



QUALITY ASSESSMENT AND BOTANICAL DESCRIPTION OF NEW VARIETIES AND HYBRIDS OF GRAPES

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Article history:	Abstract:
Received: 20 th August 2023 Accepted: 20 th September 2023 Published: 25 th October 2023	The article presents data on quality indicators and a brief description of new varieties and hybrids of grapes. The studies were carried out at the central experimental base of the Samarkand scientific experimental station of the Research Institute of Water and Water named after M. Mirzaev.
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INTRODUCTION. The grapes of Uzbekistan occupy a special place among other crops cultivated in Central Asia. Natural, climatic and soil conditions contribute to the growth here of varieties with strong bush growth, large and elegant clusters and berries, high sugar accumulation and good taste. Therefore, local varieties are the main basis for growing table grapes to meet the growing needs of the population, both in the republic itself and for export outside its borders.

As a result of many years of scientific research, a very diverse and very valuable local assortment has emerged in Uzbekistan.

Along with the widespread use of local and introduced assortment, extensive breeding work is being carried out to create new economically valuable grape varieties.

In recent years, research institutions of Uzbekistan have identified and created a number of new valuable table, sultana-raisin and wine grape varieties.

This scientific work provides a brief description and assessment of the best grape varieties.

MATERIALS AND METHODS. The research was carried out according to the method developed by M.A. Lazarevsky in 1963. Tasting assessment is a comparative qualitative assessment of bunches and berries of different varieties. It is carried out without instruments or reagents exclusively by external senses (sight, charm, taste), that is, by the organoleptic method, usually on a 10-point scale.

RESULTS AND ITS DISCUSSION. Grape quality data from tasting fresh grapes (see Table 1) showed that there were no significant differences between the Peshpazak variety and hybrid №. 4-14-1. The taste rating of the tested variety and hybrid was 0.3-0.4% higher than the control Surkhak Kitabsky. The data obtained indicate that the best score of 8.2 points when comparing early ripening varieties and hybrids was given to the Peshpazak variety.

All medium-ripening table varieties, with the exception of dessert Muscat, had large berries. The varieties Husayne Muscat, Sultoni pink, Muscat dessert and Muscat Shavki received relatively identical ratings for taste (2.6-2.7 points). On the control variety Kara Janjal, this indicator was 2.7 points.

The highly elegant bunches, the large size of the berries and the pleasant aroma in taste made it possible for the Khusayne Muscat variety to receive the highest overall score of 9.2 points.

For the control variety Kara Janjal, the overall score for fresh grapes was 8.7 points. Relatively similar indicators with control

Muscat Shavki and Sultoni pink varieties had 8.65-8.75.

Elegant clusters and a pleasant taste made it possible for the control variety Kishmish black to receive a high overall score of 8.65 points. The overall assessment of the tested varieties Kishmish Motrud, Kishmish Sogdiana and Kishmish Terakli was 8.05, 8.5 and 8.5 points, respectively. When tasting white-berry varieties and hybrids of grapes, it was found that the variety Kishmish Malika and hybrid No. 4-45-20 had a high score (1.45 points) in terms of cluster appearance, exceeding the control Kishmish white oval.

The large-berry variety of varieties and hybrids is obvious when compared with the control. The taste rating was in the range of 2.4-2.5 points. With the exception of the Kishmish Samarkand variety, which was distinguished by its pleasant nutmeg aroma and received 2.65 points. The overall assessment of all tested white-berry grape varieties and hybrids was at the same level as the control

(8.1-8.25 points), and the varieties Kishmish Malika, Kishmish Samarkand, Kishmish Zarafshan, White Rose and hybrid №. 4-45-20 had relatively high scores of 8.45-8.9 points.

A tasting assessment of fresh grapes showed that the best ratings were given to the varieties Peshpazak,

Khusayne Muskatny, Kishmish Zarafshan, Kishmish Samarkand, Kishmish Malika, White Rose and hybrid №. 4-45-20.
Brief description of new varieties and hybrids of grapes.

variety husayne muscat (see Fig. 1). Breeding number №. 4-48-43. Obtained from crossing the Muscat Uzbekistan and Kishmish Zarafshan varieties.

The leaf is medium in size, round in shape, five-lobed, strongly dissected. The leaf blade is tender. The surface is smooth and shiny. The side cuts are medium, open, medium in depth. The petiole recess is open, vaulted with a sharp bottom. The teeth at the ends of the blades are triangular with a rounded top. The petiole is longer than the main vein.

The flower is bisexual. The peduncle is long and thin. The ovary is conical in shape. The column is average. The stigma is small, cylindrical, saucer-shaped. There are 5 stamens, less often 4. The clusters are large (length 19.7 cm, width 13.7 cm). Average weight 400 g. Branched, medium dense. The stalk of the bunch is of medium length, firmly attached to the shoot. The berry is large (5-6 g), elongated, greenish-yellow in color. The skin is thin, the waxy coating is medium, the flesh is fleshy, dense, the taste is pleasant with a nutmeg aroma. There are medium sized seeds.

Agrobiological characteristics. Under the conditions of Samarkand, Husayne Muscat ripens at the end of August and by September 10 it collects a sufficient amount of sugar necessary for drying raisins. The individual phases of the growing season take place in the following periods. The length of the period from the beginning of bud break to technical maturity is 143 days, the sum of active temperatures is 2730°C. The ripening of the vine is good; by the time of autumn pruning, the vine has matured at 75-80% of its length, which allows not only to give a full load, but also to ensure a massive harvest of cuttings. Productivity. The yield of the bush is high: 10-15 kg, which is 160-180 c/ha.

Technological characteristics. The Husayne Muscat variety has large berries that are 1.5 times larger in size than the control variety Husayne. Large berries with a dense pulp consistency make it possible to obtain raisins with an elegant appearance and a good nutmeg taste. It is of interest as a fruitful, high-quality plant for fresh consumption and for making raisins. Thanks to the large berry, the high sugar content of the juice and the dense consistency of the pulp, Husayne Muscat produces high-quality, well-executed raisins. The harmonious combination of sugar and acidity of the juice, large berries and the fleshy consistency of the pulp give it high quality even in fresh form. Year after year, the fresh grapes of Husayne Muscat receive high marks at tastings (8.0-8.5 points).

The average tasting score of fresh Husayne Muscat grapes is 8.5 points. The good taste of the variety is combined with a high pulp consistency. The valuable economic qualities of Husayne Nutmeg are most fully revealed in drying. Husayne Nutmeg produces excellent high-quality raisins, and the nutmeg aroma is preserved during drying. Tasting score 8.55 points.



Rice. 1. Husayne Muscat variety

The variety deserves wide production testing and propagation in the southwestern regions of Uzbekistan, as well as for use in breeding.

VARIETY KISHMISH SAMARKAND (see Fig. 2). Breeding number №. 4-28-3. The Kishmish Samarkand variety was obtained from crossing the Uzbekistan Muscat and White Kishmish varieties.

The leaf is medium size, round in shape. The leaf blade is tender. The leaf surface is light green. The top cuts are medium. The side notches are closed with an elliptical opening. The teeth at the ends of the blades have convex sides and sharp tips. The petiole is longer or at the level of the midrib, weakly colored. Flower. The flower type is bisexual. There are five stamens, the filaments are much longer than the pistil. The ovary is conical in shape. The style is medium, the stigma is small. The average bunch is 230-270 g. Conical in shape, loose density. The berry is large for a seedless variety with an average weight of 3.5 g, round in shape, yellowish in color with a pink tint. The skin is thin, dense, the flesh is dense, fleshy. The taste is pleasant with a nutmeg aroma. There are rudiments of seeds.



Рис.2. Сорт Кишмиш Самарканд

Technological characteristics. Kishmish Samarkand is a high-quality variety of the table-raisin direction. Large berries with a dense pulp consistency allows you to get high-quality sultanas with a good nutmeg aroma. A good combination of juice sugar content and the presence of aroma allows the product to be consumed fresh. The average tasting score for fresh grapes is 8.25 points, for dried products 8.3 points. The main advantage of the variety is the combination of seedlessness with a relatively large berry size combined with a pleasant aroma in taste.

Hybrid No. 4-45-20 (see Fig. 3). Muscat Uzbekistan×Kishmish Zarafshan. A seedless, large-berry hybrid obtained from crossing the Uzbekistan Muscat x Kishmish Zarafshan varieties. A production test at the Central Experimental Base of the Samarkand Scientific Experimental Station is suitable.

The leaf is medium-sized, heart-shaped, three, five-lobed, light green. The top surface is smooth. The petiole notch is open and closed, lyre-shaped with a sharp bottom. Serrations and denticles along the edge of the blade with convex sides and sharp apices. The flower is bisexual. The bunch is medium conical in shape.

The berry, compared to the control variety, is large, oval, white, and has a light green color when ripe. The skin is thin, the consistency of the pulp is fleshy. The taste is pleasant.

Refers to varieties of early-medium ripening. The average yield is 140 c/ha. It is of great interest as a seedless, large-berry variety with rudiments of category 1 seeds. Deserves wide propagation.



Рис. 3. Hybrid No. 4-45-20.

CONCLUSIONS. A tasting assessment of fresh grapes showed that the best ratings were given to the varieties Peshpazak, Khusayne Muskatny, Kishmish Zarafshan, Kishmish Samarkand, Kishmish Malika, White Rose and hybrid No. 4-45-20.

As a result of the study, a brief description of new grape varieties and hybrids is given. All the described varieties and hybrids, in their areas of use, deserve propagation and implementation in farms of the Republic.

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