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Determination of Yield Indicators of Grape Khoraki Varieties in Khorezm Region

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Abstract: In this article, the yield indicators of grape varieties such as Charos, Rizamat Toyifi and Xirmoni were observed, and field observations were made to determine the number of grape heads on one productive branch and the yield coefficient or the ratio of grape heads on the vine bush to all developed branches in these varieties.

Keywords: harvest, phase, crowding, shingle, movement of sap, sugar content, horaki variety, flowering, fruit, branch.

As a result of scientific research aimed at the development of viticulture, which is an important branch of world agriculture, the best growing methods for increasing the yield and quality of grape varieties, the norms of vine bud load and optimal methods for determining grape yield indicators have been developed. Optimizing these developments based on the soil-climate conditions of a certain place and the characteristics of the used variety allows to significantly increase the efficiency of the viticulture sector. [4,10]

Determining the harvest in advance, the main goal of which is to prepare for timely harvest and organize its realization. this work is carried out the first time when the vines bloom and the caves are like moss (in mid-June), and the second time, before the harvest ripens (in July). If the vine is not damaged by natural influences such as spring cold, strong wind, hail, then only the first detection can be enough.[3,11]

Preliminary determination of the crop is carried out as follows:

Every fifth bush in every fourth-fifth row in each field is marked for calculation. this work can be done along the diagonal of the field. in this case, the second ball in the first row, the third ball in the second row, the fifth ball in the fourth row and the balls in these directions are determined. the heads of grapes on the bush allocated for the account are counted. dividing the total amount produced by the number of bushes allocated for calculation, the average yield per bush is determined.[12,13] The resulting number is multiplied by the number of bushes per hectare, and the amount of the initial harvest per hectare is determined. this work is done separately for each variety [3,7].

The amount of the harvest was determined by counting the number of grape heads in each bush and the weight of their grape heads in each option. The average weight of a grape head was determined by dividing the yield of a bush by the number of grape heads in it, and the average weight of a cluster was determined by weighing 100 clusters [5].

Indicators such as branch yield, grape yield coefficient, weight of grape heads determine the total volume of the harvest in most cases, therefore, the analysis of these indicators in each selected

variety is important in predicting the potential yield of the future vineyard to be established [6].

Branch yield is the yield corresponding to one developed branch of the vine. it is calculated by multiplying the average weight of a grape head by the yield coefficient [9].

Materials and methods. Phenological observations Kh.CH. Buriyev and others, M.A. In all variants of the Lazarevsky method, the beginning and end of the phenophase, i.e. The growth of buds, flowering, ripening of fruits, ripening of branches, and the beginning and end of the phason line in vine branches are recorded. The growth of the branches was determined by counting the branches on the bush every year after hazonrez. [1,2]

The productivity of the varieties depends on the number of vines per unit of land or one hectare, the number of vines on these vines and the average weight of each vine. Forage varieties of grapes with a high index of these factors always give a higher yield per unit of land.[8.9]

Results and discussion. It is very important to study the phenophases in certain conditions in vineyards to determine the best fodder varieties of grapes. It was carried out through field observations in the study of the phenophases of grapevine budding and branch growth, flowering, fruit ripening, branch ripening, and the beginning and end of the khazon phase in vine branches.

One of the main characteristics of vine varieties is that there are different types of productivity, such as embryonic, potential, and actual productivity. The yield indicators of the vine bush are determined by determining the amount of flower buds formed in the wintering shoots of this year's mature varieties and their condition during the period (biological yield), determined by the total amount of the cultivated crop per vine bush or one hectare of land (economic productivity), as well as the (real) productivity indicator, i.e. real productivity, which can be obtained only when 100% of the winter buds have the ability to yield under the highest conditions, is of great importance. Apart from these, in determining the productivity of the vine bush, its productivity coefficient and the productivity of varieties are considered to be the most important varieties. Therefore, we determined the yield coefficient of the studied grape cultivars in the experiment, that is, the number of grapes on one productive branch and the yield coefficient, or the number of grape heads on the vine in relation to all developed branches.

Table 1. Productivity indicators of grape varieties (2022-2023)

№	Varieties	Fruiting branches, %			The average number of grape heads per one-fruited branch, pcs	Average number of grape heads per branch, pcs
		a grape head	two grape heads	total		
1.	Charos	43	14	57	1,35	0,65
2.	Rizamat	42	11	53	1,2	0,60
3.	Toyifi (st)	45	12	61	1,5	0,75
4.	Xirmoni	40	10	55	1,15	0,63

Productivity coefficient is the number of grape heads on one productive branch. considered to be one of the main signs of the variety, it is usually 1, sometimes 2, and 2-3 in khoraki and kishmishbop varieties. This indicator can be increased with the help of measures such as leaving the branches in the required amount and length when cutting the vine, improving the nutrition and water regime of the vine, trimming the ends of the branches, cutting them, and tying the branches of the vine to the symbags.

Yield coefficient is the ratio of grape heads on the vine to all developed branches. depending on the grape variety, it can be from 0.2 to 2 or more. This indicator is lower in khoraki varieties compared to other varieties. yield coefficient is affected by soil, climatic conditions, water and other agrotechnical measures.

One of the indicators of vine productivity is the average weight of grape heads. This indicator can be from 50-100 g to 1.5-2 kg and even more, depending on the grape variety. It also depends on the aforementioned agrotechnical measures and other conditions.

To determine the productivity of the vine bush, the indicator of the productivity of the branch is used.

In the experiment, it was found that the indicators of the yield of the studied varieties of grapes are different. As can be seen from the data of Table 1, the most productive branches in this case were Toyifi(st) 75%. The number of grape heads on one harvested branch increased to 1.15-1.5. It can be seen that the fruiting branches of the grape variety have changed depending on the variety. During the analysis of the structure of the productive branches of the studied varieties of grapes in the experiment, it was observed that they consist of branches with 1 and 2 grape heads. Studies have shown that most of the harvested branches consisted of branches with 2-vine heads. In this way, the number of developed branches and the number of productive branches differ from each other in the studied varieties of grapes. According to the structure of the fruiting branches, they are divided into 1 and 2 branches with grape heads. Almost 80% of the yield is on 2-headed vines. The lowest yield in terms of the number of branches and developed branches was 45% in the Rizamat variety.

Conclusions.

1. Thus, the number of developed branches and the number of productive branches differ from each other in the cultivated varieties of grapes. According to the structure of the fruiting branches, they are divided into 1 and 2 branches with grape heads.

2. When analyzing the structure of the fruiting branches of the studied varieties of grapes in the experiment, it was found that their number consists of branches with 1 and 2 grape heads. The conducted experiments showed that most of the harvested branches consisted of branches with the 2nd grape head.

3. The most productive branches in the Khoraki grape varieties were 58% in the Toyifi variety. It was observed that the number of grape heads on one harvested branch was 1.15-1.5. The lowest yield in terms of the number of branches and developed branches was 45% in the Rizamat variety.

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