RESEARCH ON THE FLAVORED DRINKS HAVE BECOME BIOLOGICAL MEDICINAL AND AROMATIC PLANTS

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Abstract: *All Continents Earth grape wine is the most popular drink, but in the Carpathian space deficit is observed grape, especially in areas with extreme climates critical wine, where wine can be ameliorated by blending with infusions of herbs. This takes into account consumer preferences, the survey 10% of them choose discounted drinks with natural extracts, such as flavored wines. Were revealed grape varieties suitable for blended wines and preliminary study - the species of herbs recommended to get flavored infusions.*

Key words*: flavored wine, herbs, wine biologic infusions ingredients, extraction-maceration, Artemisia absinthium, Artemisia annua*

INTRODUCTION

Civilizations in a row over 5-8 thousand years have evolved alongside liana sip of Ampelos and solar energy by Manos grapes and rich in biologically active substances with about 150-250 nutrients and healing. In good years it taste the wines of noble and unique flavor, harmonious taste and during cold and rainy they become simple, flavorless, but high astringency. In extreme cases when the grapes are harvested at maturity incomplete, with excessive acidity factor eco-pedologic no longer improves the quality of these wines can be achieved through blending with infusions of herbs.

From another point of view the problem of limited raw material harvested on global strip between 40-500 of the northern hemisphere and southern amount of active temperatures 2700-3500 0C, and climate change, causing the deficit in the wine market situation. Not negligible and appearance of globalization, even changes in consumer tastes, hence the assortment production. By the way, the latter is dictated by traditional ampelography: Choose disease-resistant varieties, frost, those with reduced workload, sometimes resorting to high yields to the detriment of quality assurance. In other words, mediocre wines are enough, they require improvement [1].

It is worth to warn in case extra special situations related to human consumption orientation to hygiene, remediation, removal of stress, other defects of contemporary society which increasingly require dialing the use of phytotherapy limiting use medicines explosive synthesis. According to some data, about two thirds of the world population calls phytotherapy, more than half of the drugs today are based on the composition of all herbs. Worldwide we know about 20 thousand species of medicinal plants of which nearly 1,000 species of medicinal flora regions constitute Carpathian-Danubian-slope.

In modern winemaking lately have been proposed nano-manufacturing technologies wines with low alcohol content [2], fine wines with acidity and redox site adjusted, wines with geographical name in climatic conditions concrete, others resort to rebates wort fermentation synthesis composition by adding aromatic plants. Contemporary Marketing provides new

deployments: the extent of the raw material base, changes in assortment, active conceptual changes, efforts to retool sections and increase production quality [3]. The assortment includes renovated new wine red and rosé [4] selected wines and natural sweet [5]. At the same time it would be good to keep the production of special wines flavored traditional assortment.

To expand wine exports on the world market must have more qualitative raw material. Presents a special interest in white wines, rose and red grape flavored with special additives (infusion) of medicinal plants, which differ substantially from other wines by their organoleptic peculiarities, distinguished by the originality and "exotic" delicate flavors. In this context, the purpose of that study was to find raw materials for producing natural herbal infusion simpler and less expensive, able to ennoble young wines.

MATERIAL AND METHODS

The study of previous years its has its beginning at the Botanical Garden of ASM, the Association of Manufacturing "Ialoveni" factory experimental "Dubăsari" enterprise technical-scientific "Oeno-Consulting", continued ago collaborative universities in the agriculture of the Chisinau and Iasi. The object of research was the status of the raw material of wine producing industry in Romania and Moldova with the problem of duplication and economies in transition to improve analysis methods as simple wines with an assortment of flavored beverages using medicinal and aromatic plants. As raw materials were selected high yielding varieties of white scattered: Aligote, Feteasca, Riesling, Rcaţiteli, Zghiharda, Plavae, Riton, Luminita; Red: Pinot noir, Merlot, Plai, Black Ialoveni al. Comparative studies in winemaking flavored and chemical analysis have been met on strength, zaharitatea, titratable acidity and volatile metals and preservative content, taking into account the legislation in force and legislation passed on the management of the wine sector policy implementation in the field.
While in Eastern Europe the consumption of organic products is not very high, yet the new generation of consumers show an increased interest to these commodities. Through a sample investigated in SAUM [6] conducted with a group of 68 persons. Thus, more than half of respondents procure organic products in the country, relatives and peasant markets. The maicăutate fruits, vegetables and bread - 60% and 30% -of alcoholic beverages. Ierarhitizate of consumer priorities were: 8.82% - have specific aroma and flavor, 16.2% - advocates valabilitae high, 33.8% - to be cheap. These arguments may be submitted for wines prepared from us, about 10% are achieved as special wines flavored, demonstrating the real effectiveness of this line of production.

In the research materials were used MAFI statistics and official data and some technological concepts were taken into account in the work of previous symposia (L.Vacarciuc 2005 ... 2015), taking into account all suggestions legislation and opinion authors indicated in the bibliography. Taking into account consumer preferences, the objective of this review is to examine the possibility of renewing the assortment of wines individualized types of domestic, with geographic names and really biological.

Wine Afintites in the old Elad and Absinthe in ancient Rome
Man used natural resources among whom he lived from the beginning of its existence. He found in the vegetable world, along with herbal plants, means of livelihood and solutions to remedy the sufferings organic. Gradually managed to identify those plants that were beneficial to health. Occupying the central place in traditional medicine, by the way, remains to this day and in modern medicine, even herbal pharmacopoeia interest is growing due compatible with the human body metabolism. If tinctures natural start in ancient Greece, from Hippocrates and tribes alpine (Piedmont) are widely used infusions of medicinal plants based on wine, then take

into consideration and skill Dacian in using plants to heal wounds or pain killers (mentioned in several works the historian Herodotus (484-425 BC).

As for the role fuller use of natural resources, Hippocrates of Kos (460-375 BCE father of medicine), show that art need taught man to cure diseases saying: primum non nocere (first do no harm all) and Medicus clean, Nature Savate (doctor treats, nature heals). It is true that human suffering could be remedied in the mists of time taking in the huge natural reserves that flowers, leaves, roots, buds, fruit possess certain curative properties. Here in the writings of the historian Tuciclides, otherwise contemporary medicine father, just mention the existence tablets Dacian about pine plant remedies, and later (c. BC) Dioscoride in "Materia Medica" remembers dozens of plants Dacian . In other words, civilizations which succeeded the globe have contributed to the knowledge and experience sharing all kinds of plants in those areas. Flavored wines are produced from grapes dry white wine or red discolored, infusions of flowers, herbs, roots. Flavored wines is highlighted by original bouquet, strong, specific taste, bitter, pleasant, Wormwood Artemisia absinthium conditioned and Artemisia annua, pelinăriţă. Wine with wormwood (absintinianum) is still produced in ancient Rome, where the premiere was heavily promoted on the export market. Italy is considered the homeland of wine vermouth wormwood containing more than 4%. Since XVIII century in or.Torino (Piedmont) were prepared first batches of wine with herbal infusions dosing, giving wines with very fine aroma of flowers and alpine herbs [7]. Currently in Italy all produce wines flavored alcoholic strength of 16-18% vol. And sugar: the dry -of 4%, 14-16% -of sweet different colors, depending on the content caramel. Turin flavored wine is a sweet wine typical classic flavor and original taste. The dryness occurs only straw color of known firms: Tilly Cora, Ganz Ricadonna, Martini-Rosy, Cinzzano. Perhaps Dacia conquering Roman legionnaires brought with them absintinianum culture as the plant-based herbal medicine in the Carpathian area goes back to ancient times. Prof. Leon S.Muntean states that medicinal plants are beginning to be used with the opening of the scientific world first experimental stations in Cluj, 1904, later - Agronomic Research Institute of Romania (1930), resorts Magurele, Brasov's Wall Traian Plain Turia Bottom [8]. With favorable conditions in the steppes rich flora and mountain slopes, over 150 species and 50 plant species are still being introduced in culture, we can say that the Eastern European space has enough potential to develop the chosen direction. Moreover, the crop proved more productive than their spontaneous forms, they become improved in the pedo-climatic conditions suitable. Also the possibilities to form industrial processing and production of phitoproducs necessary.

2. Quality criteria flavored wines

Moldova's Bouquet - branded flavored wine with a maturation period of one year. In preparing the infusion of vegetal ingredients are used: Goat weed, lemon balm, cephalophora aromatic pelinăriţa, peanuts, mint-good, peppermint, spearmint, shock, Monarda dotted camomile, catnip, marjoram, grass-large, coriander, cloves, cardamom . Are added in the blending vanilla, essential oil, orange or lemon. The wine has golden-amber color. The bouquet is fine with intense smell of wild flowers. Harmonious taste with pleasant bitter wormwood. The sugar content of 160 g / dm3, alcohol - 16% vol.

Dew - flavored wine for everyday consumption. The infusion of ingredients is prepared from Goat weed, melissa, cephalophora aromatic pelinăriţă, mint-good, Monarda dotted camomile, bennet, catnip, grass-large, marjoram, coriander, sulfine, rye, thyme, peanuts, vernal grass, mugwort-white , cinnamon, ginger, violets roots, bark bitter orange, quince fresh cocoa grain. The wine has a straw color. The bouquet is fine fragrance of flowers, the taste full-bodied, refreshing, bitter, pleasant, spicy. The blend is sometimes added vanillin and dry

sherry. The sugar content is 60 g / dm3, alcohol - 18% vol. Flavored wines are served at the table at room temperature. These are excellent aperitifs and serve, usually before snack.

Particulars special wine

Fresh or dry wine matured, the degree of alcohol at least 9% vol. And sugar 3 g / dm3 (sec), is blended with ethyl alcohol rectified infusion of flowers, herbs and roots, sugar syrup, caramel. Gross wines dry white wines are prepared technology grape aroma and taste neutral: Aligote, Feteasca White, Rhein Riesling, Plăvaie. Use dry rosé and red wines, but before blending treated with activated charcoal for the flavor infusions are pervasive. Infusion of ingredients is prepared using up to 30 of wild and cultivated plants. Flowers, grasses, roots are collected, the concentration of essential oils and other valuable components is very high. After drying, the ingredients are ground. Extracting it is done with mixed wine – alcohol of an alcoholic strength of 70% vol., At a rate of 10 dm3 to 1 kg of vegetable raw material. 10-12 days infusion is separated from the raw material. From the vegetal material mixture is extracted aromatic substances of wine – the alcoholic alcohol 40% vol. For 7 days. (Extract 2). Infusions of the first and second shroud mix. For maximum aromatics extraction of the raw materials used mixing wine – alcohol. Vegetable raw material extraction is done by groups of plants or parts of plants to enhance process efficiency. After blending aromatic wines treated with cold, are subject cleirii, filtration and bottling. Flavored wines are served at the table at room temperature. These are excellent aperitifs and serve, usually before snack. Extracting soluble substances from plant cells of plants is subject to two phases of the process – diffusion of the tissue raw material and mass transfer from the contact surface to extragent. According to the law of molecular diffusion Fic between extractive amount of the substance and the main process parameters there following link:

$dG \cdot dC = D / dX\, dF \cdot \cdot d\tau$; Where: dG – the quantity of substances diffusion through a unit area of contact M in a unit time τ (sec.); dC / dX – concentration gradient particulate substance, kg / (m3.m2); D –coeficientul diffusion, characterizing the mass of tissue cell diffusion through a unit area in a unit time (l m2 / s).

Allowing the calculation of diffusion equation for constant gradient. For those real technological extraction processes is linked to reducing substance concentration at each point of the material in some devices is countercurrent extraction or continuous. Stage two of the process of extracting the purposes of solid – liquid mass transfer on the surface of the solid particle. The transfer of substances from the surface of the particle stream is performed by the liquid phase molecular diffusion and convection methods described by the equation: $dG = \beta (Cf – CS). F. D\tau$; where β – coefficient of proportionality, known as mass transfer coefficient, m / sec .; Cf – solvent concentration in the center flow, kg / m3; Cs – concentration of the solid body surface, kg / m3; F – the contact surface m2; τ – time, sec. Unlike the diffusion coefficient, the coefficient β is a constant quantity for the given substance and reflects the influence of the molecular diffusion and transfer of convection, it may depend on the size and shape of the particles, the physical properties of the solvent, the speed of the temperature of the process, the pressure of the loudspeaker . Usually runs two maceration composition gradient chosen solid / liquid: 1 / 10. The first maceration lasted 12 days at 75% strength solution hidralcoolice v, the second was extended for 7 days at 45% v alcohol concentration. The composition selected for the plant can be changed by the receipt of infusion depending on the need and purpose, one of which is in the table.

Table 1

Composition model plant in preparation for 1000 dal infusion flavored wine

Nr. crt	Ingredientes		Report	
	Latin name	Romanian name	%	kg
1	Artemisia absinthium	Pelin alb	4,0	22,9
2	Achillea millefolium	Coada şoarecelui	6,0	34,3
3	Anthohnthum odoratum	Spicuşor aromat	2,0	11,4
4	Absinthium citricum	Pelin citric	24,0	137,3
5	Coriandrum sativum	Coriandru	16,8	96,1
6	Caryophyllus aromaricus	Garoafă	0,6	3,4
7	Citrus sinensis Osbesk	Portocal	0,2	1,1
8	Elettaria cardamonum Whit	Cardamon	0,6	3,4
9	Foeniculum vulgare Mill	Fenicul	2,0	11,4
10	Geum urbanum	Cerenţel	2,0	11,4
11	Hypericum perforatum	Pojarniţa	8,0	45,8
12	Inula helenium	Lacrimile Elenei	4,0	22,9
13	Mentha piperita	Mintă bună	4,0	22,9
14	Mentha pulegium	Minta cerbilor	1,6	9,2
15	Matricaria chamomill	Romaniţă (muşeţel)	3,0	17,2
16	Melilatus	Sulfină	2,4	13,7
17	Melissa officinalis	Iarba stupului	2,0	11,4
18	Myristica Iragrans Hout	Nucuşor de muscat	0,6	3,4
19	Nedeta cataria	Iarba-mâţei	2,0	11,5
20	Origanum vulgare	Sovârv	2,0	11,4
21	Thymus seraillum	Cimbrişor	6,8	38,9
22	Vanilla planifolia	Vanilie	0,2	1,1
23	Hypericum perforatum	Pojarniţa	8,0	45,8
24	Inula helenium	Iarba mare	4,0	22,9
25	Mentha piperita	Mintă bună	4,0	22,9
26	Mentha pulegium	Minta cerbilor	1,6	9,2
27	Matricaria chamomill	Romaniţă (muşeţel)	3,0	17,2
28	Melilatus	Sulfină	2,4	13,7
29	Melissa officinalis	Iarba stupului	2,0	11,4
30	Myristica Iragrans Hout	Nucuşor de muscat	0,6	3,4
31	Nepeta cataria	Iarba-mâţei	2,0	11,5
32	Origanum vulgare	Sovârv	2,0	11,4
33	Thymus seraillum	Cimbrişor	6,8	38,9
34	Vanilla planifolia	Vanilie	0,2	1,1
35	Cephalophora aromatica	Cefalofora	2,0	11,4
36	Bergamota	Monarda dydima	3,0	17,2
37	Agrimonia eupatoria	Turiţă mare	0,2	1,1
			100 %	570 kg

CONCLUSIONS

1. The plight of the wine branch is proposing measures to improve the quality and renewal of assortment of local wines (with geographical name), normal market equilibrium;

2. Diversification assortment is beneficial in the development of the tourism industry, a primary factor in promoting our lands, encourage the general public to see wine as a natural biological product as a remedy multi Composite antioxidant and tinctuitor;

3. typicality of a wine flavored clearly expresses the universe and message areas, Landscaping, agro ecological, not least the tradition preserved better, towards the West and promoting wine is for each of us, until term consumption will not be matched with other types of beverages (beer);

4. We recommend private entrepreneurs to work with university departments Iasi-Chisinau to local extensions creative assortment of wine, because wine reforms chain integrity impact the local economy: legal, cadastral, financial, insurance and even jobs with specialization market in the region.

BIBLIOGRAPHY

P. AVASILOAIE Competitiveness of alcoholic beverages produced in Moldova /Pomic.,Viticult. and Winemaking. In Moldova, 2013, No. 1 (43) .- p.2-5.

RODICA STURZA. Wines with a low alcohol content: future technologies and solutions / winegrower. and Winemaking in Moldova, 2010, No. 1 (25) .- p.18.

ВАКАРЧУК, Л. Проблемы качества и рынка вин. III Межнар.- специализ. виставка мицних алкогол .. напоив // Високий градус. - Одесса: Морвокзал, 2004. -с. Vacariuc L. 81.

The choise of technological schemes, as for rose wine production. In mater .: Scientific-practical conference. International "InWine'2004" .- Chisinau PoliprojectLtd. -p.103.

PRIDA I. VACARIUC L. Assortment new perspective in practice winemaking in Moldova / The St. Works. Vol. 36 p.1 international -Simpozion SAUM, Ch., 2013 -p.377.

M. PERCEPTIONS GRIGORAȘ new generation of consumers on organic food / the Rev. Agricultural Science, 2015, p.129 nr.1..

NICOLAESCU GH., VACARIUC L. AL. A wine chain della Moldova - Prospettive di sviluppo situazione attualee. -Milano: Nazionale per il Commercio Estero Instuto, 2010.-142 p.

LEON S.MUNTEAN. Treaty Plants - Bucharest: Ceres, 2004. -600 p.