

Study of the Influence of Loads on the Productivity of Wine Grape Varieties in the Condition of the Tashkent Region

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ABSTRACT

In this article, a study in the following year shows the forking of the vineyard and looking at other agro technical events, the amount of mineral fertilizers was established. The total amount of phosphorus on the top soil layers was 0,21-0,26%, and the shape was 18,3-27,0 mg, the mowing phosphorus of upper layers decreased by passing to the lower layer. The amount of potassium on the top layer was 2%. The experiment of each option was series, the overage series on the account, on each series were 32 bushes. Vineyard loading depending on the amount of mineral fertilizers the use of regulation was developed and implement in production.

KEYWORDS: *grapevine, loading, control, quantities, gray soil, potash salt, sandy gray soil, mass, nitrates, differentiated, fertilizer, nitrogen, phosphorus, potassium, moving.*

Introduction. In recent years, in the Republic of Uzbekistan it has been paid great attention to the importance of increasing the yield of grapes, the proper care of canes of the vine grape. For example, vigorous varieties take up more nutrients from the soil than weak, low-growing varieties.

In recent years, the great importance has been given to determine the amount of mineral fertilizers depending on the formation and loads of the vine, long and short pruning of productive varieties, irrigation and other agro technical measures.

Fertilization of vineyards: It is of great practical importance that determination of the amount of mineral fertilizers depending on the load of vineyards and the biological characteristics of varieties should be taken into account in certain environmental conditions to increase their productivity and efficient use of fertilizers. For vineyards, the norm of mineral fertilizers (NPK) has been recommended for different types of soil, considering their productivity. [5; 6; 7; 8; 9].

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

It has been determined that the area where the experiment was carried out was a sandy gray soil, the content of humus and nitrogen substances was very low.

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Their amount was 0.9-1.3%, and the amount of total nitrogen was 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 soil. The amount of potassium reached 2% in the upper soil layer. Its amount in mobile form was 185.1-219.1 mg. Each variant of the experiment consisted of three rows, each row had 32 grape vines [2,3].

The variety Kishmish was planted in 1992, the feeding area of the vine 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 have been managed on the basis of agricultural rules. In the experimental area there were studied (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, during for 3 years. 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 of the grapes and during the technical ripeness of the grapes [1].

Research results. In our studies, a new control (without fertilizers) was carried on the experimental field of the Kibray experimental enterprise "Sharob" in order to determine the effect of different amounts of mineral fertilizers on the quantity and quality of the crop under load of the grape vines as the following: based on the calculation of net nutrients N₁₆₀ P₁₂₀ K₄₀ : N₁₈₀ P₁₃₀ K₄₅ : N₂₂₀ P₁₅₀ K₅₀ : N₁₆₀ P₂₂₀ K₅₅ : N₂₄₀ P₁₈₀ K₆₀ : : kg/ha the experiments were carried out according to the same scheme. Every year, before plowing in spring, phosphorus (superphosphate), potash (potassium salt) and nitrogen (ammonium nitrate) fertilizers were applied to the ground (table).

The influence of the amount of fertilizers on the yield and grape quality (Tashkent region, Kibray district "Sharob" experimental field 2020-2022)

| Experiment variants | Number of buds per vine | Number of developed buds % | Number of fertile shoots % | Number of grape bunches per vine | Productivity coefficient | grape head weight | Yield from per vine | Productivity c/ha | Sugar content % | Titrate acidity, g/l |
|---|-------------------------|----------------------------|----------------------------|----------------------------------|--------------------------|-------------------|---------------------|-------------------|-----------------|----------------------|
| The load on a grape 160-162 canes. | | | | | | | | | | |
| Control without fertilizer | 160,4 | 71,2 | 45,1 | 37,6 | 1,2 | 290,0 | 10,9 | 121,0 | 25,1 | 3,1 |
| N ₁₂₀ P ₉₀ K ₃₀ | 162,4 | 71,1 | 53,2 | 41,9 | 1,27 | 298,0 | 12,5 | 139,0 | 23,3 | 3,4 |
| N ₁₆₀ P ₁₂₀ K ₄₀ | 162,4 | 70,2 | 57,6 | 43,0 | 1,34 | 300,0 | 12,9 | 143,0 | 22,3 | 3,7 |
| N ₂₀₀ P ₁₅₀ K ₅₀ | 162,0 | 72,2 | 62,5 | 45,0 | 1,39 | 304,5 | 14,8 | 156,0 | 22,4 | 3,9 |
| N ₂₄₀ P ₁₈₀ K ₆₀ | 162,4 | 72,3 | 67,5 | 48,6 | 1,39 | 304,5 | 14,8 | 156,0 | 22,4 | 3,9 |
| N ₂₄₀ P ₂₁₀ K ₇₀ | 162,1 | 70,3 | 61,8 | 44,8 | 1,38 | 306,0 | 13,7 | 152,0 | 22,5 | 3,9 |

The data of the table showed that the load on each vine was 160-162 buds. The main indicators of yield elements and the yield of vineyards, per grape vine and per hectare also increased, when compared to the control with an increased level of NPK. It reached the highest value for the N₂₄₀ P₁₈₀ K₆₀ variant [2]. (yield increased 28.9%). All indicators that increased from this amount increased slightly (productivity coefficient, grape bunch weight) or decreased. At each load background, an increase in the amount of NPK the sugar content reduced in the grape bunch compared to the control. Tasting evaluations of the experimental variety of dried raisins showed that the quality of the product

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from dried raisins slightly decreased compared to the control with an increase in the amount of NPK, but this was insignificant [1]. The results of 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.

Conclusions. The yield of seedless grape production, depending on the load of the grape vine, was recorded at a load of 120 shoots. With such a load, the economic profitability of cultivation of agricultural crops exceeds 47.3-69.7%. In conclusion, it can be said that the yield can be increased by an average of 22.4% with a load of 120 canes in vine varieties.

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