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The Yield of Grapes with a Load on the Stem Fertilization

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Abstract: In this article, in subsequent years, the load and parameters of the formation of a vine bush have been studied, long and short cutting intervals, watering and the amount of mineral fertilizers for other agro technical measures are also determined.

The total amount of phosphorus in the upper layers of the soil was 0.21-0.26%, and the mobile form was 18.3-27.0 mg, while mobile phosphorus was absorbed from the upper layers to the lower one.

The amount of potassium in the upper layer was 2%. The number of its mobile forms was 185.1-219.1 mg.

The experience of each option consists of three lines, 32 vine plants made up on each average line.

Keywords: grapevine, loading, control, quantities, gray soil, potash salt, sandy gray soil, mass, nitrates, differentiated, fertilizer, nitrogen, phosphorus, potassium, mobility.

In recent years, in the Republic of Uzbekistan, in order to increase the yield of grapes, great importance is being paid to the correct loading of vines. For example, vigorous varieties take up more nutrients from the soil than weak, short varieties.

In recent years, great importance has been attached to determining the amount of mineral fertilizers depending on the formation and load of the vine, long and short pruning of productive varieties, irrigation and other agro technical measures. [14, 15, 16, 17, 18].

Fertilization of vineyards: Of great practical importance is the determination of the amount of mineral fertilizers depending on the load of vineyards, taking into account the biological characteristics of varieties in certain environmental conditions to increase their productivity and efficient use of fertilizers. [19, 20].

For vineyards, the norm of mineral fertilizers (NPK) is recommended for different types of soil, taking into account their productivity.

In particular, it is recommended to apply 120 kg of phosphorus and 30 kg of potassium fertilizers per 1 ha of gray soils. Today, these volumes are used regardless of the formation and loading of vines, the amount of the crop. In the conditions of the Tashkent region, depending on the soil fertility and productivity of the soil, as well as the strength of the growth of varieties, the average load of grape bushes is 160-162 buds during the formation of a multiple fan shape tree [2,3,6,13].

It was found that the area where the experiment was carried out is sandy gray soil, humus and nitrogen substances are very low. Their amount was 0.9-1.3%, and the amount of total nitrogen was

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up to 0.07% and 0.13%, and the amount of humus in the lower soil layers gradually decreased to 0.14% at a depth of 80-100 cm [3]. The total amount of phosphorus in the upper layers of the soil was 0.21-0.26%, and mobile phosphorus was 18.3-27.0 mg, mobile phosphorus sharply decreased from the upper layers to the lower ones. The amount of potassium in the upper soil layer reached 2%. Its amount in mobile form was 185.1-219.1 mg. Each variant of the experiment consisted of three rows, each row had 32 vine plant [2,3]. The variety Kishmish was planted in 1992 vine nutrition area was 3x3 m. The experiment was carried out in four replications, the average annual rainfall was 472 mm (750 mm compared to long-term data), including it was 258 mm during the growing season (April-October). Vineyards are managed on the basis of agricultural rules. For 3 years (2017-2020), the growth, development and productivity of vines, as well as the composition and movement of nutrients in the development zone of the main mass of the root system at depths of 0-20, 40-60 cm, have been studied from the experimental site. Humidity, nitrates, assimilated ammonia, soluble P2O5 and exchangeable K2O are determined three times during the growing season: before flowering, during the growth of the bunch and in the state of technical ripeness of the grapes [1,7,8,11].

Research results. In our studies, to determine the effect of different amounts of mineral fertilizers on the quantity and quality of the crop under different loads of grape vine, a new control (without fertilizers) was carried out on the experimental field of the Kibrai experimental enterprise “Sharob”, based on the calculation of pure nutrients: $\mathbf{N_{160}\,P_{120}\,K_{40}}$**:** $\mathbf{N_{180}\,P_{130}\,K_{45}}$**:** $\mathbf{N_{220}\,P_{150}\,K_{50}}$**:** $\mathbf{N_{160}\,P_{220}\,K_{55}}$**:** $\mathbf{N_{240}\,P_{180}\,K_{60}}$ kg/ha Experiments were carried out according to a single scheme.

Every year, before plowing in the spring, phosphorus (superphosphate), potassium (potassium salt), nitrogen (ammonium nitrate) fertilizers are applied (table). From the data it is known that the load on each grape vine was 160-162 buds. The main indicators of yield elements and the yield of grapes per bush and per hectare also increased with an increase in the level of NPK compared to the control, reaching the highest value in the variant $N_{240}\ P_{180}\ K_{60}$ [2]. (yield increase will be 28.9%). All indicators that increased from this amount increased slightly (productivity coefficient, bunch weight) or decreased. When the NPK amounts were increased in each load background of the load, the sugar content of grape bunch decreased compared to the control. The tasting notes of the dried raisin variety in the experiment showed that when the NPK amounts were increased, the quality of the dried raisin product decreased slightly compared to the control, but this state was not significant [1,9,10,12].

The experiment once again confirmed that the amount of fertilizers must be differentiated depending on the load on the grape vine, taking into account the fertility of the soil and the biological characteristics of the selected varieties.

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