



EFFECTS OF FERTILIZATION QUANTITIES ON THE DEVELOPMENT OF WINE VARIETIES OF GRAPES

*Malikov Azim Nematovich*¹, *Abdullayeva Barno Atabekovna*²,

*Parmonova Adiba Davlat qizi*³

^{1,2,3}*Tashkent Institute of Chemical Technology*

ABSTRACT

The article examines the effect of fertilizer amounts on the development of fruiting branches of grape wine varieties. The experiments were performed on five variants in four varieties. In all of these varieties the highest result was recorded in the fourth variant (N140P110K80 kg pure). Even when fertilizer was applied in large quantities, it had a negative effect on the biological properties of the varieties.

ARTICLE INFO

Article history:

Received 28 May 2021

Received in revised form 27 June 2021

Accepted 10 July 2021

Keywords: *Grapes, variety, fertilizer, twig, crop, vine, vine bush, grape head.*

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INTRODUCTION

An important biological feature of the vine is the length of the growing season and the long-term uptake of nutrients. It allows the judicious use of fertilizer standards to provide the vine plant with the necessary nutrients. Fertilization is usually understood as a method of creating a reserve of nutrients in the soil to improve the overall condition of the soil, as well as the application of the main (large) part of fertilizers to the soil for good biochemical processes in plants and its normal growth and development (Temurov Sh. 2002) [4].

In viticulture, basic fertilization is even more important because the vine bush is a perennial plant with a well-developed root system and a more or less developed aboveground part of the bush. begins (Buzin N.P. 1963) [2] ..

By creating favorable nutritional conditions by applying mineral and organic fertilizers before the start of the growing season, it is possible to ensure rapid plant growth and rapid accumulation of green mass, which is necessary to increase the overall growth of the bush and get a high grape yield (Buzin 1962) [1]. The effectiveness of combining fertilization with growing season nutrition can be

explained by the different nutrient requirements of the vine, as well as the ability to manage nutrients in accordance with the requirements of the vine in individual growth phases, taking into account all changes in the soil. In addition, the positive effect of nutrition may also be associated with an increase in the total amount of nutrients deposited in the vineyards (Malikov A. 2018) [5]

RESEARCH METHODS

The research was conducted in the experimental field of the scientific experimental enterprise Kibray "Sharob". Wine varieties studied experimentally were carried out on 20-year-old vine bushes. Experimental options 4 repetitions, 5 vines in each repetition were selected and given different amounts of mineral fertilizers (NPK).

Selection of experiments, placement of options was carried out in the generally accepted methods, statistical analysis of the data obtained Dospekhov B.D. [3].

Research results. According to the results of the study, in the fourth variant, i.e. when mineral fertilizer N140P110K80 kg / ha was applied, the development of fertile branches of the Hindogni variety showed the highest result (table). Accordingly, 45.3% of single-crop twigs, 26.4% of double-crop twigs, 3.2% of three-crop twigs and 74.9% of total twigs and 1.34% of single-crop twigs were controlled. compared to the variant, single- and double-yielding rods were 1.1% higher, triple-yielding rods were 2.4% higher, and total yielding rods were 4.6% higher.

Even when too much and too little fertilizer was applied, it had a negative effect on the development of fertile branches. It was found that the total yield of the rod was 8% lower than that of the control variant in the amount of N80P50K30 kg / ha, and 1.3% lower in the amount of N160P130K100 kg / ha.

Influence of the amount of fertilizer on the development of fruiting branches of wine varieties (2016-2018)

Norms of mineral fertilizers (in pur form)kg/ha	Harvested branches, in %				Number of grape heads in one crop,%
	Single crop	Two crops	3 crops	total	
Hindogni variety					
N ₈₀ P ₅₀ K ₃₀	40,2	22,1	0	62,3	1,61
N ₁₀₀ P ₇₀ K ₄₀	44,6	24,1	2,6	71,3	1,40
N ₁₂₀ P ₉₀ K ₆₀ (control)	44,2	25,3	0,8	70,3	1,42
N ₁₄₀ P ₁₁₀ K ₈₀	45,3	26,4	3,2	74,9	1,34
N ₁₆₀ P ₁₃₀ K ₁₀₀	43,7	24,3	1,0	69,0	1,45
Muscat Hungarian variety					
N ₈₀ P ₅₀ K ₃₀	43,4	21,3	0	64,7	1,55
N ₁₀₀ P ₇₀ K ₄₀	43,6	23,2	1,8	68,6	1,46
N ₁₂₀ P ₉₀ K ₆₀ (control)	45,6	23,5	0,6	69,7	1,43
N ₁₄₀ P ₁₁₀ K ₈₀	47,5	25,4	3,2	76,1	1,31
N ₁₆₀ P ₁₃₀ K ₁₀₀	44,2	22,2	0	66,4	1,51
Maysky cherny variety					
N ₈₀ P ₅₀ K ₃₀	42,3	23,1	0	65,4	1,53
N ₁₀₀ P ₇₀ K ₄₀	43,5	23,4	1,2	68,1	1,47
N ₁₂₀ P ₉₀ K ₆₀ (control)	44,5	23,5	1,3	69,3	1,44
N ₁₄₀ P ₁₁₀ K ₈₀	45,6	24,5	2,4	72,5	1,38

N ₁₆₀ P ₁₃₀ K ₁₀₀	43,2	21,5	0	64,7	1,55
Rysling variety					
N ₈₀ P ₅₀ K ₃₀	42,6	22,4	0	65	1,54
N ₁₀₀ P ₇₀ K ₄₀	42,8	22,6	1,2	66,6	1,50
N ₁₂₀ P ₉₀ K ₆₀ (control)	43,4	23,5	0,8	67,7	1,48
N ₁₄₀ P ₁₁₀ K ₈₀	44,5	24,3	3,4	72,2	1,39
N ₁₆₀ P ₁₃₀ K ₁₀₀	43,2	22,1	0,9	66,2	1,51

The Hungarian nutmeg variety also had the highest result in the fourth variant, with mineral fertilizers N140P110K80 kg / ha yielding 47.5% of single-yielding rod, 25.4% of double-yielding rod and 3.2% of three-yielding rod and 76.1% of total yielding rod. %. In this variant, the number of grape heads on a single crop branch was 1.31%.

In the fourth variant, the Maysky cherni variety also showed the following results based on its biological properties. The single-yielding rod was 45.6%, the double-yielding rod was 24.5%, the three-yielding rod was 2.4%, and the total yielding rod was 72.5%. Compared to the control variant, the single-yielding rod was 1.1%, the double-yielding rod was 1.0%, the three-yielding rod was also 1.1%, and the total yielding rod was 3.2% higher.

Maysky cherny navigation also had a negative impact on the development of its productive branches when very little and large amounts of mineral fertilizers were applied. When fertilized with N80P50K30 kg / ha, the single-yielding rod was 22%, the double-yielding rod 0.4%, the three-yielding rod 1.3% and the total yielding rod 3.9% lower than the control variant. Similarly, when a large amount of fertilizer was applied, the total yield rod decreased by 4.6%.

The highest result was recorded when fertilizing N140P110K80 kg / ha based on the amount of mineral fertilizers in the Riesling variety. Observations revealed that single-yielding rods accounted for 44.5%, double-yielding rods for 24.3%, triple-yielding rods for 3.4% and total yielding rods for 72.2%.

CONCLUSION

The results of the study showed that all the experimental varieties had more single- and double-fruited branches, and very few three-fruited branches. The amount of fertilizer was also found to have a very large effect on the vine plant, both when applied in small amounts and when applied in large quantities. Therefore, determining the optimal amount of mineral fertilizers is an important agro-technical measure in obtaining high yields.

REFERENCES:

1. Buzin N.P. Udobrenie vinogradnikov, Gosizdat, 1962.
2. Buzin N.P. Udobrenie vinogradnikov. Izd. S. / X. GIZ. 1963.
3. Dospexov B.D. Methodology polevyx opyta. - M.: Kolos, 1986.
4. Temurov Sh. Viticulture. State Scientific Publishing House "National Encyclopedia of Uzbekistan". Tashkent - 2002.
5. Malikov A. Impact of fertilizing amount on the development of yield producing sprouts of hyndognie vine variety and on its self pollination // International journal for innovative research in multidisciplinary field. India. 30. Nov. 2018 y. p. 25