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THE STUDY REGARDING THE AMPELOGRAPHIC CHARACTERIZATION OF SOME HYBRID ELITES AT I.N.C.D.B.H. ŞTEFĂNEŞTI

Bănuță Florina Mădălina[1*], Ciobotea Cristina-Magdalena[1], Bădulescu Adriana[1], Nedelea Gina[1]
[1*]N. I. R. D. B. H. Stefanesti-Arges, Sreet Bucharest - Pitesti, No.37, Stefanesti
* *Correspondence author. E-mail*: serban_madalina16@yahoo.com

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ABSTRACT

This paper aims to highlight the morphological descriptors analyzed of hybrid genotypes obtained by intraspecific hybridization of Victoria x Black Pearl, Muscat de Pölöskei x Victoria, Coarnă neagră x Victoria și Victoria x Victoria. The determination of the presented descriptors was done according to the O.I.V. (Office International of Vine and Wine) regulations and consisted in the preparation of ampelographic sheets of the hybrid elite for table grapes, recently obtained at the National Research and Development Institute for Biotechnologies in Horticulture Stefanesti Arges. The ampelographic cards constitute an important database for the identification of varieties and at the same time create the premises for a better management of the viticultural genetic heritage, in accordance with the regulations of international organisms/bodies.

INTRODUCTION

The genetic structure of varieties changes, or rather undergoes biological degradation over time, due to the action of various natural or anthropogenic factors. Changes in the genetic balance and genetic constitution of varieties are due to genetic factors or to the interaction between genotype and environment. Regarding genotype-environment interaction, there are certain extreme values of environmental factors, which cannot be controlled by man and which cause segregations that affect and modify the genetic characters of the variety (Dobrei et al. 2008 – Ampelography, Solness Publishing House, Timisoara). Therefore the morphological, phenotypic characters of the main vegetative, generative and woody organs of grapevine play a very important role in the description and recognition of grapevine species and varieties. Morphological descriptors refer to: rosette, young shoot and adult shoot, tendril, leaf, inflorescence, flower, grape, berry, seed and cordon (Cichi et al.2010, Table Grape Ampelographic Guide, University Publishing). The morphological descriptors of the hybrid elites obtained by the breeding collective at I.N.C.D.B.H. Stefanesti Arges were determined for each combination planted in the experimental fields.

In order to determine the descriptors for the rosette, we used the additions made by the Valea Calugareasca Viticulture Research Institute to the work "Descriptors for grape", published in 1983.

This work aimed to promote valuable hybrid elites (4) for table grapes, which, after tests and observations, in terms of distinctiveness, uniformity and stability of characters, are intended to be registered at the State Institute for Variety Testing and Registration, as potential varieties. Knowledge of the morphological and qualitative characteristics of these elite hybrids helps to orient and fix the desired characters in the newly created varieties after hybridization.

MATERIAL AND METHODS

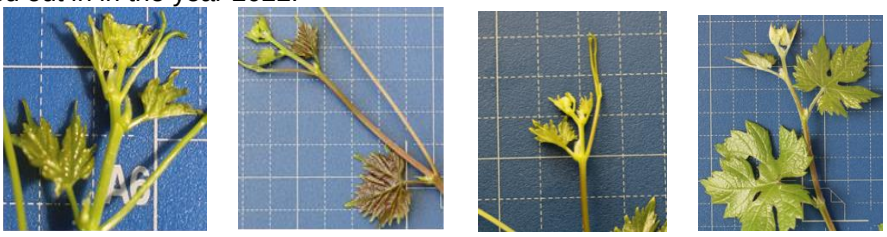
For the young shoot descriptor: the shape of the shoot tip (degree of growth tip opening) was analyzed before the flowering phenophase in 10 young shoots with a length of 10-30 cm. The tip shape is determined above the first open leaf and has the following notes: 3. closed; 5. semi-open; 7. open. Observations were also made on density of long bristles on the shoot tip.

To determine the ampelographic characters of the young leaf, the first 6 leaves on 10 shoots were examined before flowering. The notations were also made using OIV codes. The determinations consisted of observations in terms of: the color on the upper side of the limb (4th leaf).

The mature leaf is one of the most important vegetative organs of the vine that contributes to the recognition of different phenotypes. (Dejeu 2010). Along with the morphological characters of the young shoots and the leaves, the morphological characters of the grapes and the berries were also taken into account.

RESULTS AND DISCUSSIONS

The hybrid genotypes, obtained by intraspecific hybridization of the varieties Victoria x Black Pearl (BP9), Muscat de Pölöskei x Victoria (R10xV), Coarnă neagră x Victoria (A5) and Victoria x Victoria (A6), were given different codes valid until the stage of registration for approval at ISTIS, and the ampelographic observations were carried out in in the year 2022.



A5 A6 BP9 R10 x V

Figure 1. Young shoot: opening of the shoot tip

A5 A6 BP9 R10xV

Figure 2. Young leaf

Figure 3. Mature leaf

Figure 4. Bunch: shape

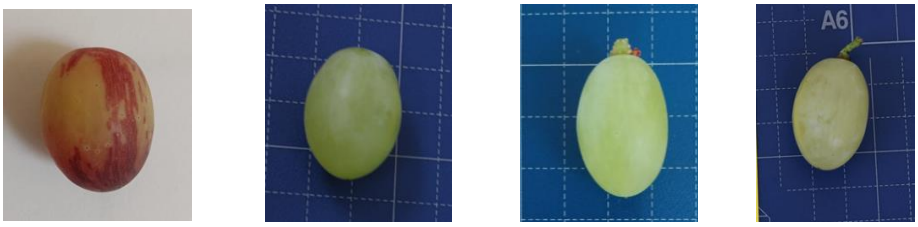


Figure 5. Berry: length

Both in the figures above and in the ampelographic description file (table 1) you can see both the similarities and the phenotypic differences between the four hybrid elites, starting from the young shoot, young leaf, adult leaf, grape and berry.

CONCLUSIONS

The impressive variability of the morphological characters in the vine, the existence of a very large number of varieties/hybrids, with many synonyms, makes it difficult to describe and recognize them, to establish the differences between them, to avoid confusion, thus requiring a unitary scientific methodology (Marilena, 2012).

In order to carry out the study on the ampelographic characterization of some hybrid elites at I.N.C.D.B.H. Ștefănești, a series of observations and measurements were carried out, for each character the corresponding notes were given to the ampelographic descriptors. In relation to this objective, I conclude that the descriptors elementary descriptors support a rapid description of hybrid genotypes studied and constitute an important database for their identification. Description of hybrids according to the newly adopted rules by international organisms, supports a better management of the Romanian viticultural genetic heritage.

Table 1

AMPELOGRAPHIC DESCRIPTION SHEET

Cod OIV	Character	Character grading	Marking	Character expression for the hybrid genotypes studied			
				R10xV	A5	A6	BP9
001	Young shoot: opening of the shoot tip	closed	1				
		half open	3				
		fully open	5	x	x	x	x
004	Young shoot: density of prostrate hairs on the shoot tip	none or very low	1		x	x	x
		low	3	x			
		medium	5				
		high	7				
		very high	9				
051	Young leaf: color of upper side of blade (4th leaf)	yellowish green	1	x	x		x
		green with anthocyanin areas	2			x	
		light copper-red	3				
		dark red-copper	4				
		red wine	5				
065	Mature leaf: size of blade	very small	1				
		small	3				x
		medium	5	x	x	x	
		large	7				
		very large	9				
067	Mature leaf: shape of blade	cordiforme	1				
		cuneiform	2	x	x	x	x

		pentagonal	3				
		circular	4				
		kidney-shaped	5				
151	Flower: sexual organs	fully developed stamens and no gynoecium	1				
		fully developed stamens and reduced gynoecium	2				
		fully developed stamens and fully developed gynoecium	3	x	x	x	x
		reflexed stamens and fully developed gynoecium	4				
202	Bunch: length (peduncle excluded)	very short	1				
		short	3				
		medium	5	x			
		long	7		x	x	x
		very long	9				
208	Bunch: shape	cylindrical	1				
		conical	2				
		funnel shaped	3	x	x	x	x
220	Berry: length	very short	1				
		short	3				
		medium	5		x		
		long	7	x		x	
		very long	9				x

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