ANALYSIS OF THE FRUIT-GROWING SECTOR IN THE SOUTH-WEST OLTENIA REGION, ROMANIA

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Abstract: *In this article, the authors propose an analysis of the fruit-growing sector in the South-West Oltenia Development Region, consisting in a brief description of the area under consideration, of the area of the orchards, and of the fruit production of the main tree species. The research methodology was based on the processing and interpretation of data collected from official sites, from statistical yearbooks and from literature. Following the analysis, the areas cultivated with fruit trees have been found to have fallen by over 37% compared to 1990, but the average production per tree has grown very much. Due to the favourable pedoclimatic conditions in the Oltenia Region, the authors of the paper consider that measures for the growth of the fruit areas, especially for the diversification of the species, are necessary.*

Key words*: Oltenia, fruit-growing sector, evolution*

INTRODUCTION

Romania is located in the northern hemisphere at 45° latitude and 25° east longitude. The fact that the territory of our country is at the limit between the Mediterranean and the temperate climate zones makes it possible to cultivate many species of fruits, including subtropical species (fig, kaki, and kiwi) [1], [2], [3], [5], [6].

Pomiculture of the South-West Oltenia Region belongs to the Oltenia Centre, a fruit-growing area with very differentiated climatic and edaphic conditions between the northern and the southern parts, but very favourable for the fruit tree culture [1], [7], [8], [9], [10], [11]. Oltenia Centre occupies over 20% of the fruit-growing area of Romania, consisting of 33 fruit tree areas, of which: seven in Dolj County, eight in Gorj County, seven in Olt County, six in Vâlcea County and five in Mehedinţi County [4],[13],[14],[15].

MATERIALS AND METHODS

The research methodology is based on the processing and interpretation of data collected from official sites, statistical yearbooks and literature.

RESEARCH RESULTS

In 2014, the South-West Oltenia Region held 20.17% of Romania's total fruit area, the only region with a larger area being the Southern Muntenia Region, which held 20.90% [12].

Table 1.

Evolution of the fruit tree area in the South-West Oltenia Region

Country / Region / County	Year 1990					Year 2014				± Orchards and f.n. compared to 1990 (%)
	Total area (ha)	Agricultural area (ha)	Orchards and fruit nurseries			Agricultural area (ha)	Orchards and fruit nurseries			
			Ha	% of T.a.	% din A.a.		Ha	% din S.t.	% din S.a.	
Romania	23839071	14769028	313389	***1.31***	***2.12***	14630072	196941	***0.83***	***1.35***	**-37.16**
S-W Oltenia	2921169	1830947	68686	***2.35***	***3.75***	1796634	39722	***1.36***	***2.17***	**-42.16**
Dolj	741401	590073	12370	***1.66***	***2.09***	585135	7368	***1.00***	***1.26***	**-40.43**
Gorj	560174	250776	13213	***2.35***	***5.26***	238800	7473	***1.33***	***3.13***	**-43.44**
Mehedinți	493289	293731	9704	***1.96***	***3.30***	293328	6809	***1.38***	***2.32***	**-29.83**
Olt	549828	444711	12525	***2.27***	***2.81***	436515	5120	***0.93***	***1.17***	**-59.12**
Vâlcea	576477	251656	20874	***3.62***	***8.29***	242856	12952	***2.25***	***5.33***	**-37.95**

*Source:calculations based on data from NIS, 2019 (*T.a.= total area; A.a.= agricultural area; f.n.= fruit nurseries)

According to the structure of the land fund, between 1990 and 2014, the area cultivated with orchards and fruit nurseries in Romania decreased by 37.16% (-116,448 ha). Compared to 1990, in 2014, the area of orchards and nurseries fell by 42.16% (-28,964 ha) as follows: in Olt County, by 59.12%, in Gorj County, by 43.44%, in Dolj County, by 40.43%, in Vâlcea County by 37.95%, and in Mehedinţi County by 29.83%.

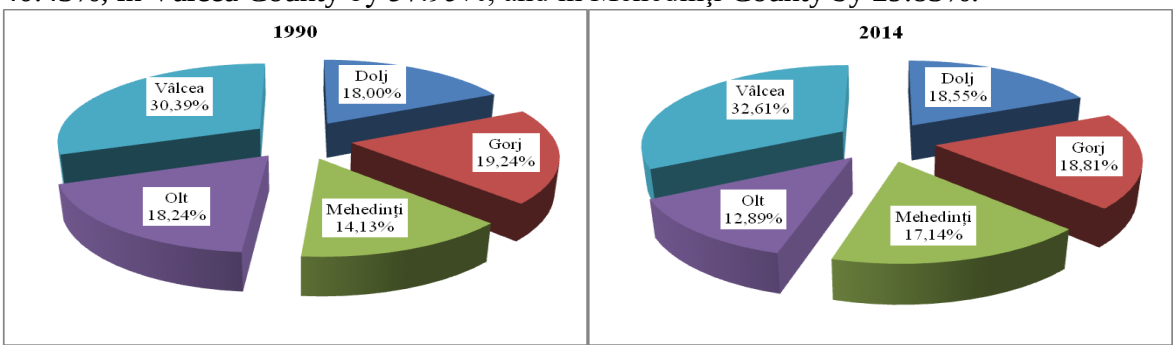

Figure 1. Structure of the areas occupied by orchards and fruit nurseries in counties in the South-West Oltenia Region (comparison 1990-2014)

Among the counties in the region, the largest share of orchards and fruit tree nurseries belongs to the counties of Vâlcea (32.61%), Gorj (18.81%), Dolj (18.55%), Mehedinţi (17.14%),and Olt (12.89%).

Table 2.

Distribution per counties of fruit tree species in the South-West Oltenia Region (2014)

FRUIT SPECIES	Dolj		Gorj		Mehedinți		Olt		Vâlcea		Total
	(ha)	%	(ha)	%	(ha)	%	(ha)	%	(ha)	%	
Apple tree	511.37	***8.25***	694.00	***11.20***	2010.00	***32.44***	40.86	***0.66***	2940.00	***47.45***	6196.23
Pear tree	11.00	***3.08***	106.00	***29.70***	0.00	***0.00***	0.00	***0.00***	240.00	***67.22***	357.00
Plum tree	1580.35	***9.31***	358.,00	***21.15***	1580.00	***9.31***	735.68	***4.34***	9484.00	***55.89***	16968.03
Cherry and sour cherry trees	296.00	***24.24***	118.00	***9.66***	685.00	***56.10***	27.05	***2.22***	95.00	***7.78***	1221.05
Apricot tree	269.90	***66.46***	0.00	***0.00***	80.00	***19.70***	45.21	***11.13***	11.00	***2.71***	406.11
Peach tree and nectarine tree	139.00	***49.47***	0.00	***0.00***	130.00	***46.26***	10.00	***3.56***	2.00	***0.71***	281.00
Other fruit tree species	26.00	***3.24***	250.00	***31.17***	150.00	***18.70***	3.10	***0.39***	373.00	***46.50***	802.10
TOTAL	**2833.62**	**10.80**	**4756.00**	**18.13**	**4635.00**	**17.67**	**861.90**	**3.29**	**13145.00**	**50.11**	**26231.52**

Source: ICDP Piteşti-Mărăcineni-Zonarea speciilor pomicole în funcţie de condiţiile pedoclimatice şi socio-economice

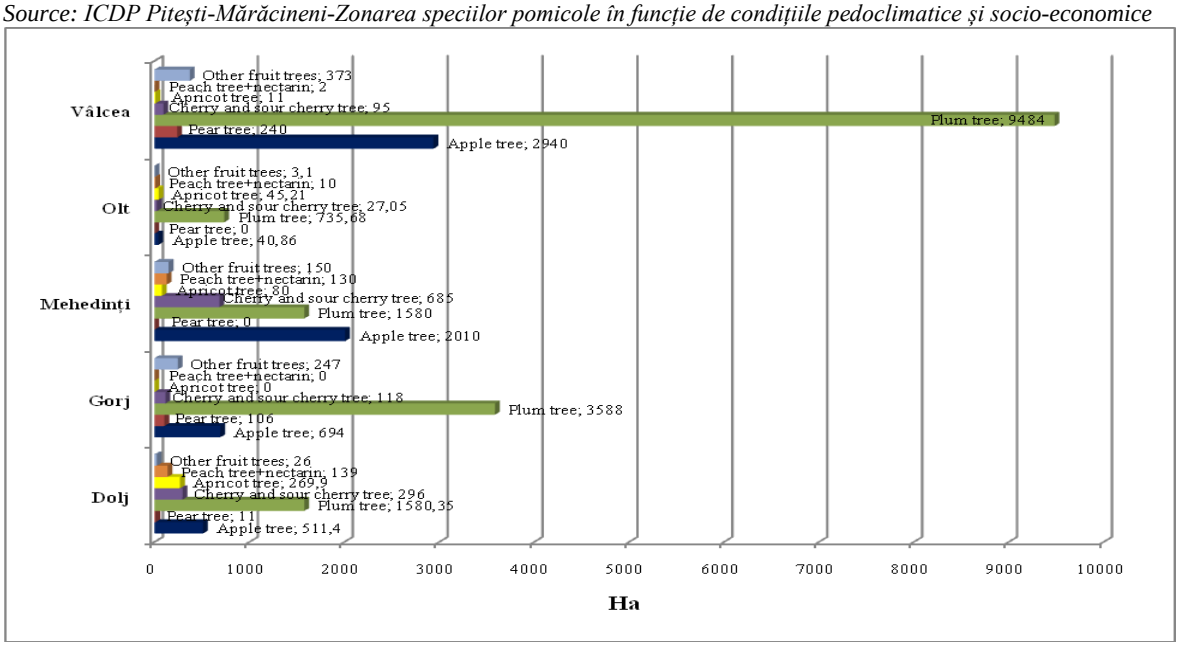

Figure 2. Distribution per counties of fruit tree species in the South-West Oltenia Region (2014)

According to the last zoning of the fruit species in Romania carried out by ICDP Piteşti-Maracineni, in South-West Oltenia, fruit tree plantations amounted in 2014 to an area of 26,231.52 ha.

The distribution of fruit species in the counties of the region is as follows (Table 2):

- apple tree has the largest share in VâlceaCounty (47.45%), followed by MehedinţiCounty (32.44%), Gorj County (11.20%), Dolj County (8.25%) and Olt County 0.66%);

- pear tree has the largest share in the County of Vâlcea (67.22%), followed by the County of Gorj (29.70% and the County of Dolj (3.08%);

-plum tree has the largest share in Vâlcea County (55.89%), followed by Gorj County (21.15%), Dolj County (9.31%), Mehedinţi County (9.31%) and Olt County 4.34%);

-cherry and sour cherry trees have the largest share in Mehedinţi County(56.10%), followed by Dolj County (24.24%), Gorj County (9.66%), Vâlcea County (7.78%) and Olt County (2.22%);

- apricot tree has the largest share in the County of Dolj (66.46%), followed by Mehedinţi County (19.70%), Olt County (11.13%), and Vâlcea County (2.71%);

- peach tree and nectarine tree have the largest share in Dolj County (49.47%), followed by Mehedinţi County (46.26%), Olt County (3.56%) and Vâlcea County (0.71%);

- other fruit tree species have the largest share in Vâlcea County (46.50%), followed by Gorj County (31.17%), Mehedinţi County (18.70%), Dolj County (3.24%) and Olt County 0.39%).

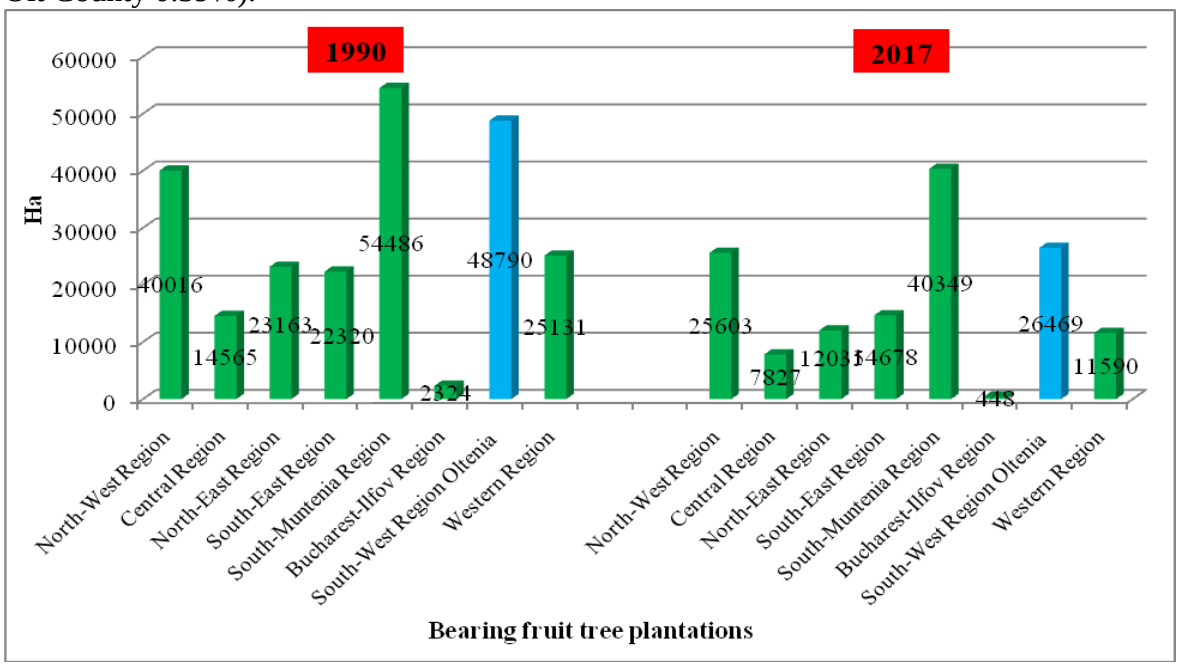

Figure 3. Area of orchards in the development regions of Romania 1990-2017

Source: processed data from Tempo-online (NIS, 2019)

In 2017, as shown in Figure 3, the South-West Region of Oltenia ranks second in the development regions with an area of 26,469 ha of fruit tree plantations, 237 ha more than in 2014 and 22,321 ha (-45.75%) less than in 1990.

Compared to 1990, the area of fruit orchards diminished in all the development regions of Romania, going from 230,795 ha to 138,999 ha (-39.77%) in 2017.

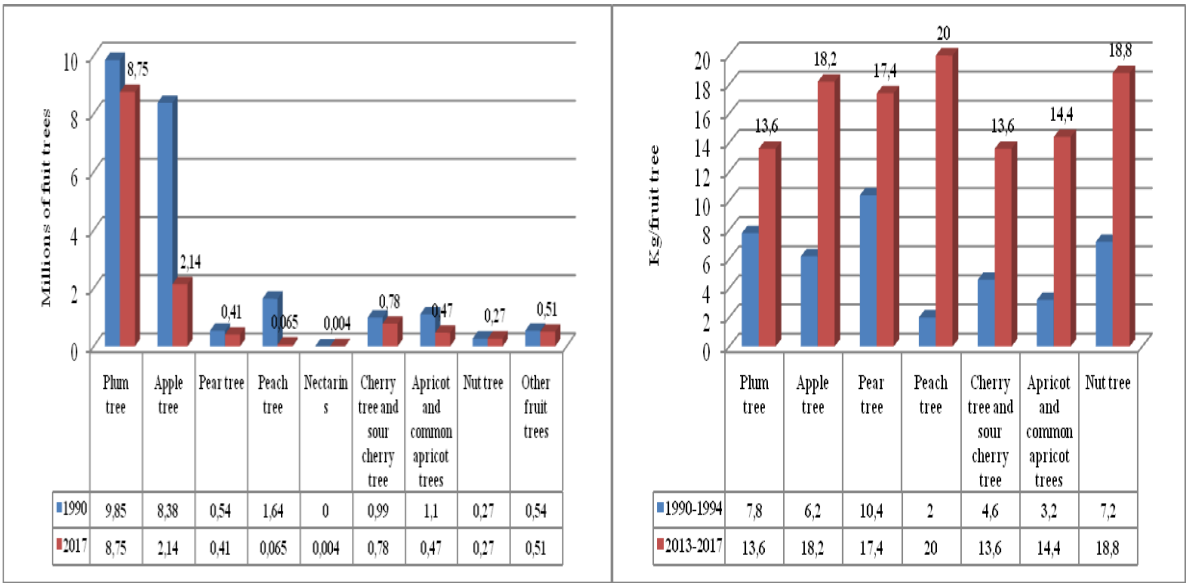

Figure 4. Evolution of tree species by number of trees (1990-2017) and the average yield per tree (1990-1994; 2013-2017) in South-West Oltenia

Source: calculations based on data from Tempo-online (NIS, 2019)

The reductions in the area planted with fruit trees led to a decrease in the number of trees compared to 1990; thus, the number of fruit trees fell by 9.9 million (-42.56%), i.e. from 23.3 million trees to 13.4 million fruit trees. Of the fruit tree species, the most affected were apple trees whose number decreased by 6.2 million (-74.41%), followed by peach that fell by 1.57 million (-96.04%) and plum trees that fell by 1.10 million (-11.18%).

In terms of average yield per fruit tree, comparing the average for the period 2013-2017 with the average for the period 1990-1994, we can see that the average yield per tree has grown very much: 1,000% in peach tree, 450% in apricot and ansu apricot trees, 295.7% in cherry and sour cherry trees, 293.5% in apple tree, 261.1% in walnut tree, 174.4% in plum tree, and 167.4% in pear tree.

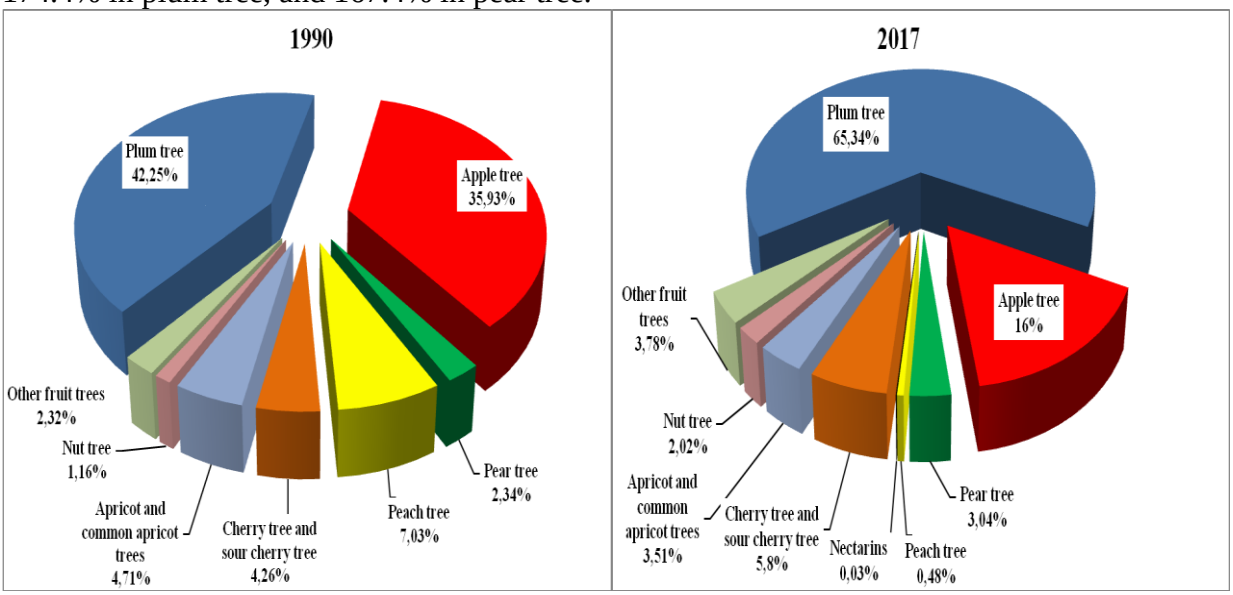

Figure 5. Share of tree species by number of trees in the South-West Oltenia Region (1990-2017)

Source: calculations based on data from Tempo-online (NIS, 2019)

In addition to the decrease of the number of trees, there is also a lesser diversification of the fruit tree species, the existence of two main tree species (plum, apple) being followed at a great distance by other fruit tree species.

CONCLUSIONS

- **The fruit sector of the South-West Region of Oltenia shares over 20% of the total area occupied by orchards and nurseries in Romania**, ranking second among the regions.
- Compared to 1990, in 2014, the area of orchards and nurseries fell by 42.16% (-28,964 ha), as follows: in Olt County, by 59.12%, in Gorj County, by 43.44%, in Dolj County, by 40.43%, in VâlceaCounty, by 37.95%, and in MehedinţiCounty, by 29.83%.
- The largest share of the area occupied by orchards and fruit tree nurseries is that of the Vâlcea County (32.61%), followed by Gorj County (18.81%), Dolj County (18.55%), Mehedinţi County (17.14%) and Olt County (12.89%).
- By comparing the average for the period 2013-2017 with the average of the period 1990-1994, we can see that the average yield per fruit tree has grown very much: by 1,000% in peach tree, by 450% in apricot and ansu apricot trees, by 295.7% in cherry and sour cherry trees, by 293.5% in apple tree, by 261.1% in walnut tree, by 174.4% in plum tree, and by 167.4% in pear tree.
- After analysing the structure of the fruit-growing area by fruit tree species in the region, it is observed that the area cultivated with plum trees has a very large share (65.34%), followed by apple tree (16.00%), while other fruit tree species have very small shares (18.66%) resulting in a poor diversification of the fruit tree species.
- Given the very favourable pedoclimatic conditions of the Oltenia fruit-growing areas and the decrease of the area cultivated with fruit trees compared to 1990, national and regional strategic measures for orchard growth in this region are required especially for a better diversification of the fruit tree species.

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