

## THE CURRENT STATE OF THE VITIVINICULTURE SECTOR IN ROMANIA

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### ABSTRACT

After Romania accessed the European Union in 2007 and especially after 2009, there were major changes in Romania in the viticulture and winemaking field regarding the alignment of the legal framework to the Common Agricultural Policy (P.A.C.). During the post-accession, there were both important quality leaps in this field and a series of difficulties imposing a synthetic analysis in order to identify certain solutions to diversify the vineyard range and to improve the quality of the winemaking products.

In this framework, concerning the strategies and policies implemented in the vitiviniculture sector in Romania during the last decade, this study refers to the following aspects: assessing the reconversion-restructuring stage of the vineyards in Romania, assessing the stage of implementing national strategies to produce high-quality wine (with PDO and PGI), as important premises for providing quality and specificity to the wine products.

### INTRODUCTION

Romania is a country with a multimillenary winemaking tradition, which is a fact witnessed by the archaeological (Comșa M., 1982), epigraphic (Teodorescu I.C., 1964), archaeobotanical (Brașoveanu C. et al., 2020) and ethnographic discoveries (Iordache Gh., 1977) on the territory of our country.

Wine growing is an important agricultural sector (Dejeu L.C., 2010), but also an important source of raw materials for the national economy. Thus, grapes together with the production of wine and wine distillate represent the raw material in the food industry, the cosmetics industry, the pharmaceutical industry (Olteanu I. et al., 2002).

The ecological diversity of the winegrowing areas in Romania (Teodorescu Șt. et al., 1987; Toti M. et al., 2017) and of the varieties of wine grapes (Băducă et al., 2011; Rotaru L., 2009) and table grapes (Cichi et al.,

2010; Stroe M.V. et al., 2014) provides the obtaining of a varied scale of winemaking products in our country (Olteanu I. et al., 2002). Across the time, the winemaking sector in Romania has suffered a series of quantitative and qualitative changes generated mainly by the Phylloxera plague, the social-economical mutations occurred in our countries, the evolution of the scientific and technical knowledge in the winemaking field and of the genetic improvement of grapevine (Antoce A.O. et al., 2013; Bucur G.M. et al., 2018; Cichi D.D. et al., 2019).

In this framework, concerning the strategies and policies implemented in the vitiviniculture sector in Romania during the last decade, this study refers to the following aspects: assessing the reconversion-restructuring stage of the vineyards in Romania, assessing the stage of implementing national strategies to produce high-quality wine.

## MATERIAL AND METHOD

In order to conduct this study, statistical data from different sources were used and processed: official reports of international bodies (International Organization of vine and Wine - O.I.V., Food and Agriculture Organization of the United Nations- F.A.O., Statistical Office of the European Union- EUROSTAT), official national sources (National Institute of Statistics of Romania, Ministry of Agriculture and Rural Development, Romanian National Office of Vine and Wine Products -ONVPV), and also reports of certain non-governmental national and international bodies in the winemaking sector.

The aspects analysed here concern the following: the dynamics of the surfaces and productions of wine grapes in the winegrowing regions in Romania and in different national development areas, the assortment of wine varieties and the surface dynamics for the main wine varieties.

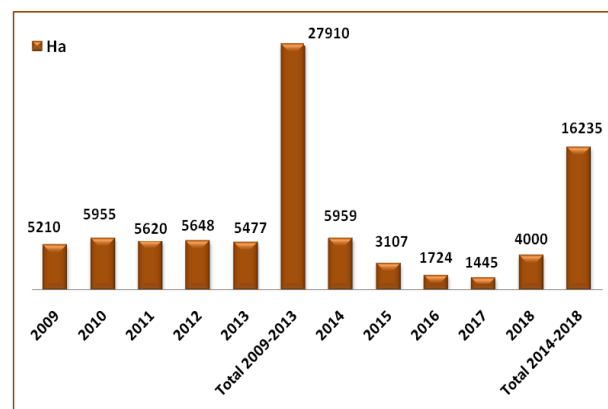
For statistical analysis XLSTAT-Pro Addinsoft for Microsoft Excel were used.

## RESULTS AND DISCUSSIONS

*Assessing the reconversion-restructuring stage of vine plantations.* Since 2007, Romania has granted, by means of the Agency for Payments and Intervention in Agriculture (APIA), financial support to the wine grape producers, for the restructuring /reconversion measure of the vineyard plantations, a measure taken by the European Commission in order to reinforce the balance of the winemaking market on one hand, but also to better adapt the offer to the demand for certain types of winemaking products.

The total surface cultivated with grapevine by means of the restructuring /reconversion measure by the *National Support Program (PNS)* 2009 -2013 was 27910 hectares (Figure 1), as the biggest yearly surface in the mentioned lapse of time was 5955 hectares (year 2010). Considering the 23850 hectares, the total

vine plantation surface estimated to be restructured by the National Support Program (*PNS*) 2014-2018 (<https://www.madr.ro/en/horticulture/viticulture-enology.html>) at the end of the 2014-2018 financial periods, Romania manages to restructure only 16235 hectares (Figure 1), respectively 68.1 % of the initial estimated surface.



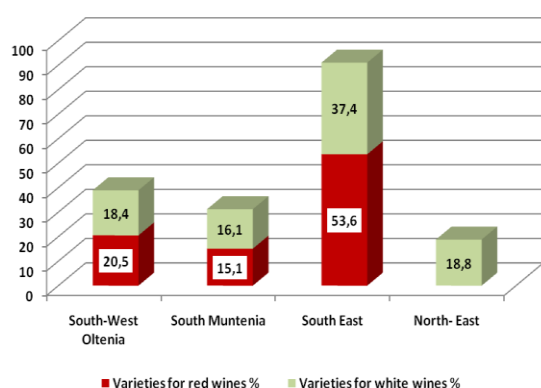
**Figure 1. Surfaces (Ha) benefiting from the measure of reconversion /restructuring the vine plantations in Romania between 2009-2018**

*Dynamics of surfaces and of wine variety range in Romania.* Diversifying the wine varieties range, promoting the most performant varieties from the bio-productive and qualitative potential viewpoint, both in the autochthonous and the international range, are important premises for providing a diversified offer for the internal and external winemaking product market whose qualitative requirements are in continuous dynamics (Cichi D.D. et al, 2019).

Viticulture and varieties zoning in the world and in Romania is extremely important for harnessing the productive and qualitative potential of different grape varieties and for providing the economic efficiency of the vine-growing in different areas (Bonfante A. et al., 2018; Costea & Cichi. 2008; Dobrei et al., 2016). Distribution of grapevine varieties is conditioned by a series of factors, among which the following are extremely important: the pedoclimatic characteristics of different winegrowing

regions (Leeuwen C. et al., 2004; Irimia et al., 2014), the ecological restrictions in certain winegrowing regions (Bucur et al. 2016; Bunea et al., 2017; Cichi D., 2006), the requirements of the grapevine varieties from the soil and climatic factors, the technical-organisational possibilities and the social-economic criteria (Oșlobeanu M. et al., 1991), but also of the winemaking tradition from different areas (Dejeu L.C.. 2010). In accordance to the pedoclimatic particularities in Romania are defined eight winegrowing regions (Olteanu I. et al., 2002; table2).

The varieties for white wine represented in the year 2009 about 84.1% of the vine surface for wine grapes (*National Institute of Statistics of Romania, 2010*). The biggest share of the culture in the year 2009 belonged to the varieties for white wine in the South-East development area (37.4%), followed by the North-East area (18.8%) and South-West Oltenia area (18.4%), figure 2.



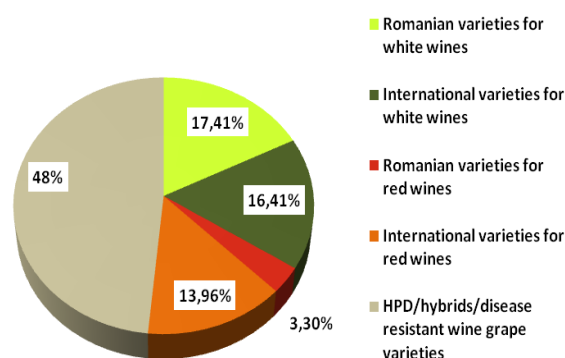
**Figure 2- Vine surface (%) for wine in Romania in 2009**

With a cultivated surface of only 27135 hectares, the varieties for red wine represented in 2009 only 15.9% of the surface for wine grapes (according to INS. 2010). The biggest share belonged to the red wine varieties in the South-East area (53.6 %). followed by the South-West Oltenia area with only 20.5 % of the total surface cultivated with varieties for red wine (Figure 2).

Once the knowledge concerning genetics and breeding the grapevine

varieties had been developed, Romania enhances the research for creating new varieties of fruitful vineyard and rootstock and for improving the existing varieties regarding the following aspects: the adaptation to the soil and climatic conditions, the qualitative and quantitative production, the resistance to diseases, pests or unfavourable environmental factors. In the period 1970-2019, in Romania 36 new grape varieties for wine were obtained, of which: 21 varieties for white wines and 15 for red wines.

Concerning the structure of the grapevine assortment for wine in Romania, in 2015, based on the processed data (OIV, 2018; INS Romania), we may notice that the Romanian varieties of *Vitis vinifera* represent cumulatively about 20.71 % of the total surface cultivated with wine varieties (17.41% varieties for white wine and 3.30 % autochthonous varieties for red wine), while the international wine varieties have a share of 30.37 % (16.41 % varieties for white wine and 13.96 % for red wine), figure 3.

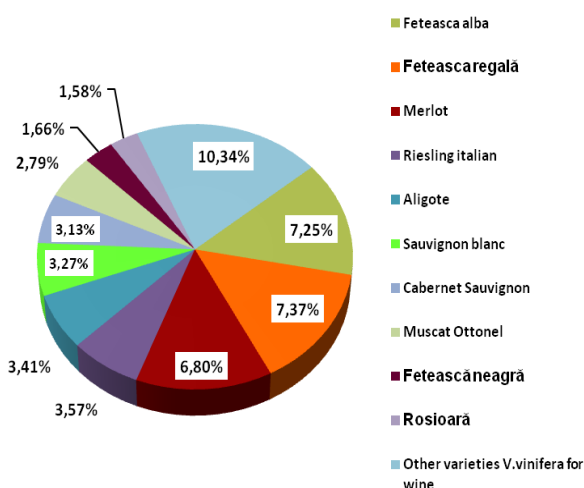


**Figure 3- Structure of the grapevine assortment for wine in Romania, in 2015**

A big percentage still belongs to HPD /hybrids/disease resistant wine grape varieties. Unfortunately, there are no detailed national statistics regarding the percentage of hybrids/disease resistant wine grape varieties. This is why in the international assessments there are sometimes confusions regarding the

estimation of the autochthonous varieties in Romania, considered as representing more than 50% (example- statistics OIV, 2018).

If we analyse the first 10 varieties for wine as surface percentage in Romania, we may also notice only three autochthonous varieties - Fetească albă, Fetească regală (for white wines) and Fetească neagră (for red wines), as the rest of the varieties have international origins. Fetească neagră, as it is a variety extremely appreciated by the Romanian consumers for its high quality wines, gets only 1.66 % of the total area for wine grapes in Romania (figure 4).



**Figure 4- Percentage area of the first ten varieties for wines in Romania in 2015**

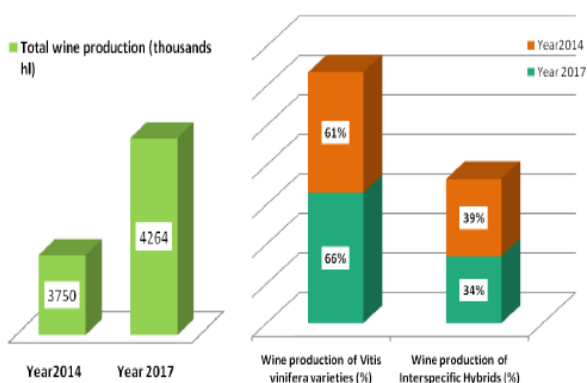
In 2017, among the varieties for white wines, increases of the cultivated surfaces register only for the varieties of Fetească regală (+144 Ha) and Sauvignon (+94 Ha). For a change, the autochthonous variety Feteasca albă for white wines, there is a slight decrease of surface, respectively - 382 Ha (-3.74% compared to the year 2014). The Muscat Ottonel, with 4028 Ha, register in 2017 the greatest extension in culture, +35.00% compared to the year 2014 (Table 1). Referring to the varieties for red wines, Fetească neagră registers the highest increase percentage (+548 Ha;

+25.86%) concerning the surface cultivated in 2017 compared to the year 2014, while the varieties of Cabernet Sauvignon and Merlot register a slight decrease of surfaces (1.76% for Merlot and -2 % for Cabernet Sauvignon).

*The wine production.* Producing high quality wine that are competitive on both the internal and external market represents an important goal for the Romanian winemakers. In this direction, Romania has made, since 2002, by means of strategies taken in the winemaking sector, important steps for harmonizing the national winemaking legislation with the European one regarding the production of high quality wine with a protected designation of origin (DOC) and of wine with a geographical indication (IG), as a guarantee for the wine origin, authenticity and quality. Since 2002, but especially after Romania's accession to the European Union, governmental strategies and important regulatory approaches have been implemented concerning the following: producing wines with a designation of origin/geographical indication on the whole national territory, regulations regarding the technological practices accepted in this areas, quality norms imposed for DOC and IG wines by means of the task notebooks, norms regarding the accepted oenological practices(<http://www.onvpv.ro>; <https://www.madr.ro/en/horticulture/viticulture-enology.html>).

According to the National Registry of the Vineyard Plantations and to Art.118s of the (EC) Regulation 1234/2007, in the framework of the eight winegrowing regions in Romania, there are 31 approved names with a protected designation of origin (DOC) and 12 geographical indications (IG). Among the 31 DOC, 10 are within *Dealurile Moldovei* winegrowing region and 8 DOC are within *Dealurile Munteniei si Olteniei* winegrowing region (Romanian National Office of Vine and Wine Products (ONVPV), <http://www.onvpv.ro>).

The implementation of the support programs by reconversion/restructuring the vine plantations in Romania generated increases of the total wine production (figure 5). We may also notice that the *V. Vinifera* wine production reached 66% of the total wine production in the year 2017, while the production of wine from HPD/hybrids/disease resistant wine grape varieties decreased with 5% compared to the year 2014 (figure 5).



**Figure 5- Dynamics of wine production in Romania**

In 2017, there were important quality increases for DOC wine production (+ 47.59%) and IG wine production (+ 80.52%) compared to the year 2014 (table 2). Among the winegrowing regions in Romania, the greatest production of wine (from *V. Vinifera* varieties) is registered in 2017 in *Dealurile Moldovei* winegrowing region (about 1231 thousand hl), followed by *Dealurile Munteniei și Olteniei* winegrowing region (712.15 thousand hl). Regarding the DOC wine production, the greatest production increases were registered in 2017 in the winegrowing regions of *Dealurile Crișanei și Maramureșului* (+480.9 %), *Dealurile Banatului* (+239.77%) and *Dealurile Munteniei și Olteniei* (+177.85 %), table 2.

## CONCLUSIONS

The implementation of the development strategies in the vitiviniculture sector in Romania and

especially the financial support granted by the measures of reconversion /restructuring the vine plantations generated important quality leaps regarding the extension of the surfaces cultivated with *V.vinifera* varieties. However, Romania still has a high percentage (about 48 % of the total vine surface) with HPD/hybrids/disease resistant wine grape varieties.

Even though Romania has valuable autochthonous wine varieties, especially the ones achieved during the last 4 decades, the Romanian varieties represent only 20.71 % of the total surface cultivated with wine varieties. The Romanian varieties for white wines have a percentage of 17.41%, while the autochthonous varieties for red wines represent only 3.30 % of the total surface cultivated with wine varieties. *Fetească neagră*, one of the most valuable Romanian varieties for high quality red wine, occupies only 1.66 % of the vine surface for wine in Romania. We may consider thus that the national genetic grapevine patrimony is not harnessed enough and there is even the risk of losing certain valuable genetic Romanian resources as these varieties are not promoted within cultures.

In this context, we need a strategic national alliance including government, R&D, vine growers and wine producers, wine market sectors in order to achieve the following:

- A better valorisation of the areas with vocation to produce wine grapes and of the vine genetic patrimony existing at present in our country;
- The identification and the evaluation of Romanian varieties for wine with high market potential;
- A better briefing of the producers in Romania regarding the results of research and of breeding for the wine varieties;
- Financial support for the grapevine nursery sector, in order to provide for the wine producers autochthonous. quality nursery material and in sufficient quantity;

- Governmental programs and financial support to stimulate the vineyard producers to give up HPD and to promote within cultures the new *V. Vinifera* varieties adapted to different winegrowing regions of Romania or the interspecific new generation hybrids with sustainable resistance.

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Table 1

Surface dynamics at the main wine grape varieties in Romania

Grape Variety	2014*		2017**		±2017/ 2014	± 2017/ 2014
	Ha	(%)	Ha	%	Ha	%
<b>Varieties for white wines</b>						
Fetească Regală	13690	15.83	13834	15.81	+144	+1.0
Fetească Albă	10218	11.8	9836	11.24	-382	-3.74
Riesling Italian	5820	6.73	5622	6.42	-198	-3.40
Aligoté	5259	6.07	4962	5.66	-297	-5.65
Sauvignon	4759	5.49	4853	5.54	+94	+1.98
Muscat Ottonel	2984	3.45	4028	4.61	+1044	+35.00
<b>Total the first 5 varieties</b>	<b>39746</b>	<b>45.92</b>	<b>39107</b>	<b>44.67</b>	<b>-639</b>	<b>-1.61</b>
<b>Varieties for rosé and red wines</b>						
Merlot	11902	13.74	11693	13.35	-209	-1.76
Cabernet Sauvignon	4822	5.57	4725	5.39	-97	-2.0
Fetească Neagră	2117	2.45	2665	3.05	+548	+25.86
Băbească Neagră	2756	3.18	2726	3.11	-30	-1.1
Roșioară	2324	2.68	1984	2.27	-340	-14.63
<b>Total the first 5 varieties</b>	<b>23921</b>	<b>27.85</b>	<b>23793</b>	<b>27.17</b>	<b>-128</b>	<b>-0.54</b>
<b>Others varieties</b>						
Mix of <i>Vitis vinifera</i> varieties	5216	6.04	-	-	-	-
<b>TOTAL <i>Vitis vinifera</i> varieties</b>	<b>86561</b>	<b>100.00</b>	<b>87552</b>	<b>100</b>	<b>+991</b>	<b>+1.14</b>

Data processed after: \*Operative data M.A.D.R., 2014; \*\* Operative data M.A.D.R., 2017

Table 2

Dynamics of wine production in the winegrowing regions of Romania \*

Winegrowing region	Total (thousand hl)		±2017/ 2014 (%)	Wine with D.O.C. (thousand hl)		±2017/ 2014 (%)	Wine with I.G. (thousand hl)		±2017/ 2014 (%)	Varietal wines (thousand hl)	Wines without D.O.C./ I.G. (thousand hl)		±2017/ 2014 (%)
	2014	2017		2014	2017		2014	2017			2017	2014	
<i>Podișul Transilvaniei</i>	204.1	311.65	+52.69	153.5	79.59	-48.15	2.4	0.00	-100	0.695	48.2	106.10	+120.12
<i>Dealurile Moldovei</i>	846.9	1230.97	+45.35	149.4	272.1	+82.13	68.5	118.23	+72.6	45.742	629.0	794.91	+26.38
<i>Dealurile Munteniei și Olteniei</i>	433.9	712.15	+64.13	60.8	168.93	+177.85	31.2	16.56	-46.92	11.278	341.9	515.31	+50.72
<i>Dealurile Banatului</i>	129.8	259.17	+99.67	26.2	89.02	+239.77	0.0	0.49	+ 49.0	95.745	103.6	73.91	-28.66
<i>Dealurile Crișanei și Maramureșului</i>	116.6	109.91	-5.74	7.7	44.73	+480.9	4.8	35.36	+636.60	2.528	104.1	27.29	-73.78
<i>Colinele Dobrogei</i>	561.4	166.06	-70.42	89.4	64.45	-27.91	23.4	63.93	+173.21	2.954	448.6	35.18	-92.15
<i>Terasele Dunării</i>	5.1	4.43	-13.14	0.0	0.00	0.00	1.7	3.71	+118.23	0.00	3.4	0.72	-78.82
<i>Nisipuri și Alte Terenuri Favorabile din Sudul Țării</i>	2.2	4.31	+95.91	0.0	0.00	0.00	0.0	0.00	0.00	0.00	2.2	4.31	+95.91
<b>TOTAL</b>	<b>2300</b>	<b>2798.58</b>	<b>+21.68</b>	<b>487</b>	<b>718.79</b>	<b>+47.59</b>	<b>132</b>	<b>238.28</b>	<b>+80.52</b>	<b>158.94</b>	<b>1681</b>	<b>1557.70</b>	<b>-7.33</b>

\* Data processed after: M.A.D.R., 2014 and 2017