

THE TABLE GRAPE CULTIVATION AND MARKETING THEM TO I.N.C.D.B.H. STEFANESTI

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Abstract

Growing table grapes offers manufacturers a range of priorities, compared to growing grapes for wine. It should be considered that by making table grapes, obtaining income is recorded immediately. If several varieties are cultivated end cooking time staggered, these revenues are obtained over a period of time. Table grape varieties are more productive (15 to 17 t / ha), so the profit will be higher. For table grape varieties all depends on quality. If respected cultivation technology of these grapes, then it will get a good harvest and a good price. This paper presents the results obtained Ștefănești -Arges vineyard productivity, quality and quantity production of grape varieties: Argessis, Canner, Muscat Hamburg and Victoria. In the period 2011-2013 these varieties registered commercial maturity amounts of sugars between 127,9-155,2 g/l was staggered harvest period from 15.08, up to 25.10. Variety Argessis noted the largest production cargo 17 t/ha and most enjoy table part of the grapes.

Keywords: table grapes, quality, profit, mature consumer, commodity production.

1. INTRODUCTION

In the last 2-3 decades, viticulture and winemaking world faced with certain elements of the crisis caused by the occurrence of an imbalance between supply and demand. To exit the current crisis is expected to significantly improve product quality in wine, vineyards specialization on production lines through quartering variety assortments. Thus, each vineyard or wine center grow one variety (or more) that can offer internal and external market, based on the quality and specificity. Romanian scientific research created new varieties distinguished by characteristics of color, taste, shape, grain size, the grapes and different grapes ripening period, which creates lead organization in convey varietal plantations. In this respect, the delivery table grape production can be done over a period of time and hence a gradual most equivalent income.

2. MATERIAL AND METHOD

The experimental group located in the viticultural area representative of Muntenia (Arges Ștefănești) have made observations and measurements on the quality of table grapes in the climatic conditions of the area Arges. Plantation of grape-vine has distance 2.2 / 1 m, type Guyot pruning is applied on semitulpin. The experimental fields were established since 1995, continuing until 2008 on a field representative Ștefănești vineyard (Fig. 1). Collection includes 150 varieties of meals, white wine, tomatoes and fragrant as a source of germoplasm in breeding activity.



Figure 1 - Appearance of plantation table grape varieties

Settlement experiences bifactorial type 4x3 (varieties) for each experimental year (2011-2013) was identical, taking into study two factors, namely:

- Factor A - variety, which included graduations: ARGESSIS, Canner, Augusta, Muscat Hamburg and Victoria;
- Factor B - fruit load applying differentiated cutting vines bearing, which included graduations: b1 fruit load of 15 eyes per vine, with the drill-cutting; b2 fruit load of 20 eyes per vine, with cutting to the heart; b3 fruit load 25 eye hub with cutting the string;

Table grapes were harvested when their degree of maturity provides superior and efficient recovery. This was determined according to the variety in general, when the grapes have reached full maturity. Moment of full maturity of grapes varieties established, with good approximation, by making the following determinations: grain weight, sugar content and titratable acidity wort. These measurements were carried out at intervals of 3-5 days from the entry ripe grapes.

3. RESULTS AND DISCUSSION

Short description of the variety:

Argessis (Figure 2) - variety approved in 2002 SCDVV Ștefănești. The first kind of vine grapes obtained in specific climatic conditions vineyard Ștefănești-Arges. Commercial aspect pleasant large grain (7.5-8.0 g), ovoid, dark blue-black. Sea grape (450-480 g), uniaxial. Good tolerance to fungal diseases (blight, mildew, rot). Hub of great force, suitable for growing in the sky. Media production reach 17 t / ha.



Figure 2 - Argessis



Figure 3 - Canner



Figure 4 Muscat de Hamburg

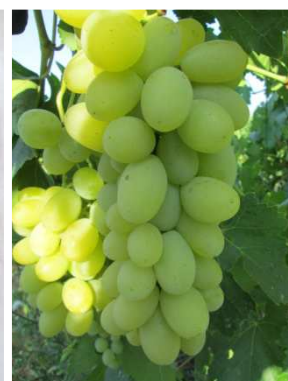


Figure 5 - Victoria

Canner (Figure 3) is a variety obtained Olmo in 1969 by crossing varieties Hunisa x Sultanas. It is a white grape variety with large, ellipsoidal, without seeds, which can be used in particular to obtain raisins, jams and compote. The grapes are large branches, lax. Medium grain size is elliptical, and yellow-green, rust on the sunny side. The core is fleshy, crunchy seeds and rudiments. Variety group varieties fall into place very high growth. Shows average tolerance to low temperatures during winter, to attack blight and mildew. Matures in age IV.

Muscat Hamburg (Figure 4) is a grape variety Muscat varieties resulting from crossing d'Alexandrie and Trollinger (also known as variety Frankenthal). Muscat Hamburg grape wine became popular in England since 1860. Are big branches with well developed side branches. The stalk is long and herbaceous, like the rest of the bunch. The berries are large, fleshy, crunchy, and powerful bitten and covered with a thick bloom.

Victoria (Figure 5) is a hybrid obtained by crossing varieties: Cardinal x Afuz Ali White. Hybridization was carried out in the I.C.H.V. Bucharest by Victoria Lepadatu. Selection work continued on in Viticulture Research Station DRAGASANI variety was approved in 1978.'s One of the most valuable works of Romanian varieties for table grapes. Required by earliness, but especially the beautiful appearance of the grapes and productivity. Grapes are very large, conical or cylindrical-conical, with beans stacked compact cluster. Large and very large grain, ovoid yellow-amber (amber); semicrocation pulp, balanced taste, unflavoured.

Table grape varieties are generally high growth vigor varieties with high yield potential and lower capacity for accumulation of sugars in the berries. The indicator of the quality of importance in that in the case of grapes for fresh consumption, data taste qualities of a balance between the acidity and sugar content of the wort.

Groups of varieties are found higher accumulation of sugars in varieties with yield potential middle. Late maturing varieties, the potential of high production and high growth force accumulated smaller amounts of sugars. In 2013, a year rich in resources heliothermic varieties studied have accumulated large amounts of sugars, the quantity of grapes recorded. Between 2011 and 2012, normal in terms of climate, accumulation of sugars were low, thanks in higher yields of grapes obtained (Table 1).

Table 1. Values of sugars in the grape varieties grown mass the INCDBH Ștefănești-Argeș

VARIETY	SUGAR g/l		
	2011	2012	2013
Argessis	140,3	138,5	155,2
Canner	140,2	140,9	146,3
Muscat de Hamburg	137,8	139,4	143,2
Victoria	130,4	127,9	137,8

All varieties studied, the highest amounts of sugars accumulated in 2012, and the lowest in 2013 (Table 1). This change in the content of sugars in the wort is determined mainly by the production of grape, leaf area of each block. Such sugars that accumulated grapes during the three-year study ranged from 130.4 to 140.8 in 2011, 127.9 to 140.9 in 2012 and 137.8 to 155, 2 in 2013.

The titratable acidity of the must, expressed in g / l H₂SO₄, to determine the full maturity of the grapes. Although the specific climatic conditions of the vineyard Ștefănești-Argeș, acidity grape vine varieties vines usually remains sharp, high temperatures in recent years affect the qualitative index obviously. Thus, in 2013, due to high temperatures, acidity showed lower values, especially in the early and mid-maturing varieties such as Argessi and Canner, and in 2011 and 2012, when

the temperature and insolation values were closest to the multiannual, titratable acidity was the characteristic varieties tested (table 2).

Variations in the acidity of the varieties studied, there were different due to the volume of foliar developed hub, shading generated by it and equally grape production levels.

Muscat of Hamburg, by extending the growth of grains and their delayed maturation achieved a higher level of titratable acidity of the wort. Thus, this kind average titratable acidity was 5.29 g / l H₂SO₄.

Table 2. Values of acidity in table grape varieties grown in INCDBH Ștefănești-Arges

VARIETY	ACIDITY g/l H ₂ SO ₄		
	2011	2012	2013
Argessis	5,14	5,11	5,01
Canner	3,50	3,56	3,50
Muscat de Hamburg	5,15	5,21	5,51
Victoria	5,07	5,15	5,20

Varieties studied showed acidity values between 3.50 to 5.15 in 2011; between 3.56 to 5.15 in 2012 and from 3.50 to 5.51 in acidity 2013. Values varieties less dense foliar apparatus were located within specific table grape varieties (3.50 - 5.51).

Glucosidimetric index used to determine when the maturity of consumption, so the setting of the date harvest. The index table grapes usually range between 2.5-4.5, given that table grapes containing 135-200 g / l sugar and 3.5 to 6.0 g / l H₂SO₄ acidity.

Following glucosidimetric index values (Table 3) shows large differences from one variety to another, the years of experimentation.

Varieties studied showed balanced values of the ratio of sugars accumulated and titratable acidity must: ARGESSIS (2.71 to 3.09), Canner (2.73-2.81), Muscat Hamburg (3.91 to 4.09), Victoria (2.45-2.53).

Table 3 . Glucosidimetric index values during the period studied (average 2011-2013)

VARIETY	GLUCOACIDIMETRIC INDEX		
	2011	2012	2013
Argessis	2,73	2,71	3,09
Canner	2,76	2,73	2,81
Muscat de Hamburg	3,93	3,91	4,09
Victoria	2,53	2,45	2,50

Taking into account the varieties studied, it is found that the highest values for this index were obtained from Muscat of Hamburg in 2013 (4.09) and the lowest variety Victoria (2.45) throughout the year , 2012. All varieties must report sugar / acidity satisfactory.

Quality standards refer to minimum requirements and rules that should be respected producers and exporters of fruits and vegetables and grapes for consumption into account fresh from varieties belonging to *Vitis vinifera*.

Harvested production value is higher in the new table grape varieties due both liked the look of grapes, and because of their maturation period, when the selling price is much higher and the appearance on the market of table grapes is in high demand.

Table 4 . Economic efficiency of new varieties for table grapes from INCDBH Ștefănești-Arges

Specification	U.M.	Variety			
		Argessis	Canner	Muscat de Hamburg	Victoria
Total production of grapes	t/ha	17,7	16,6	14,5	15,5
Production expenses	mii lei/ha	7,5	7,5	7,6	7,7
Costs of production	mii lei/t	0,5	0,5	0,5	0,5
Total income	mii lei/ha	8,85	7,47	5,80	6,25
Profit reported at the surface	mii lei/ha	3,05	2,61	2,03	2,17
Profit per unit of product	mii lei/t	0,2	0,17	0,14	0,14
Labor consumption	ore/ha	750	750	750	750
Specification	U.M.	Variety			
		Argessis	Canner	Muscat de Hamburg	Victoria
Labour productivity expressed physically	kg/oră	23,60	22,13	19,33	20,00
Labour productivity expressed in terms of labor use	ore/t	42,37	45,18	51,72	48,38
Consumption of diesel	l/t	7,8	7,8	7,8	7,8
Rate of return	%	40,60	38,60	26,70	28,18

Commodity production studied grape varieties, especially varieties ARGESSIS, golden Ștefănești Canner, extra element of their quality, the highest percentage is between 80-85% of the total production obtained, indicating that higher percentages were obtained the type of cutting drill-rod elements 2-3 4-6 Corda eyes and eyes with load bearing eye 15 / hub and 20 buds / vine.

It is obvious that small task eye hub increase the quality of grapes on a vine, and this proved varieties studied in this paper.

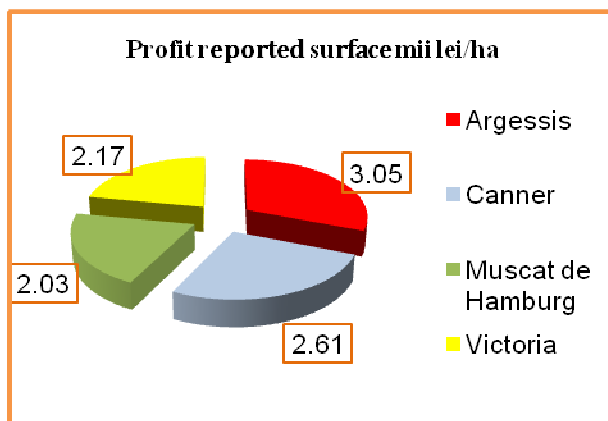


Figure 6 - The profitableness rate for varieties studied

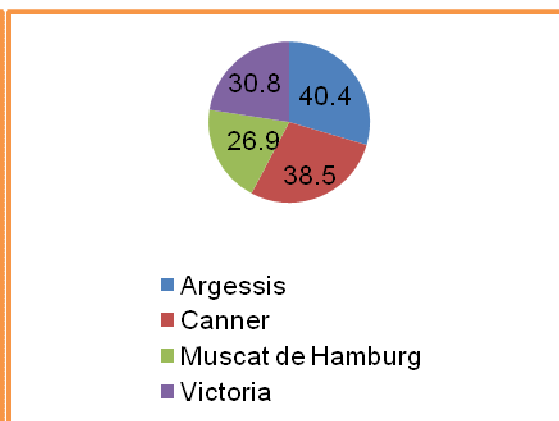


Figure 7 - The return on the varieties studied

The profit earned for applied technological options for varieties studied were maximum load bearing eye 15 / vine and pruning fruit formation 2-3 eyes. Scaling load bearing table grape varieties is required.

The profit Argessis variety, variety of high quality, had the highest value (3050 lei / ha) to version 20 Eyes load bearing / hub with fruit cut into rings 4-6 chord eyes.

The profit Canner variety, variety of high quality, had the highest value (2600 lei / ha) to version 20 Eyes load bearing / hub with fruit cut into rings 4-6 chord eyes.

The profit made from Muscat of Hamburg, variety of high quality, recorded the highest value (2170 lei / ha) to version 15 Eyes load bearing/hub, with drill-cutting in 2-3 eyes.

The profit Victoria variety, variety of high quality, recorded the highest value (2030 lei / ha) to load the rod version 25 eye / log, cutting the string of 8-12 eye.

The highest rate of return was achieved ARGESSIS variety (40.4%), followed by variety Canner (38.5%). Last in terms of rate of return is Muscat of Hamburg (26.9%). Variety Victoria recorded a rate of return of 30.8% (Figure 7).

4. CONCLUSIONS

Varieties studied showed balanced values of the ratio of accumulated sugars and titratable acidity of grape

All varieties studied, the highest amounts of sugars accumulated in 2012 and lowest in 2013. This variation in sugar content of the wine is determined mainly by the production of grapes, the leaf area of each block. Such sugars that accumulated grapes during the three-year study ranged from 130.4 to 140.8 in 2011, 127.9 to 140.9 in 2012 and 137.8 to 155. 2 in 2013.

Profits from the technological options applied to the varieties studied, with a maximum load of 15 fruit buds / vine and pruning fruit formation 2-3 eyes. Scaling load bearing table grape varieties is required.

Highest rate of return was achieved ARGESSIS variety (40.4%), followed by variety Canner (38.5%). Last in terms of rate of return is Muscat of Hamburg (26.9%). Variety Victoria recorded a rate of return of 30.8%.

5. ACKNOWLEDGEMENTS

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