

THE EVOLUTION OF AGRICULTURAL SURFACES, BY USE CATEGORIES, IN THE SW AND NW REGIONS OF ROMANIA

MILUȚ M.¹, POP N.², Pop, S.³,
VANGU M.¹, SĂVESCU P.¹

¹University of Craiova, Faculty of Agronomy

²University of Agricultural Sciences and Veterinary Medicine of Cluj-Napoca

³Technical University of Cluj Napoca, Faculty of Civil Engineering

Keywords: categories of use, area, agricultural land

ABSTRACT

The paper analyzes the evolution after 1990 of the areas occupied by categories of agricultural use, in the NW and SW development regions of Romania. The areas occupied by agricultural land had similar evolutions, with some small exceptions, due primarily to the predominant landforms in the two analyzed development regions. The data are incomplete, waiting for the conclusion of the National Cadastre and Land Book Program 2015-2023.

INTRODUCTION

As it is known, the land fund of Romania is divided into two main categories: agricultural lands and non-agricultural lands, each of them having several categories and subcategories of use (Călina A.). The National Institute of Statistics realizes a centralization of the

annual data with the surfaces according to the way of their use, on each locality, county, development region and the total on the country. For this paper, the data recorded after 1990 in the NV and SV Oltenia regions were studied.

MATERIAL AND METHOD

The paper presents the evolution of the areas occupied by categories of agricultural use, after 1990 in the developing regions NV and SV. The data were published by the National Institute of Statistics in the Statistical Yearbook of Romania. The two regions were studied because the team that contributed to this work belongs to the universities from Craiova and Cluj-Napoca. The year 1990 is taken as a reference, and for an overview, are presented the values of the surfaces for each category of agricultural use from 5 to 5 years, until 2014 because National Institute of Statistics will no longer publish data regarding the areas occupied by categories of use until the end of the introduction of the cadastre on

the Romanian territory. Data were analyzed regarding the 5 categories of agricultural land, namely: arable land, pastures, hayfields, vineyards and orchards.

RESULTS AND DISCUSSIONS

The total agricultural area of the NW region ranged between a maximum of 2069766 ha in 2010 and a minimum of 2100834 ha in 2000, out of the total of 3416046 ha of the region. For the SV region, a maximum of 1830947 ha was reported in 1990 and a minimum of 1796634 ha in 2014, out of the total of 2921169 ha of the region (Table 1).

Table 2 shows the evolution of agricultural areas, after 1900 on the two development regions of Romania (NW and SW).

Table 1

Agricultural land area in NW and SW regions

Year	1990	1995	2000	2005	2010	2014
Northwest region	2070095	2076560	2100834	2087480	2069766	2079500
Southwest region Oltenia	1830947	1826528	1820083	1806606	1799230	1796634

Table 2

Area by categories of agricultural use, after 1990, in the NW and SW regions

Year		1990	1995	2000	2005	2010	2014
Arable (ha)	North West Region	1046248	1007964	1008764	1016132	1022774	1021392
	South West Region	1251912	1244669	1247535	1255049	1251229	1251902
Pastures (ha)	North West Region	613850	647314	667061	648812	617719	610850
	South West Region	378563	381865	379674	377572	379026	377876
Hayfields (ha)	North West Region	337659	358756	366641	378211	385337	401608
	South West Region	84124	85577	86156	88002	87511	89136
Vineyards and viticultural nurseries (ha)	North West Region	14887	14750	13524	9076	9513	9470
	South West Region	47662	52232	51061	39625	39424	37998
Orchards and fruit nurseries (ha)	North West Region	57451	47776	44844	35249	34423	36180
	South West Region	68686	62185	55657	46358	42040	39722



Figure 1. Evolution of arable land in NW and SW regions after 1990 (hectares)

If we refer to arable land areas, they have a higher share of the total area in the case of the SW region, compared to the NW region. This can be explained by the predominant forms of plain and hill relief in the Oltenia region. Regarding the evolution of the arable land area, there is a decrease, after 1990 in

the case of the NW region, from 1046248 ha in 1990 to 1007964 ha in 1995, with a return to over 1021000 ha in 1995. In Oltenia, the evolution of the arable land area was oscillating, in zig-zag, having a maximum of 1255049 ha in 2005 and a minimum of 1244669 ha in 1995.

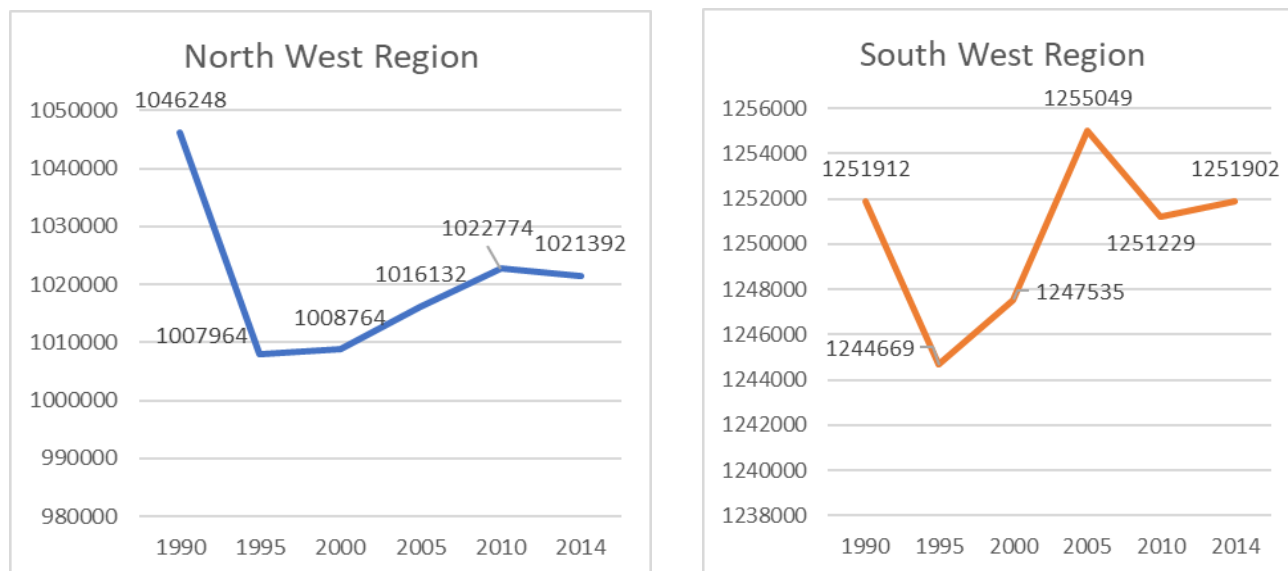


Figure 2. Oscillation of arable land over the two regions (hectares)

As for the pastures, their area is shown in Table 2. As can be seen, the pasture area is almost double in the NW region, compared to the SV Oltenia region. At the NW region, the maximum pasture area was reached in 2000. (667061 ha), and the trend is decreasing, with a minimum

in 2014 (610850 ha). In the case of Oltenia, the pasture areas registered close values, between 381865 ha (in 1995) and 377572 ha (in 2005). Figures 3 and 4 show the situation of areas occupied by pastures in the two regions studied, after 1990.

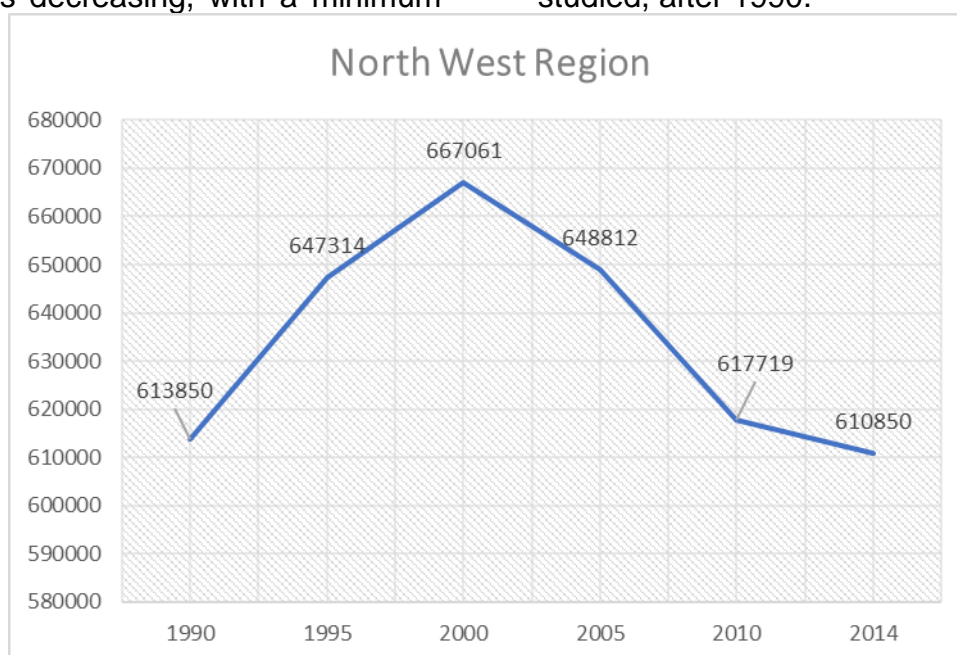


Figure 3. Pasture areas in the North-West region (hectares)

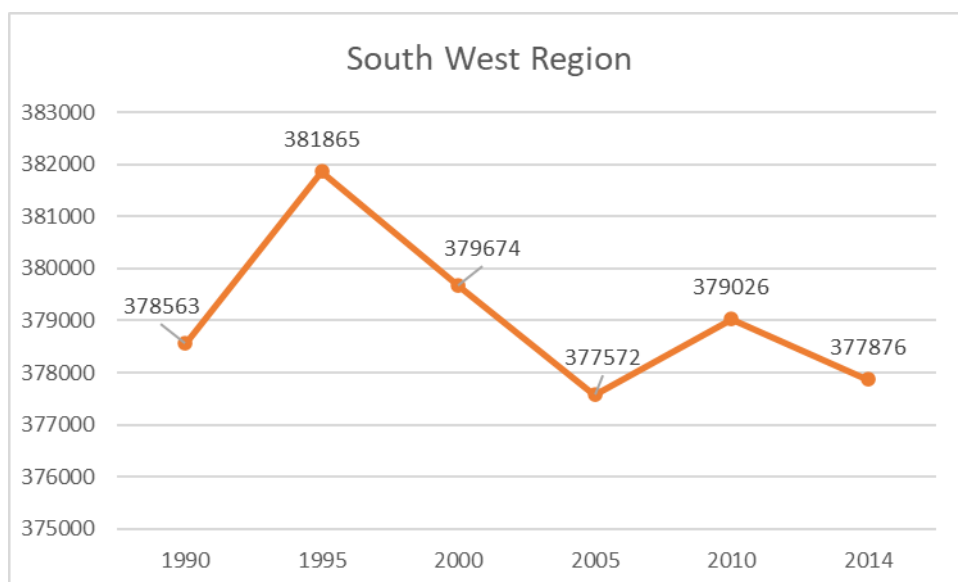


Figure 4. Pasture areas in the South West region (hectares)

The areas registered with hayfields are presented in table 3. The area occupied by the hayfields category is

much larger in the NW region, being approximately 4 times larger than in Oltenia.

Table 3

Area occupied by the hayfields use category in the NW and SW regions of Romania, after 1990 (hectares)

Year		1990	1995	2000	2005	2010	2014
Hayfields (ha)	North West Region	337659	358756	366641	378211	385337	401608
	South West Region	84124	85577	86156	88002	87511	89136

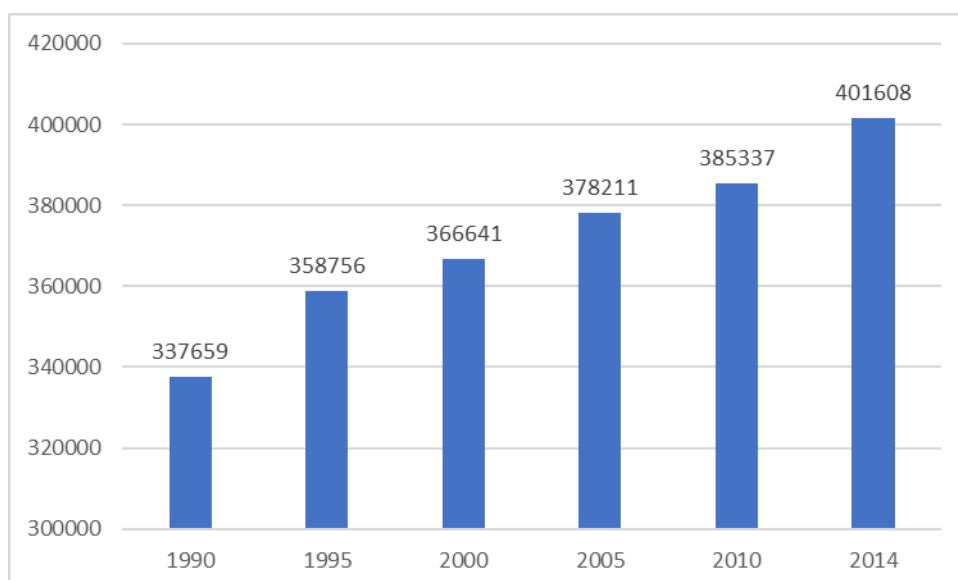


Figure 5. Areas occupied by hayfields in the North West region, after 1990 (ha)

In both regions of Romania there is a constant increase in hayfields. In the NW region from 337659 ha (1990) to 401608 ha in 2014. In Oltenia the growth

was lower, from 84124 ha in 1990 to 89136 ha in 2014 (figures 5 and 6).

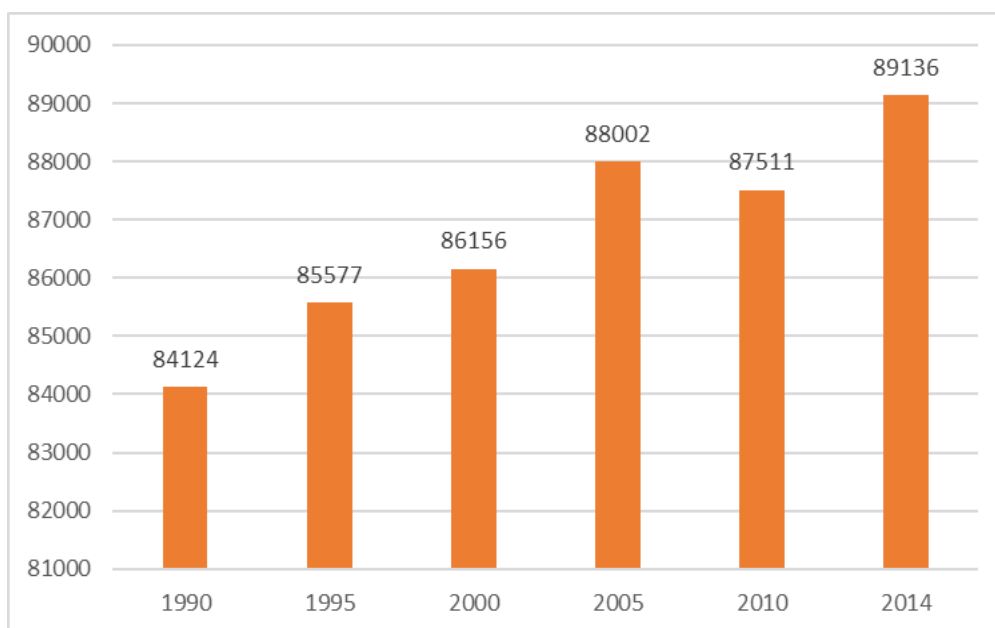


Figure 6. Areas occupied by hayfields in the South West region, after 1990 (ha)

In the case of land occupied by vineyards, the areas had different evolutions for the two regions. In the NW region, there is a decrease from almost 15,000 ha existing in 1990, to less than 10,000 ha in 2014.

In the SV Oltenia region, it started in 1990 with a vineyard area of 47662 ha, then increased to 52232 ha in 1995, after which there were continuous decreases, to below 38000 ha in 2014. Figure 7 shows the evolution of vine areas in the 2 regions.

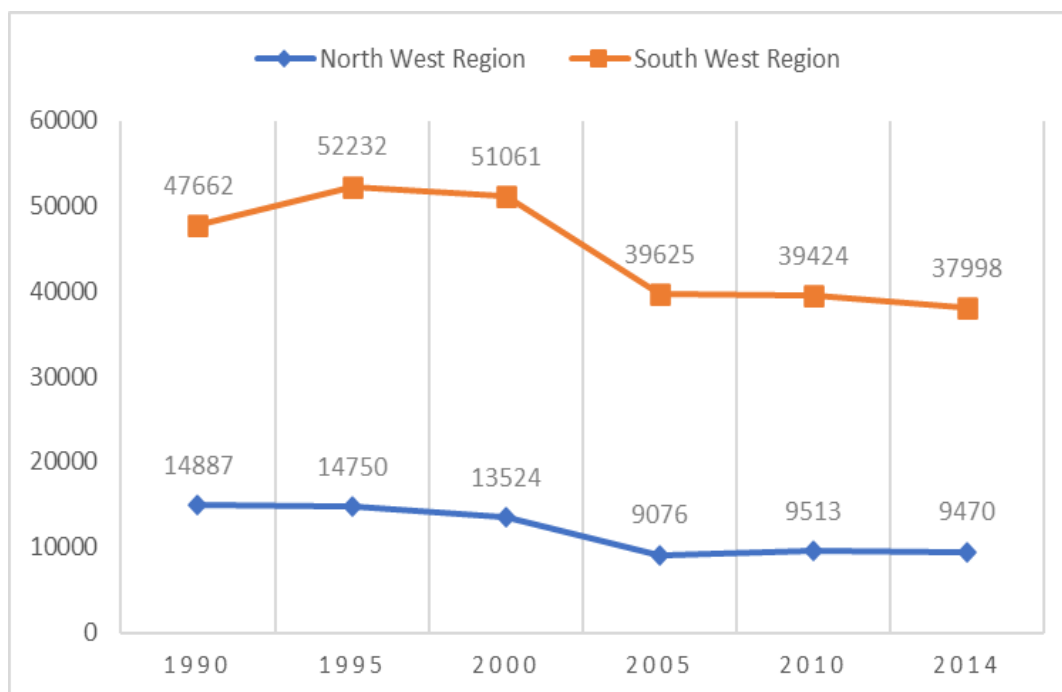


Figure 7. Areas occupied by vines in the NW and SW regions of Romania, after 1990 (hectares)

The growth of vineyards in Oltenia is attributed to the planting after the revolution of some vineyards (especially hybrid), in the 90s, after which, as the

population ages in rural areas and the exodus of young people to urban areas or abroad, the areas cultivated with vines were also reduced.

As for the land occupied by orchards, they have been permanently reduced since 1990, in both regions reaching almost half of the area initially occupied. Figure 8 shows the decreasing evolution of the areas occupied by

orchards. If in the NW region it started from 57451 ha in 1990, reaching only 36180 ha in 2014, in Oltenia the decrease was from 68686 ha existing in 1990, to below 40,000 ha in 2014.

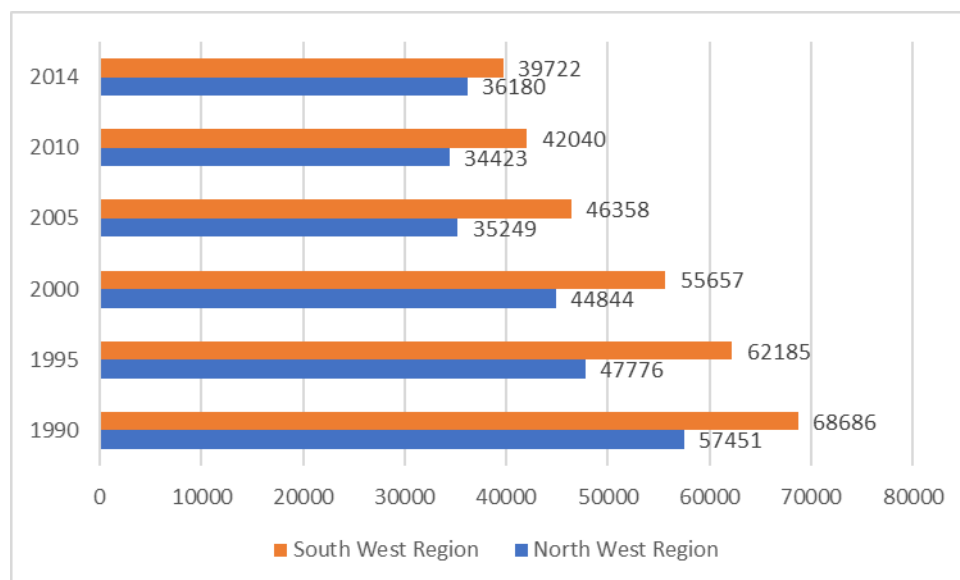


Figure 8. Areas occupied by orchards and fruit nurseries in the NW and SW regions of Romania, after 1990 (hectares)

CONCLUSIONS

The data are incomplete, waiting for the conclusion of the National Program of Cadastre and Land Book 2015-2023 (PNCCF), cadastral works are currently being carried out in over 2,000 localities according to ANCP.

The share of areas occupied by each category of agricultural use in the two development regions (NW and SW) is different, but the areas occupied by agricultural land have had similar developments, with some small exceptions.

An increase in vineyards and especially orchards is expected, in the context of the establishment of agricultural holdings based on attracting European funds through various financing measures in agriculture.

BIBLIOGRAPHY

1. Burghilă, C., Bordun, C., Cimpeanu, S. M., Burghilă, D., & Badea, A., 2016 - *Why mapping ecosystems services is a*

must in EU biodiversity strategy for 2020. AgroLife Scientific Journal, 5(2), 28-37;

2. Calina, A. and Calina, J., 2019. Research regarding the agriproductive properties of the typical reddish preluvosoil between Jiu and Olt rivers and its evolution from 1997-2017 in farms and agritouristic households. Romanian Agricultural Research, 36, pp.251-261;

3. Călina A., Călina Jenica, Tiberiu I., 2017- *Research regarding the implementation, development and impact of agritourism on Romania's rural areas between 1990 and 2015*, Environmental Engineering & Management Journal (EEMJ), Vol. 16 Issue 1, p157-168;

4. Călina, J., Călina, A., Miluț, M., Croitoru, A., Stan, I. and Buzatu, C., 2020, *Use of drones in cadastral works and precision works in silviculture and agriculture*, Publisher NARDI Fundulea, România, Vol.37, Issue ISSN 1222-4227, pp 273-284.;

5. Călina, J., Călina, A., Bădescu, G., Vangu, G.M. and Ionică, C.E., 2018. *Research on the use of aerial scanning*

for completing a GIS database. *AgroLife Scientific Journal*, 7(1), pp.25-32;

6. **Calina, J. and Calina, A.**, 2019. *Evolution of the mollic reddish preluvisol in a romanian riverine region and the assessment of its agro-productive properties in farms and agro-touristic households*. *Environmental Engineering and Management Journal*, 18(12), pp.2729-2738;

7. **Mihai D., Mudura R., Teodorescu R., Ilinca L.**, 2014, *Modern technologies used in data updating for a school farm modernization*, DAAAM International Scientific Book, p423-432;

8. **Mihai D., Teodorescu R.I., Burghilă D., Mudura, R.**, 2015- *A modern approach in data updating for a vineyard agro-system modernization*. Conference SGEM, 2, ISBN 978-619-7105-35-3, 651–656.

9. **Miluț, M. et al.** (2018). *Cadastru - Note de curs*. Universitaria Publishing House, Craiova.

10. **Pop, N., Pop, S., Ortelecan, M. and Luca, L.C.**, 2019 - *Verification of a triangulation network in Cluj-Napoca for future topographic surveys*. *Agricultura*, 111(3-4), pp.368-373.

11. **Sala, F., Popescu, C.A., Herbei, M.V., Rujescu, C.**, 2020 - *Model of Color Parameters Variation and Correction in Relation to “Time-View” Image Acquisition Effects in Wheat Crop*. *Sustainability*, 12(6), 2470.

12. ***2018. *Statistical Yearbook of Romania*.

13. ***1991. *Law 18/1991*.

14. ***2015. *Order no.734/480/1003/3727 from 29 april 2015 on the approval of the Technical Norms for completing the agricultural register*.

15. <http://www.insse.ro/>