

VALUABLE TABLE GRAPES VARIETIES FROM STEFANESTI-ARGES WINEYARD AND THEIR AGROBIOLOGICAL ATTRIBUTES

Cezarina NECULA ¹, Camelia POPA ², Nicolae PETRESCU ¹, Cristian MARIN ³

¹ Valahia University, Targoviște

² INCDBH, Stefanesti

³ICDP, Pitesti

Abstract

On the Romanian market there are a few table grapes varieties with commercial aspect. Proceeding studies and determinations in experimental fields of the improvement laboratory, four varieties of table grapes (Augusta, Victoria, Argessis, Transilvania) have shown remarkable quality traits and also variable maturation ages which are suitable to respond to the market demand from June to September.

The improvement of a viticulture variety by introducing new varieties with improved quality and productivity, tolerant to stress factors and diseases, represent a present problem for the Romanian research. The introduction in culture of a variety which is suited for the pedo-climatic conditions of a viticulture area is an important objective for any ameliorator. Many table or wine grape varieties are researched for years in amphelographic collections or in contest fields to study the way these varieties adapt to the variation of the weather conditions.

Key words: amphelographic collection, varieties, production.

MATERIAL AND METHOD

At the viticulture station Stefanesti for 3 years, 4 varieties of table grapes with different maturation ages were researched with successful results for research purposes but also for the market demand.

The four table grape varieties (Augusta, Victoria, Argessis and Transilvania) were analyzed agro biologically and technologically in an amphelographic collection.

The amphelographic collection is located on a field which is representative for Stefanesti region with a brown soil colluvial clay-sandy, rich in phosphorus and potassium, scarce in carbonate with acid pH. Planting distances are 2,2 m/1m and leading form Guyton on the semi strain, on espaliers with three double wires.

RESULTS AND DISCUSSIONS

Viticultural years 2006-2008 were distinct by the unfavorable weather conditions, being characterized by periods of drought in the period of growth and maturation of the grape grains and abundant rains in full growth period. Precipitations from May, June, September and drought from July, August have favored the development of the main cryptogenic diseases. In these conditions it was able to be tested the resistance of these varieties to diseases.

VICTORIA

Origin: a complex hybrid obtained by crossing over: Cardinal x (Alphonse Lavallee x Ahmeur bou Ahmeur) x Afuz ali white. The Hybridation were performed at Horticulture Research Institute (I.C.H.V.) Bucharest, by Victoria Lepadatu. Selection work continued at S.C.V. Dragasani, the variety being recognized in 1978. It is one of the most valuable Romanian variety of table grapes. It's strengths are early maturation but especially by it's beauty and the increased productivity.

Amphelographic traits: At debut the rosette and the young leaves are glared, shiny green-copper-colored. The adult leaf, medium sized (16-18 cm long) full, rarely trilobate, with a smooth gabby, and glared on both sides. The side sinuses are superficial and open, and the sinusoidal petiol is in the shape of a V. The Shoots of medium power, green colored, and the bark slightly striated. Fall chords, playing an amber-brown. Flower is monoecious normal guy May, variety is autofertil. 350-580 g grapes are large, conical or cylindrical-conical, with grains arranged in compact clusters. Large and very large grain (6.5 g), ovoid yellow-amber (amber) semicrisp pulp, balanced flavor, not flavored.

AUGUSTA

Origin. It was obtained by controlled sexual hybridization Italy x Queen variety of vineyards, the Agronomic Institute in Bucharest. Variety approval was made in 1984. Required by timpurietate (II era of aging), size and look to the grapes.

Ampelographic characters. At the rosette is dezmugurire glabra, green and brown shades, and young leaves are bronze. Adult leaf of medium size (16-18 cm long) and have fine grooves. Autumn chords acquires a brown color - brown. Monoecious flower normal guy May, variety is autofertil. Grapes are high (average 325g), conical and cylindrical-Lacs. Berries large, oval, yellow-green, semicrocantă flesh with pleasant flavor.

TRANSILVANIA

Origin. It was obtained by controlled sexual hybridization between varieties x Black Rose Cardinal Horticultural Research Station in Cluj-Napoca. Variety approval was made in 1984. Distinguished by high productivity and resistance to Botrytis sp.

Ampelographic characters. Sales bud glossy with dull green rosette. Adult leaf is large (20-21 cm cm long, pentalobată with lateral sinuses shallow and open, and sinus petiolar more or less closed, V-shaped Language leaf green - intense, slightly Grof, glabru lower face and long teeth. Shoots merits medium (14-16 cm long), green and reddish on the sunny side grooves. Chords autumn color is brown-gray. Monoecious flower normal guy five or six, being autofertil variety. Grapes medium size (386-475 g), cylindrical-conical, sometimes winged, with

settlement on cluster bean relatively Lacs (semicompacti). Medium grain size (4.25 to 6.06 g), ovoid with thick skins, black-purple and covered with plenty pruină. The flesh is crunchy grains, acidified, tastefully discreet bit.

ARGESSIS

Origin. It was obtained by controlled sexual hybridization between varieties of Moldova x Augusta at Research Station vineyard Stefanesti-Arges. Variety approval was made in 2002. Distinguished by very good appearance of the grapes by high productivity and high resistance to disease.

Taxonomic characters. At the slaes bud, the rosette is purple, fluffy, shoot tip is semi-young, poorly pigmented on skirt and high density brush soft green shoots have internodiile with red stripes on the back and red on the ventral; hatches are long. Adult leaf is large tongued, wedge, three-lobed, dark green on the top, both edges have teeth, stem sinuous is open, based in "V", on the underside, between the ribs, although erections are dangerous and the main ribs they are rare. Grapes is cylindrical-conical, uniaxial, bi-or triaripat, compact medium, from medium size to very large. Grain is large, ovoid, with thick skins, blue-black uniform covered with a thick layer of pruină, pulp is colored.

Argessis variety is vigorous hub, with a good reaction to cold, late spring frosts and drought and growing medium to Plasmopara, Uncinula Necator and Botrytis cinerea. In favourable years were recorded up to 70% of fertile shoots. Meier and beads phenomena are absent or very rare.

Table 1

Periods of evolution in vegetation

Variety	Vegetation buds	Blossom	Firstfruits	Full maturity
AUGUSTA	18.04 – 29.04	23.05- 1.06	13.07-20.07	10.08 – 20.08
VICTORIA	24.04 - 1.05	29.05 – 8.06	18.07-24.07	20.08-1.09
TRANSILVANIA	28.04 - 4.05	27.05 – 4.06	20.07 – 27.07	5.09-12.09
ARGESSIS	25.04 – 30.04	25.05 – 2.06	18.07 – 26.07	28.08 – 5.09

Analyzing the data given in table 1, that starts on 18.04 dezmuguritul Augusta and ends with variety variety Transylvania, on 4.05. Earliest flowering occurs at Augusta variety (23.05-1.06) and at the latest variety Victoria (29.05-8.06). Even if Victoria variety blooms the last of the four varieties examined until full maturity walk a shorter growing season by 85 days. Parga occurs around the same time in all varieties, with small differences depending on climatic conditions. Full maturity varieties classified in the following order: Augusta (full ripening in August), Victoria (August-September),

Argessis (full maturity in early September) and Transylvania (mid-September).

Resistance of winter buds: All four varieties analyzed in the period 2006-2008 - bud viability over 70%, which proves their tolerance to frost. Fertility varieties expressed by percentage of shoots with fruit varieties Augusta ranks in group less fertile varieties (average over four years was 63% shoots with fruit), variety.

Winning the group variety with over 71% fertility and Transylvania Argessis Soir, red varieties, the average fertility (66-67%) (fig.1).

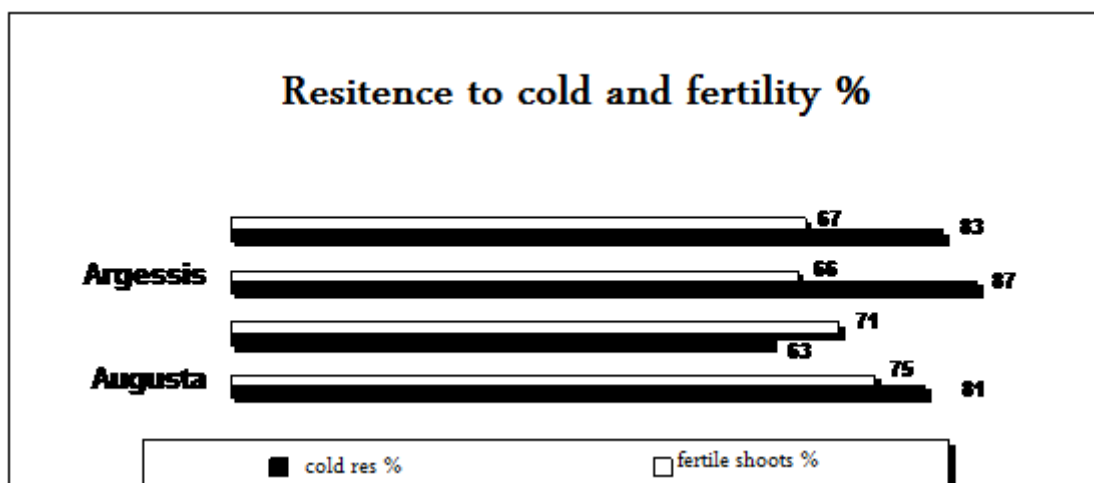


Figure 1 Resistence to cold and fertility

Grape production varies from year to year depending on climatic conditions of the year. 2007 production was favorable grape varieties registering between 3.22 kg/leg. (Transilvania variety) and 6.1 kg/leg. (Argessis variety). Doing average four years studied, varieties have weighed:

2.41 kg/leg.- Augusta kg/leg - 2.61 Transilvania 2.92 kg/leg - Victoria, 4.16 kg/leg.-Argessis.

In terms of sugar content, variety Argessis again proves superior to other varieties, accumulating 159g/l sugar. Transilvania variety being late, presented only 127g/l sugar (fig. 2).

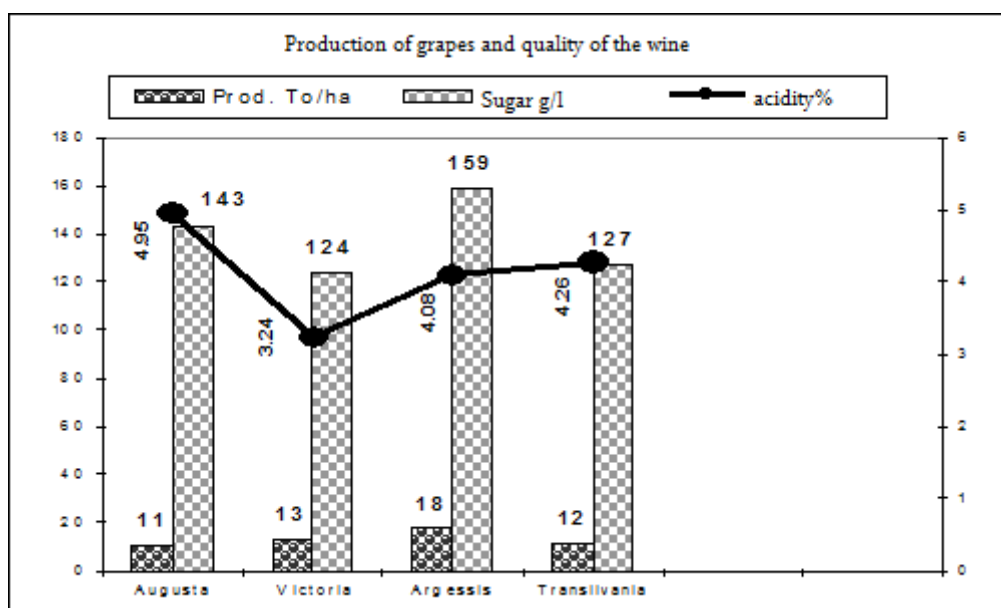


Figure 2 Production of grapes and quality of the wine

Production quality, expressed by an average weight of a grape, 100 grain average weight and sugar content and acidity in the grapes is shown in *Figures 2 and 3*.

The four varieties studied, in a good year for viticulture 100 grain weight exceeds

560g. Variety Argessis was 669 g, followed by varieties Transilvania, 622 g and 593 g Victoria.

Also the most difficult grapes had all sorts Argessis (370- 480 g).

Table 2

Studied varieties biological and biochemical particularities

Variety	Study years	Resistance to cold %	Branch with fruit%	Production Kg/but	Sugars g/l	Acidity g/H ₂ SO ₄	Weight of 100 grains(g)	Weight of a grape(g)
AUGUSTA	2006	85	55	1,3	186	4,20	554	317
	2007	90	75	5,25	123	5,38	567	328
	2008	75	67	1,55	140	4,82	390	310
	2009	72	55	1,55	123	5,40	440	355
	Media	81	63	2,41	143	4,95	488	328
VICTORIA	2006	71	71	2,55	132	3,30	596	364
	2007	78	88	4,10	116	3,06	593	263
	2008	78	67	2,63	118	2,50	420	410
	2009	74	58	2,42	130	4,13	452	350
	Media	75	71	2,92	124	3,24	515	347
ARGESSIS	2006	86	62	2,90	169	4,36	617	438
	2007	90	69	6,10	145	3,42	669	464
	2008	100	63	4,32	170	4,90	590	480
	2009	73	70	3,33	152	3,65	496	370
	Media	87	66	4,16	159	4,08	593	438
TRANSILVANIA	2006	85	64	2,50	120	5,00	575	380
	2007	90	80	3,33	110	3,50	622	481
	2008	77	60	1,39	145	3,55	496	439
	2009	80	63	3,22	134	4,99	486	360
	Media	83	67	2,61	127	4,26	545	415

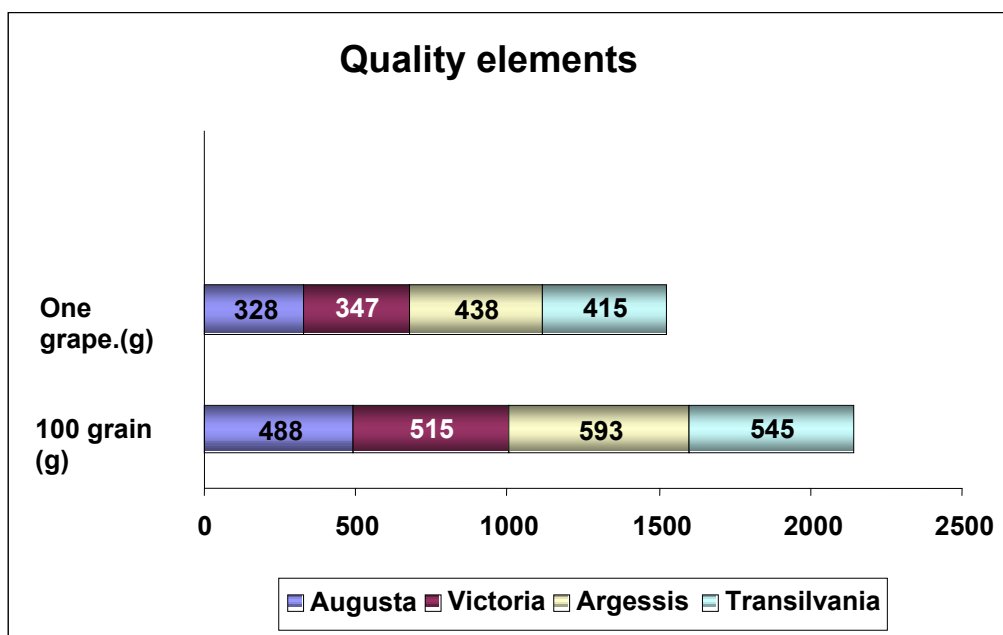


Figure 3 Quality elements

CONCLUSIONS

The four varieties studied vineyard conditions Stefanesti (Augusta Victoria, Transilvania and Argessis) constitute a valuable biological material and participate in expanding the current range for table grapes.

Variety Argessis, created new variety meets all the qualities of a variety of quality, which in fact recommend to other growing areas.

BIBLIOGRAPHY

- Bădițescu, M., Popa, C., 2006 - *Recommendation to extend the culture of Augusta variety with grapes*, Hort. VL VI, 9, p. 75-120.
- Popa, C., Necula, C., 2003 - *The new comes Variety Grapes for table Agessi*, Annals of University of Craiova, vol VIII (XLIV), p. 235-239.
- Necula, C., Popa, C., 1999 - *Research on the biological resistance of vine varieties to blight and powdery mildew disease*, Scientific Session Targoviste, 24 May 1999.