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CULTIVATION OF KISHMISH VARIETIES OF GRAPES FROM CUTTINGS IN CONDITIONS OF TASHKENT REGION

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Abstract
This article presents scientific-analytical data based on the results of the research carried out within the framework of the propagation of kishmish varieties of grapes from cuttings in the conditions of the Tashkent region. Also, the article provides information on the rootability and root system development of cuttings of kishmish varieties, growth parameters of seedlings of kishmish varieties grown from cuttings.

Keywords: kishmish varieties, introduction, raisins, hybridization, seedlings, root system.

Introduction

Taking into account the diversity and richness of Uzbekistan's grape varieties, and their basis is ancient, valuable raisin and raisin varieties, the selection of foreign varieties introduced in recent years, cross-breeding of local kishmish and raisin varieties has resulted in a high-quality new high-yielding, quick-dried product. Many varieties and hybrids have been obtained. The use of tezpishar varieties and hybrids in the production of kishmish allows to further fill the ampelographic potential in the republic, to increase the gross product and its quality, to create good conditions for extending the drying period of the product, and to increase the effectiveness of kishmish viticulture in the western and northern regions of the country.

Propagation of seedlings of promising grape varieties from wooden cuttings according to the old technology requires the establishment of pure seed vines on a large area, the allocation of additional land for them, large financial costs and time.

Our recommended technology for propagating vine seedlings from cuttings on artificial substrates allows to reduce these costs up to 5-6 times and increase the yield of seedlings from a unit of area up to 8-10 times.

In connection with this, we carried out experiments on the propagation of 4 kishmishbop grape varieties with valuable biological and economic characteristics

from cuttings: Kishmish cherny, Kishmish Zarafshon, Kishmish rozovy and Kishmish Sogdiana. According to our researches, depending on the varieties of vines, the best rooting rate of cuttings was observed in Kishmish cherny and Kishmish rozovy varieties - 95.8-91.9%, Kishmish Zarafshon variety's rooting rate was relatively lower, i.e. 88.3%. Good rooting ability of cuttings ensured rapid formation of first and second order roots. As a result, seedlings of these grape varieties formed a well-developed root system per volume unit of the substrate until the end of the growing season.

In our experiments, during the growing season (five months), three or more root systems with a total volume of up to 14.75 cm^3 were formed. Among the studied varieties, seedlings of Kishmish cherny and Kishmish rozovy varieties had the most branched root system, this indicator was the lowest in Kishmish Zarafshon variety (branching up to the third order).

One of the most important characteristics of the development of the root system in seedlings is the amount of roots and their length (especially the roots of the first order). The average length of first-order roots in each individual seedling varied between 7.1 and 7.41 m across cultivars (Table 1).

The development of the above-ground part of seedlings in the cross-section of vine varieties has the same characteristics as the development of the root system. The vine seedlings with a well-developed root system formed a good habit during the growing season, with an average length of branches of 65.7-68.3 cm per plant, an average number of branches of the first order up to 1.3 pieces, second order - up to 0.5-0.8 pieces .

It is worth noting that the branches of all Kishmishbop varieties were slightly shorter (up to 5.2-6.9 cm) than the zoned Kishmish cherny variety and, in turn, had less leaf surface. In the experiment, the Kishmish Zarafshan variety was an exception, in which this indicator was close to the control, i.e. 0.14 m2.

Table 1 Rooting capacity and root system development of cuttings of Kishmish grape varieties, 2021-2022.

Grape varieties	Rootability of cuttings, %	Branching order	The number of roots of the first order, pcs	The length of the roots of the first order, m	Volume of the root system, cm^3
Kishmish cherny - control	95,8 ± 2,74	3,8	26,6	7,41	14,75
Kishmish Rozovy	92,7 ± 0,95	3,6	25,4	7,19	12,83
Kishmish Zaravshan	92,9 ± 1,07	3,7	25,8	7,23	13,03
Kishmish Sogdiana	91,9 ± 0,50	3,5	25,2	7,01	12,63

The results of comparing the general development of vine seedlings grown at the end of vegetation with the requirements of the state standard showed that the best indicators of the total number of cuttings planted for growing seedlings were recorded in Kishmish Zarafshon and Kishmish rozovy varieties with high regeneration characteristics. The yield of standard seedlings in these varieties was 75.1-77.5%. In

the Kishmish Sogdiana variety, this indicator was the lowest compared to the control and correspondingly made 68.8% (Table 2).

The analysis of the results of the research shows that, when propagating Kishmish grape varieties from cuttings, Kishmish rozovy, Kishmish Zarafshon and Kishmish Sogdiana varieties had slower rooting compared to Kishmish chernyy variety, and the above-ground part of their seedlings was slightly smaller compared to the control option.

Table 2 Growth parameters of seedlings of kishmish grape varieties grown from cuttings, 2021-2022.

Grape varieties	Number of branches of the first order, pcs	The number of branches of the second order, pcs	The average length of the seedling, cm	Leaf level, m2	Standard seedling output, thousand units/ha
Kishmish cherny - control	1,5	0,8	72,6	0,147	493014
Kishmish Rozovy	1,2	0,7	67,4	0,131	440093
Kishmish Zaravshan	1,3	0,8	67,7	0,140	463388
Kishmish Sogdiana	1,2	0,7	67,4	0,130	431614

Analyzing the results of the research, we came to the following conclusion, this difference in morphological indicators is explained by the genetic characteristics of the varieties. However, the yield of standard seedlings per hectare showed the promise of growing short-lived cultivars from cuttings.

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