

Commentary

The Orchard Survey 2017 included 1 755 fruit growers, which utilised 16 417 ha of orchards. Data on 1 006 growers were obtained from the Orchard Register maintained by the Central Institute for Supervising and Testing in Agriculture; their utilised area was 15 473 ha, i.e. 94.2% of the total area of orchards surveyed. Further data for 749 fruit growers and 945 ha (5.8% of the orchard area) were collected using standard statistical questionnaires.

The vast majority of the fruit growers was represented by holdings of natural persons (1 452 holdings; 82.7%), which utilised 7 056 ha of orchards (43.0% of the total orchard area) with their average size 4.86 ha. There were 303 legal persons, i.e. 17.3% out of the total number of fruit growers. They utilised 9 361 ha (57.0%) of orchards and their average size was 30.90 ha.

More than one half of the producers (985 holdings, 54.6%) kept orchards up to 2 ha of their area. These fruit growers utilised 752 ha; i.e. only 4.6% of the total orchard area. On the contrary, the 82 largest fruit producers with their area of more than 50 ha (4.7% of fruit growers) kept 8 413 ha; i.e. more than one half of the total orchard area (51.2%).

The most important fruit species was apple. Apple trees were planted on 7 819 ha, i.e. on almost one half of the total orchard area (47.6%). The second most common species was plum; plum trees were planted on 2 329 ha (14.2%). Further 1 427 ha (8.7%) were covered by sour cherry orchards, 1 152 ha (7.0%) by apricot orchards, 1 017 ha (6.2%) by cherry orchards, 870 ha (5.3%) by pear orchards and 340 ha (2.1%) by peach orchards. Berries (currants, gooseberries, blackberries, raspberries and blueberries) were planted on 984 ha, i.e. they covered 6.1% of the total orchard area. Nuts (walnuts, hazelnuts, almonds and chestnuts) covered 215 ha (1.3%) and other fruit trees or bushes were planted on 254 ha (1.6%).

The most common apple varieties were those from the Golden Delicious group (19.6% of the total apple orchard area), Idared (16.5%) and Jonagold/Jonagored (8.8%). Apple orchards had an unfavourable age structure with a high share of the oldest age class (38.6%). One half of the orchards (50.2%) were classified as plantations in production in the age class from 5 to 24 years. Young plantation up to 4 years shared 11.2% of the total apple orchard area. The average density of apple orchards was 1 322 trees per hectare. At old plantations over 25 years the most frequent density class was 400 to 1 599 trees per hectare (79.9%) while higher density prevailed in plantations up to 25 years, mostly within the density class 1 600 to 3 199 trees per hectare.

The most frequently planted varieties of pear trees belonged to groups Conference (24.1%) and William (12.4%). Pear orchards had a favourable age structure. There were 15.6% of pear trees in young plantations up to 4 years. Trees fully in production (age class 5 to 25 years) represented 60.0% of the plantations and the oldest category over 25 let shared one quarter of the area (24.4%). Pear trees were planted at average density of 1 108 trees per hectare. As for the oldest plantations over 25 years, lower plantation density up to 400 trees per hectare prevailed (77.4%). The density of other orchards was mostly in the class of 400 to 1 599 trees per hectare.

The prevailing share of peach trees belonged to the yellow flesh group of medium earliness, i.e. harvested between 16 July and 15 August (67.7% of the total peach orchard area). Nectarines were planted on 9 ha in total, which represented 2.7% of the total area planted with peach trees. The age structure of peach orchards was very unfavourable; the survey showed that their planting in the Czech Republic is not promising. The share of young plantations up to 4 years was small – only 7.0% of the total peach orchard area. Peach orchards fully in production covered one quarter of the area (26.1%). Peach orchards in the oldest age class significantly prevailed (66.9%). The average density of peach orchards was 506 trees per hectare and the majority of the peach orchards belonged to the density class up to 600 trees per hectare (74.8%).

As for apricot trees, the most frequently planted group were medium harvest ones, i.e. harvested between 1 July and 31 July (83.8% of the total apricot orchard area). Despite gradual renewal of the apricot orchards, their age structure it is still not favourable. More than one half of apricot orchards belonged to the oldest age class over 15 years (54.1%). The share of young plantations was 15.3% and a third of plantations were fully in production (30.6%). The average density of apricot orchards was 485 trees per hectare. The vast majority of the orchards aged over 15 years belonged to the lowest density class up to 600 trees per hectare (92.4%), while higher density classes prevailed among young plantations, mostly the category of 600 to 1 199 trees per hectare.

Plums were the second most common fruit species planted in the Czech Republic. Plum orchards showed a very good age structure. New plantations involved 19.7% of their area while the oldest category over 25 years shared 10.3% and the orchards fully in production aged 5 to 25 years significantly prevailed (70.1%). The average density of plum orchards was 455 trees per hectare.

Sour cherry orchards had a balanced age structure with the largest proportion of young plantations out of all fruit species surveyed. Young plantations up to 4 years involved 21.3% of the sour cherry orchard area. The age class of 5 to 24 years covered 58.9% of the area and the share of the oldest age class was 19.8%. The average density of sour cherry orchards was 510 trees per hectare.

A third of cherry trees (33.8%) were classified as old plantations. Young plantations up to 4 years were represented by 18.4% and ones fully in production covered almost a half of the orchard area (47.8%). The average density of cherry orchards was 488 trees per hectare.

As for regional comparison, the largest shares of fruit orchards within the Czech Republic were recorded in Jihomoravský kraj and Středočeský kraj (both 19.3%), Královéhradecký kraj (11.6%), and Ústecký kraj (10.9%). Further 8.0% of the total orchard area was located in Zlínský kraj and 7.6% in Olomoucký kraj as well as in Liberecký kraj. The lowest proportions were noted for Kraj Vysočina (0.5%) and Karlovarský kraj (0.4%).

The fruit species planted the most in all regions was apple. Apple trees were planted mainly in Středočeský kraj (22.2% of the total apple orchard area). The largest shares of other species were recorded as follows: in Ústecký kraj for pear orchards (26.6% of the total pear orchard area), in Zlínský kraj for plum orchards (23.9%), in Jihomoravský kraj for peach and apricot orchards (65.4% and 77.9%, respectively), and in Středočeský kraj for of cherry and sour cherry orchards (26.2% and 29.6%, respectively). Berry species were planted the most in Královéhradecký kraj (19.4%) and in Liberecký kraj (19.2%) and nuts in Jihomoravský kraj (32.3%).

The table shows basic information on orchards in 2012 and 2017. However, the results are not fully comparable due to change of the definition of an orchard (see Methodological notes)

Basic information on orchards in 2012 and 2017

	Fruit producers ¹⁾		Fruit trees		Orchard area (ha)	
	2012	2017	2012	2017	2012	2017
Total, in which:	2 388	1 755	x	x	21 346.53	16 417,26
in which:						
Apple trees	1 502	1 059	11 760 144	10 337 461	10 487.01	7 818.60
Pear trees	720	607	914 376	964 159	1 025.96	870.10
Peach trees	487	331	344 191	172 117	761.38	340.49
Apricot trees	765	673	584 624	558 824	1 636.88	1 152.21
Cherry trees	796	607	447 095	496 281	1 278.17	1 016.58
Sour cherry trees	411	344	812 448	728 543	1 857.82	1 427.24
Plum trees	1 212	995	1 068 668	1 060 327	2 545.10	2 328.72

¹⁾ a producer of more than one fruit species is included in each species concerned

During the last five years, the number of fruit producers as well as the orchard area intended for market production significantly declined. In comparison with 2012, the number of fruit producers declined by more than one quarter from 2 388 to 1 755 (-26.5%) and the orchard area fell from 21 347 ha to 16 417 ha (-23.1%). The average orchard area rose from 8.94 ha to 9.35 ha (+4.6%). The decline of the total orchard area was connected with the change of the definition of a permanent crop – orchard and a reclassification of orchards, which do not meet the definition, as other crop types. Furthermore, over-aged plantations were in a large extent removed without following replacement with new ones.

As for main fruit tree species, the largest drop in comparison with 2012 was recorded for peach trees whose area decreased by more than one half (-55.3%). Further declines recorded were by 29.6% for apricot trees, by 25.4% for apple trees, by 23.2% for sour cherry trees, by 20.5% for cherry trees and by 15.2% for pear trees. Areas planted with other surveyed species decreased during the last five years as well: by 33.2% for berry species and by 19.2% for nut species.

The most important fruit species was apple, which was planted, similarly to previous surveys, on one half of the total orchard area. However, apple orchards still had an unfavourable age structure with a large proportion of old plantations. The results of the survey also confirmed a decline in peach growing in the Czech Republic. Peach orchards were found to have the worst age structure out of all species surveyed; the share of new peach plantations was the lowest, while old plantations prevailed. Growing of berries and nuts was only marginal as well. On the contrary, plum and pear were found to be perspective species with a good age structure. Compared to 2012 survey, the planting density of all surveyed species increased. The planting density over 1 000 trees per hectare was recorded for apple and pear orchards, while the other fruit species were planted at average density of about 500 trees per hectare.