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THE EFFECT OF THE QUANTITY OF FERTILIZERS ON THE CHEMICAL COMPOSITION OF WINE VARIETIES

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Abstract:
This article consider the study of the effect of the quantity of fertilizers on the chemical composition of wine varieties

Keywords : The quantity of fertilizers, chemical composition, wine varieties

1.INTRODUCTION.

One of the main factors in the production of high and quality grapes is agrotechnical measures, which require them to properly apply mineral fertilizers and fertilize in moderation.

When the results of the experiments were applied at the rate of nitrogen, phosphorus and potassium fertilizers, this agrotechnical measure had a positive effect on the development, self-pollination, mechanical composition and yield and chemical composition of grapes of Hindogni, Muscat Hungarian, Maysky chernyy and Riesling varieties. In the process of vine growth, it absorbs inorganic compounds from soil and air, converts them into organic matter, and uses them to form its own parts. It is estimated that the plant will need more than 70 nutrients. However, they are assimilated by the plant in various forms and quantities. The main nutrients include carbon, oxygen, hydrogen, including macronutrients such as nitrogen, phosphorus, potassium, calcium, magnesium, iron, sulfur, as well as trace elements such as boron, manganese, molybdenum, copper, zinc, cobalt, iodine.

2.RESEARCH METHODS.

The research was conducted in the experimental field of the scientific experimental enterprise Kibray "Sharob". Varieties studied in the experiment were carried out on 20-year-old vine bushes. The chemical composition of the experimental varieties, ie the sugar content and acidity of the juice, was calculated. Selection of experiments, placement of options was carried out by generally accepted methods, and statistical analysis of the data was carried out using the method of BD Dospekhov [2].

3.RESEARCH RESULTS.

The amount of fertilizer had a major impact, especially on the number of grape heads in a bush and the yield in a bush. It had a negative effect on the amount of sugar and acid in grape juice.

Table 1

Influence of the amount of fertilizer on the number and chemical composition of grape heads in a bush of wine varieties (2016-2018)

Минерал ўғитлар меъёрлари (соф ҳолда), кг/га	Number of grape heads in a bush, pcs	content,%	Acidity, g / l
Xindogni navi			
$N_{80}P_{50}K_{30}$	25	24,2	5,5
$N_{100}P_{70}K_{40}$	28	24,3	5,6
$N_{120}P_{90}K_{60}$ (control)	32	22,4	5,4
$N_{140}P_{110}K_{80}$	44	23,1	5,7
$N_{160}P_{130}K_{100}$	31	21,5	5,4
$ЭКФ_{05}$	1,5	–	–
$ЭКФ_{\%}$	1,1	–	–
Muscat Hungarian variety			
$N_{80}P_{50}K_{30}$	62	25,3	5,5
$N_{100}P_{70}K_{40}$	65	25,1	5,3

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$N_{120}P_{90}K_{60}$ (control)	66	23,7	5,5
$N_{140}P_{110}K_{80}$	68	24,5	5,4
$N_{160}P_{130}K_{100}$	64	23,4	5,6
$ЭКФ_{05}$	2,1	–	–
$ЭКФ_{\%}$	1,1	–	–
Mayskiy chernyy navi			
$N_{80}P_{50}K_{30}$	58	24,8	5,7
$N_{100}P_{70}K_{40}$	61	24,6	5,6
$N_{120}P_{90}K_{60}$ (control)	63	22,5	5,6
$N_{140}P_{110}K_{80}$	64	23,4	5,4
$N_{160}P_{130}K_{100}$	60	22,3	5,3
$ЭКФ_{05}$	1,4	–	–
$ЭКФ_{\%}$	1,3	–	–
Risling navi			
$N_{80}P_{50}K_{30}$	47	24,7	4,6
$N_{100}P_{70}K_{40}$	48	24,5	4,6
$N_{120}P_{90}K_{60}$ (control)	49	22,3	5,0
$N_{140}P_{110}K_{80}$	52	23,6	5,1
$N_{160}P_{130}K_{100}$	48	21,3	5,2
$ЭКФ_{05}$	1,8	–	–
$ЭКФ_{\%}$	1,2	–	–

The amount of fertilizer had a major impact, especially on the number of grape heads in a bush and the yield in a bush. It had a negative effect on the amount of sugar and acid in grape juice. As the amount of sugar in the juice decreased, the amount of acid increased inversely proportional to it, ie as a result of calculations and observations (Table 1).

As can be seen from the data in Table 1, the best results were recorded in all experimental varieties when fertilized in the fourth variant, ie $N_{140}P_{110}K_{80}$ kg / ha.

In the Hindogni variety, the number of grape heads per bush was 44, and the yield per bush was 20.1 kg. With this result, the sugar content of grape juice was 23.1% and the acidity was 5.7 g / l. With the number of grape heads and the yield per bush, the number of grapes was 19 and 9.6 kg higher than the control variant.

The lowest result in the Hindogni variety was recorded in the first variant when fertilized in the amount of $N_{80}P_{50}K_{30}$ kg / ha, and the number of grape heads in one bush was 25, the yield in one bush was 10.5 kg.

In the fourth variant with the highest result, the number of grape heads in a bush of the Muscat Hungarian variety was 68, and the yield in a bush was 10 kg. Compared to this control option, the number of grape heads was 2, and the yield per bush was 0.3 kg higher. In the Hungarian variety of nutmeg, the lowest result was observed in the first variant, and the number of grape heads in a bush

62 grains, the yield per bush was 9.1 kg.

In the Maysky chernyy variety, a high result was observed in the fourth variant. The number of grape heads in a bush is 64, the yield in one bush

16.5 kg, the sugar content of grape juice was 23.4%, the acidity was 5.4 g / l.

Although the risling variety had many grape heads in one bush, it was found from calculations and observations that the yield in one bush was low due to the small size of the grape head. In the fourth variant, when $N_{140}P_{110}K_{80}$ kg / ha of fertilizer was applied, the maximum number of grape heads was 52 and the yield per bush was 11.6 kg.

These figures were 3 grape heads per bush and 0.6 kg more per bush than the control option. The lowest result was observed in the first variant when the number of grape heads was 47 in $N_{80}P_{50}K_{30}$ kg / ha and the yield in one bush was 10.5 kg.

4.CONCLUSION.

The results of the study showed that in all experimental varieties, when the amount of mineral fertilizers N140P110K80 kg / ha was applied in pure form, it was observed that the number of grape heads in one bush was the highest and the sugar content was the highest.

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