Research About Improvement the Aromatique Grapevine by Selection Clonale in the Vineyard Dealu Bujorului

Alina DONICI*, Florin BORA, Viorica ENACHE, Gabriel TABARANU

Research and Development Station for Vine and Winemaking Bujoru, Romania

*Corresponding author, e-mail: donicialina79@gmail.com

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Abstract

The main objective of this paper is to present quality and uvologic parameters of two elites clonal 'Muscat Ottonel' 35-21, 'Şarbă 25-45' and two varieties 'Muscat Ottonel', 'Şarbă' for aromatic white wines cultivated in Dealu Bujorului vineyard. The highest weight of a grape was recorded in the 'Şarbă 25-45' (183 g) and the lowest was recorded in 'Muscat Ottonel' (93 g). The lowest index structure was recorded in 'Muscat Ottonel' (27.0) and the higher was registered in 'Muscat Ottonel 35-21'. The highest quality production was registered by 'Muscat Ottonel 35-21'. Regarding the technological indices of varieties analyzed, 'Muscat Ottonel 35-21' has the highest structure of the grape, berries composition and yield compared with all. The uvologic index for the analyzed varieties are within the specific intervals for varieties for aromatic white wines of superior quality.

Keywords: *grapevine, selection clonal, vineyard*

Introduction

The paper shows to orientation improvement program. Selection of varieties vine lead to avoiding the emergence of heterogeneous populations in terms of genotypic and phenotypic mixtures biotypes (ecotypes, agro-ecotypes), valuable or improper, affecting the quantity and quality of production. Selection clonale varieties will determine improve and expand the current range, in terms of quantity and quality of production, because each clone by cultural skills and quality that was selected (quantity, quality, mixed), contributes complementary to make production superior quality by adapting their culture at climatic conditions and specific vineyards and wine center in order to obtain wines with denomination of origin (Bora *et al.*, 2015, 2014; Mureşan, 2008; Chun, 2005).

Aims and objectives

The main objective of this paper is to present quality and uvologic parameters of two elites

clonal 'Muscat Ottonel' 35-21, 'Şarbă 25-45' and two varieties 'Muscat Ottonel', 'Şarbă' for aromatic white wines cultivated in Dealu Bujorului vineyard.

Materials and methods

The material used was the elites clonal 'Muscat Ottonel 35-21', 'Şarbă 25-45', and the grapevines 'Muscat Ottonel' and 'Şarbă varieties'. Agro biological and technological observations and measurements were performed in period 2013-2015. The statistical interpretation of the results was performed by DUNCAN test using SPSS version 20.

Results and Discussion

Knowledge of the quality of the grapes is important to characterize the technological potential of varieties of vines. The highest weight of a grape was recorded in the 'Şarbă 25-45' (183 g) and the lowest was recorded in 'Muscat Ottonel' (93 g). The lowest index structure was recorded in 'Muscat Ottonel' (27.0) and the higher was

Tab.1. The quality production by varieties at SCDVV Bujoru mean for years 2013-2015 (mean $\pm$ S.E. in g)

Cultivar	Average weight of a grape bunch (g)	Weight of 100 berries (g)	Must sugar content (g/L)	Total acidity from must (g/H ₂ SO ₄)	Average vine production (kg/vine)
'Muscat Ottonel 35-21'	129 $\pm$ 1.0 b	243 $\pm$ 1 a	223 $\pm$ 0.65 a	3.43 $\pm$ 1 c	4.35 $\pm$ 0.74 a
'Muscat Ottonel '	93 $\pm$ 1.0 c	189 $\pm$ 0.26 c	218 $\pm$ 0.65 ab	2.6 $\pm$ 1 d	4.2 $\pm$ 0.74 a
'Şarbă 25-45'	183 $\pm$ 0.57 a	221 $\pm$ 1 b	201 $\pm$ 0.76 bc	4.2 $\pm$ 1 b	2.2 $\pm$ 0.28 b
'Şarbă'	179 $\pm$ 0.57 a	195 $\pm$ 0.26 c	198 $\pm$ 0.76 c	5.9 $\pm$ 1 a	1.7 $\pm$ 0.28 b
Average	146 $\pm$ 2.14	212 $\pm$ 1.95	210 $\pm$ 3.41	4.04 $\pm$ 0,1	3.13 $\pm$ 0.14
F (Fisher Factor)	100.32	40.32	32.77	42.27	23.532
Sig.	p $\leq$ 0.000	p $\leq$ 0.000	p $\leq$ 0.026	p $\leq$ 0.000	p $\leq$ 0.000

Average value $\pm$ standard deviation (n=3). Different letters are significantly different for P $\leq$ 0.05 between varieties. The difference between any two values, followed by at least one common letter, is insignificant.

Tab.2. The technological indices of varieties analyzed mean for years 2013-2015 (mean $\pm$ S.E. in g)

Cultivar	Index structure of the grape	Index berries	Berries composition Index	Yield Index	Yield %
'Muscat Ottonel 35-21	35.61 $\pm$ 1 a	41.5 $\pm$ 1b	6.4 $\pm$ 1.0 a	2.1 $\pm$ 0.4a	67.3 $\pm$ 0.13 a
'Muscat Ottonel '	27.0 $\pm$ 1 c	37.0 $\pm$ 1 c	4.5 $\pm$ 0.3 b	1.75 $\pm$ 1b	61.6 $\pm$ 1.0c
'Şarbă 25-45'	31.3 $\pm$ 0.5 b	50.5 $\pm$ 0.7a	4.7 $\pm$ 0.3b	2.1 $\pm$ 0.4 a	66.2 $\pm$ 0.13ab
'Şarbă'	30.6 $\pm$ 0.5 b	50.2 $\pm$ 0.7a	4.3 $\pm$ 0.3 b	2.0 $\pm$ 0.4 a	65.3 $\pm$ 0.28 b
Average	31.15$\pm$0.34	44.8$\pm$0.296	14.98$\pm$0.123	1.979$\pm$0.15	65.11$\pm$0.271
F (Fisher Factor)	26.658	126.751	14.774	27.442	20.87
Sig.	p $\leq$ 0.000	p $\leq$ 0.000	p $\leq$ 0.026	p $\leq$ 0.000	p $\leq$ 0.000

1. Average value $\pm$ standard deviation (n=3). Different letters are significantly different for P $\leq$ 0.05 between varieties. The difference between any two values, followed by at least one common letter, is insignificant

registered in 'Muscat Ottonel 35-21'. The variety with the highest content in sugar of must was 'Muscat Ottonel 35-21' (223 g/L) and 'Şarbă' variety has the lowest content in sugar (198 g/L) (Tab.1).

Based on the mechanical components of the grapes, the technological indices were calculated whose values complement the qualitative characteristics of a variety providing information on the direction of production - economic value and commercial. The lowest index structure of the grape was recorded in 'Muscat Ottonel' variety (27), while highest values elite clonal 'Muscat Ottonel 35-21' (35.61) followed by elite clonale 'Şarbă 25-45' (31.3) and 'Şarbă' variety (30.6). When analyzing the composition index of grapes it can be observed the lowest index was achieved in the 'Şarbă' (4). The highest berries index values was at elite clonale 'Şarbă 25-45' and 'Şarbă' variety which shows that the berries are smaller.

The best yield in must was obtained in elite clonal 'Muscat Ottonel 35-21' (67%) (Tab. 2).

Conclusion

The selection clonale 'Muscat Ottonel 35-21' registered the highest quality production. Regarding the technological indices of varieties analyzed, elite clonal 'Muscat Ottonel 35-21' has the highest structure of the grape, berries composition and yield compared with all. The uvologic index for the analyzed varieties are within the specific intervals for varieties for aromatic white wines of superior quality.

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