

Study regarding the viticulture activity in Satu Mare County

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Abstract The favourable environment for grapevine growing, tradition, but also the importance in ensuring the employment of a significant part of the population was reasons of special interest in this crop in Romania, which ranked on ten among largest area of vineyards area in the world (2.6%) in 2020. Vineyards areas represent 1.8% from the agricultural area of Romania land and 2.8% of the fertile and productive soil. Once the Romania's accession to the EU, funds were granted through special programs designed for the development of wine-growing areas, and therefore, the expansion of vineyards and the higher quality wines, allowed to increase the competitiveness of Romanian wines both on national and international market. Also, the late climate changes, with influence on different parameters used in establishing the objectives of viticulture and wine centers located at the climatic limits of grapevine growing, cause changes in the traditional varietal assortment in many wine-growing areas. The present study aim was to remind and analyse the grapevine growing history from Satu Mare region, through the wine-growing tourist routes of Satu Mare County, presenting the most famous vineyards and wineries, which have particularly important cultural, social, and economic importance in this part of Romania. The white wines from local wineries are fresh and slightly acidic while the red wines are balanced, with aging potential.

Key words

viticulture, Satu Mare, wines, wineries, varieties, vineyards

Over the years, the wine growing areas have changed quite a lot both in Romania and also in Satu Mare County. By reconversion programs, about 1000 hectares of noble varieties were planted during last decades; many vineyards were planted with red varieties, which in the past were not very common in this area, known as favourable only to white varieties and wines. [1; 2; 3; 23] But, due to global warming and increasing of long-term average temperatures, it is proven that red varieties behave extremely well in this area as well. Currently, there is a new trend in tourism for places that combine nature with traditions and authenticity; [4; 5; 6] in this trend the wine tourism fits perfectly, to which the Satu Mare winemakers are directed, which are also promoted through the "Satu Mare Wine Road" tourist project. The wine that has a geographical indication "Dealurile Sătmăruului" is made from grapes harvested from vineyards located on slopes from Maramureș hills, where in addition to the environment an essential role is played by the winemakers correlated with wine culture and traditions from this region. [7; 14; 17].

Material and Method

The data used and analysed in the research are collected from the statistical data published by the National Institute of Statistics in Romania, regarding the land area, grapevine varieties, and the grape

production recorded on nationally and Satu Mare list. Furthermore, the study includes data about the main grapevine growers in Satu Mare County, concerning the cultivated area, date of vineyard establishment, grape variety from vineyards and wine types delivered on the market.

Results and Discussions

According to National Institute of Statistics in Romania (INSSE) data, the land area from Satu Mare County is 441 785 ha, of which the area under vines and vine nurseries was 3482 ha in 1990, respectively 3821 ha in 2014, and currently this area is on increasing trend (Table 1).

The area of vineyards in production in 1990 in Satu Mare County was 3271 ha, but in the next twenty years it decreased by about one third. The total number of vineyards in production during 2019 growing season increased and the cultivated area reach 2773 ha. The vineyards planted with vine hybrids prevail with 2518 ha vines in production during 2019. [25]

In the last decade young vineyards planted with grafted vines were established, therefore the planted area vines in production reach about 255 ha in 2019 (Table 2). The main production is represented by wine varieties, with vine in production on 2763 ha in 2019. Table grapes vineyards were spread over 110 ha in 1990, but after decades in 2019, only 10 ha of table

vines in production remains. The average grape production per hectare in 2019 was 5675 kg / ha, above

the national average production, of 5486 kg / ha respectively (Table 3).

Table 1

The land fund area by usage

Land fund area (ha)	1990	2014
Total Romania	23 839 071	23 839 071
Total Satu Mare County	441 785	441 785
Total vineyards and vine nurseries in Romania	277 371	209 417
Total vineyards and vine nurseries in Satu Mare County	3482	3 821

(source: [TEMPO Online \(insse.ro\)](http://TEMPO Online (insse.ro)))

Table 2

The area of vine in production in Satu Mare County

Vineyards	Area (ha)		
	1990	2010	2019
Vines in production - total	3271	2483	2773
Grafted vines in production	538	89	255
Hybrid vines in production	2733	2394	2518
Table grapes	110	45	10
Wine grapes	3161	2438	2763

(source: [TEMPO Online \(insse.ro\)](http://TEMPO Online (insse.ro)))

Table 3

Average grape production /ha

Vineyards	Production (kg/ha)		
	1990	2010	2019
Vines in production – total Romania	4266	4182	5486
Vines in production – total Satu Mare County	4829	3118	5675
Grafted vines in production	1818	4045	5177
Hybrid vines in production	5422	3083	5726

(source: [TEMPO Online \(insse.ro\)](http://TEMPO Online (insse.ro)))

Table 4

Vineyards area owned by main wineries in Satu Mare County

No.	Winery	Starting year	Vineyards area (ha)
1	Dobra Winery	2010	290
2	Rătești Winery	2008	205
3	Șereș Vineyards	2013	90
4	Nachbil Winery	1999	25
5	Hetei Family from Beltiug	2005	15
6	Teodor Winery from Rătești	2015	12
7	Năstase Winery - Halmeu	1997	6
8	Jurchiș Winery from Beltiug	1987	5
9	Edgar Brutler Winery	2018	4
10	Casa Vlas Winery from Ardud	2011	2,21

The largest vineyards in Satu Mare County are owned by Dobra Winery (290 ha) and Rătești Winery (205 ha), followed by the Șereș Vineyards with 90 ha and vineyards with less than 25 ha are come after. [8; 24]

Jurchiș [11] Winery from Beltiug area started as a small family business since 1987, while the other farmers set up the vineyards after 1990. The youngest winery (Edgar Brutler Winery) was established in 2018 (Table 4). [18]

“Dobra Winery” sells 6 and 9 liter bag-in-box bulk wine under the Kallos label and is bottling wine

under the Dobra Wine and Pogany labels, from the grapewine varieties: Burgund Mare, Cabernet Sauvignon, Mustoasă de Măderat, Sauvignon Blanc, Italian Riesling, Fetească Regală, Muscat Ottonel, Tamăioasă Românească, Traminer roz, Cadarcă, Fetească Neagră, Merlot and Pinot Noir.

The Pogany Fetească Neagră 2015 vintage – dry Red wine was awarded a silver medal at the International Wine Competition "Monde Selection 2019" in Brussels.

Table 5

The wine assortment from the main wineries in Satu Mare County		
Winery	Wine varieties	Region
Dobra Winery	Burgund Mare, Cabernet Sauvignon, Mustoasă de Măderat, Sauvignon Blanc, Italian Riesling, Fetească Regală, Muscat Ottonel, Tamâioasă Românească, Traminer <i>Rosé</i> , Cadarcă, Fetească Neagră, Merlot, Pinot Noir	GI Crișana Hills GI Sătmăruului Hills
Rătești Winery	Italian Riesling, Sauvignon Blanc, Fetească Regală, Muscat Ottonel, Traminer, Pinot Noir, Merlot, Cabernet Sauvignon, Fetească Neagră	GI Sătmăruului Hills
Șereș Vineyards	Fetească albă, Fetească regală, Sauvignon Blanc, Chardonnay, Pinot gris, Italian, Riesling Traminer Muscat Ottonel, Tămâioasă românească, Pinot noir, Burgund mare, Cabernet Sauvignon, Merlot	GI Sătmăruului Hills
Nachbil Winery	Silvaner Verde, Syrah, Grunspitz, Traminer, Blaufrankisch, Pinot Noir, Merlot, Cabernet Sauvignon, Charonnay, Sauvignon Blanc, Fetească Neagră, Riesling Rhin, Fetească Regală, Mustoasă de Măderat, Baras	GI Sătmăruului Hills
Edgar Brutler Winery	Welschriesling, Königliche Mädchentraubt, Grunspitz, Fetească Regală	Sătmăruului Hills
Hetei Family	Pinot Noir, Merlot, Cabernet Sauvignon, Syrah, Cabernet Franc, Fetească neagră, Riesling Rhin, Sauvignon Blanc, Chardonnay, Furmint, Pinot Gris, Tămâioasă Românească, Fetească Regală	GI Crișana Hills GI Sătmăruului Hills
Teodor Winery	Sauvignon Blanc, Tămâioasă Românească, Riesling Rhin, Pinot Gris, Traminer <i>Rosé</i> , Cabernet Sauvignon, Fetească Neagră, Merlot, Cadarcă, Pinot Noir	GI Sătmăruului Hills
Năstase Winery	Fetească Regală, Riesling Rhin, Muscat Ottonel, Fetească Neagră, Pinot Noir, Merlot, Cabernet Franc and Cabernet Sauvignon	GI Sătmăruului Hills
Jurchiș Winery	<i>Riesling Rhin, Fetească Regală, Traminer, Muscat Ottonel, Chardonnay, Pinot Noir, Merlot, Fetească Neagră and Cabernet Sauvignon</i>	GI Sătmăruului Hills
Casa Vlas Winery	Sauvignon Blanc, Riesling Rhin, Cabernet Sauvignon, Syrah	GI Sătmăruului Hills
Jugrestan Winery	Italian Riesling, Rhiesling Rhin, Chardonnay, Fetească Albă, Fetească Regală, Cserszegy Fuzeres, Muscat Ottonel, Tămâioasă Românească, Pinot Noir, Merlot, Cabernet Sauvignon and Fetească Neagră	GI Sătmăruului Hills

In “Rătești Winery” the wine assortment is made up from the wine varieties: Italian Riesling, Sauvignon Blanc, Fetească Regală, Muscat Ottonel, Traminer, but also from red varieties: Pinot Noir, Merlot, Cabernet Sauvignon and Fetească Neagră. The winery sells the wine in 5 l bottles and bag-in box. The wines are sold with the label “Cramele Rătești”, “Dealul Pivnițelor” and “Funka”. Varieties Fetească neagră 2017 vintage, Traminer 2019 and Muscat Ottonel 2019 vintage were silver medal awarded at “The Balkans International Wine Competition 2020”; one year before, in 2019, at the same Wine Trade other three silver medals were recorded for: Muscat Ottonel 2018, Sauvignon blanc 2018 and Riesling Italian 2018 vintages [10].

In “Șereș Vineyards” can be found wine varieties like: Fetească alba, Fetească regală, Sauvignon Blanc, Chardonnay, Pinot gris, Italian Riesling, Traminer Rose, Muscat Ottonel, Tămâioasă românească, Pinot noir, Burgund mare, Cabernet Sauvignon, Merlot. [9]

Grape production is largely used for winemaking, but large amounts are sold to other wineries or delivered on the market. For example, in 2020 the entire grape production of Sauvignon blanc and Chardonnay was sold; about two tons (~ 10% of

production) were used for Muscat Ottonel winemaking, while 90% of grape production was sold; from the Pinot noir variety around three tons of grapes were used for rosé vinification (~ 10% of production), and results 1700 litres of wine which after was sold in bulk; most of the Pinot noir grape production was sold. From Merlot variety half (50%) from grape production was sold, rate which correspond to about 16 tons of grapes.

A certain amount of grape production from 2020 was pressed and about 6000 litres of juice were sold. The wine from the winery is sold mostly in bulk but also bottled. Currently, Șereș Vineyards have submitted the documentation for the Geographical Indication “Dealurile Sătmăruului” registry, listed for the wine varieties: Merlot 2019 vintage, Cabernet Sauvignon 2019 vintage, Cabernet Sauvignon Rosé 2020 vintage, Traminer Rosé 2020 vintage, Italian Riesling 2020 vintage and Burgund mare 2020 vintage.

Wine grape varieties planted in the vineyard of Nachbil Winery are: Silvaner Verde (2 ha), Syrah (3 ha), Grunspitz (1.8 ha), Traminer (0.5 ha), Blaufrankisch (2 ha), Pinot Noir (2.5 ha), Merlot (3 ha), Cabernet Sauvignon (3 ha), Chardonnay (2 ha), Sauvignon Blanc (1 ha), Fetească Neagră (1 ha), Riesling Rhin (1,2) ha; in addition, there is an area of 2 ha with old vines from grape varieties: Fetească

Regală, Mustoasă de Măderat, Baras, with vines over 60 years old. The wine is bottled and labelled as Nachbil and La Capela. Beginning with 2010, the owners start the organic farming and from 2017 Nachbil Winery received the organic certification for their wine and wine-by products. The Nachbil Winery was an example to follow over time, by other farmers in the region. [13; 22]

Nachbil Winery was created by the oenologist Johann Brutler and businessman Mihály Lieb in 1990 and their knowledge and skills in grapevine growing and winemaking have large influence on decision to start the organic farm "Edgar Brutler Winery", planted on four hectares. The grapes are processed in a traditional cellar, of 60 m long, traditional in Beltiug village. Grapes are harvested from old vines of the varieties: Welschriesling, Königliche Mädchentraubt, Grünspitz, which in the past were widespread in the area, but also from the new planted vineyard with Fetească Regală variety. The Brutler family named their viticultural activity "old-school-avant-garde", meaning they are specific with both winemaking and labelling with new ideas on old structures.

The wine grape varieties planted in the vineyard of "Hetei Family" are about 70% red varieties and 30% white varieties, namely: Pinot Noir, Merlot, Cabernet Sauvignon, Syrah, Cabernet Franc, Fetească neagră, Riesling Rhin, Sauvignon Blanc, Chardonnay, Furmint, Pinot Gris, Tămâioasă Românească, and Fetească Regală. On the Hetei Family wine bottles labels there are represented the cellars from Beltiug, which have a rich and recognized viticultural history. In fact, the family owns such a cellar, of 33 m long and over a century old. [21]

The wine varieties from "Teodor Winery" located in Rătești, planted on clay-sandy soils are: Sauvignon Blanc, Tămâioasă Românească, Riesling Rhin, Pinot Gris, Traminer Rosé, Cabernet Sauvignon, Fetească Neagră, Merlot, Cadarcă, and Pinot Noir. The wines are known on the market as "Crama Teodor" and "Adeodatus"; the winery can store 100,000 litres of wine. [12]

"Năstase Winery" is a family business from Halmeu Vii area; the vineyard is located in the northern extreme of Satu Mare County. The wines from Năstase Winery have unique and special minerals, resulted from the brown clay soils formed by the disaggregation and alteration of the volcanic rocks typical in the area. The wine varieties grown in the vineyard are: Fetească Regală, Riesling Rhin, Muscat Ottonel, Fetească Neagră, Pinot Noir, Merlot, Cabernet Franc and Cabernet Sauvignon.

On five ha in Beltiug area can be found also the "Jurchiș Winery", a small family business that produces natural wines, sold not only in Romania but also abroad; the wines from the winery can be found on the market in England, Austria, Germany, Hungary and Dubai. The wine grape varieties planted are: Riesling Rhin, Fetească Regală, Traminer, Muscat Ottonel,

Chardonnay, Pinot Noir, Merlot, Fetească Neagră, and Cabernet Sauvignon. The grape production in the vineyard is about 30 tons, from which are pressed about 20,000 litres of organic wine each year. After vinification dry, semi-dry and semi-sweet wines are bottled and delivered on the market.

In Arduș area there is "Casa Vlas Winery". The wine varieties grown in the vineyard are: Sauvignon Blanc, Riesling Rhin, Cabernet Sauvignon and Syrah. The winemakers produce reductive wines, extractive roses or red wines aged in oak barrels, in quantity around 7000 litres / year. [19]

In the "Jugrestan Winery" from Carei area planted on 0.65 ha, can be found the wine grape varieties: Italian Riesling, Rhiesling Rhin, Chardonnay, Fetească Albă, Fetească Regală, Cserszegy Fuszereș, Muscat Ottonel, Tămâioasă Românească, Pinot Noir, Merlot, Cabernet Sauvignon and Fetească Neagră. In the winery can be bottled 1500 - 2000 litres per year resulted from hand-labour vineyard managing, including grapes harvesting and winemaking.

Another viticulturist who deserves to be mentioned, recommended by the special wines, is Reizer Gyorgy from Turulug. The vineyard management is entirely organic; few wine grape varieties can be found in the vineyard (Merlot, Cabernet Sauvignon, Sauvignon blanc and Riesling Rhin) but the wines are very appreciated by the consumers and specialists during the Competitions organized in the Satu Mare region. [15; 16; 20].

Conclusions

The area planted with vines and viticultural nurseries in Satu Mare County represents around 2% of the viticultural area from Romani land. Currently area planted with vine in production in Satu Mare County, has not yet reached the level existing in 1990. Most of the current vineyards are based on the old ones from Satu Mare County; grapevine growers are trying to save varieties from old plantations, or setting up new vineyards on slopes of the hills that are well-known over time for the grapes quality. The wines from this region are suitable for blending, balanced and often superior to the wine resulted from every single variety. Wines with a geographical indication (GI) Dealurile Sătmăruului usually have a higher acidity, but when it is well balanced with alcohol, it can be a valuable indicator in the organoleptic analysis. The "Wine Road" tourist routes aims to reviving traditions and to link the past with the future. The number of people crossing the Wine Road in Romania, on holidays or weekends, is increasing in recent years; there is even a niche of tourists who choose especially to visit vineyards and wineries to enjoy wine tastings.

Wine and wine tourism as concern the impact of costs and benefits is both a profit possibility for the farmers but also a long-term investment for nationally and internationally wines reputation, because the wine

quality, naturally contribute to the customer loyalty. The activity in the wine sector, correlated with oenotourism, is economically efficient, creates jobs, and takes out the maximum potential of agricultural land; in addition the vineyards landscapes are beautiful and attractive during the whole year, with positive effects on the human psychic. Grapes, juice or wine can be served during the year.

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