

STUDY OF THE QUALITY POTENTIAL IN THE BIHARIA VINEYARD OF THE AUTHORIZED VARIETIES IN THE CRISANA REGION

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Abstract

The present study has as object the way in which the grape varieties authorized for planting in the Crisana region adapt in the pedoclimatic conditions of the Biharia viticultural center which is part of the geographical indication Dealurile Crisana. We had in mind a producer of the Darabonts winery with 40 ha, an investment from 2017, which created a professional plantation with trellis cultivation system with management in semi-high bilateral cordon Lentz Mozer. The study considered the representative varieties Feteasca regala, Feteasca alba, Pinot gris, Rhine Riesling, Sauvignon blanc and Traminer rosé. The study considered the main quality parameters of the resulting wine: alcoholic concentration in % volume, residual sugars in g/l, fixed acidity g/l, volatile acidity g/l and dry extract g/l.

Key words: authorized grape varieties, composition parameters, quality steps.

INTRODUCTION

The planting of grape varieties in the viticultural area of Biharia center, with large vineyards and different varieties, involves a risk considering the climate changes in this area and the planting of some varieties, although authorized, they have not been verified on this pedoclimatic area.

Sadelli Prodcum has assumed these risks based on studies that have suggested that there are favorable conditions in this area to produce quality wines. In these conditions, the Darabonts domain was created with an area of 40 ha and a processing winery with a capacity related to this area with all the necessary facilities.

The region has been known since the Middle Ages as a producer of quality wines and our intention is to bring the area back to the attention of wine lovers. Biharia and the Crișana region have been wine-growing areas known throughout history, the tradition being interrupted due to the political context and various agricultural policies.

Today there are more and more producers in the area that prove the potential of this wine region. The wines we make here at Biharia are made exclusively from grapes from our own plantations. The treatments applied to

the vineyard and the wine are the minimum necessary to maintain the health of the grapes and the hygiene of the wine, otherwise we leave nature to follow its course. More details soon. Under these conditions it becomes mandatory to monitor the wines obtained, which will confirm the potential of each grape variety and will be the basis for future decisions in the field of viticultural technological solutions on the most advantageous way to exploit the quality of production.

MATERIAL AND METHOD

This study considers a period of three years from the entry into fruit bearing of the plantations 2019, 2020 and 2021, on the basic varieties of the plantation: Feteasca regala, Feteasca alba, Pinot gris, Rhine Riesling, Sauvignon blanc and Traminer rosé.

The production of these varieties was vinified in the three years and the parameters of the monitored wine were: alcoholic concentration in % volume, residual sugars in g/ , fixed acidity g/l, volatile acidity g/l and dry extract g/l.

These parameters are part of the criteria for granting quality categories according to the Wine Law applied under the authority of ONVPV. The analyses were carried out in an authorized laboratory according to the standards in force for wine analysis.

Reporting parameters to the GI category.

Wines with the GI "Dealurile Crisanei" must present the following composition parameters:

- alcoholic strength: minimum 10,0 % by volume - total acidity (tartaric acid): minimum 4,5 g/l
- volatile acidity (acetic acid): maximum 1,2 g/l
- non-reducing dry extract: minimum 17 g

Parameters relating to the D.O.C. category

Wines with D.O.C. "CRIȘANA" must have the following compositional characteristics:

- actual alcoholic strength: minimum 11 % by volume
 - total acidity (tartaric acid): minimum 5.5 g/l for white varieties and minimum 4.5 g/l for red varieties
 - volatile acidity (acetic acid):
 - * 18 milli-equivalents per liter or 1.08 g/l for white and rosé wines;
 - non-reducing dry extract: minimum 17 g/l for white and rosé wines
- D.O.C.-C.M.D.

GRAPE VARIETY	ALC. CONC. % VOL.	SUGARS g/l	TOT.ACIDITY g/l	VOLATILE ACIDITY g/l	DRY EXTRACT g/l
Feteasca alba 2020	12.5	1.28	5.52	0.16	23.12
Feteasca regala / Pinot gris	12.12	1.52	5.62	0.14	20.98
Pinot Gris 2020	13.69	1.28	4.95	0.20	22.02
Rhine Riesling 2020	12.13	1.68	5.60	0.15	20.82
Traminer rose 2020	12.32	1.52	6.60	0.20	23.88
Sauvignon blanc 2020	13.31	1.52	6.37	0.16	20.78
Chasselas 2020	11.07	0.88	5.55	0.15	17.02
Chasselas/Pinot gris 2020	11.27	1.16	6.00	0.13	18.14

Comparing the composition parameters made with the minimum mandatory parameters for inclusion in the IG quality category, we find that all the wines studied from this point of view fall into the DOC quality category.

If we classify the wines in the DOC category in terms of alcohol concentration, which must be above 11% alcohol by volume, they all fit in every year we studied. Also, for the extract parameter they all fit into this category. Only one parameter is deficient in total acidity on the first year of production 2019 for all the white varieties analyzed. In the production year 2020, only Pinot gris does not fit in the total acidity, at 4.95 g/l, probably due to the delayed harvest resulting from the acquired alcohol of 13.69 % volume.

RESULTS AND DISCUSSIONS

The varieties studied in the three years of harvesting give reason to be confident about the future of these plantations. All the varieties studied gave very promising results, especially when we look at the first years of production, which are usually less relevant. The parameters studied, especially those related to accumulation, achieving alcohol concentrations between 11% by volume and 13.69% by volume, with the possibility from this point of view to be classified in the DOC quality category, is an argument that all the varieties planted have prospects to produce quality raw material. One of the reasons for these results is the climatic data.

Ecoclimatic data: average annual temperature 9.6 °C, sum of annual rainfall 626 mm, sum of active temperatures 3,125 °C, sum of sunshine hours 1,301 and sum of active precipitation 389 mm.

The relative humidity is about 75%, 10-year average. The oenoclimatic suitability of wine-growing region (thermoheliodryc index) is 4.287, particularly favorable for white wines, red varieties producing rosé wines of great finesse and quality.

The significant drop in rainfall in August, September and October gives better soil warming and ripening conditions for the harvest, with better conditions for good plant health. The noticeable decrease in average air temperatures by 3-4 °C in September helps to preserve the higher temperature-sensitive components - aromas, acids - in the grapes.

To establish the value of each grape variety in this area still requires monitoring at least until year five under different climatic conditions and with different technological decisions.

CONCLUSIONS

The wine-growing area in which the Biharia wine-growing center is located has all the pedo-climatic conditions for the varieties studied. The quality of the wines obtained in young vineyard conditions, based on the composition parameters studied, certifies a good decision regarding both the varieties planted and the cultivation system and viticultural technology applied. One parameter that needs to be monitored more closely seems to be the acidity, which in this area should be higher, with the observation that there could be two reasons for a certain lack of acidity, either late harvesting or years with excessive temperatures during the ripening period.

One conclusion that emerges from this research is that in the Biharia wine-growing center there is a wine-growing potential that needs to be exploited and that promises quality wines with DOC certificates.

REFERENCES

1. Cotea V., Cotea V.V, Viticultura, Ampelografia și oenologia, Editura didactică și pedagogică București
2. Manole, D., (coord.), Daniela G., L. Chivu, V. Câmpeanu, 2004, Ierarhizarea priorităților de dezvoltare agricolă și rurală în România, Influențele noii reforme a Politicii Agricole Comune, Studii de impact PAIS II.
3. Consiliul pe produs, 22 septembrie 2005, Propunerea cercetării experimentale în viticultură și vinificație
4. Dobre I., 2003, Managementul structurilor de producție în exploatațile agricole, București, Editura Expert.
5. Ioanid A., 1993, Strategii de dezvoltare a viticulturii în regiile autonome și societăți comerciale pe acțiuni în perioada 1993-1997 nr.4-5/1993, București
6. Csosz I., Chis S., 2005, Managementul producției agroalimentare, Timișoara, Editura Orizonturi Universitare.
7. Gavrilă V., 2005, Economia viticolă a României. Adaptabilitatea și competitivitatea din perspectiva integrării sale în Uniunea Europeană, teză de doctorat, Academia Română, București.
8. Fruja I., Al. Jivan, Elena Porumb, 2003, Serviciile-Doemniu de marketing specific, Timișoara, Editura Nero-G.
9. Consiliul pe produs, 22 septembrie 2005, „Struguri, must, vin, produse pe bază de vin și produse procesate
10. Studiu de piață vinul, Organizația Națională Interprofesională Vitivinicolă ONIV
11. Teodorescu Ș., Popa A., Sandu G., 1987, Oenoclimatul României Editura Ceses
12. Antoce O., I. Nămoșanu, P. Mocanu, D. Axente, iulie 2004, Transformări și instrumente legislative în domeniul vitivinicol din România în contextul procesului de aderare la Uniunea Europeană (Sesiune Consiliu Director ONIV)
13. ONVV, Stabilirea tipurilor de vin pe areale naturale de producere
14. MO nr.472/2015, Legea viei și vinului în sistemul organizatorii comun a pieței vitivinicole nr.164/2015
15. ONIV, Memorandum – Aprobarea programului de reabilitare a materialului săditor viticol, în perioada 2003-2007 prin asudarea Documentului de poziție Cap.VII „Agricultura” privind aderarea României la Uniunea Europeană