

RESEARCH ON THE BEHAVIOR OF SOME VARIETIES OF VINES IN THE VINEYARD AREA OF DEALU BUJORULUI

CERCETARI PRIVIND COMPORTAREA UNOR SOIURI DE VIȚĂ DE VIE ÎN CONDIȚIILE PODGORIEI DEALU BUJORULUI

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Abstract. Morphological and physiological changes which it carries the vine are closely correlated with climatic conditions. Triggering phenologic of vegetation is affected by atmospheric humidity and temperature – ecological. To characterize genotypes identified in tolerance key a biotic and biotic stress were made observations and determinations regarding the registration and processing of meteorological data and phenological, consistent with the requirements of the biological characteristics of the vine. The meteorological factors important to characterize the climate temperature have been studied, sunstroke, rainfall and relative humidity of the air. The main phases of vegetation (ripening, the maturation of the grapes and the fall leaves) have made comments on some biological and thresholds have been recorded and additional weather data to characterize the climate of critical phenomena (Frost, hail). In the climatic conditions of the year 2012 the studied genotypes showed a different tolerance to biotic and biotic factors, and have assimilated in the climatic conditions of the ecosystem, a fact reflected in the data on the phenologic completion of vegetation, productivity, yield and quality of grape.

Key words: vine, grape, production, quality, vineyard

Rezumat. Schimbările morfologice și fiziologice pe care le desfășoară vița de vie sunt în strânsă corelație cu condițiile climatice. Declanșarea fenofazelor de vegetație sunt influențate de temperatură –umiditate atmosferică și pedologică. Pentru caracterizarea toleranței genotipurilor identificate la principalii factori de stres abiotici și biotici s-au efectuat observații și determinări cu privire la înregistrarea și prelucrarea datelor meteorologice și a unor observații fenologice, în concordanță cu cerințele biologice ale viței de vie. Ca factori meteorologici importanți pentru caracterizarea climatică s-au studiat temperatura, insolația, precipitațiile și umiditatea relativă a aerului. La principalele faze de vegetație (pârğa, maturarea strugurilor și căderea frunzelor) s-au făcut observații privind unele praguri biologice și s-au înregistrat și date meteorologice suplimentare pentru caracterizarea unor fenomene climatice critice (îngheț, grindină). În condițiile climatice ale anului 2012 genotipurile studiate, au manifestat o toleranță diferită la factorii abiotici și biotici, și au asimilat în mod diferit condițiile climatice din ecosistem, fapt reflectat în datele privind parcurgerea fenofazelor de vegetație, productivitatea, producția de struguri și calitatea acesteia.

Cuvinte cheie: vita de vie, struguri, producție, calitate, podgorie

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INTRODUCTION

Knowledge of multiple existing connections within wine-growing ecosystem between the subsystems of the components thereof is of particular importance in modern viticulture. Marketing ecosystem is directly influenced by global climate change. Climatic factors influence or determine certain processes, acting directly or indirectly on the cultivation of the vine (Damian and Calistru, 1992). Also, her action and in the complex on everybody of species and of all bodies in the biocenoses. Regional ecological factors cause changes that lead to delaying or accelerating the development of populations of pests and predators (multiplying and spreading, adaptation to new environmental conditions), to increase or decrease the numerical density of insect populations, to change the structure and dynamics of the ecosystem (Tardea and Rotaru, 2003). Knowing the evolution of climatic factors is crucial in forecasting the occurrence of pathogens and control measures.

MATERIAL AND METHOD

The research has been taken into the study. The variety was grafted on rootstock Selection Oppenheim 4 (SO 4) Transylvania, the variety has been obtained from The Fruit, research by annealing of sexual plant variety right Baby rose x Cardinal and approved in 1984. Author: St. Oprea. Grapes are conical, medium-sized or cylinder. Transylvania variety was introduced in Ampelographic to SCDVV Bujoru Collection in 2008, planted at distances of 2.1 cm between rows and 1.2 cm between plants on the row. The shape was bilateral Cordon and practiced cutting system was mixed, the spur 2 and cane 4. The technology applied is culture in the classical system.

Observations were carried out and the time of the commencement of the various determinations phenophase vigor and growth of tree stumps, winter grape production and its quality. He also conducted a sensory profile of the variety.

Meteorological data used were extracted from the database of the resort, collected during the 2011-2012. The climate in the year 2012 was considered an atypical for South East area of Moldova; climatic factors have adversely affected the growth and development of the vine. Phenophase of vegetation were taken about 10 days versus the normal from the point of view of NAS climate grapes taking place on 15 July, and coincided with the maturation time of harvest grapes on 5th September. First fruits a grape is considered early maturing this year had a character, false "because the beans have been in first fruits a grape just by changing the color of epicarp but not from the biochemical point of view, when they increase in weight and volume. Due to hydric deficit, has not achieved the balance of berries which causes osmotic elongation of the cells, and increased weight and grain volume has been reduced. Maturation of the grapes was slow in terms of growth in the volume of grains and intense in terms of the accumulation of sugars. In 2012, the grape production were small, the potential of each.

RESULTS AND DISCUSSION

The period studied was assessed as being very hot and dry with average values over normal daily environment of heat July (25.4 ° C), august (22.6 ° C)

and September (18.6 ° C) and with the absolute maximum of over 30 ° C (25 days in July, from which 13 days over 35 ° C) (tab1). The accumulated rainfall in these months has been few, 109 mm, and air higrscopicity has remained at a low level of 49 – 53% (tab. 2).

Table 1

Air temperature 2011-2012

Moon	T average (°C)		T minim (°C)		T maxim (°C)		No. days of T>30°C	
	2011	2012	2011	2012	2011	2012	2011	2012
XI	2.0	8,2	-10.1	-2,0	16.1	20,0	0	0
XII	3,2	-1,7	-11.0	-17,9	17,0	13,0	0	0
I	-2.9	-2.3	-19.1	-15.1	9.9	10.6	0	0
II	-2.9	-8.0	-13.6	-23.6	10.4	10.7	0	0
III	3.7	4.4	-11.6	-11.2	22.4	21.5	0	0
IV	9.5	12.9	-0.8	-2,0	22.3	30.5	0	3
V	16.1	18.0	2.1	8.6	30.4	35.7	1	6
VI	20.1	22.5	9.9	10.1	31.3	36.8	7	17
VII	24.2	28.1	10.8	14.0	35.4	38.0	20	27
VIII	23.3	26,1	10.0	10.5	32.5	41,5	16	18

Table 2

Rainfall distribution (November 2011-August 2012)

Moon	P (mm)		
	2011	2012	multianual average
XI	0.2	4,3	30.7
XII	8.8	102,3	28.6
I	15.2	39.3	19.8
II	26.8	25.4	20.3
III	5.4	9.2	25.2
IV	53.6	18.6	36.6
V	32.2	115.8	46.5
VI	45.2	13.8	71.0
VII	93.4	27.1	57.4
VIII	29,3	23,1	48.0
IX	5,2	24,6	38,0
Amount (Jan-Sept)	306,3	296,9	362,8
period April-September	258,9	223,0	297,5

The fig. 1-8, pulled out in the highlights significant differences between the two years ' experience compared to the witness who was made up of the standard variety of the data. The results reveal that in 2011, the production level was higher compared to the year 2012. The County has developed well in the climatic conditions of the year 2011 (dry year), and has overcome her witness in terms of

average weight have a grape with + 82 g (fig 1). The results of the 2012 highlight the fact that shed productive qualities were influenced by climatic conditions. In terms of the size of grapes as measured by average meal, neither of the two varieties of biological parameters specific to this realization.

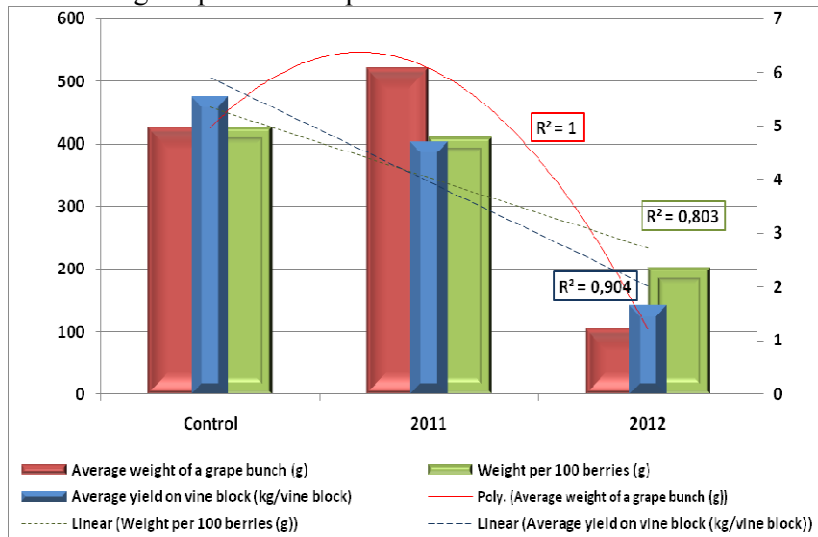


Fig. 1 - Characteristics of the variety to be cv. Transylvania agro productive under Dealu Bujorului vineyard

At maturity, the grapes have accumulated between 145-165 g/l sugars, differentiated on years and between the two varieties. Due to maturing forced the County has the lowest amount of sugar and 147g/l mash (2012). In terms of total acidity expressed in H₂SO₄, whatever is found, the acidity is low at least two varieties namely 2, 6-2, 8 g/l H₂SO₄ (Fig. 2).

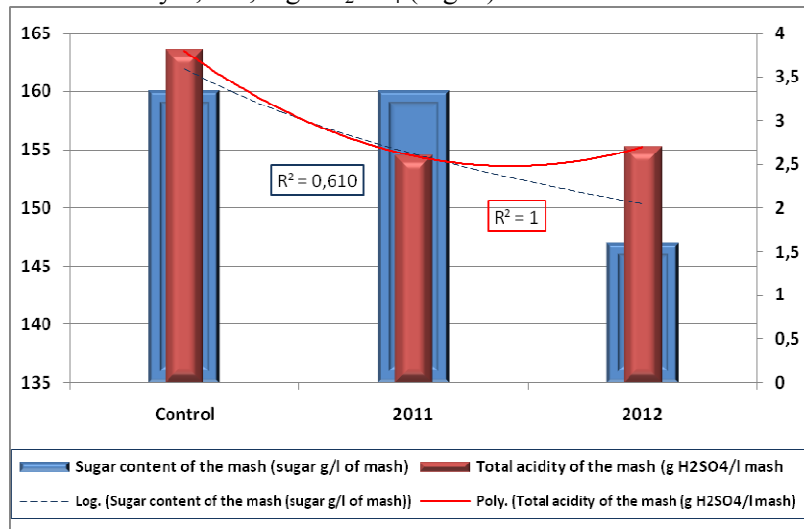


Fig. 2 - The quality of the cv. Transylvania production

In terms of percentage, represented the fertility had a low fertility compared to the witness. Fertility was influenced by the degree of impairment of the mugural in the winter. The production has had lower values with witness-15-40% (Figure 3).

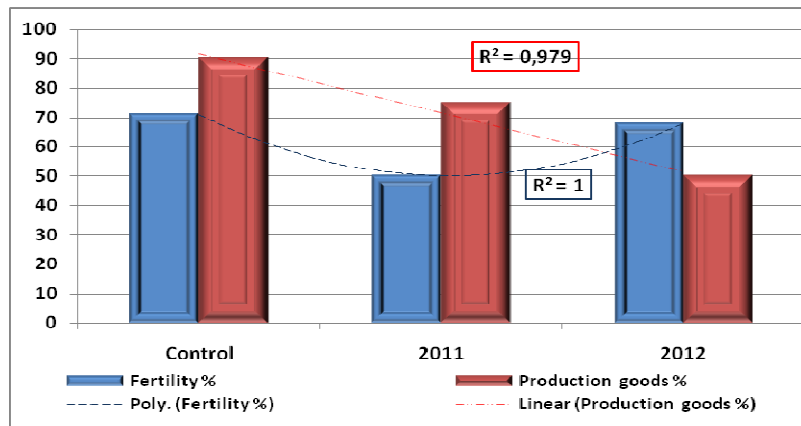


Fig. 3 - Technological features of the cv. Transylvania

Of sensory profile of grapes for their two years of study evaluation being performed at a scale of 1-10 points (Figure 4). It was found that in 2012 the quality was significantly reduced in terms of commercial appearance and in terms of quality buds. In 2011, though it was a dry year, the variety has performed well in terms of the quality of the grapes from the sensory point of view.

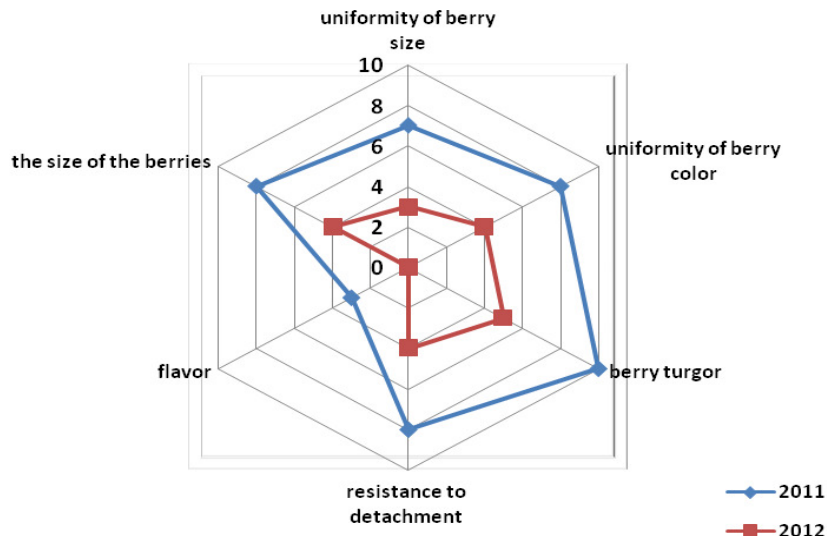


Fig. 4 - Sensory profile of Transylvania grape

CONCLUSIONS

1. Due to the climatic conditions in the year 2012, the parameters are much inferior to analyze both the witness and the face compared to 2011.
2. The County has developed well in the climatic conditions of the year 2011 (dry year), and has overcome her witness in terms of average weight have a grape with + 80 g.
3. The County performed well in climatic conditions of Dealu Bujorului vineyard.

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