Varieties and local biotypes of vine from western part of Romania

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Abstract

The aim of our research was to study varieties and local biotypes from the western part of Romania which were met in population private households and yards. Official trips were made during 2007 in order to identify valuable varieties and local biotypes.

From the amount of identified varieties and local biotypes during observations and determinations were kept 51 which we considered that are important for viticultural science and practice.

Chosen biotypes as being interesting were aranged in groups and analized on three different directions: varieties and local biotypes which are intendeed for fresh consumption, varieties and local biotypes with mixed features for table and wine, varieties and local biotypes with specific features for wine obtaining only.

The analysis was made in comparison with known varieties which occupies a wide area in those analised areas.

1. Introduction

Western part of Romania represents an area with a rich tradition and a long experience concerning vine cultivation. In this area exists an abundance of varieties and local biotypes, some of them indeed valuable which were grown with good results for centuries.

During last years time in almost all viticultural countries of the Europe regained their importance researches which regard vine local germ plasma. In case of a more and more intense competition on wine's world market, varieties and local biotypes represent the main source of obtaining some typical, authentic products which would carry origin place impress.

In the present due to research activity stint, many of the varieties and local biotypes are not known being even in danger to parish, loosing that way an important biodiversity source.

During our research we've organized displacements in private viticultural plantations, yards and population households in order to identify and restore in their value varieties and local biotypes with valuable features, which also are important for research or viticultural practice.

2. Materials and methods

During our displacements in the field were identified and took samples from over 100 varieties and local cultivars on Arad, Caraş-Severin and Timiş county territory. Pursuant to samples taking and data analysis regarding ampelographical, phisico-chemical and technological features were identified as being interesting for ulterior research development a number of 51 local cultivars.

The 51 local cultivars which present importance for viticultural science and practice are located on localities territory presented in table 1. From the 51 local biotypes 17 of them presents table grapes specific features, 16 of them lend themselves to wine making and 18 of them manifests mixed features, lend themselves to wine making or to fresh consumption.

Table 1. Varieties and local biotypes distribution on areas and localities

Area	Locality	Varieties and local biotypes distribution on areas and localities			Total
		Table	Wine	Mixed	
ARAD	Roşia	1	4	1	6
	Paulian	2	-	-	2
	Mîsca	2	-	-	2
	Măderat	2	2	2	6
	Ineu	2	2	-	4
TIMIŞ	Timişoara	1	-	-	1
	Şarlota	-	-	2	2
	Buziaş	4	4	8	16
	Silagiu	3	3	4	10
CARAŞ – SEVERIN	Liubcova	-	-	1	1
	Moldova Noua	-	1	-	1
TOTAL		17	16	18	51

In order to establish varieties and local cultivars names we sue to different criterions (popular local name if exists, localities initials on which territory were discovered, house number, prevalent ampelographical and technological features, etc).

3. RESULTS AND DISCUSSIONS

Cultivars technological and ampelographical characteristics are separately presented on production directions: grapes varieties which are meant to fresh consumption and wine making and grapes varieties meant to wine making (table 2, 3, 4).

In order to obtain a better enlighten, results are presented in comparison with Chasselas dore, Fetească Regală and Cabernet Sauvignon varieties.

In table 2 are presented technological and phisico-chemical characteristics of varieties and local biotypes which were intended for fresh consumption.

Table 2. Grapes varieties and local biotypes technological and phisico-chemical characteristics which are intended for fresh consumption

Variety/Biotype	Locality	Sugar (g/l)	Acidity (g/l H_2SO_4)	Gluco-Acidimetric index	Cluster average weight	Sugar (difference to the control)
Whites						
Alb rezistent de Măderat 606	Măderat 606	190	3,02	62,91	230	+ 15
Frumoasă Albă de Măderat	Măderat 606	198	2,98	66,44	300	+23
Albă de Mâsca	Mâsca	132	4,2	31,42	300	-43
Alb de Păulian	Păulian	143	3,8	37,63	160	-32
Rămuros de Buziaş	Buziaş	186	4,2	44,28	332	+11
Frumoasă albă de Buziaş	Buziaş	116	4,55	25,49	344	-59
Auriu de Buziaş	Buziaş	175	3,2	54,68	291	0
Alb aripat de Silagiu	Silagiu	147	3,62	40,60	180	-28
Răşchirată albă de Silagiu	Silagiu	116	4,5	25,77	632	-59
Alb de Timişoara	Timişoara	175	3,4	51,47	332	-
Ineu 4	Ineu	168	4,2	40,0	653	-7
Ineu 6	Ineu	134	5,0	26,8	507	-41
Aromat roz	Roşia	173	3,1	55,8	115	-2
Roz îndesat de Silagiu	Silagiu	129	3,75	34,4	520	-46
Reds						
Negru de Mâsca	Mâsca	131	3,84	34,11	540	-44
Aripat de Buziaş	Buziaş	158	3,25	48,61	335	-17
Negru de Păulian	Paulian	128	3,6	35,55	490	-47
Chasselas dore (control)	Timisoara	175	3,15	55,55	180	-

Chosen varieties and biotypes which are intended for fresh consumption are characterized by a different sugar content which vary between 198g/l in case of Frumoasă albă de Măderat variety and 116g/l in case of Frumoasă alba de Buziaş and Răşchirată albă de Silagiu varieties. Majority of the cases are presenting an equilibrate sugar/acidity report as we can see from glucoacidimetric index values.

Another important characteristic in case of varieties of grapes which are intended for fresh consumption is represented by grapes commercial aspect knowing the fact that table grapes,, are consumed first with the eye''. From this point of view are pointed out through an attractive grapes aspect the following local biotypes: Frumoasă albă de Măderat, Frumoasă albă de Buziaş, Alb de Timişoara and Negru de Păulian.

In table 3 we present varieties and local biotypes which are having mixed features, in comparison with Chasselas dore variety, a table grape variety which can be also used for wine making.

Table 3. Technological and phisico-chemical characteristics of the grapes varieties and local biotypes with mixed features

Variety/Biotype	Locality	Sugar (g/l)	Acidity (g/l H_2SO_4)	Gluco-Acidimetric index	Alchoolic potential	Sugar (difference to the control)
Whites						
RB Alb	Roşia	153	5,1	30	9	-22
Buziaş U 21	Buziaş	217	3,2	67,81	12,76	+42
Buziaş AŞ 33	Buziaş	171	4,9	34,89	10,05	-4
Regina viei 21	Buziaş	114	4,51	25,27	88	-61
Căpşunică Albă de Şarlota	Şarlota	127	6,3	20,15	7,47	-48
Alb de Măderat 606	Măderat	149	5,2	28,65	8,76	-26
Roz de Silagiu	Silagiu	155	4,9	31,63	9,11	-20
Chasselas dore (control)	Timisoara	175	3,15	55,55	10,29	-
Reds						
Nănaşă de Măderat	Măderat 606	178	4,6	38,69	10,47	+3
Lipovan	Liubcova	155	4,9	31,63	9,11	-20
Buziaş TH	Buziaş Str. Târgului	191	4,2	45,47	11,23	+16
Negru rar de Buziaş	Buziaş	158	4,7	33,61	9,29	-17
Fragă neagră de Buziaş	Buziaş	127	6,5	19,53	7,47	-48
Buziaş AŞH	Buziaş	140	5,8	24,13	8,23	-35
Negru de Buziaş	Buziaş	147	5,4	27,22	8,64	-28
Negru mic de Silagiu	Silagiu	204	3,8	53,68	12	+29
Negru vânăt de Silagiu	Silagiu	166	4,5	36,88	9,76	-9
Negru rămuros de Silagiu	Silagiu	153	4,9	31,22	9	-22
Negru de Şarlota	Şarlota	168	4,4	38,18	9,88	-7
Chasselas dore (control)	Timisoara	175	3,15	55,55	10,29	-

Those varieties present in majority of the cases a pleasant commercial aspect, close to the table grapes one, and some of them have an equilibrate chemical composition, which we recommend for the obtaining of wines for wide consumption, savory, equilibrated but with reduced alcohol potential, this being one of the tendencies on world's plan in wine making sector. From this group we can note Buziaş 21, Negru mic de Silagiu and Nănaşă de Măderat varieties.

Table 4. Technological and phisico-chemical characteristics of the grapes varieties and local biotypes used for wine

Variety/ Biotype	Locality	Sugar (g/l)	Acidity (g/l H_2SO_4)	Gluco-Acidimetric index	Alchoolic potential	Sugar (difference to the control)
Whites						
Mustoasă de Măderat	Măderat	173	6,6	26,21	10,17	-15
Mustoasă de Măderat -selectie clonală	Măderat	167	6,9	24,20	9,82	-21
Alb aromat de Roşia	Roşia nr.90 Salcu	165	6,2	26,61	9,70	-23
Aripat roz de Roşia	Roşia nr.90 Salcu	116	7,9	14,68	6,82	-72
Roz de Buziaş	Buziaş	171	5,6	30,53	10,05	-17
Buziaş AŞ	Buziaş	204	4,2	48,57	12	+16
Fragă albă de Silagiu	Silagiu	204	3,9	52,3	12	+16
Ruginiu de Silagiu	Silagiu	217	3,1	70	12,76	+29
Ineu 1	Ineu	160	4,3	37,2	9,41	-28
Roz mărunt de Buziaş	Buziaş-A.Şaguna	182	3,8	47,89	10,7	-6
Roz bătut de Silagiu	Silagiu	125	7,5	16,66	7,35	-63
Fetească Regală (control)	Timişoara	188	4,3	43,72	11.05	-
Reds						
Negru bătut de Roşia	Roşia nr.90 Salcu	185	3,7	50	10,88	-9
Negru aromat de Moldova Nouă	Moldova Nouă	175	5,8	30,17	10,29	-19
RD negru	Roşia	149	6,2	24,03	8,76	-45
Negru mic de Buziaş	Buziaş	213	3,1	68,70	12,52	+19
Ineu 2	Ineu	193	3,5	55,14	11,35	-1
Cabernet Sauvignon (control)	Timişoara	194	3,5	55,42	11,41	-

In table 4 we presented technological and phisico-chemical characteristics of the wine grapes varieties and local biotypes.

From the 16 recommended cultivars for wine making we took samples which were transformed in wine minipartides. In order to have equal processing conditions we've used the same wine making technology for all cultivars depending on their group: red wines cultivars, white and aromatic wines cultivars.

In most of the cases, their majority must present an equilibrated composition.

In case of some varieties high sugar content allows the obtaining of some qualitative wines which can be vinificated in dry, middle dry, middle sweet and sweet wines, satisfying that

way the requests of a large number of consumers (Roz de Buziaş, Buziaş A.S., Fragă albă de Silagiu, Ruginiu de Silagiu, Negru bătut de Roşia, Ineu 2, Negru mic de Buziaş.)

Other varieties distinguish themselves through acidity plus, being recommended for frothy and sparkling wines obtaining or being utilized as acidity proof-reader in case of short varieties or in droughty, warm years.

The obtained wines from these varieties and local biotypes are typical wines which carry origin place impress and which in wine making conditions using high technology standards could find a niche on world's wine market taking into consideration the preferences of a large number of consumers on who's part is a great demand for these goods, in our case typical, local, authentic wines.

4.Conclusions

Western part of Romania represents an area with long tradition and experience as concerns vine culture. Still from old times the obtained wines in this area had a great influence on European royal courts.

Romanian western part remark itself through a multitude of varieties and local biotypes, some of them frankly valuable, which in their majority are very less known, maybe only by the ones in which households are growing, being imposed their dissemination. Kept varieties and local biotypes are cultivated in population households, using a minimum technology, which in most of the cases resume itself to cutting, harvesting, possibly 1-2 weeding.

Phitosanitary treatments are missing or are limited to 1-2 splashing with bordelaise juice, which make us to assert that the obtained grapes can be considerate ecological grapes, and the noxious impact over environment is very low, almost non-existent.

Still there are varieties and local biotypes which remark themselves through high yields, pleasant commercial aspect of the grapes and equilibrated content of sugar and acidity, which in case of some adequate culture technology, a last generation one, could create pre-requisites for the obtaining of some vitivinicole products frankly very valuable.

Surely yet exists numerous enclaves with their own viticultural germ plasma very valuable, which in superior capitalization conditions could represent an important source of diversity and variability.

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