The Dependence of Edible Grape Variety Kattakurgon on The Growth Indicators and The Biochemical Composition of Grape Juice

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ABSTRACT

The scientific article provides experimental material devoted to the study of the dependence of the prolificness of shoots and the biochemical composition of grapes of the Kattakurgan variety on the loads of the vine canes. The experiment studied the loads of the vine canes: 80-120, 120-160, 160-200, 200-240 and 240-280 pieces

It was found that when the bushes are loaded at the rate of 160-200 eyes in each bush, the number of fruitful shoots develops by 2.7 pieces more than in the control variant in a freely growing culture. At the same time, in the optimal variant of the experiment, the sugar content in the berries was 22.5%, the acidity of the juice was 3 g/l.

Keywords: Grape, Variety, Bush, Trellis, Load, Yield, Juice, Chemical Composition, Sugar Content, Acidity

Introduction

In recent years, the Republic of Uzbekistan has been taking comprehensive measures to develop optimal agro-technologies for the production of high as well as quality grape varieties. However, the improvement of agro-technical measures in viticulture, depending on the soil and climatic conditions of each region, will further increase the productivity of the viticulture sector.

High efficiency can be achieved through the fullest possible use of all the factors that determine the quantity and quality of grapes [2, 3].

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 [4, 5].

Scientific research method

The experiments will be carried out at the Karima Muruvvat Agro farm in Tashkent district of Tashkent region. The selection of experiments, the method of placement of options was carried out in the generally accepted methods

The yield indicators were performed according to the method of calculation of underdeveloped buds, infertile and productive (1 and 2 vines) branches [6]

The sugar content of grape juice was determined by refractometer and acidity by titration with 0.1% NaOH solution.The main results of the study were proved by the method of variation statistics of B.A. Dospekhov [1], mathematical processing.

Research result

The effect of bud load on grape yield indicators in the edible variety of Kattakurgan was studied. The results of the study showed that in the uncut (control) variant of vines, the average number of single-fruited vines was 30.0, the double- fruited stems were 4.0, the total number of stems was 34.0, and the average number of vines per single- fruited was 1.3.

When the vine load of buds was 80-120, the average number of vines per single-yielding rod was 0.1 less than the control variant, the double-yielding rod was 1.6 more than the control variant, and the total yield was 1.5 times more than the control variant was found to be equal.

When 120-160 buds are left in the vine, the average number of vines per unit area was 0.3 more than the control variant, 1.45 more than the double-yielding rod, 1.75 more than the total yielding rod, and the average number of vines per single-yielding rod was found to be equal.

When the load of 160-200 buds was left, it was observed that the average number of vines per single-crop branch was 2.7, the double-fruited branch was 5.8, the total number of branches were 8.5, and the average number of grapevines per single-branch was equal.

When 200-240 buds were left in the vine, the single- fruited stem was 3.9 more than the control variant, the double- fruited stem was 0.25 less, the total stem was 3.75 more, and the average number of vines per single-stem was 0.1 low.

With a maximum of 240-280 buds left in the vine, the single-fruited stem was 0.3 less than the control variant, the double-fruited stem was 3.8 more, the total fruiting stem was 3.5 more, and the average number of vines per single-fruiting stem was 0,1 was found to be multiple.

One of the main factors in obtaining high and quality harvest from edible grape varieties are its dependence on variety. The yield quality and chemical composition of grape bunches depend on both the biological properties of the varieties as well as cultivation technology.

One of the main criteria for the suitability of grapes for consumption, storage and preparation of raisins from edible varieties should to be paid special attention to the sugar content and acidity of the juice (table 1).

Table 1

Dependence of the biochemical composition of the Kattakurgan variety on bud load

T/p	Variants	gar content, %	acidity, g/l
1	Uncut vine shoot (control)	19,8	3,7
2	80-120 pcs buds	22,0	3,3
3	120-160 pcs buds	22,3	3,1
4	160-200 pcs buds	22,5	3,0
5	200-240 pcs buds	22,4	3,2
6	240-280 pcs buds	20,3	3,6

Conducted experiments have shown that the studied edible varieties differed in terms of yield and chemical composition at different loads.

The Kattakurgan edible variety of grapes is a functional female of the genus.

In this grape variety, the sugar content was 19.8% and the acidity was 3.7% in the uncut (control) variant. When 80-120 buds were left in the vine, the sugar content was 2.2% higher and the acidity was 0.4% lower than in the control variant.

When 120-160 buds were left in the vine, sugar content was found to be 1.5% higher than the control variant, and acidity was 0.6% lower.

In the vine with 160-200 buds, the sugar content was 2.7% higher than the control variant, and the acidity was 0.7% lower than the control variant.

It was recorded when 200-240 buds were left in the vine, the sugar content was 2.6% higher than the control variant, and the acidity was 0.5% lower.

It was found that the sugar content was 0.5% higher and the acidity was 0.1% lower than the control variant when the bud load was left at 240-280 buds in the maximum variant.

Conclusion

The yield indexes of the edible variety of Kattakurgan vine and the dependence of the chemical composition of the fruit cluster on the load on the vine have been studied.

The yield indicators and sugar content and acidity of grape juice were identified.

Bud loads of vine plant: When studying the effect of 80-120 buds, 120-160 buds, 160-200 buds, 200-240 buds and 240-280 buds on the yield of grapes and chemical composition of grape juice in vines, 160-200 buds are left, the amount of productive branches in each vine will be 2.7 pieces higher than the control. In the experimental variant of this standard grape juice contained 22.5% of sugar and 3g/l of acid.

It was found that the juice of grape cluster was low in sugar and high in acidity if excess buds were left in vine.

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