

STUDY OF THE QUALITY PARAMETERS OF THE GRAPES USED AS RAW MATERIAL FOR OBTAINING TOP-QUALITY RED WINES IN THE OREVIȚA AND GOLUL DRÂNCII VINEYARDS

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Abstract

On the conditions of a 4-5 t/ha productive potential (Cabernet Sauvignon and Pinot noir), 7-8 t/ha (Merlot and Feteasca neagră) and 8-10 t/ha (Sangiovese and Băbeasca neagră), the viticultural assortment from Orevița and Golul Drâncii vineyards – generally – presents an exceptional qualitative potential, accordingly to the obtaining of some VDO and VDOC red wines.

Keywords : *kind, variety, vineyard, glucids, acidity*

Introduction

On the vine growing and on the quality of the red wines obtained in the vineyards from Mehedinți's site, named Orevița and Golul Drâncii, we have been left some references of an outstanding value by the great scholars and specialists of the field: Ion Ionescu de la Brad (1868), Radulescu (1896), Nicoleanu (1900), Munteanu (1900), Teodorescu (1929), and Ciurescu (1939).

The famous vineyards of Mehedinți were destroyed by the phylloxera disaster which happened by the end of the 19th century and at the dawn of the 20th. Their reconstitution began in the sixties, but, as far as red wines are concerned, new kinds was adopted, that are different from those which had brought the ancient vineyards's fame in the past.

This study presents the results of researches made on the qualitative potential of grapes belonging to these newly adopted kinds, which come, mostly, from abroad.

Experimental

Our investigations took eleven years, during the ninth and tenth decades of the 20th century. We aimed to the study of the following compositional assets:

- the amounts of ferment glucids ;
- the relative levels of acidity, the amounts of anthocyanical colouring matters and the aromatic structure of the colouring matter.

The researches were carried on both in the Orevița vineyard and in the Golul Drâncii one. The studied kinds were: Cabernet Sauvignon, Merlot, Pinot noir, Sangiovese, the Fetească neagră and the Băbească neagră. The analysis was accomplish after official methods recommend by O.I.V. and adopted by I.C.V.V.

Rezults and Discussions

At full maturity (table1), for both vineyards, the Pinot noir kind presents the highest relative level of glucids (212 respectively 215 g/l), followed by Merlot (with 201 respectively 205 g/l).

Under the same conditions and at the same moment, the more productive kinds- Sangiovese and Băbească- contain, in their grapes, average glucid amounts of 180 g/l, while the grapes of Cabernet-Sauvignon and Fetească neagră have relative amounts of ferment sugars of about 190-200 g/l.

At full maturity, acidity maintained itself at high enough levels. In all cases, the level of acidity stood from 5.33 g/l (the Fetească neagră from Orevița) to 5.88 g/l (the Sangiovese from Orevița). The exception was the Pinot noir kind, where this parameter fell under 5 g/l.

When reaching the top productivity and attending to the uppermost level into the grapes, that is to say at fully grown maturity, the amounts of anthocyan present significant differences from one kind to another. According to this criterion, Cabernet-Sauvignon comes first, with levels such as 125 mg/ 100 g grapes (Orevița) and 131 mg/ 100g grapes (Golul Drâncii). Cabernet-Sauvignon is followed, far behind, by Merlot (87 mg/100 g grapes - Orevița and 95 mg/ 100 g grapes - Golul Drâncii). In an uprising range of their anthocyan levels (from 64 and

73 mg/100 g grapes) stand the kinds of Fetească neagră, Băbească neagră and Sangiovese (figure 1).

The Pinot noir kind's contents in colouring anthocyanic matter looks as very modest, compared to the two kinds of which we have reasons to anticipate a really developing perspective, we mean Cabernet-Sauvignon and Merlot.

Table1. Main quality parameters of the grapes from black kinds, cultivated at the Golul Drâncii vineyard at full biological maturity for 11 consecutive years (1992-2002)

Vineyard	Kind	Glucids g/l		Acidity g/ H ₂ SO ₄		Anthocyanins mg/100g grapes	
		Oscillation limits	Average	Oscillation limits	Average	Oscillation limits	Average
Orevia	Cabernet Sauvignon	180-199	192	5.36-6.16	5.66	117-134	125
	Merlot	195-204	201	5.20-6.42	5.47	79-97	87
	Pinot noir	206-215	212	3.62-4.83	4.58	32-44	38
	Fetească neagră	188-205	196	4.91-5.74	5.33	58-73	64
	Sangiovese	172-196	181	5.19-6.23	5.88	62-78	73
Golul Drâncii	Cabernet Sauvignon	185-200	196	5.22-6.43	5.78	123-142	131
	Merlot	193-210	205	4.81-5.92	5.69	82-101	95
	Pinot noir	210-220	215	3.49-4.89	4.22	38-54	45
	Băbească neagră	173-189	181	5.36-6.38	5.77	58-73	66

At the technological maturity (figure 2), or at the moment of the vintage, that is to say 10-20 days after having reached full biological maturity, the above mentioned order is preserved mostly, but the levels in glucids are increased, so are the anthocyanins too while acidity levels are lowered (table 2).

So, in all cases the relative amounts of glucids (see us multi-annual average figures) stood over 200 g/l. For this the Pinot noir kinds is remarkable, having even reached 245 g/l, the average amount for it standing over 230 g/l. This is a proof of what we spoke of, regarding the production of grapes, through the idea of the relation existing between quantity and quality.

Cabernet Sauvignon and Fetească neagră have reached glucids' levels from 210 to 220 g/l (meaning in alcoholic degrees, from 12.0 to 13 vol. %). Sometimes, the grapes of Băbească neagră and Sangiovese

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have reached to glucids' levels ensuring 11.8-12.0 vol. % in alcoholic degrees, too.

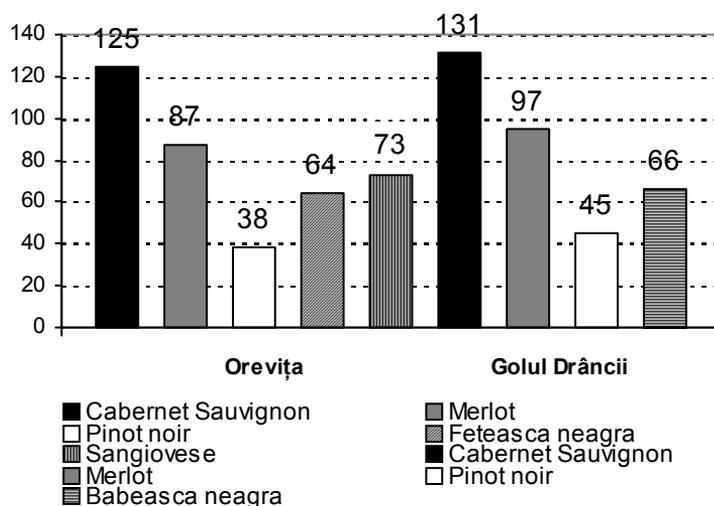


Fig.1. Antocyan content at biological maturity

Table 2. Main quality parameters of the grapes from black kinds cultivated at the Golul Drâncii vineyard at technological maturity for 11 consecutive years of vintage (1992-2002)

Vineyard	Kind	Glucids g/l		Acidity g/ H ₂ SO ₄		Anthocyan mg/100g grapes	
		Oscillation limits	Average	Oscillation limits	Average	Oscillation limits	Average
Orevița	Cabernet Sauvignon	205-220	213	4.61-4.89	4.74	123-157	139
	Merlot	211-224	216	4.44-4.92	4.66	77-99	90
	Pinot noir	226-245	238	3.41-4.48	3.79	59-68	63
	Fetească neagră	210-224	215	4.36-5.01	4.92	82-95	88
	Sangiovese	195-206	201	4.58-5.14	4.99	89-94	87
Golul Drâncii	Cabernet Sauvignon	206-223	215	4.50-4.90	4.70	128-159	143
	Merlot	210-227	218	4.30-4.86	4.50	99-109	103
	Pinot noir	220-240	231	3.35-4.50	3.68	49-69	53
	Băbească neagră	201-215	210	4.50-5.09	4.69	67-88	72

The acidity of grapes lowered, in most cases, under 5 g/l, for Pinot noir, even values under 3.5 g/l were recorded. Only few times, the

kinds of Fetească neagră, Sangiovese and Băbească had, in their grapes, levels a bit over 5 g/l.

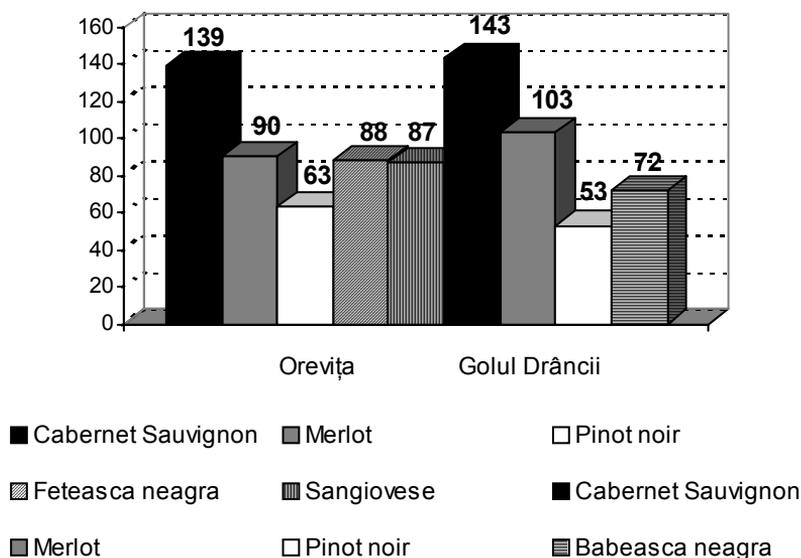


Fig. 2. Antocyan content at technological maturity

Averagely, through these 11 years, the acidity levels have values from 3.79 g/l (Pinot noir) to 4.99 g/l (Sangiovese) at the vineyard of Orevița and from 3.68 g/l (Pinot noir) to 4.70 g/l (Cabernet-Sauvignon) at the vineyard of Golul Drâncii.

It is worthy to notice that the "leading" kinds- Cabernet-Sauvignon and Merlot- have both a good acidity and the remarkable glucids' potential. The same kinds of grapes also have the highest levels of anthocyan (139-143 mg/ 100 g grapes and respectively 90-103 mg/ 100 g grapes) (figure 2).

Anthocyanic compounds can provide a good coloration process for all kinds of grapes, except for Pinot noir, for which the level of colouring matter stands between 50 and 70 mg/ 100 g grapes.

Conclusions

The kinds having a real development perspective, that is to say Cabernet-Sauvignon and Merlot are able to produce 5 t of grapes/ ha,

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respectively 7-8 t/ha. The Fetească neagră- kind stands too, for a production of 7.8 t/ha, as one of the most precious Romanian kinds. At the technological maturity (at vindage), in all cases, the relative levels of glucids (seen as multi-annual average figures) stood over 200 g/l. Pinot noir was still outstanding, for its glucids' levels climbed to 245 g/l, the acidity amounts stood between 3.68 g/l (Pinot noir) and 4.9 g/l (Sangiovese) for the Orevița vineyard and from 3.68 g/l (Pinot noir) and 4.70 g/l (Cabernet-Sauvignon) for the vineyard of Golul Drâncii. For the leading kinds, Cabernet-Sauvignon and Merlot, the contents of anthocyanins stand between 139-143 mg/100 g grapes and respectively between 90-103 mg/ 100 g grapes, being regarded as very appropriate.

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