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# TECHNOLOGIC PROPERTIES OF GRAPE BUNCHES FROM TECHNICAL SORT COLLECTION OF GRAPES

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## ABSTRACT

*This article summarizes the results of the research on the technological properties of the technical varieties of grape harvesting in the collection of the Uzbek Research Institute of Plant Science. In the research, the appearance, taste, odor and consistency of grape bunches of the collection varieties were evaluated by a 10-point system. according to these indicators the Eastern group varieties Vishneviy VIRa, Karmrashat, Muskat VIRa, Muscat Susanna, Muskat vostochniy, Muscat beliy, Muskat kibrayskiy, Muskat uzbekskiy, Muskat desertniy, Rubinoviy, Rodina, Surkhak khrozmani, from Black Sea group Shiroka melnishka and from Western European group Vishneviy VIRa, Karmrashat, Muskat VIRa, Muscat Susanna, Muskat vostochniy, Muskat beliy, Muskat kibrayskiy, Muskat uzbekskiy, Muskat desertniy, Rubinoviy, Rodina, Surkhak khrozmani, Shiroka melnishka, Gold risling, Dyurbe de marsel, Muskat gamburgskiy, Morastel varieties are rated at high points.*

**KEYWORDS:** grapes, bunch, technical varieties, collection, points, odor, taste, consistency.

## INTRODUCTION

Grape juice is highly valued in many countries around the world as a strong and dessert beverage. Depending on the content of the raw materials, the content of sugar content, acidity, vitamins, phenol compounds, and other biologically valuable ingredients in the product are formed [6].

In Uzbekistan, grape wine and wine products are made from ancient times as strong and curative drink. Today there are more than 20 technical varieties of grapes regionalized in Uzbekistan. Grape wines and wine products made in our country are of particular interest to foreign countries.

It should be noted that most of these varieties are outdated varieties, and the use of these varieties does not produce high efficiency when producing competitive wine products, which is in demand today. Therefore, in order to further improve the quality of the wine products produced in the country, every year our country is bringing many valuable varieties from foreign countries with well-developed vine industry and successfully grow them.

However, with such grape seedlings imported from overseas, it is possible to enter extremely dangerous pests and diseases that constitute external quarantine for our republic. Therefore, based on the deep study of varieties of rich technical varieties of the ancient grape collected in our country, it is possible to allocate and

extract new sources that fully replace these varieties. Based on this hypothesis, the technological characteristics of the collection of 57 technical varieties of grapes were analyzed.

## MATERIALS AND METHODS

In our research on the selection of suitable wine varieties, 26 varieties of east group grapes, 11 from the Black Sea group and 20 varieties of western European groups have been studied. Technological features of the sorts of these samples is analyzed on the basis of methodological guide "Guidelines for the technological evaluation of grapes for winemaking" worked out at All-Russian National Research Institute of Viticulture and Winemaking (ВНИИВиВ) "Magarach" [5]. Tasting samples were taken from fully ripen, demonstrative grape bunches (a typical example, one of the most beautiful and biggest). In addition to the varieties studied, a standard grade of this class should also be tasted. The rating was based on the following points: appearance (0,1 to 2,0), taste and odor (1,0-5,0), consistency of flash and crust (0,1-3,0). Mathematical-statistical analysis of experimental results were conducted according B.A. Dospekhov [3] recommendations.

## RESULTS AND DISCUSSION

Scientists believe that the quality of grape wine and the efficiency of the primary wines technology are directly dependent on raw materials [1, 2].

The high quality and harmonious taste of the wine

depends directly on the taste qualities of the raw material. General technical characteristics of the grape varieties - the appearance, taste, odor, and the analysis of the consistency of the flesh suggest that the Vishneviy VIRa, Karmrashat, Muskat VIRa, Muscat Susanna, Muskat vostochniy, Muskat beliy, Muskat kibrayskiy, Muskat uzbekskiy, Muskat dessertniy, Rubinovyy, Rodina, Surkhak khrozmani were especially important. The bunches of these varieties were characterized by high sugar levels, excellent muscat odor and chocolate appearance, and their technological value was higher than that of control varieties Bayan

Shirey (7,1) and Khindogny (7,0). The remaining crop varieties were close to or slightly below the control variants of the technological evaluation. In terms of flash content, varieties did not differ (Table -1).

Experiments in the analysis of the grape's technology (degustation) properties have allowed to distinguish a bit different result in the Black Sea Group. The overall taste estimation of all varieties studied was insignificantly lower than the overall grade of Racia (7,1) and Saperavi (7,1) varieties. Shiroka melnishka sort was of exemption and its taste grade was 7,1 points at control level.

**Table-1**  
**Technological characteristics of grapes' technical samples of the Eastern and Black Sea Group, (in 2015-2018)**

No	Name of the sort	Appearance, (0,1-2,0 p.)	Taste, odore, (0,1-5,0 p.)	The consistency of flash (0,1-3,0 p.)	Overall score
<b>East group</b>					
1	Bayan shirey St	1,4	3,7	2,0	7,1
2	Khindogny St	1,3	3,7	2,0	7,0
3	Bassar	1,1	3,5	2,0	6,6
4	VIR-1	1,2	3,8	2,0	7,0
5	Vishneviy VIRa	1,2	4,0	2,0	7,2
6	Garmus	1,2	3,8	2,0	7,0
7	Karmrashat	1,2	4,0	2,0	7,2
8	Krasnyanskiy	1,1	3,5	2,0	6,6
9	Kuljinka chyorniy	1,1	3,6	2,0	6,7
10	Lkeni chyorny	1,2	3,5	2,0	6,7
11	Magarachsky	1,2	3,6	2,0	6,9
12	Muscat VIRa	1,4	4,2	2,0	7,6
13	Muskat armenskiy	1,2	3,8	2,0	7,0
14	Muscat Susanna	1,2	4,2	2,0	7,4
15	Muskat denauskiy	1,2	3,6	2,0	6,9
16	Muskat vostochniy	1,2	4,2	2,0	7,4
17	Muscat beliy	1,2	3,9	2,0	7,1
18	Muskat kibrayskiy	1,4	4,0	2,0	7,6
19	Muscat Uzbekskiy	1,4	4,0	2,0	7,6
20	Muskat desertniy	1,3	3,8	2,0	7,1
21	Plechistic	1,2	3,5	2,0	6,7
22	Rubinoviy	1,3	4,0	2,0	7,3
23	Rodina	1,2	4,0	2,0	7,2
24	Record	1,2	3,7	2,0	6,9
25	Slava	1,1	3,6	2,0	6,7
26	Surxak khrozmani	1,2	3,9	2,0	7,1
<b>Black Sea Group</b>					
1	Rkatsiteli St	1,2	3,9	2,0	7,1
2	Saperavi St	1,3	3,8	2,0	7,1
3	Scarlet ter	1,2	3,5	2,0	6,7
4	Buera	1,2	3,5	2,0	6,7
5	Gimrinskiy	1,3	3,6	2,0	6,8
6	Jananura	1,2	3,7	2,0	6,9
7	Mustaosa	1,2	3,6	2,0	6,8
8	Muskat vengerskiy	1,2	3,7	2,0	6,9
9	Tita kartalinsk	1,2	3,6	2,0	6,8
10	Tavkveri	1,2	3,7	2,0	6,9
11	Shiroka melnishka	1,3	3,8	2,0	7,1

Most of the varieties of the western European group of grape varieties are distinguished by the fact that they are not worse than control Burgundy and Kaberne varieties. Degustation assays showed that varieties belonging to this group Vishneviy VIRa, Karmrashat, Muskat VIRa, Muskat Susanna, Muskat vostochniy, Muscat beliy, Muskat kibrayskiy, Muskat

uzbekskiy, Muskat desertniy, Rubinoviy, Rodina, Surkhak khrozmani, Shiroka melnishka, Gold risling, Dyurbe de marsel, Muskat gamburgskiy and Morastel varieties have higher points than controls in the range of 6,9-7,1 points (Table-2).

**Table-2**

**Technological properties of grapes' technical samples from the Western European group, (in 2015-2018)**

τ/p	Name of the sort	Appearance, (0,1-2,0 p.)	Taste, odore, (0,1-5,0 p.)	The consistence of flash, (0,1-3,0 p.)	Overall score
1	Burgundy St	1,1	3,7	2,0	6,8
2	Kaberne fran St	1,2	3,8	2,0	7,0
3	Albile	1,1	3,5	2,0	6,7
4	Aspiran chyorniy	1,1	3,6	2,0	6,7
5	Verdeya	1,1	3,8	2,0	6,9
6	Verdelo	1,1	3,6	2,0	6,7
7	Grand Noir de la kalmet	1,2	3,6	2,0	6,8
8	Donzelino	1,1	3,6	2,0	6,7
9	Gold risling	1,3	3,7	2,0	7,0
10	Dyurbe de marsel	1,2	3,8	2,0	7,0
11	Cabernet sovinon	1,0	3,7	2,0	6,9
12	Kosorotovskiy	1,2	3,6	2,0	6,8
13	Muscat Jurskiy	1,1	3,5	2,0	6,6
14	Muscat bifera	1,1	3,6	2,0	6,7
15	Muscat Hamburgskiy	1,2	3,8	2,1	7,1
16	Muscat Ottonel	1,1	3,7	2,0	6,8
17	Muscat chyorniy ranniy	1,1	3,6	2,0	6,7
18	Morastel	1,2	3,8	2,1	7,1
19	Portugueseer	1,2	3,7	2,0	6,9
20	Ribe	1,1	3,5	2,0	6,6

The table data shows that this group no varieties with lower levels of control, such as the previous groups, that are not suitable for vine making. All other varieties of the above-mentioned varieties were close to or slightly lower than the control variants, and the total taste assessment was in the range of 6,6-6,8 points, respectively.

## CONCLUSION

All studied collection technic sorts of grape varieties according to bunches technologic value (tasting) are suitable for the preparation of table wine varieties. However, the following types of nutritional, fruity and chocolate colour tastes can be used to produce high-quality, nut-flavored and unique wine-making ingredients: Eastern group Vishneviy VIRa, Karmrashat, Muskat VIRa, Muskat Susanna, Muskat vostochniy, Muskat beliy, Muskat kibrayskiy, Muskat uzbekskiy, Muskat dessertniy, Rubinoviy, Rodina, Surkhak khrozmani, Shiroka melnishka from the Black Sea group and West European group Vishneviy VIRa, Karmrashat, Muskat VIRa, Muscat susanna, Muscat vostochniy, Muscat beliy, Muskat kibrayskiy, Muscat Uzbekskiy, Muscat Desertniy, Rubinovy, Rodina, Surkhak khrozmani, Shiroka melnishka, Gold risling, Dyurbe de marsel, Muskat gamburgskiy, Morastel.

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