

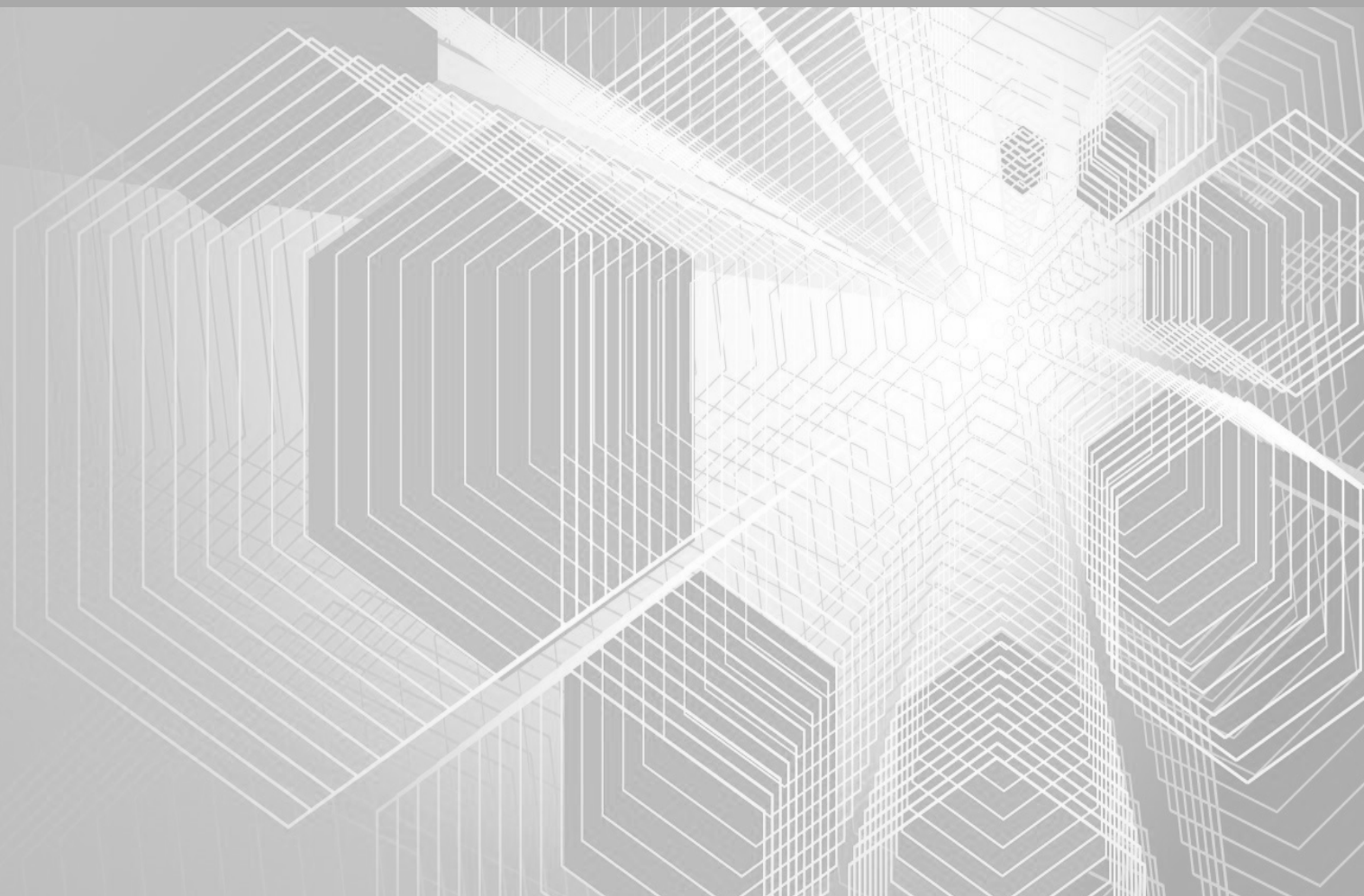


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Fruit production statistics 2017 Survey on Orchards: Results

Fruit production statistics
2017 Survey on Orchards: Results

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Preface

Survey on orchards is a five-annual statistical survey envisaged to compile the data on areas under fruit plantations. The objective of the survey is to provide long-term statistics on the age structure, plantation density and intensity as regards the major fruit species by sorts. The obtained data serve as a source for defining the productive potentials of orchards in the Republic of Serbia.

The first survey on orchards in the Republic of Serbia was conducted in 2107 by the Statistical Office of the Republic of Serbia in cooperation with the Ministry of Agriculture, Forestry and Water Management, and there after it is included in the Plan of regular statistical surveys; the forthcoming survey on orchards is envisaged to be carried out in 2022.

2017 Survey on orchards was implemented within IPA 2015 Multi-Beneficiary Programme and it is fully complainant with Regulation (EU) concerning European statistics on permanent crops, as well as with the Eurostat methodology as regards this survey.

Belgrade, 2018

Director
Dr Miladin Kovačević

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Methodological backgrounds

The first survey on orchards in Serbia was conducted in 2017 by the Statistical Office of the Republic of Serbia in cooperation with the Ministry of Agriculture, Forestry and Water Management, AP Vojvodina Secretariat for agriculture, water management and forestry, and the extension services in agriculture that are in charge of the Ministry and implemented the survey operations in field. The survey resulted in the compiled data on the areas, plantation density and age apples, pears, apricots and peaches, by sorts, regardless whether desert kind or intended for industrial processing. In addition, collected were the data on the areas for fruit species aggregated (not by sorts), namely for: plums, sour cherries, cherries, raspberries, quinces, walnuts, hazelnuts, almonds, blackberries and blueberries.

2017 Survey on orchards covered the agricultural holdings in the territory of the Republic of Serbia that have areas under fruit plantations. The reporting units were agricultural holdings (family agricultural holdings, and holdings of legal entities and unincorporated enterprises) selected for the sample of the Survey.

From the Statistical Farm Register (SFR) selected for the sample were family agricultural holdings and holdings of legal entities and unincorporated enterprises that are engaged in fruit production and have the area of minimum 0.20 ha under fruit plantations. The sample ensured the coverage of minimum 95% of all planted areas of the observed fruit species, and it included 15 214 agricultural holdings.

2017 Survey on orchards was carried out in the period from 1 October to 15 December 2017. Two methods of data collection were applied for the survey implementation:

- For the selected family agricultural holdings and holdings of unincorporated enterprises the data were collected by method of interview, based on the List of selected agricultural holdings that was created from the SFR. The procedure of interviewing was carried out by consultants, experts in fruit growing employed with the extension services in agriculture; they applied the direct in field data entry into the envisaged PC application.
- The selected agricultural holdings of legal entities (enterprises, farm cooperatives and other organization forms with the status of legal entity), carried out their own data entry into web questionnaire according to the accounting and other records that were available. The data entry was monitored and checked by the persons in charge, employed with the SORS regional divisions.

The survey results are representative for the level of the Republic of Serbia and the regions, *NSTJ 2*.

Definitions and concepts

Total area of orchards

The area of plantations for the observed fruit species. 2017 Survey on orchards was carried out after the usual period of erecting plants, so the survey included also young, newly erected plants in 2017 that still could not give yields.

Productive orchards area

The area of certain fruit species that give yields. The area of productive orchards does not include the areas under young fruit plants that still cannot give yields, or the area of abandoned orchards.

Plantation age

In this Survey, the data on plantation age were collected for the following fruit species: apples, pears, peaches, nectarines and apricots, by sort groups. The data on plantation age were collected in time intervals and in the same manner are presented in this publication.

Plantation density

The number of tree plants as regards the observed fruit species on the area of one hectare. In this survey the data on plantation density were collected for the fruit species: apples, pears, peaches, nectarines and apricots, by sorts, given in density intervals, and in the same manner they are presented in this publication.

Fruit species

Fruit species is a set of plants in which the members have common, i.e. similar characteristics to each other and can breed with each other. Fruit species are different in the sense of season/time when turn ripe, ingredients, usability and durability.

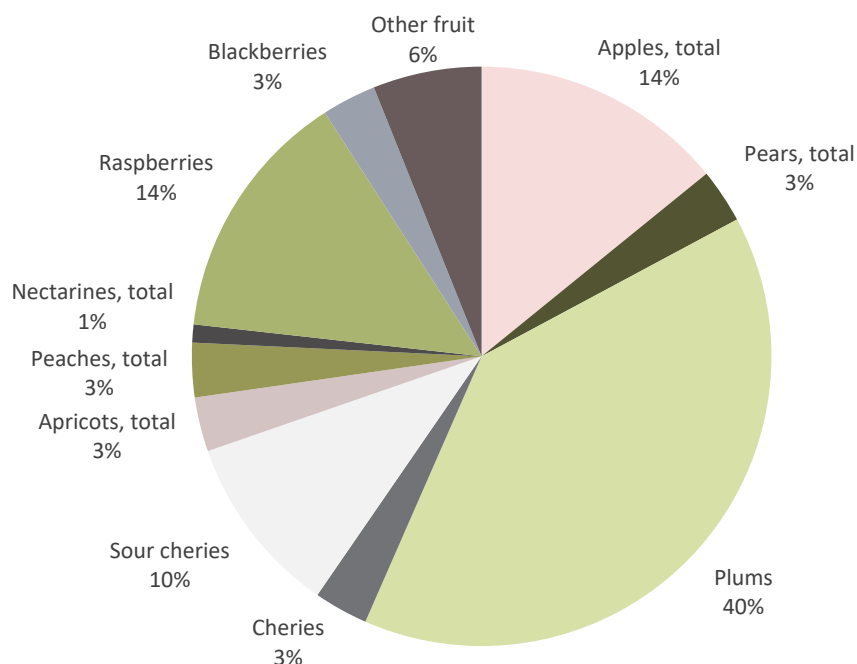
Fruit sort group

Sort group is a group of fruit inside a fruit species, which have specific, i.e. different characteristics when related to another group of the same fruit species.

General indicators

Represented fruit species

Graph 1: Represented fruit species in total area of orchards

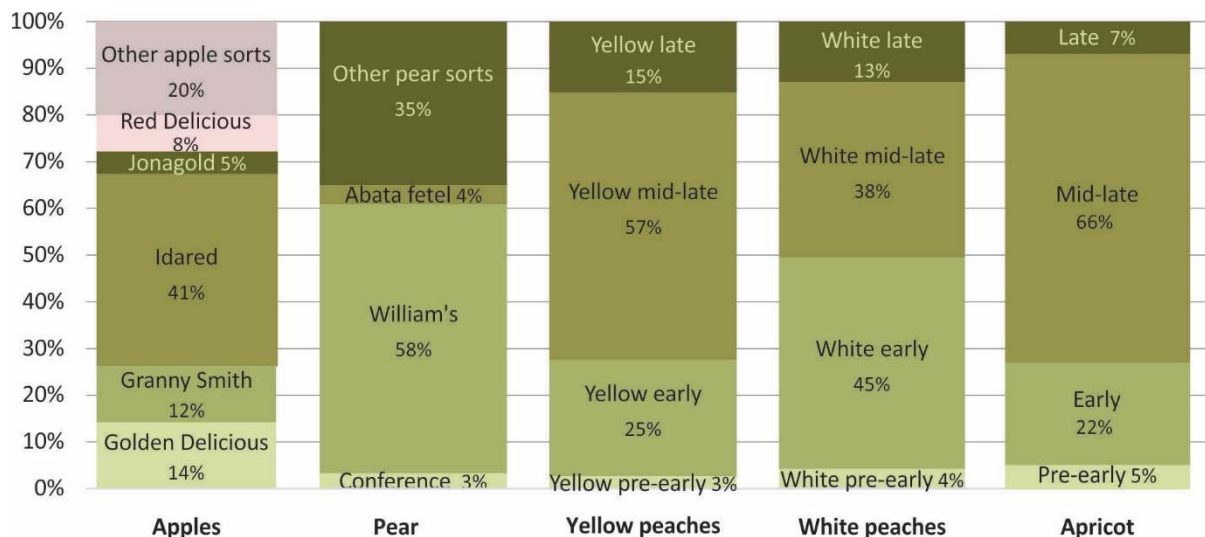


- Plum is the most represented fruit species in the Republic of Serbia, with the share of 39% in the total area of orchards, i.e. covering the area of 72 116 ha. Following are apples and raspberries, each with the share of 14% in all areas of orchards. Apples cover the total area of 25 281 ha, and raspberries cover the area of 26 360 ha. Sour cherries participate with 10% in the total area of orchards, covering the area of 18 956 ha.
- All three fruit species: plums, apples and raspberries, are the most represented in Region Šumadije i Zapadne Srbije. This region participates with the share equalling 89% in the total area of plum plantations in the Republic of Serbia, with 39% in the total area of apple plantations and with 69% in the total area of raspberry plantations.

Fruit species by sort groups

- The apple sorts of *Idared* group are the most represented in the Republic of Serbia and their share equals 41% in the total area under apple plantations. Following is the group '*Other apple sorts*', which participate with 20% in all apple areas; this high share results from a large variety of sorts of the apple species. *Golden Delicious* holds the third position and the share equals 14% in the total area of apple plantations.
- The pear sorts of the group *William's* cover more than 50% of all area under pear plantations in Serbia, while '*Other sorts*' hold the second position with the share equalling 33%. The least represented are the sorts of *Conference* group, making together only 3% of the total area of pear plantations.

Graph 2: Share of major sort groups by fruit species



- Two groups of peaches are distinguished by their flesh colour: yellow peaches and white peaches. Yellow peaches make 88% and white peaches make 12% of all areas under peach plantations. The most represented yellow peaches are mid-late sorts (crop season from 15 June to 15 July) with the share of 57%, while the most represented white peaches are early sorts (crop season from 16 June to 15 July) with the share of 45%.
- The largest part of all areas under apricot plantations, almost 66%, is taken by mid-late sorts, their crop season being from 1 – 31 July.

2017 Survey on Orchards – Results in tables

Areas of fruit species

Table 1: Total and productive area under fruit species 2017

Republic of Serbia

Fruit species	Total area, ha	Productive area, ha
Total	183602	175863
Apples total	25281	25134
Pears total	5734	5703
Peaches total	4990	4974
Nectarines total	2170	2158
Apricots total	5787	5707
Cherries	4813	4613
Sour cherries	18956	17566
Plums	72116	72024
Raspberries	26360	21861
Quinces	1909	1901
Walnuts	3350	3307
Hazelnuts	3964	3218
Almonds	23	21
Blackberries	5491	5076
Blueberries	344	318
Other fruit	2315	2282

Age structure

Table 2: Area and average number of apple and pear trees, by plantation age, 2017

Republic of Serbia

Age interval		Apples total, ha	Average number of trees / ha	Pears total, ha	Average number of trees / ha
1	Total	25281	1688	5734	1535
2	0-4	3760	2397	1583	1799
3	5-14	13663	1698	3159	1570
4	15-24	5543	1479	701	1121
5	>=25	2315	978	291	715

Table 3: Area and average number of peach and apricot trees, by plantation age, 2017

Republic of Serbia

Age interval		Peaches total, ha	Average number of trees / ha	Nectarines total, ha	Average number of trees / ha	Apricots total, ha	Average number of trees / ha
1	Total	4490	767	2170	567	5787	416
2	0-4	1381	1026	548	820	2155	485
3	5-14	3031	715	1342	503	2735	399
4	>=15	578	425	280	379	897	301

Plantation density

Table 4: Area of fruit species by plantation density, 2017

Republic of Serbia

Plantation density interval		Apples, ha	Pears, ha	Plantation density interval	Peaches, ha	Nectarines, ha	Apricots, ha
1	Total	25281	5734	Total	4990	2170	5787
2	<400	906	1304	<600	1364	630	3873
3	400-1599	7873	3200	600-1199	2835	1095	1776
4	1600-3199	14055	1122	>=1200	791	445	138
5	>=3200	2447	108				

Table 5: Apples by plantation density and age, 2017

Republic of Serbia

Plantation density interval		Apples, ha				
		total	Age interval			
			0-4	5-14	15-24	>=25
1	Total	25281	3760	13663	5543	2315
2	<400	906	67	207	301	331
3	400-1599	7873	337	4041	1883	1612
4	1600-3199	14055	2169	8332	3189	365
5	>=3200	2447	1187	1083	170	7

Table 6: Pears by plantation density and age, 2017

Republic of Serbia

Plantation density interval		Pears, ha				
		total	Age interval			
			0-4	5-14	15-24	>=25
1	Total	5734	1583	3159	701	291
2	<400	1304	216	731	162	195
3	400-1599	3200	878	1728	516	78
4	1600-3199	1122	448	633	23	18
5	>=3200	108	41	67	0	0

Table 7: Peaches by plantation density and age, 2017

Republic of Serbia

Plantation density interval		Peaches, ha			
		total	Age interval		
			0-4	5-14	>=15
1	Total	4990	1381	3031	578
2	<600	1364	310	638	416
3	600-1199	2835	759	1968	108
4	>=1200	791	312	425	54

Table 8: Nectarines by plantation density and age, 2017

Republic of Serbia

Plantation density interval		Nectarines, ha			
		total	Age interval		
			0-4	5-14	0-4
1	Total	2170	548	1342	280
2	<600	630	181	242	207
3	600-1199	1094	123	908	63
4	>=1200	445	244	192	10

Table 9: Apricots by plantation density and age, 2017

Republic of Serbia

Plantation density interval		Apricots, ha			
		total	Age interval		
			0-4	5-14	0-4
1	Total	5787	2155	2735	897
2	<600	3873	1174	1991	708
3	600-1199	1776	942	648	186
4	>=1200	138	39	96	3

Fruit species by sort groups – plantation age and density

Table 10: Apple sort groups by plantation age

Republic of Serbia

Sort groups	Total area, ha	Age interval			
		0-4	5-14	15-24	>=25
Total Apples	25281	3760	13663	5543	2315
Red Boskoop	178	10	144	23	1
Braeburn	75	34	37	4	0
Cox's orange	0	0	0	0	0
Cripps pink	2	0	2	0	0
Elstar	8	0	3	4	1
Fuji	160	21	131	7	1
Gala	307	137	160	7	3
Golden Delicious	3573	748	2006	699	120
Granny Smith	3012	555	2058	337	62
Idared	10368	1494	5342	2941	591
Jonagold	1208	34	774	363	37
Morgendurft	0	0	0	0	0
Red Delicious	1946	228	1543	154	21
Canadian Reinette	0	0	0	0	0
Champion	230	0	205	25	0
Lobo	0	0	0	0	0
Pinova	2	0	1	1	0
Other apple sorts	4212	499	1257	978	1478

Table 11: Apple sort groups by plantation density

Republic of Serbia

Sorts	Total	Plantation density interval			
		<400	400-1599	1600-3199	>=3200
Total	25281	906	7873	14055	2447
Red Boskoop	178	20	63	87	8
Braeburn	75	0	10	17	48
Cox's orange	0	0	0	0	0
Cripps pink	2	0	0	2	0
Elstar	8	0	2	6	0
Fuji	160	0	20	62	78
Gala	307	0	22	63	222
Golden Delicious	3573	60	956	2004	553
Granny Smith	3012	99	594	1763	556
Idared	10368	249	3220	6438	461
Jonagold	1208	59	411	510	228
Morgendurft	0	0	0	0	0
Red Delicious	1946	75	697	962	212
Canadian Reinette	0	0	0	0	0
Champion	230	34	196	0	0
Lobo	0	0	0	0	0
Pinova	2	0	1	1	0
Other apple sorts	4212	310	1681	2140	81

Table 12: Pear sort groups by plantation age

Republic of Serbia

Sorts	Total area, ha	Age interval			
		0-4	5-14	15-24	>=25
Total	5734	1583	3159	701	291
Conference	187	26	152	8	0
William's	3300	907	1915	356	122
Abata fetel	234	96	131	7	0
Rocha	1	0	0	1	0
Coscia	32	9	18	3	1
Guyot	30	14	3	0	14
Bianquilla	12	11	1	0	0
Decana	13	0	13	0	0
Kaizer	34	7	27	0	0
Other pear sorts	1891	512	899	326	154

Table 13: Pear sort groups by plantation density

Republic of Serbia

Sorts	Total	Plantation density interval			
		<400	400-1599	1600-3199	>=3200
Total	5734	1304	3200	1122	108
Conference	187	119	63	1	5
William's	3300	491	2182	600	27
Abata fetel	234	25	106	86	17
Rocha	1	1	0	0	0
Coscia	32	17	10	3	2
Guyot	30	27	3	0	0
Bianquilla	12	11	0	1	0
Decana	13	12	1	0	0
Kaizer	34	7	27	0	0
Other pear sorts	1891	594	808	432	58

Table 14: Peach and nectarine sort groups by plantation age

Republic of Serbia

Sorts	Total	Age interval		
		0-4	5-14	>=15
Peaches and nectarines total	7160	1929	4373	858
Peaches total	4990	1381	3031	578
Yellow	4402	1191	2670	541
Yellow pre-early	117	56	48	13
Yellow early	1093	332	664	97
Yellow mid-late	2522	665	1546	311
Yellow late	670	138	412	120
White	588	190	361	37
White pre-early	25	8	17	0
White early	266	129	131	6
White mid-late	221	43	151	27
White late	76	10	62	4
Flat	0	0	0	0
Nectarines total	2170	548	1342	280
Yellow	1522	475	876	171
Yellow pre-early	112	74	28	10
Yellow early	373	161	196	16
Yellow mid-late	805	213	490	102
Yellow late	232	27	162	43
White	648	73	466	109
White pre-early	13	0	13	0
White early	252	29	141	82
White mid-late	340	38	275	27
White late	43	6	37	0

Table 15: Peach and nectarine sort groups by plantation density

Republic of Serbia

Sorts	Total	Plantation density interval		
		<600	600-1199	>=1200
Peaches and nectarines total	7160	1994	3930	1236
Peaches total	4990	1364	2835	791
Yellow	4402	1111	2555	736
Yellow pre-early	117	37	72	8
Yellow early	1093	177	668	248
Yellow mid-late	2522	729	1399	394
Yellow late	670	168	416	86
White	588	253	280	55
White pre-early	25	15	9	1
White early	263	184	70	9
White mid-late	220	39	150	31
White late	76	11	51	14
Flat	0	0	0	0
Nectarines total	2170	630	1095	445
Yellow	1522	596	661	265
Yellow pre-early	112	28	69	15
Yellow early	373	194	137	42
Yellow mid-late	805	340	298	167
Yellow late	232	34	157	41
White	648	34	434	180
White pre-early	13	0	8	5
White early	252	21	141	90
White mid-late	340	13	244	83
White late	43	0	41	2

Table 16: Apricot sort groups by plantation age

Republic of Serbia

Sorts	Total	Age interval		
		0-4	5-14	>=15
Total	5787	2155	2735	897
Pre-early	291	234	46	11
Early	1269	386	706	177
Mid-late	3826	1360	1805	661
Late	401	175	178	48

Table 17: Apricot sort groups by plantation density

Republic of Serbia

Sorts	Total	Plantation density interval		
		<600	600-1199	>=1200
Total	5787	3873	1776	138
Pre-early	291	178	113	0
Early	1269	744	490	35
Mid-late	3826	2739	991	96
Late	401	212	182	7

Area, output and average yields of orchards

Table 18: Productive area, output and average yields of orchards, 2017

Republic of Serbia and regions, *NSTJ 2*

	Republic of Serbia total	SRBIJA SEVER	Beogradski region	Region Vojvodine	SRBIJA JUG	Region Šumadije i Zapadne Srbije	Region Južne i Istočne Srbije	Region Kosovo i Metohija
Apples								
productive area, ha	25134	9287	2105	7182	15847	9881	5966	...
output, t	378644	184361	21531	162830	194283	93899	100384	...
yields, kg/ha	15065	19852	10228	22672	12260	9503	16826	...
Pears								
productive area, ha	5703	1598	501	1097	4105	2873	1232	...
output, t	52291	15380	4314	11065	36911	22033	14878	...
yields, kg/ha	9169	9624	8611	10087	8992	7669	12076	...
Plums								
productive area, ha	72024	5363	3182	2181	66661	49773	16888	...
output, t	330582	53297	22945	30352	277285	198047	79238	...
yields, kg/ha	4590	9938	7211	13917	4160	3979	4692	...
Cherries								
productive area, ha	4613	1919	1546	373	2694	1707	987	...
output, t	27323	13021	10659	2362	14302	8801	5501	...
yields, kg/ha	5923	6786	6894	6338	5308	5155	5573	...
Sour cherries								
productive area, ha	17566	2615	986	1629	14951	3426	11525	...
output, t	91660	18117	7214	10903	73543	17085	56457	...
yields, kg/ha	5218	6928	7316	6693	4919	4987	4899	...
Apricots								
productive area, ha	5707	3667	2418	1249	2040	1358	682	...
output, t	41320	28621	17927	10694	12699	8121	4578	...
yields, kg/ha	7240	7805	7414	8562	6225	5980	6712	...
Quinces								
productive area, ha	1901	477	178	299	1424	728	696	...
output, t	10378	4867	1213	3655	5510	2714	2796	...
yields, kg/ha	5459	10204	6812	12223	3870	3728	4018	...
Peaches								
productive area, ha	4974	2615	1604	1011	2359	630	1729	...
output, t	54585	31490	18491	12999	23095	5834	17261	...
yields, kg/ha	10974	12042	11528	12857	9790	9261	9983	...

Table 18: Productive area, output and average yields of orchards, 2017 (continued)

Republic of Serbia and regions, NSTJ 2

	Republic of Serbia total	SRBIJA SEVER	Beogradski region	Region Vojvodine	SRBIJA JUG	Region Šumadije i Zapadne Srbije	Region Južne i Istočne Srbije	Region Kosovo i Metohija
Nectarines								
productive area, ha	2158	1174	788	386	984	436	548	...
output, t	25993	15199	9040	6159	10795	4602	6192	...
yields, kg/ha	12045	12946	11472	15955	10970	10556	11299	...
Walnuts								
productive area, ha	3307	799	306	493	2508	1829	679	...
output, t	12276	5012	1750	3262	7263	4410	2854	...
yields, kg/ha	3712	6273	5718	6617	2896	2411	4203	...
Hazelnuts								
productive area, ha	3218	1770	532	1238	1448	853	595	...
output, t	4196	2552	737	1815	1644	934	710	...
yields, kg/ha	1304	1442	1386	1466	1135	1094	1194	...
Other fruit								
productive area, ha	873	151	62	89	722	440	282	...
output, t	1732	408	191	218	1324	744	580	...
yields, kg/ha	1984	2704	3073	2447	1833	1691	2056	...
Raspberries								
productive area, ha	21861	1711	688	1023	20150	18175	1975	...
output, t	109742	11428	4868	6559	98314	91273	7042	...
yields, kg/ha	5020	6677	7072	6412	4879	5022	3565	...
Blackberries								
productive area, ha	5076	168	104	64	4908	4290	618	...
output, t	28334	959	591	368	27375	24270	3105	...
yields, kg/ha	5582	5709	5681	5755	5578	5657	5024	...
Other berries								
productive area, ha	1809	274	101	173	1535	932	603	...
output, t	5615	568	294	274	5047	3182	1865	...
yields, kg/ha	3104	2073	2912	1583	3288	3414	3093	...

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