

Studies concerning the grapes quality parameters in order to obtain sparkling wines in Tarnave wine yard, Jidvei

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Abstract

The studies regarding the quality parameters in order to achieve sparkling wine have its primarily objective the data gathering, necessary to improve the technology of production of sparkling wines in the Tarnave vineyard. The study was conducted over one year, 2009, the wine grapes grown in the Jidvei vineyard. Experiments and tests were conducted in the laboratory from Jidvei vineyard.

The knowledge of raw materials is essential, since only so it can be used in the most advantageous way. Viewed from this perspective, study of raw materials is very important because it can be established scientifically, for each variety, the most appropriate direction in which it can produce products of highest quality and maximum economic efficiency. In the present study were pursued: optimum harvest time, determination of sugars, acidity and weight of 100 grapes berries.

The study took place in the Tarnave vineyard, Jidvei wine center, looking at the five grape varieties: Fetească Regala, Riesling Italian, Chardonnay, Pinot Noir, Iordana. The results show that a raw material used in optimal time, allows obtaining sparkling wines, respecting the legal requirements.

Keywords: grape, quality of grapes, grape acidity, sugar content of grapes, sparkling wine

1. Introduction

The great importance of grapes is motivating the very large spread areas and therefore different quality even in the same variety as a result of ecological factors may appear [1-5].

The most important stage is the knowledge of grape, the quality of the raw material in order to be used in the most advantageous way to obtain high quality wines used then as raw material for making *Appellation d'Origine Controlée* (AOC) sparkling wines [6-9].

To obtain sparkling wines the European legislation imposes certain conditions that must be followed exactly [10-15].

2. Materials and Method

The analyzed samples were from Fetească Regala, Sauvignon Blanc, Italian Riesling, Pinot Noir and Iordana varieties, from 2009 crop, Jidvei vineyard.

These grape varieties were subjected to analysis, such as the 100 berries weight determination, determination of sugars and acidity. Analyses were conducted in the laboratory of the Jidvei vineyard. Quality parameters of raw materials is carried out on samples of grapes taken at time intervals during ripening, samples are collected from five points of the field, looking at each sample weekly. Following the performed quality control, the data is analyzed and than is decided which type of wine can be obtained.

3. Results and Discussion

In Tables 1-5 are presented quality parameters of grape varieties taken in study, the data were

collected from the fixed fields on a certain time. Analyzing this data the optimal time to harvest and the beginning of harvest were fixed.

Table 1. Quality parameters of grape variety Fetească Regală

Data	Sugar g/l	Total acidity g/l H ₂ SO ₄	Mass of 100 berries g	Index gluco/acidimetric
19-aug	120	9,3	116	14,45
26-aug	125	8,1	136	15,44
02- sep	155	7,3	158	21,24
09-sep	162	6,0	171	27
14-sep	179	5,7	171	31,41

Table 2. Quality parameters of grape variety Riesling Italian

Data	Sugar g/l	Total acidity g/l H ₂ SO ₄	Mass of 100 berries g	Index gluco/acidimetric
19-aug	112	12,7	79	8,82
26-aug	130	9,8	99	13,27
02- sep	147	7,0	121	21
09-sep	159	6,1	151	26,07
13-sep	176	5,9	152	29,83

Table 3. Quality parameters of grape variety Pinot Noir

Data	Sugar g/l	Total acidity g/l H ₂ SO ₄	Mass of 100 berries g	Index gluco/acidimetric
18-aug	111	12,7	91	8,74
25-aug	131	9,7	129	13,50
01- sep	169	7,5	155	22,54
08-sep	176	6,9	166	25,5
14-sep	188	6,0	169	31,34

Table 4. Quality parameters of grape variety Chardonnay

Data	Sugar g/l	Total acidity g/l H ₂ SO ₄	Mass of 100 berries g	Index gluco/acidimetric
20-aug	123	10,3	125	11,95
27-aug	135	7,5	147	18
03- sep	158	6,1	163	25,91
10-sep	174	5,8	167	30
15-sep	185	5,4	167	34,26

Table 5. Quality parameters of grape variety Iordană

Data	Sugar g/l	Total acidity g/l H ₂ SO ₄	Mass of 100 berries g	Index gluco/acidimetric
21-aug	117	13,2	130	8,87
27-aug	149	8,5	159	17,53
03- sep	157	6,7	176	23,44
10-sep	167	5,8	185	28,80
15-sep	174	5,3	187	32,83

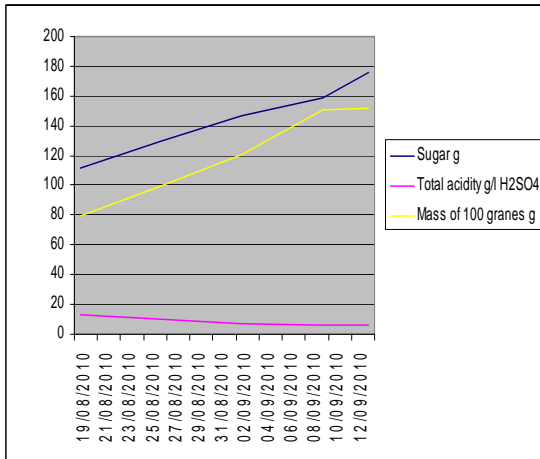


Figure 1. Maturation chart of Fetească Regală variety

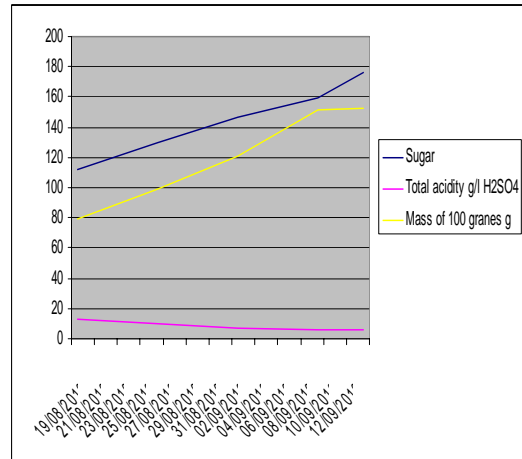


Figure 2. Maturation chart of Italian Riesling variety

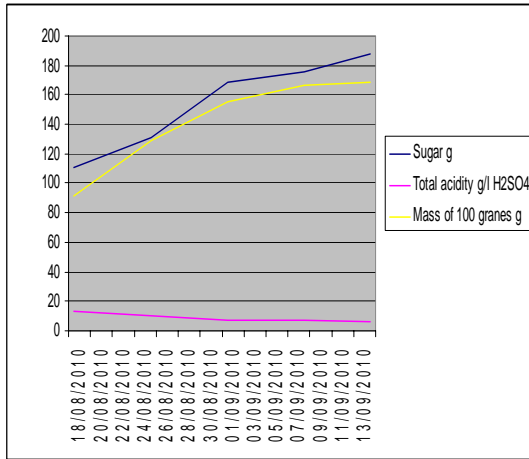


Figure 3. Maturation chart of Pinot Noir variety

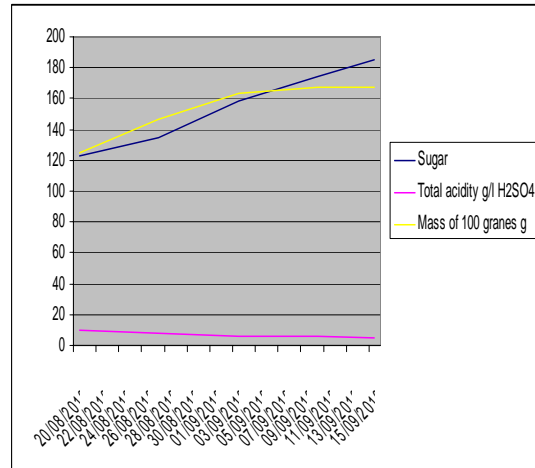


Figure 4. Maturation chart of Chardonnay variety

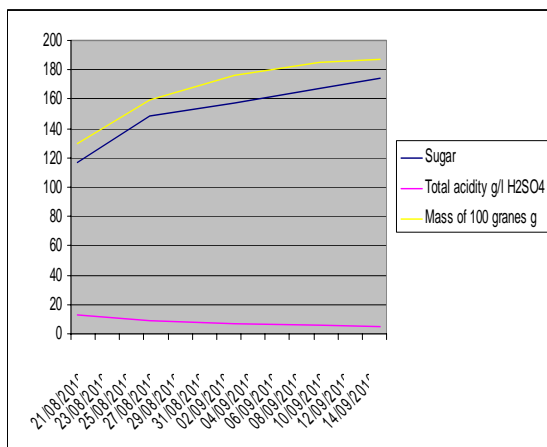


Figure 5. Maturation chart of Iordană variety

4. Conclusion

The research work for the studied grape varieties in 2009 shows that the grapes have a good quality and the wine process technology will flow in the normal range and the sparkling wines will have high quality.

During maturation, berries weight and sugar content increases continuously, curves on the graph of maturation are rising, and total acidity decreases as the aging process progresses - the curve is descending.

Berries transformations, as quantitatively ratio (volume and weight), may take about 40-50 days and are marked by weight gain of 25-80% depending on the uvologic item, grape variety, winery, wine year, etc.

The variation of the main composition characteristics of grapes during ripening shows their oenological potential to achieve basis wines for quality sparkling wines.

The optimal time of harvest was fixed according to the sugars accumulation, the proper weight gain and acidity, so the grape harvest started on September 13, 2009.

Wine year 2009 was a dry year during maturation. Low rainfall and high temperatures caused a high daily accumulation of sugars.

The sugar concentrations of 176-188 g/l from the studied grapes varieties correlated with the acidity of 5.3-6g /l H₂SO₄ indicate a high quality raw material for sparkling wines.

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