Presentation of Behavior in Târnave Vineyard of Perspective Hybrid Elites Obtained at Research and Development Station for Viticulture and Enology Blaj

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ABSTRACT

Intraspecific hybridization was performed to obtain new varieties, superior quality varieties of origin, with an accumulation of sugars and high acidity. In the yield trials to RDSVE Blaj, were selected hybrid elites: "4-2"; "3-35"; "3-4"; "9-17" and had a witness "Fetească regală-21 Bl.". It was found from the study compared to the control hybrid elites that they have a promising behavior with a good ratio sugar / acidity. It is noted hybrid elite "3-4" that net surpassed the other elite in terms of quality, earning the largest amount of sugar and good acidity. In terms of productivity, elite stands "3-35", who obtained the highest yield (3.64 kg / vine). All hybrid elites had a meritorious behavior beyond control "Fetească regală 21 Bl.", quality, demonstrating a high potential for production.

Keywords: hybrid elites, quality, productivity.

INTRODUCTION

Continuous improvement wine assortment, genetic diversity and potential genetic improvement (This et al., 2006), by introducing new varieties of assortment culture world by selection of valuable clones and the selection and development of new varieties and obtaining varieties with increased resistance to stressors, are among other factors primary means of increasing the quantity and quality of production. Therefore research in creating new varieties with increased productivity and quality, the vines must be intensified (Cristea et al., 2012).

AIMS AND OBJECTIVES

The aim is obtaining new grapes varieties for wine, with high quality and good resistance to pests and diseases, and an increased tolerance to spring frosts.

MATERIALS AND METHODS

Especially attractive in the wine industry is the possibility of improving grapevine varieties by the addition of genes that confer useful traits, such as resistances against biotic and abiotic factors and manipulation of certain metabolic functions. (Vivier and Pretorius, 2000). Intraspecific hybridization was performed in order to obtain new varieties, superior quality varieties of origin, with an accumulation of sugars and high acidity. In the yield trials of RDSVE Blaj were selected elite hybrids: "4-2"; "3-35"; "3-4"; "9-17" and compred with control variety the "Fetească regală 21 Bl.". Two of the elite, "4-2" and "3-35" respectively belong hybrid combination ("Traminer roz x Iordana") x ("Raisin Saint Pierre x Pearl of Csaba"). The hybrid elites "9-17" and "3-4" belong to combination ("Iordana x Traminer roz") x ("Raisin Saint Pierre x Pearla de Csaba").

RESULTS AND DISCUSSION

The concentration of sugars in the grapes highlights elite "3-4" with 236 g/L followed by elite "9-17" of 219 g/L, concentrations much higher than that of the "Fetească regală-21 Bl." (187 g/L).

The highest acidity of the must was recorded at elite "4-2" (total acidity of 4.4 g/L H_2SO_4), a value that is significantly higher than that of the "Fetească regală-21 Bl.", witness has 4.06 g/L H_2SO_4

Elite hybrid	
Relative Absolute grains (g) Relative Absolute	solute
"4-2" 72 0.9 1.2 254 121 10	161
"3-35" 57 0.9 1.6 286 164 2"	292
"9-17" 77 1.0 1.4 317 117 10	164
"3-4" 73 1.0 1.3 164 130 10	169
"Fetească regală-21 Bl."-control 74 1.2 1.6 184 137 24	202

Tab. 1. The fertility and productivity of elite hybrid create at R.D.S.V.E. Blaj, in 2011 condition.

Tab. 2. Production and quality of elites studied at RDSVE Blaj, in 2011.

Variant	No. of grapevine bunches on vine block	Sugar content (g/L)	Acidity of must (g/l H ₂ SO ₄)	Average weight of a grape bunch (g)	Mean yield (kg/vine block)
Elite "3-4"	24	236***	3.8000	164000	2.2**
Elite "4-2"	20	202***	4.4***	254***	3.2***
Elite "3-35"	14	199***	2.6000	286***	3.6***
Elite "9-17"	17	186 ^{n.s.}	4.1 ^{n.s.}	317***	1.7000
"Fetească regală 21Bl."- Control	32	187	4.1	184	2.0
LSD 5% =		3.7	0.08	7	0.09
LSD 1% =		5.3	0.11	10	0.14
LSD 0.1% =		8.0	0.17	15	0.21

Good acidity elite is elite "9-17" $(4.1 \text{ g/L H}_2\text{SO}_4)$, which exceeded control "Fetească regală-21 Bl." $(4.06 \text{ g/L H}_2\text{SO}_4)$. This high value indicates that the acid has Elite "9-17" potential for accumulation of sugars in the grapes bunch (219 g/L) (Tab. 2).

Analyzing the quality of production in terms of sugar content of grapes, under the test conditions of 2011, we can say that among the studied elites, the best accumulation had a "3-4" elites (236 g/L), "4-2" (202 g/L) and "3-35" (199 g/L), very significantly compare to control "Fetească regală-21 Bl." (187 g/L), this value is considered normal for the biological potential of the variety.

CONCLUSION

Regarding the concentration of sugars in the must, it is noted "3-4" hybrid elite who accumulated 236 g/L sugar, compared with only 187 g/L sugars registered at controler "Fetească regală-21 Bl.". The highest production on the vine was obtained at elite "3-35", this recording 3.64 kg/vine (15.2 kg/ha). The high production

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determined a low accumulation in sugar, only 199 g/L. Hybrid elite "3-35" recorded higher values both production as well as sugars accumulated comparative to control variety. "Fetească regală-21 Bl.", variety representative for Târnave Vineyard, has registered a production of 2.04 kg/vine and a concentration of sugars in must of 187 g/L. The size of the grapes, the consistency and taste recommended "9-17" elite to be studied further as a potential new variety mixed (for table and wine). To know the behavior of elites in a longer period of time, the elites should be studied further to be able to propose the most competitive for homologation.

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