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NECESSITY OF CULTIVATION AND CLASSIFICATION OF THE TABLE GRAPES VARIETIES FOR COMMERCIALIZATION

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Abstract

Research in this paper were conducted during 2010-2012 to INCDBH Stefanesti Arges refer to native table grapes varieties. Table grapes should be a pleasant and attractive. This condition is crucial because consumers consider primarily 'eye' size, shape and color of the grapes. In grape production, in addition to climatic conditions and variety cultivated a decisive influence has applied agrotechnics plantation. Obtaining high yields of high quality and at a low cost price agrotechnical requires the application of a differentiated varieties. In 2009, vineyards supplying grapes for table had 9.384 ha, representing 5.08% of the total area for growing plantations and nurseries. Table grape exports was insignificant in recent years, however imports soared.

Key words: *table grapes, export, productivity, commercialization.*

INTRODUCTION

Grape production is the indicator reflecting perhaps most visible as the hub biological potential and professionalism and ability to manage properly grower's holding in each year since the beginning of phenophases first to last, so a correctly applied technologies lead to obtaining an appropriate grape harvest both quantitatively and qualitatively.

Quality table grapes from the combination of all the physical, chemical and organoleptic requirements satisfy and stimulate consumer interest. It is estimated differently depending on the subject (consumer, retailer, manufacturer) and product. The consumer is interested, primarily organoleptic quality, based on taste characteristics (flavor, sugar content, acidity), olfactory (aroma), tactile (consistency pulp), visual (color, size, freshness, etc.).

Grain trader appreciates homogeneity, integrity, appearance (absence of defects in shape, parasites, flesh alterations, improper color), capacity retention and transport features which allow product to reach the consumer in the best conditions.

MATERIALS AND METHODS

After 1989, due to the difficulties of the transition and globalization expansion area covered with vineyards for grapes decreased continuously, reaching in 2008 to 10 732 ha and 62 ha come bearing live young (Dejeu L., 2010) (table 1). Table grape exports was insignificant in recent years, however imports soared. In the future it is necessary to relaunch the production lines, given the increased requirements for table grapes to consumers.

Table 1. Cultural situation vine vines for table grapes in Romania (after Dejeu L., 2010)

Specification	Year			
	2005	2006	2007	2008
Total vines on fruit for table grapes (ha)	12 813	12 578	11 523	10 732
Young vines (ha)	48	91	73	62
Total production of table grapes (t)	39 338	67 053	81 046	87 164
Table grape exports (t)	200	100	909	306
Importation of table grapes (t)	2 044	9 000	18 959	21 500
Average consumption of table grapes (kg / resident / year)	4,39	3,11	4,62	5,00

Quality of the items, the size of grapes (bunches) determined according to weight and elsewhere, is a character presentation importance in terms of trade in table grapes appearance (Sestras R., 2004).

Table grape varieties, as well as those for wine, sugar content (with acid) is one of the most

important elements of quality grape-vine. Of carbohydrates, monosaccharides are the most important because it represents over 95% of the total sugars accumulate in the grapes and the monosaccharides glucose and fructose are the most representative (Tardea C., 2000). Table grape varieties relationship between the two main sugars (glucose and fructose) should be in favor of glucose (Ardelean M., 1986).

New marketing standards for table grapes came into force in the EU in 2008, as a result of the European Commission Regulation no. 1221/2008. Table grapes can be divided into three categories:

- Extra. The grapes in this class must be of superior quality to shape, development and coloring typical of the variety, allowing the production area and have no defects. Berries must be firm, firmly attached to the pedicel, evenly covered the cob and bloom;
- Category I. Grapes must be of good quality, take shape, typical of the variety, corresponding to the production area. Berries must be firm, firmly attached to the pedicel and covered with bloom. Grains may have some slight defects that do not impair normal appearance, quality, keeping quality and presentation in the package of the product: slight defects of shape, color and burns caused by the sun, but affects only the skin.
- Category II includes grapes that can not be classified in the higher classes, grapes may show slight defects in shape, development and coloring, provided these do not impair the essential characteristics of the variety, allowing for the production. Berries must be firm and sufficiently attached to pedicel and, if possible, covered with bloom. Assigned to clusters may be less uniform than in other categories. Grains may have the following defects, provided they retain their essential characteristics as regards the quality, keeping quality and presentation: defects of form, color, light skin burns in the sun, slight bruising, slight skin defects.

RESULTS AND DISCUSSIONS

Table grape varieties are generally growing varieties with high force, high production potential and a lower capacity to accumulate sugars in the beans. This indicator of the quality of significance in that, in the case of grapes for fresh consumption, taste qualities are given by a balance between sugar content and acidity must.

Groups of varieties are found higher accumulation of sugars in varieties with medium production potential. Late maturing varieties, those with high production potential and high growth force accumulates lower amounts of sugars. In 2012, a year rich in resources heliothermal varieties studied have accumulated large quantities of sugars from the grapes recorded. Between 2010 and 2011, normal in terms of climate, accumulation of sugars were low, and because the higher production of grapes obtained (Table 2).

Table 2. Sugars values in table grape varieties cultivated at INCDBH Stefanesti-Arges

VARIETY	SUGARS g/l		
	2010	2011	2012
Argessis	140,3	138,5	155,2
Auriu de Stefanesti	140,2	140,9	146,3
Augusta	137,8	139,4	143,2
Muscat Adda	130,4	127,9	137,8
Perlette 10St	145,2	156,1	164,0
Muscat Adda 22St	140,5	145,2	198,0
Canner	140,8	150,1	169,0

For all varieties studied, the highest amounts of sugars accumulated in 2012 and lowest in 2010 (Table 1). This variation in sugar content of wine is determined mainly by the production of grapes, leaf area on each block. Such sugars that have accumulated grapes during the three year study ranged from 130.4 to 140.8 in 2010, 127.9 to 140.9 in 2011 and 137.8 to 198, 0 in 2012.

Titrable acidity of the must expressed in g / l H2SO4 was determined at full maturity of the grapes. Although the specific climatic conditions vineyard Stefanesti-Arges, acidity grape varieties of wine grape vines usually remains sharp, high temperatures in recent years indicate qualitatively affect this considerably. Thus, in 2012, due to high temperatures, acidity showed lower values, especially in the early and mid-maturing varieties such as Augusta and golden Argessis Stefanesti and in 2010 and 2011, when temperature and insolation values were close the annual average, titrable acidity was the characteristic varieties tested (Costescu A., 2012) (table 3).

Variations in acidity of the varieties studied, there were different due to the volume of foliar developed the hub, shading generated by it and equally grape production levels. Muscat Adda, extending the grain growth and delay their maturation achieved a higher level of titrable acidity of the must. Thus, this variety was average titrable acidity of 5.29 g / l H2SO4.

Table 3. Acidity values in table grape varieties grown in INCDBH Stefanesti-Arges

VARIETY	ACIDITY g/l H_2so_4		
	2010	2011	2012
Argessis	5,14	5,11	5,01
Auriu de Stefanesti	5,07	5,15	5,20
Augusta	3,50	3,56	3,50
Muscat Adda	5,15	5,21	5,51
Perlette 10St	3,80	4,15	3,30
Muscat Adda 22St	3,81	3,60	2,90
Canner	3,90	4,18	4,30

Varieties studied showed acidity values between 3.50 to 5.15 in 2010, from 3.56 to 5.15 in 2011 and from 2.90 to 5.20 in 2012.

Acidity values of varieties with less dense foliage device were located within specific table grape varieties (3.50 to 5.51) (Costescu A. and colab., 2010, Popa C. et all, 2007).

Glucoacidimetric index used to determine when consumer maturity, so to set the date harvest. Value of this index for table grapes is usually between 2.5 to 4.5 range, given that table grapes contain 135-200 g / l sugar and 3.5 to 6.0 g / l H2SO4 acidity (Martin, T., 1974).

Following glucoacidimetric index values (Table 4) shows large differences from one variety to another, between experimentation.

Varieties studied showed balanced values of the ratio of accumulated sugars and titrable acidity of must: Argessis (2.72 to 2.84), golden Stefanesti (2.63 to 2.71), Muscat Adda (2.25 to 2, 57), Augusta (3.75 to 4.04).

Table 4. Glucoacidimetric index values in the studied period (average 2010-2012)

VARIETY	GLUCOACIDIMETRIC INDEX		
	2010	2011	2012
Argessis	2,73	2,71	3,09
Auriu de Stefanesti	2,76	2,73	2,81
Augusta	3,93	3,91	4,09
Muscat Adda	2,53	2,45	2,50
Perlette 10St	3,82	3,76	4,97
Muscat Adda 22St	3,79	4,03	6,82
Canner	3,61	3,59	3,93

Taking into account the varieties studied, it is found that the highest values for this indicator were obtained from clone Adda 22 Del. Muscat. in 2012 (6.82) and lowest in Muscat Adda (2.50) also in 2012. Table grape producers constantly seek that level of quality to meet customer needs: large grapes, rare in grain, uniform in size, firmly attached pedicel, thin skin, evenly colored, crunchy flesh, pleasant, neutral or aromatic see Quality table grapes from the combination of all the physical, chemical and organoleptic requirements satisfy and stimulate consumer interest. It is estimated differently depending on the subject (consumer, retailer, manufacturer) and product.

The consumer is interested, primarily organoleptic quality, based on taste characteristics (flavor, sugar content, acidity), olfactory (aroma), tactile (consistency pulp), visual (color, size, freshness, etc.) ds few, small, or no seeds. Resistance is important for storage grain separation.

Grain trader appreciates homogeneity, integrity, appearance (absence of defects in shape, parasites, flesh alterations, improper color), capacity retention and transport features which allow product to reach the consumer in the best conditions.

The manufacturer aims to maximize besides grapes and satisfying the consumer and the trader. New marketing standards for table grapes came into force in the EU in 2008, as a result of the European Commission Regulation no. 1221/2008.

Quality standards refer to minimum requirements and rules that should be respected producers and exporters of fruits and vegetables and aim for food and fresh grapes, from varieties belonging to Vitis vinifera

Grain trader appreciates homogeneity, integrity, appearance (absence of defects in shape, parasites, flesh alterations, improper color), capacity retention and transport features which allow product to reach the consumer in the best conditions.

Rules define the quality characteristics that must have table grapes after preparation and packaging. Given the specific provisions laid down for each class and the tolerances allowed, grapes and berries must be:

-sound, produce affected by mold or deterioration such as to make them unfit for

consumption;-clean, practically free of any visible foreign substances and attacks by pests and diseases; abnormal external moisture-free, odorless and / or taste.

Also, the beans should be whole, well formed, normally developed. Grapes must be harvested carefully and degree of maturation to the transport, related operations and to arrive in satisfactory condition at the place of destination.

Must must have a refractometric index of at least:

-12 º Brix for the Alphonse Lavalle varieties, Cardinal and Victoria;

-13 º Brix for other varieties of seeds;

-14 º Brix for all seedless varieties.Alpha

In addition, all varieties must report sugar / acidity satisfactory. The standards of the International Organization of Vine and Wine on minimum maturity requirements for table grapes (VITI Resolution 1/2008) states that grapes that have a refractive index (° Brix) equal to or greater than 16 are considered mature. In contrast, white varieties (and pink) table grape with a refractive index less than 16, you must have a minimum ratio 'sugar (g / l) / acidity (g / l expressed as tartaric acid) '20 / 1 to be considered mature. If black varieties of table grape with a refractive index of between 12.5 and 16 must have a report 'sugar / acidity' of at least 20/1, to be considered mature. Grapes that have those values less than 12 are not considered mature. Minimum requirements determined by the weight calibration table grape varieties large and small grains grown in the field (or in greenhouses) are presented in Table 5.

Table 5. Minimal weight of grapes (g) for different qualitative categories (Reglement CE nr. 1221/2008)

Category	In the greenhouse	On the fild	
	Table grape	grapes with large berries	grapes with small berries
Extra	300	200	150
I	250	150	100
II	150	100	75

Each category are allowed tolerances in respect of quality and size of 5-10%. Each package must be uniform and contain content than grapes of the same origin, variety, quality and degree of maturation.

CONCLUSIONS

Table grapes must be harvested carefully and degree of maturation to the transport, related operations and to arrive in satisfactory condition at the place of destination.

Grapes and berries must be: healthy, produce affected by mold or deterioration such as to make them unfit for consumption, clean, practically free of any visible foreign substances and attacks by pests and diseases; without abnormal external moisture, odorless and / or taste.

Grapes for sale to be complete, well-formed, normally developed.

Quality table grapes from the combination of all the physical, chemical and organoleptic requirements satisfy and stimulate consumer interest. It is estimated differently depending on the subject (consumer, retailer, manufacturer) and product.

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