

PHYSICO-CHEMICAL AND SENSORIAL ANALYSIS OF THE MAIN ROMANIAN GRAPE VARIETIES IN 2009

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Abstract

Quality and quantity of wines from the 2009 crop is specific to each grape variety, influenced by the vineyard area, climatic conditions and technological conditions of maintenance and winemaking. The white wine production is still dominated by Feteasca Regala, Feteasca Alba and Italian Riesling varieties. Valuable composition parameters are found in the varieties Chardonnay, Sauvignon Blanc and Italian Riesling.

Sensory analysis of studied white wines for 2009 noted Feteasca Alba and Sauvignon Blanc wines. The red wine production is dominated by Merlot, followed by Feteasca Neagra, Pinot Noir and Cabernet Sauvignon. Valuable composition parameters recommended for 2009 Cabernet Sauvignon and Feteasca Neagra varieties. In terms of sensory, quality is outstanding for Pinot Noir and Feteasca Neagra varieties.

Key words: sensorial analysis, white wines, red wines, winemaking

INTRODUCTION

Quality and quantity of wines from the 2009 crop is specific to each grape variety and is influenced by the vineyard area, climatic conditions and technological conditions of maintenance and winemaking.

The white wine production has as main varieties Feteasca Regala, Feteasca Alba and Italian Riesling grapes. The red wine production is dominated by Merlot, followed by Feteasca Neagra, Pinot Noir and Cabernet Sauvignon.

MATERIAL AND METHODS

The varieties range of DOC neutral white wines, crop 2009, consisted of: Fetească Alba, Feteasca Regala, Italian Riesling, Sauvignon Blanc and Chardonnay. Feteasca Regala accounted for the largest share (30.83%) and Chardonnay for the lowest (5.48%) (Fig. no. 1)

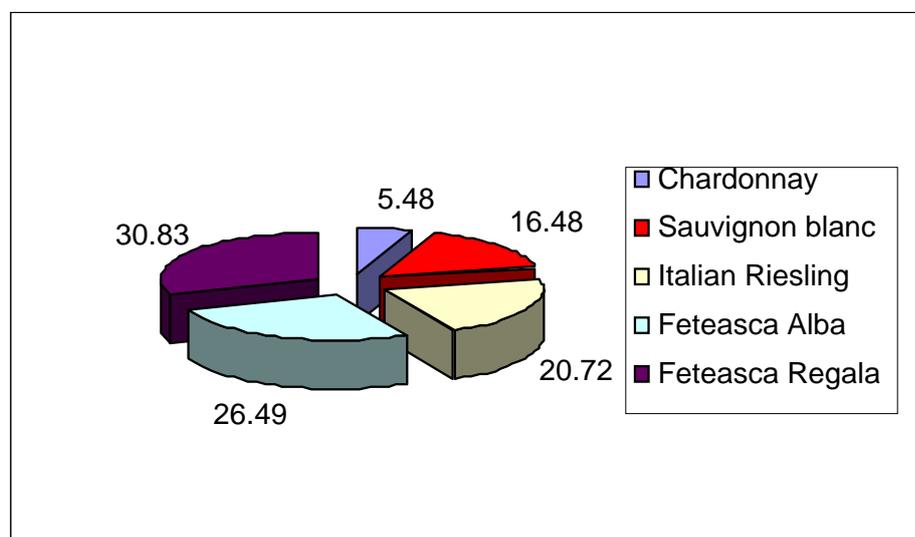


Fig. No. 1
The varieties range (%) of the DOC neutral white wines, crop 2009

The level of alcoholic concentration was high, between 12.9 (Feteasca Alba) and 13.6 % vol. alcohol (Chardonnay) (Tab. 1).

Table 1

Composition characteristics of neutral white wines produced in the DOC wine-growing area, crop 2009					
Composition characteristics	Feteasca Alba	Feteasca Regala	Riesling italian	Sauvignon Blanc	Chardonnay
Alcoholic concentration (% vol.)	12.90	12.95	13.08	13.10	13.63
Total acidity (g/l tartaric acid)	5.68	5.58	5.90	6.01	6.32
Volatile acidity (g/l acetic acid)	0.35	0.31	0.32	0.36	0.50
Non-reducing extract (g/l)	21.24	21.55	22.06	20.86	22.52
Sugar (g/l)	2.21	1.47	1.65	1.97	2.58

Total acidity was reduced in Feteasca Alba, Italian Riesling and Feteasca Regala white wines, having values below 6 g/l tartaric acid. Neutral white wines from 2009 crop were in the range from slender to heavy. Sensorial average score achieved by neutral white wines ranged from 1.87 (Chardonnay) to 2.25 (Feteasca Alba) (Fig. 2).

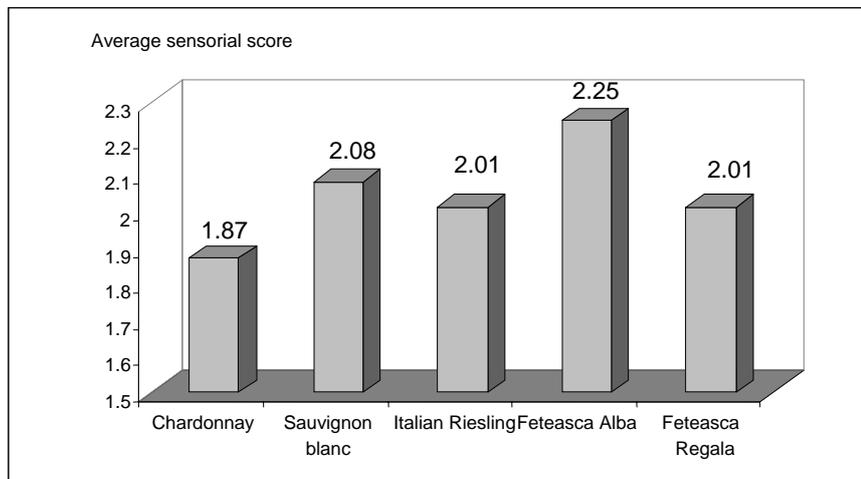


Fig. 2. Sensorial quality of DOC neutral white wines, 2009 crop

The average coefficient of the DOC neutral white wines production from 2009 crop was 2.19, corresponding to very good rating.

Assortment of red wine production was as follows: Merlot, Feteasca Neagra, Cabernet Sauvignon, Pinot Noir, Burgund Mare and Blauerzweigelt. Their quantitative weight ranged from 1.53% (Blauerzweigelt) to 47.12% (Merlot) (Fig. no. 3).

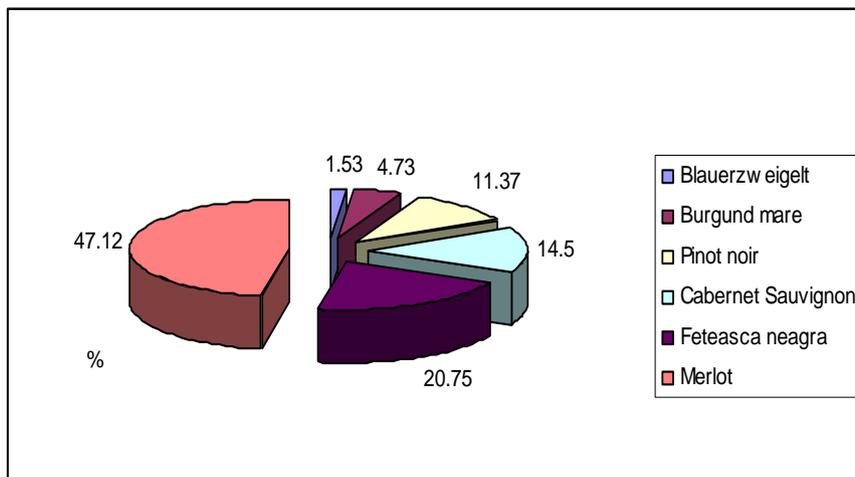


Fig. 3 The varieties range (%) of the DOC neutral white wines, crop 2009

Alcoholic strength of red wines ranged from 12.0 (Blauerzweigelt) to 13.7% vol. alcohol (Feteasca Neagra). Acidity was above the value of 5.5 g/l tartaric acid, with one exception, Pinot Noir wine (Table 2). The values of the two parameters have made red wines of the 2009 crop heavy wines.

Table 2.

Composition characteristics of neutral white wines produced in the DOC wine-growing area, crop 2009						
Composition characteristics	Burgund mare	Blauer - zweigelt	Merlot	Pinot Noir	Feteasca Neagra	Cabernet Sauvignon
Alcoholic concentration (% vol.)	13.08	12.00	13.36	13.04	13.67	13.63
Total acidity (g/l tartaric acid)	5.88	6.11	5.78	5.34	5.68	5.59
Volatile acidity (g/l acetic acid)	0.43	0.41	0.47	0.45	0.46	0.50
Non-reducing extract (g/l)	26.05	24.60	25.63	24.58	25.30	26.82
Sugar (g/l)	2.63	2.70	2.88	2.49	2.59	2.77
Intensity of staining (1 mm)	1.039	0.739	0.676	0.571	0.575	0.901

Non-reducing extract of red wines had medium values, ranging between 24.60 and 26.82 g/l. Intensity of staining was below the variety's average value. Highest sensorial quality was shown by Feteasca Neagra and Pinot Noir wines, which recorded an average sensorial score of 2.00 and 2.01 respectively. In last place was located Blauerzweigelt wine, which had a sensorial score of 2.42 (Fig. no. 4).

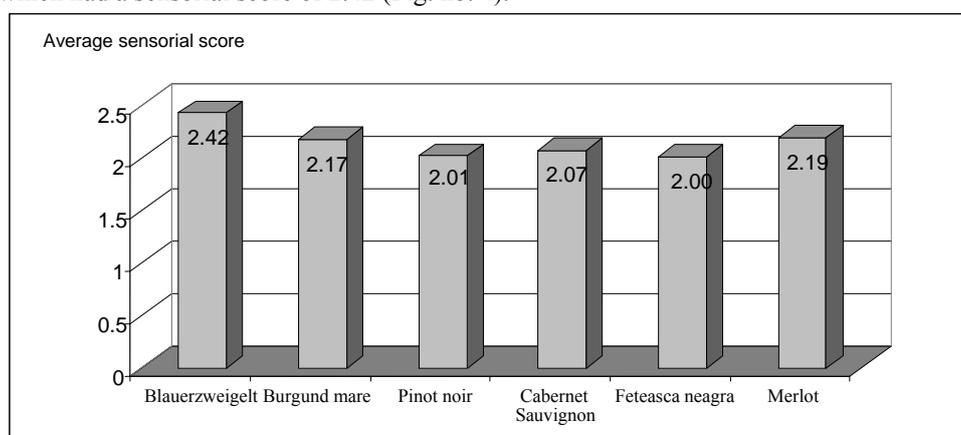


Fig. 4. Sensorial quality of DOC neutral red wines, 2009 crop

The production of DOC aromatic white wines, 2009 crop, consisted of Tamaioasa Romaneasca (52%), Muscat Ottonel (26%) and Busuioaca de Bohotin (22%). The level of alcohol in aromatic wines was high, all of them with no exception, having values of over 12.5% vol. alcohol (Tab. 3). The total acidity was lower in Tamaioasa Romaneasca wine (5.54 g/l tartaric acid) and very good in Muscat Ottonel and Busuioaca de Bohotin. The non-reducing extract had average values.

Table 3.

Composition characteristics of aromatic wines produced in the DOC wine-growing area, crop 2009			
Composition characteristics	Muscat Ottonel	Tamaioasa romaneasca	Busuioaca de Bohotin
Alcoholic concentration (% vol.)	12.80	13.55	12.67
Total acidity (g/l tartaric acid)	5.90	5.54	6.02
Volatile acidity (g/l acetic acid)	0.32	0.31	0.39
Non-reducing extract (g/l)	23.04	22.40	22.20
Sugar (g/l)	10.00	1.92	24.97

Average sensorial score of the Tamaioasa Romaneasca wine was 2.31, of the Muscat Ottonel wine was 1.97 and of the Busuioaca de Bohotin wine 1.99. Quality of the aromatic wines production was also very good, the average quality coefficient being 2.15.

RESULTS AND DISCUSSION

2009 was an exceptional year for Romanian wines in all the wine-growing areas. The useful heat balance, higher than the average of previous years in most vineyards, with sufficient and well distributed rainfall during the growing season, has resulted in good yields and very good wine, both quantitatively and qualitatively, leading to the development of wine quality.

Thus, in case of the neutral white wines there were sugar accumulations, non-reducing extract and acidity over the average of an ordinary year, the quality factor being very good, given the circumstances of productions over the average that also ensure the economic efficiency.

Most red wines have accumulated special and intense colors, sugar and non-reducing extract which ensured the producing of full bodied and generous wines.

Aromatic wines made in 2009 are an exception by their accuracy of flavor, balance provided by fruitiness, ensuring harmony and elegance of the wine.

CONCLUSIONS

The final conclusion for 2009 is that in terms of quantity, physico-chemical and sensorial, we can consider wines made over the average of last years, valued at national and international competitions attended so far in gold, silver and bronze medals, being actually the most fruitful participation of Romanian wines so far.

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