 2006).

Investing in the raising and exploitation of plantations is a complex and responsible business. Mistakes made during planting cannot be corrected during their exploitation (Sredojević, 1998; Sredojević et al., 2024). Production in orchards is largely dependent on natural conditions and is conditioned by numerous risks, such as: founding, breeding, production, market, financial and others (Sredojević & Mojsijev, 2013; Sredojević et al., 2024). In family-owned businesses, social responsibility represents a commitment to improving the well-being of the community through voluntary business practices (Kotler & Lee, 2009; Bogdanović & Hadžić, 2019). In line with technical, technological, organizational and economic changes in family farm operations, new conditions are being created for the production and processing of plum (Sredojević et al., 2024). The subject of this research is the analysis of plum production and the possibility of improving its economic value. The aim of the research is to analyze the state, conditions and economic justification of investing in plum production and processing in order to ensure the sustainability of its production.

Materials and Methods

For the analysis of areas and yields of plum production in the world and in Serbia, statistical data bases were used, namely: Food and Agriculture Organization (FAO) and the Republic Institute for Statistics of Serbia (SORS). The key source of data for the needs of this research is a survey conducted over three consecutive years with representative plum producers, owners of dryers and distilleries in the area of Shumadiya and Western Serbia. According to the collected data, using the norms of production and technological operations and published results in scientific and professional papers, investment models were compiled for the establishment and exploitation of plum plantations, as well as for the capacities for its processing. By applying statistical and calculative methods, economic indicators were determined, of which the most important are: average net

profit, accumulation rate and return on investment period (Andrić et al., 2005; Sredojević et al., 2025). The average net profit (PND) is determined as the quotient of the sum of the net profit per individual year with the number of years of the analyzed period (in this case, six years). This value is compared with the marginal net profit (GND), whose value is most often taken as zero euro, and the higher the average net profit is than the marginal, the more economically efficient the production is for the producer, and vice versa. Accumulation rate (SA) represents the quotient between the average net profit (PND) and the total investments in the investment (UU), and considering that it is a rate as a relative number, in the end this amount is multiplied by 100%. This rate is compared with the threshold value of the accumulative rate (GSA) and based on the difference, an investment assessment is made. The limiting rate of accumulateness was taken as 20%. The higher the calculated planned accumulation rate is than the limit, the more favorable it is and vice versa. In addition to this, the accumulative rate provides an answer to the question: - How much is financially gained for each euro of invested capital? The return on investment period (RPP) represents the quotient between the total investment (UU) and the average net profit (PND) and is expressed in years. For evaluation, this period is compared with the planned six-year period of use of the investment.

Three variants of the economic effects of plum were analyzed in the paper: Variant I – investing in raising and exploiting 1 ha of plantations and selling plum fresh; Variant II - investing in raising and exploiting 1 ha of plum plantations, investing in a dryer and selling prunes with an average moisture content of 26%; Variant III – investment in the establishment and exploitation of 1 ha of plum plantations, investment in a distillery and sale of plum brandy, i.e. plum wine with a strength of around 40-45% alcohol. Variants II and III relate to adding value to plum in order to make their production economically sustainable. According to the defined criteria for each of the mentioned indicators, ratings were determined, based on which a fairly reliable picture of the efficiency and economic justification of investing in all three varieties of plum production and processing was given.

Results and Discussion

The area under plum plantations in the world, looking at the continents, is mostly located in Asia, 78.62%, followed by Europe, 16.05%, then America, 3.08%, and Africa, 2.12%, and the smallest share is in Oceania, 0.13%. In total plum production in the world, the leading place belongs to Asia, with a share of 65.86%, followed by Europe, 22.24%, America, 8.15%, Africa, 3.58%, and Oceania, 0.17% (FAO, 2025). According to yields per unit area, the leading place belongs to America with an average yield over a ten-year period of 12.00 t/ha, followed by Africa with an average yield of 7.61 t/ha, Europe 6.32 t/ha, Oceania 6.18 t/ha and Asia with 3.78 t/ha (FAO, 2025). The highest yields per unit area are achieved in America (12.00 t/ha), followed by Africa (7.61 t/ha), Europe (6.32 t/ha) and Oceania (6.18 t/ha) whose yields are higher than the world average. Finally, Asia (3.78 t/ha) follows, whose yield is below the world average. During the analyzed period 2014-2023, the highest average plum production in the world was achieved in

China with 6,599,066.00 tons, then in Romania with 621,562.00 tons, and in third place is Serbia with 460,025.00 tons (FAO, 2025). During the same period, Serbia, with an average yield per unit area of 5.82 t/ha, is far behind the leading countries, among which Chile is the leader with an average yield for the analyzed period of 22.86 t/ha (Table 1).

Table 1. Average volume of production, structure and average yield of plum in certain leading countries and in the world during the period 2014-2023

Country /World	Volume and structure of production		Average yield (t/ha)
	t	Share (%)	
China	6,599,066.00	55.39	3.42
Romania	621,562.00	5.22	9.36
Serbia	460,025.00	3.86	5.82
Chile	370,764.00	3.11	22.86
USA	331,873.00	2.79	14.65
Turkey	306,533.00	2.57	13.82
Iran	305,981.00	2.57	16.86
Italy	194,710.00	1.63	15.71
Ukraine	181,886.00	1.53	10.13
France	178,600.00	1.50	11.61
Other countries	2,363,111.00	19.83	-
World:	11,914,111.00	100.00	-

Source: Author's calculation based on FAO data <https://www.fao.org/faostat/>

Plum are grown throughout Serbia, with the following districts being the most prominent: Kolubara, Toplica and Shumadiya. The leading municipalities in terms of plum plantation areas are: Valjevo, Prokuplje, Kragujevac, Užice and Blace. In terms of plantations, Topola is in first place, followed by Leskovac, Prokuplje, Kragujevac and Šabac. According to statistical data, the amounts for areas, production and average yield of plum in Serbia in the period 2014-2023 are given in Table 2.

Table 2. Average amounts and indices for areas, volume of production and average yield of plum in Serbia during the period 2014-2023.

Year	Area		Production volume		Average yield	
	ha	Index (2014=100)	t	Index (2014=100)	t/ha	Index (2014=100)
2014	75,626.00	100.00	421,529.00	100.00	5.6	100.00
2015	74,172.00	98.10	354,890.00	84.19	4.8	85.71
2016	73,319.00	96.95	471,442.00	111.84	6.4	114.28
2017	72,024.00	95.24	330,582.00	78.42	4.6	82.14
2018	72,224.00	95.52	430,199.00	102.06	6.0	107.14
2019	72,316.00	95.62	558,930.00	132.60	7.7	137.50
2020	73,010.00	96.54	582,547.00	138.20	8.0	142.85
2021	72,569.00	95.96	412,778.00	97.92	5.7	101.79
2022	72,323.00	95.63	448,593.00	106.42	6.8	121.43
2023	74,418.00	98.40	362,713.00	86.05	4.9	87.50

Source: Author's calculation based on SORS data, Statistical yearbooks, 2014–2023, <https://www.stat.gov.rs/>

During the analyzed period 2014-2023, the average area under plum plantations decreased slightly, with annual oscillations of 2 to 5% compared to the base year 2014. The volume of production varied by year, with a decrease of up to 22% in 2017 and an increase of up to 39% in 2020 compared to the base year 2014. The average yield had a similar tendency, with a decrease of up to 19% in 2017 and an increase of up to 43% in 2020 compared to 2014. Plum production in the orchard takes place with several work operations during the year, such as: regular pruning, protection from diseases and pests, fertilization, soil cultivation, irrigation, harvesting, etc. The technological map of work operations with the appropriate number of working days of workers and mechanization, as well as the amount and amount of materials used in the production of plum is given in table 3.

Table 3. Technological map of plum production per 1 ha

Work operations	Unit of measure	Amount
Number of working days of the employee		
Pruning	working days	15.00
Feeding	“	0.30
Surface treatment (6x)	“	1.80
Digging around the tree (6x)	“	24.00
Protection (5x)	“	1.50
Green pruning	“	7.00
Harvest	“	15.00
Basic fertilization	“	0.40
Basic processing	“	0.50
Other works	“	2.00
Number of working days for machines		
Feeding	working days	0.20
Surface treatment (6x)	“	1.80
Protection (5x)	“	1.00
Harvest	“	2.00
Basic fertilization	“	0.30
Basic processing	“	0.50
Other works	“	2.00
Type and amount of material used		
Nitrogen fertilizers	kg	400.00
Complex fertilizers	kg	800.00
Packaging (crates)	pieces	500.00
Protective equipment	kg, L	2.00
Manure	t	15.00

Source: Author's specification based on operations of practice

Operations from spring work to plum harvesting alternate throughout the year, and their proper execution directly affects the yield and quality of the fruit. Based on the natural and value amounts of inputs and outputs during the establishment and exploitation of plum plantations, parameters for economic analysis are given (Tab. 4).

Table 4. Plum production and processing parameters

Parameters for economic analysis	Amount
Plum plantation area	1 ha
Average plum yield per 1 ha	28 t
Plum planting period	4 years
Period of exploitation of plum plantations	20 years
Length of period for economic analysis	6 years
Investments in raising plum plantations on the holding	9,700.00 €
Investment investments in a dryer on a family holding	3,200.00 €
Investment investments in a distillery on a family holding	2,600.00 €
Required quantities of fresh plum for 1kg of prunes	4 kg
Required quantities of fresh plum for 1 liter of plum brandy	6 kg
Price of 1 kg of fresh plum	0.30 €
Price of 1 kg of prunes	7.50 €
Price of 1 l of plum brandy	9.20 €

Source: Author's calculation based data of practice

Based on the fact that the average yield of plum in 2025 on the farms analyzed was 28 t/ha and according to the average price of €0.30/kg, the income from the sale of fresh plum in the same year was determined. Then, taking into account the potential risks, the income projection was made for the next five years as well. Also, in accordance with the plum production technology, the costs in 2025 were determined and based on them; the amounts for the next five years were projected. By subtracting the amount of total costs from the total income, the gross profits and net profits from fresh plum were determined for the analyzed six years, in the period of full fertility of the plum plantations (Table 5).

Table 5. Revenues and costs of production and sales of fresh plum - Variant I

Indicator \ Year	2025	2026	2027	2028	2029	2030
Total sales revenue	8,460.00	8,280.00	8,400.00	8,460.00	8,370.00	8,430.00
Total costs	3,807.00	4,240.00	3,780.00	4,230.00	3,770.00	4,220.00
Material costs	1,350.00	1,370.00	1,290.00	1,330.00	1,200.00	1,530.00
Labor costs of workers	960.00	980.00	920.00	980.00	870.00	920.00
Machinery operating costs	777.00	880.00	890.00	850.00	790.00	840.00
Marketing costs	450.00	570.00	530.00	550.00	480.00	510.00
Other expenses	270.00	440.00	430.00	520.00	430.00	420.00
Gross profit	4,653.00	4,040.00	4,620.00	4,230.00	4,600.00	4,210.00
Income tax	930.00	808.00	924.00	846.00	920.00	842.00
Net profit	3,723.00	3,232.00	3,696.00	3,384.00	3,680.00	3,368.00

Source: Author's calculation based data of practice

According to the calculation in table 5, the average net profit from the production and sale of fresh plum is about €3,500/ha. Instead of selling raw plum at often low and unstable prices, drying enables the placement of the final product with significant economic results. The process of drying plum includes several key steps that ensure longevity and quality of the fruit: harvesting and sorting, drying in dryers and final cooling and finishing - calibration and packaging. Plastic bags of 250 to 500 g, as well as cardboard boxes of 1 kg and 12.5 kg are most often used for packing prunes. Among the producers there is a dryer with a capacity of 350 kg of prunes per day. For a yield of 28 t/ha of fresh plum, and with the application of input output norms during drying of plum, the income from the sale of prunes and the total costs of drying and selling prunes with an average humidity of 26% in 2025 were calculated. Then, the amounts of income and expenses for the next five years were projected and the gross profits and net profits were calculated by individual years for the six-year period (Table 6).

Table 6. Revenues and costs of production and sales of prunes - Variant II

Indicator \ Year	2025	2026	2027	2028	2029	2030
Total sales revenue	52,880.00	51,750.00	52,500.00	52,880.00	52,320.00	52,690.00
Total costs	25,390.00	25,880.00	25,500.00	25,920.00	25,150.00	25,300.00
Raw material costs	12,700.00	13,160.00	12,900.00	13,100.00	12,900.00	12,750.00
Labor costs of workers	5,100.00	5,180.00	5,100.00	5,300.00	4,900.00	5,050.00
Machinery operating costs	2,700.00	2,600.00	2,500.00	2,530.00	2,490.00	2,650.00
Energy costs	2,450.00	2,460.00	2,400.00	2,360.00	2,390.00	2,530.00
Packaging costs	770.00	830.00	890.00	870.00	790.00	690.00
Current maintenance costs	630.00	710.00	730.00	750.00	630.00	670.00
Marketing costs	550.00	510.00	520.00	540.00	560.00	530.00
Other expenses	490.00	430.00	460.00	470.00	490.00	430.00
Gross profit	27,490.00	25,870.00	27,000.00	26,960.00	27,170.00	27,390.00
Income tax	5,500.00	5,170.00	5,400.00	5,390.00	5,430.00	5,480.00
Net profit	21,990.00	20,700.00	21,600.00	21,570.00	21,740.00	21,910.00

Source: Author's calculation based data of practice

According to the calculation in table 6, the average net profit from dried plum is about €21,580/ha, which is about six times better than if the plum were sold fresh. The volume of production and the time of arrival of plum should be coordinated with the capacity of the dryer. Operational plans are often drawn up in which the yield per unit area, time and number of days of plum arrival, and even varieties are planned, as well as the capacities of potential plantings from which the required quantity for drying can be provided (Matković, 2015).

In addition to prunes, plum brandy, so-called plum, is a significant product with added value. The production technology of plum wine includes four key steps: harvesting of ripe plum fruits, alcoholic fermentation (boiling), double distillation (roasting) and aging in wooden barrels. With the application of norms in the technology of production of plum wine, for a yield of 20 t/ha of fresh plum, sales revenue, costs of production and sale of brandy with a strength of around 40-45% alcohol, in 2025, were calculated.

Next, the projected amounts of income and expenses for the next five years, as well as gross and net profits by individual years for the six-year period (Table 7).

Table 7. Revenues and costs of production and sales of plum brandy - Variant III

Indicator \ Year	2025	2026	2027	2028	2029	2030
Total sales revenue	43,240.00	42,320.00	42,940.00	43,240.00	42,780.00	43,080.00
Total costs	17,300.00	16,500.00	16,320.00	16,430.00	17,110.00	16,370.00
Raw material costs	8,900.00	8,600.00	8,450.00	8,900.00	9,200.00	9,100.00
Labor costs of workers	2,780.00	2,800.00	2,750.00	2,800.00	2,750.00	2,700.00
Energy costs	1,600.00	1,500.00	1,650.00	1,550.00	1,550.00	1,350.00
Packaging costs	1,300.00	1,250.00	1,350.00	1,150.00	1,330.00	1,050.00
Current maintenance costs	830.00	880.00	890.00	830.00	870.00	910.00
Marketing costs	940.00	840.00	730.00	750.00	790.00	650.00
Other expenses	950.00	930.00	500.00	450.00	620.00	610.00
Gross profit	25,940.00	25,820.00	26,620.00	26,810.00	25,670.00	26,710.00
Income tax	5,188.00	5,164.00	5,324.00	5,362.00	5,134.00	5,342.00
Net profit	20,752.00	20,656.00	21,296.00	21,448.00	20,534.00	21,368.00

Source: Author's calculation based data of practice

According to the calculation in table 7, the average net profit from plum brandy is about 21,000 €/ha, i.e. 0.75 €/kg, which is about six times better than selling plum fresh, while the approximate amount from dried plum is 0.77 euro/kg. By selling fresh plum in bulk, you can quickly make a profit, there is no need to store and protect the product from potential risks.

On the other hand, the production of brandy yields a higher profit per product unit, but it is necessary to store the product until it is sold. The economic indicators of plum production and processing depend on numerous factors, the most important of which are: the amount of total investments in raising plantations, in raising or building a dryer, in purchasing a distillery; the length of the planting period; amount and schedule of net annual benefits; conditions and method of financing plantations; the length of the plantation exploitation period, use of the dryer and distillery, etc (Sredojević et al., 2024).

Given that the analysis period is shorter, 6 years, static methods were applied to the projected amounts of income and costs to assess the economic justification of investments for individual variants. Although the analysis assumes that the plum plantation is in the period of full fruiting, when determining economic indicators, previously made investments in planting the plantation, in the construction of the dryer and the purchase of the distillery were also taken into account. The amounts of the selected indicators were calculated based on the data from the previous tables, and the final amount is given in Table 8.

Table 8. Indicators of economic justification of plum production and processing

Indicators of economic justification production and processing of plum	Amount and fulfillment of criteria by variants		
	Variant I	Variant II	Variant III
UU - total investments (€)	9,700.00	12,900.00	12,300.00
GNI – average gross profit (€)	4,392.00	26,980.00	26,261.00
PND – average net profit (€)	3,514.00	21,585.00	21,009.00
KE – coefficient of economy	2.11	2.16	2.59
SA – accumulation rate (%)	36.23	167.32	170.80
PVU - investment payback period (years)	2.21	0.60	0.47

Source: Authors' calculation

The calculated economic indicators show that investing in all three analyzed variants, under the assumed organizational and economic conditions, is expedient, i.e. economically justified. For every 100 euro of invested funds, about 36 euro of accumulation are achieved by selling fresh plum, 187 euro by selling dried plum and 171 euro by selling plum brandy. Plum production and processing is economical, with the cost-effectiveness coefficient for fresh plum being 2.11, for dried plum 2.16 and for plum brandy 2.59. From the average amounts of net profit, investments in variant I, i.e. in raising plum plantations can be recovered in a period slightly longer than two years, for variant II, in the second half of the first year and for variant III, in the first half of the year of using the investment.

By comparing the economic indicators of all three investment options, it can be concluded that the results for variants II and III are far more favorable than variant I. This means that instead of selling fresh plum, processing plum significantly increases their added value, about 6 times. In this case, the results are somewhat more favorable with the production and sale of brandy compared to the sale of prunes, but in the long term, the choice between these two options depends on the market price of the final products, supply, demand, competition, etc. Thus, the production and sale of prunes or plum brandy provides producers with long-term economic stability and sustainability of plum production, and thus the economic and social security of family members on the holding.

The production and processing of plum on family holdings stimulates the development of other economic activities at the local level. A large number of producers produce plum on small areas, which are irrational, and the often smaller volume of production causes market uncertainty in meeting demand. Therefore, it is convenient for the owners of dryers and distilleries, in addition to producing from their own areas, to purchase fresh plum from smaller producers in the area. With the increase in the areas under plantations and the production and processing of plum, increases employment. Through continuous education of producers, and thus better efficiency in the production and processing of plum, better profitability and economic sustainability of plum production are achieved.

Conclusions

According to the average yield per unit area in the period 2014-2023 in the world, Chile is the leader, with an average yield of 22.86 t/ha. Serbia, with an average yield of 5.82 t/ha, is far behind the leading countries. Adding value to fresh plum through processing is an opportunity for its better profitability and economic sustainability of its production. Investments in a plum dryer and a distillery represent good opportunities for adding value to plum. From an economic perspective, plum brandy is a significant plum product with high added value.

Three variants of the economic effects of plum were analyzed in the paper: Variant I – investing in raising and exploiting 1 ha of plantations and selling plum fresh; Variant II - investing in raising and exploiting 1 ha of plum plantations, investing in a dryer and selling dried plum with an average moisture content of 26%; Variant III – investment in the establishment and exploitation of 1 ha of plum plantations, investment in a distillery and sale of plum brandy, i.e. plum wine with a strength of around 40-45% alcohol. Variants II and III relate to adding value to plum in order to make their production economically sustainable. According to economic indicators, investing in all three analyzed variants is, under assumed organizational and economic conditions, expedient, that is, economically justified. For every 100 euro invested in the production and sale of fresh plum, about 36 euro of accumulation are achieved, with the sale of dried plum 187 euro and the sale of plum brandy 171 euro. The cost-effectiveness coefficient for fresh plum is 2.11, for dried plum 2.16 and for plum brandy 2.59, which means that the production and processing of plum is economical. From the average amounts of net profit, the investments made in variant I, i.e. in raising plum plantations, can be recovered in a period of slightly longer than two years, for variant II, in the second half of the first year and for variant III, in the first half of the year of exploitation of the investment.

A comparative analysis of the economic indicators of all three investment options has shown that the results for variants II and III are far more favorable than for variant I. Instead of selling fresh plum, by drying them, their value increases by about 6 times, while the results are slightly more favorable with the production and sale of plum brandy. For long-term effects, the choice between these two options depends on the market price of the final products, supply, demand, competition, etc.

The production and sale of prunes or plum brandy provides producers with long-term economic stability and sustainability of plum production, and thus the economic and social security of family members on the farm, and encourages the development of other economic activities at the local level. Owners of dryers and distilleries, in addition to production on their own land, purchase fresh plum from smaller producers in the area, which encourages employment, better profitability of business on family farms, and the economic sustainability of plum production in Serbia.

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Conflict of interests

The authors declare no conflict of interest.

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