

TECHNOLOGICAL POSSIBILITIES OF OBTAINING THE AROMATIZED AND VITAMINED WINES FROM THE VITICULTURAL YIELD FROM OLTENIA SANDS

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Abstract

The experiments concerning the possibility of aromatizing, vitamining and increasing the mineral salts contents of the sandy areas, emphasize that the geographical space among Olt, the Southern Carpathian and the Danube is very rich in spontaneous and cultivated flora, from which could be obtained substances that enrich the wines in aroma and other constituents with high safe food and organoleptic valences. The most interesting aromas, for the same variety, are found in the plants from the hill areas that are drier and with long periods of sun shining. From this point of view the areas from the center and the south of Oltenia are remarked.

Key words: *variety, wine, recipe, aromatized, vitamined*

Introduction

The climate and the soil conditions from the sandy area, determine the wines that could be obtained to have, in general, poorer chemical compositions and organoleptic features inferior to the ones of the wines obtained in the hill areas from the same varieties (Gheorghită, 1972). To increase the contents in certain constituents, but especially the improving of the features and the safe - food value, it was adopted a programme concerning the obtaining of aromatized, vitamined rosé wines with high mineral salts contents.

Could be mentioned that relying on some studies made from 1994 to 1998, the technologies of obtaining the “neutral” rosé wines from the assortment planted on sands were finalized (Muntean, 1997).

Experimental

In the view of making up the aromatizing and vitamining fund and the increasing of the mineral substances, we refered to the following species from the spontaneous and cultivated flora (Mohan, 2000): white wormwood (*Artemisia absintium*), mint (*Mentha piperita*),

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milfoil (*Achillea millefolium*), chamomile (*Chamomilla recutita*), melilot (*Melilotus officinalis*), hiprose (*Rosa canina*), hawthorn (*Crataegus monogyna*), white underbrush (*Hippophae rhamnoides*), elder tree (*Sambucus nigra*), quince (*Cydonia oblonga*), apple (*Malus domestica*), pear (*Pyrus sativa*).

Knowing that the ecological area has a defining importance concerning the aromatizing and vitamining potential of the plants, these were picked from different areas of Oltenia such as:

- Area I → the territory between the towns: Râmnicu-Vâlcea and Băbeni
- Area II → the territory between the towns: Băbeni – Vâlcea and Drăgășani
- Area III → the territory between the towns: Drăgășani – Vâlcea and Craiova
- Area IV → the territory between the towns: Craiova and Băilești
- Area V → the territory between Băilești and the Danube river.

In general the herbaceous plants were picked up in the complete blossom phase and the fruits were harvested at complete ripeness. To establish the aromatic potential of the plants from different areas, micro-tests were achieved, in perfect equal conditions concerning the quantities of plants used to aromatize some quantities, equal too, of produce. The test aromatization was made using the infusion during the alcoholic fermentation.

In the view of specifying the most suitable aromatizing recipes, we considered the wormwood's contribution as "leading" or essential species, at the constitution of the aromatizing and gustative substance.

Results and Discussions

The contribution of the wormwood and the other plants species at the constitution of the aroma and gustative features was studied using different proportions in five recipes (table 1). The best results, expressed by the marks from the tasting, are obtained using the recipes number IV and V. The data from table 2 show the most suitable quantities of plants and fruits in the mixture, according to the mentioned recipes. It comes out that satisfactory results, concerning the olfactory-gustative relation, are obtained using the quantities of

200 and 250 g/hl wine, from the recipes number IV and V, where there are also shown the fruit-growing fruits (apples, pears, quince) hiproses and hawthorn fruits.

Table 1. The proportioning of different species at the constitution of aroma and gustative features (200 g/hl –mixture of species)

The recipe	The species	%	Mark at tasting
I	Artemisia absinthium	85	7.3
	Achillea millefolium	10	
	Mentha piperita	5	
II	Artemisia absinthium	80	7.7
	Achillea millefolium	10	
	Mentha piperita	5	
	Chamomilla recutita	5	
III	Artemisia absinthium	80	8.5
	Achillea millefolium	5	
	Mentha piperita	5	
	Chamomilla recutita	5	
	Melilotus officinalis	5	
IV	Artemisia absinthium	75	9.1
	Achillea millefolium	5	
	Mentha piperita	5	
	Chamomilla recutita	5	
	Fruits (apple, pear, quince)	10	
V	Artemisia absinthium	65	9.7
	Achillea millefolium	3	
	Mentha piperita	2	
	Melilotus officinalis	2,5	
	Chamomilla recutita	2,5	
	Hiprose	10	
	Hawthorn	10	
	Apple	5	

The influence of different aromatizing and vitamining fund concerning the base chemical composition of assortment type rosé wines obtained from Roşioară 70 % and Băbească neagră, Sangiovese, Burgund, Haiduc and Pandur 30 % from everyone, in comparison with Roşioară singular vinificated (MT), is shown in tables 3 and 4.

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Table 2. The influence of aromatizing substances applied in different quantities concerning the organoleptic features of the appetizer type rosé wines (Roşioară 70 % + Sangiovese 30 %) yield of 2002

The Recipe	Quantities (g/l)	Mark at tasting
White wormwood, Milfoil, Mint 85-10-5	50	6.3
	100	6.9
	150	7.3
	200	7.5
	250	7.4
White wormwood, Milfoil, Mint, Camomile 80-10-5-5	50	6.9
	100	7.4
	150	7.9
	200	8.1
White wormwood, Milfoil, Mint, Camomile, Melilot 80-5-5-5-5	250	8.0
	50	7.3
	100	7.5
	150	8.4
White wormwood, Milfoil, Mint, Camomile, Melilot 80-5-5-5-5	200	8.7
	250	8.7
	50	8.1
White wormwood, Milfoil, Mint, Camomile, Fruits (apple, pear, quince) 75-5-5-5	100	8.6
	150	8.8
	200	8.9
	250	9.0
	50	8.4
White wormwood, Milfoil, Mint, Melilot, Camomile, Hiprose, Hawthorn, Apple 65-3-2-2.5-2.5-10-10-5	100	8.7
	150	9.0
	200	9.2
	250	9.8
	50	8.4

In all cases the aromatizing and vitamining fund brings bettering concerning the contents, in unreduced extract and ash. At the same time the volatile acidity decreases because of the antiseptic effect exerted by some plants, especially by wormwood. Applying the recipes IV and V, the extract, depending on the technological combination, increases from 16.40 g/l (MT) until 17.60 – 17.80 g/l at the combinations Roşioară + Sangiovese and Roşioară + Burgund.

Likewise the results concerning the proportions of mineral substances, expressed by ash g/l, come out. These proportions increase until close by 1.70 g/l in the case of the combination Roşioară + Băbească neagră. Close to this value are the ash contents of all the other technological combinations.

Table 3. The influence of aromatizing and vitamining fund (applied using the infusion) concerning the composition features of technological – mixture rosé wines. Recipe IV

Technological variant of vinification	Alcohol % vol.	Total acidity g/l H ₂ SO ₄	Volatile acidity g/l H ₂ SO ₄	Unreduced extract g/l	Ash g/l	Ascorbic acid mg/l	Ic	Tc
Roşioară without aromatizing	8.1	3.02	0.47	16.40	1.51	0	0.111	1.80
Roşioară 70% +Băbească 30%	8.30	3.20	0.42	17.31	1.69	9.7	0.167	1.82
Roşioară 70% + Sangiovese 30%	8.40	3.18	0.41	17.60	1.62	9.3	0.205	1.74
Roşioară 70% +Burgund 30%	8.45	3.26	0.44	17.80	1.67	9.9	0.216	1.69
Roşioară 70% +Haiduc 30%	8.55	3.25	0.43	17.50	1.66	10.1	0.231	1.73
Roşioară 70% +Pandur 30 %	8.40	3.24	0.46	17.25	1.63	9.7	0.229	1.66

Ic = Do420 nm + Do520 nm + Do620 nm

Tc = Do420/Do520 nm

Cuve = 1 mm

Table 4. The influence of aromatizing and vitamining fund (applied using the infusion) concerning the composition features of technological – mixture rosé wines. Recipe V

Technological variant of vinification	Alcohol % vol.	Total acidity g/l H ₂ SO ₄	Volatile acidity g/l H ₂ SO ₄	Unreduced extract g/l	Ash g/l	Ascorbic acid mg/l	Ic	Tc
Roşioară without aromatizing	8.0	3.01	0.58	16.42	1.49	0	0.102	2.01
Roşioară 70% +Băbească 30%	8.40	3.25	0.42	17.86	1.61	49	0.195	1.89
Roşioară 70%+ Sangiovese 30%	8.45	3.22	0.44	17.91	1.64	51	0.202	1.82
Roşioară 70% +Burgund 30 %	8.55	3.30	0.43	17.86	1.60	50	0.210	1.80
Roşioară 70% +Haiduc 30 %	8.40	3.26	0.40	17.82	1.67	48	0.223	1.84
Roşioară 70% +Pandur 30 %	8.40	3.29	0.43	17.74	1.64	50	0.226	1.80

Ic = Do420 nm + Do520 nm + Do620 nm

Tc = Do420/Do520 nm

Cuve = 1 mm

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The value of the aromatizing and vitamining fund contribution is expressed also by the ascorbic acid (vitamin C) contents, proceeding from the fruit-growing fruits and the spontaneous flora. At all the variants added with the recipe IV, the vitamin C contents are nearly 10 mg/l. In case of applying the recipe V the results are more favourable, they are emphasized especially by the ascorbic acid contents, that are situated near the value of 50 mg/l. Betterings are also recorded at the chromatic features of the finite produces.

Conclusions

The grassy plants must be picked up in the blossom phase, dried at dark and with strong aeration, and the fruits must be harvested at complete ripeness. In the plants and fruits combinations it is necessary wormwood to occupy proportions of at least 60% from mixture. The best results were obtained at the applying of the recipe, in which with wormwood (65%) there were milfoil, mint, camomile, melilot, elder's flower, hiproses and the hawthorn's fruits (5% of everyone).

Applying the proceeding of infusion (200 g mixture at hl), the contact between the aromatizing and vitamining fund and the produce will last during the period of alcoholic fermentation and about 5-6 days after fermentation. Any delay of the separation between plants and produce, can cause the taste worsening and the change of the chromatic features that are specific to rosé wines.

The data obtained in the years 2003 and 2004 will constitute essential elements, to establish coherent technologies, concerning the possibilities of obtaining aromatized and vitamined rosé wines, with well-balanced chemical compositions and organoleptic features that satisfy the consumers pretensions.

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