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DEPENDENCE OF THE YIELD OF GRAPE WINE VARIETIES ON THE ROOT LOAD

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The influence of grape varieties on the productivity of winemaking on the degree of load of bushes with eyes

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Abstract:

The article examines the dependence of the yield indicators of wine varieties of grapes on the load of the vine. Low or excessive loading of the tubers has been found to adversely affect the subsequent and development of the tubers. In the variant with a load of 80 buds in the Mayskiy cherniy variety, the highest number of buds was recorded-65.5%.
In the Bayan shirey, when the load was 80 buds, the hughest number of buds was 74.1%, while when the load was increased (120 and 160), it was 68.2 and 59.5 % respectively.

Keywords: Grapes, Wine, Sort, Fertileness, Productivity Indicators, Bush Load, Harvested Branches, Buds, Developing Rod.

INTRODUCTION:

In recent years, the Republic of Uzbekistan has been taking comprehensive measures to develop optimal agricultural technologies for the production of high-quality and high-quality grapes. However, the improvement of agrotechnical measures used in viticulture, depending on the soil and climatic conditions of each region, will further increase the productivity of the viticulture sector. High efficiency is achieved due to the fullest possible use of all factors that determine the quantity and quality of grape varieties of wines. Considering the importance of the load on the vine in shaping the yield of grapes, the aim of the study is to determine the optimal load of the buds on the vine in order to study the possibility of a more complete use of the vine. [eight; 154-164-b]

A. M. Negrul [2; 35–42-b], A.S. Merzhanyan [6; 22-50-b], P.P. Buzin [7; 78–79-b] and others. They showed that insufficient loading of the vine leads to a violation of the ratio of the surface of the branch and its roots, a decrease in the yield and productivity of incipient buds.

In the context of Uzbekistan, P.P. Buzin [7; 78–79-b] and b., In the Crimea, A. I. Tseiko [3; 100-103-b] and others. They showed that the lack of nutrients, quickly assimilated by a large number of vegetative organs and an increase in the number of grape heads as a result of overloading vines, leads to a deterioration in the conditions for the formation of ripening of buds and branches.

SCIENTIFIC RESEARCH METHOD.

Field experiments are carried out on the collection and experimental vineyards of the Kibray enterprise Sharob LLC Research Institute of Horticulture, Viticulture and Oenology named after academician M. Mirzaev, located in the Kibray district of the Tashkent region. "Cards of agricultural technology (2016)" of the Ministry of Agriculture of the Republic of Uzbekistan, "Methodology of field experience" B.A. Dospekhova (1985), H.Ch. Burieva and others [4; 64 b.], M.A. Lazarevsky [5; 347-400] based on methods, sources, recommendations, guidelines and methods.

Promising wines are selected from a separate collection of grapes in accordance with the methodology recommended for each experiment. In field experiments, experiments are carried out on the varieties Maisky Black and Bayan Shirey on the standards of 4 grape bushes.

RESEARCH RESULTS.

Analyzes show that the growth of the buds of the vine varies significantly depending on the load. Consequently, in the variant with the loading of 80 buds in the Maisky black variety, the number of the most overgrown buds was recorded - 65.5%. As the load increased, the number of germinating buds decreased, by 62.1% in 120 and 57.2% in 160 buds, respectively.

The same situation was observed for the Bayan Shirey variety. At the same time, with a load of 80 buds, the number of seedlings was the highest - 74.1%, and with an increase in the load (120 and 160) - 68.2 and 59.5%, respectively (Table 1).

1-table

Influence of load on the growth of current buds,2017-2019

Varieties	Load per bush	Buds at the base of fruiting branches % growth							
		1	2	3	4	5	6	7	Average load per bush
May black	80	24,5	38,7	65,9	79,8	86,7	68,7	94,3	65,5 ± 1,5
	120	21,8	34,4	58,0	69,3	78,5	83,4	89,5	62,1 ± 1,3
	160	19,9	28,4	51,7	64,3	73,8	79,8	82,6	57,2 ± 1,7
Boyan Shirey	80	36,4	48,3	68,9	83,4	91,9	93,6	95,5	74,0 ± 1,4
	120	28,1	32,5	57,3	72,6	83,7	89,4	93,3	65,3 ± 1,4
	160	21,7	23,6	48,3	69,7	75,6	83,1	89,4	58,8 ± 1,5

When analyzing the materials of subsequent years, different results were obtained: the number of harvested branches increased in all variants of the experiment as the load on the stem of the vine increased. This, in turn, was characterized by the fact that, with a moderate load on the bush (120 buds), the branches of the Maisky Black variety develop faster and form a large part of the leaf surface, which enhances photosynthesis.

As a result, the nutrition and growth of the bushes, the development of the root system and their absorption of nutrients from the soil are improved. In general, conditions for the formation of most fruit branches have improved. The analysis showed that the Maisky black grape variety, with 120 buds loaded, had the largest number of fruit branches - 65.8%. The minimum number of productive branches - 57.8% was determined when the load was increased to 160 buds. When loading 80 buds, the number of fruiting branches took an intermediate position and amounted to 61.4%.

This was confirmed by an increase in the yield coefficient of the bush, as well as the yield coefficient of fruiting branches. In other words, the yield factor of bush branches and the yield factor of fruit branches in the Maisky black variety were maximum when the buds were loaded 120 - 1.27 and 0.82, respectively. The smallest coefficients - 1.21 and 0.72 - were determined when the load was increased to 160 buds. When loading 80 buds, this ratio was intermediate and amounted to 1.22 and 0.74, respectively.

A similar trend was observed in the Bayan Shirey variety. Therefore, when the buds are loaded with 120, the maximum number of fruiting branches in this variety was 36.3%. The minimum number of fruiting branches - 35.5% was determined when the load was increased to 160 buds. When 80 buds were loaded, the number of branches harvested took an intermediate position and amounted to 36.1%. In the Bayan Shirey variety, the yield factor of the branches of the bush and the yield factor of the branches were the highest when the bud load was 120 - 1.08 and 0.38, respectively. In the Maisky black variety, the coefficient of productivity of bush branches and the coefficient of productivity of branches were maximum when the buds were loaded 120 - 1.08 and 0.38, respectively.

The smallest coefficients - 1.04 and 0.35 - were recorded when the load increased to 160 buds. With 80 buds loaded, the yield coefficient of the bush for this variety, as well as the yield coefficient of fruit-bearing branches, took an intermediate position and amounted to 1.07 and 0.37, respectively (Table 2).

Influence of handicraft loads on current growth and productivity, 2017-2019 gg.

Varieties	Loading of buds on the bush	The amount of developing branches		Including the amount of harvested branches		Coefficient	
		M ± M	Load %	M ± M	amount of branches %	fruitful branches	twigs in the bush
May black	80	43,8 ± 1,2	67,3	26,7 ± 1,2	61,4	1,22	0,74
	120	61,9 ± 1,6	61,1	39,9 ± 1,1	65,8	1,27	0,82
	160	72,8 ± 1,5	57,3	43,1 ± 1,2	57,8	1,21	0,72
EKF_5		0,3		0,7			
Sx		0,05		0,12			
Boyan Shirey	80	56,1 ± 1,8	70,1	20,5 ± 1,1	36,1	1,07	0,37
	120	77,9 ± 1,2	64,1	28,3 ± 0,9	36,3	1,08	0,38
	160	92,7 ± 1,3	57,5	32,4 ± 0,9	35,5	1,04	0,35
EKF_5		0,7		1,1			
Sx		0,12		0,19			

Professor A. As noted by Negrul [1; 27–42-b], grapes are perennial, and for the annual harvest requires a certain amount of nutrients from the plant. The nutrients consumed in the harvest can lead to a significant reduction in the vigor of the vines.

Also, when pruning against the background of high agronomic techniques, an insufficient supply of buds and the load of the harvest on the grape bushes lead to the blooming of individual branches. In the bushes of the vine, not provided with sufficient loads, there is a tendency to budding without the development of productive buds.

Otherwise, overload and a low level of agricultural background will lead to a large, but low-quality grape bush harvest. Due to the weakening of the vines, the vines are small and the branches grow poorly. In the next year, the conditions for the formation and release of buds will decrease. Weak twigs with insufficient assimilation surface cannot even supply their vines with photosynthetic products and do not have the strength to send them to a branch to strengthen common buds.

CONCLUSION.

It has been established that the yield of grape wine varieties Maysky Black and Bayan Shiry depends on the root load. In the Maisky black variety, the load of buds was maximum - 120 - 1.27 and 0.82, respectively. The smallest coefficients - 1.21 and 0.72 - were determined when the load was increased to 160 buds.

A similar trend was observed in the Bayan Shirey variety. Therefore, when the buds are loaded with 120, the maximum number of fruiting branches in this variety was 36.3%. The minimum number of fruiting branches - 35.5% was determined when the load was increased to 160 buds.

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