

EFFECTS OF ORGANIC AND MINERAL FERTILIZERS ON UNABI FRUIT ON AVERAGE WEIGHT AND YIELD

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ANNOTATION

Field experiments to study the effect of compost made from manure, phosphogypsum and plant residues (straw) on the yield and quality of Unabi grown in irrigated light gray soils of Samarkand region tkazildi. The results of the experiment showed that, given the nutritional and medicinal properties of the unabi fruits grown, it was possible to obtain high and high yields when organomineral compost fertilizers were applied in different methods and norms.

A reliable supplement was obtained from this organomineral compost in the given variant against the background of 15 t / ha, nitrogen fertilizers N120 kg / ha. It was found that the yield increased by 11.77 t / ha compared to the control option.

Keywords. *Soil, organic fertilizer, manure, phosphogypsum, compost, compost, tape, bulk, fruit weight, EKF0,5, productivity*

Relevance of the topic. The Strategy for Action for the Further Development of the Republic pays special attention to “Consistent development of agricultural production, further strengthening the country's food security, expanding the production of environmentally friendly products, significantly increasing the export potential of the agricultural sector” [1]

The urgency of growing unabi in today's industrialized fruit growing is that one of the most important issues is the creation and application of practical and economical, resource-saving and environmentally friendly technologies for the application of prepared organomineral composts in different norms and methods.

The purpose of the study. The aim of the study is to study and apply in practice the effect of optimal fertilization rate on tree development, yield and crop quality while maintaining soil fertility. From a water point of view, many agro-technological measures to solve this complex problem, including the use of a resource-efficient fertilization system to have a positive impact on soil fertility and high yields.

Research methods. In the experiment, the planting scheme of unabi Ta-Yan-Szao variety was studied in 4x5 m, fertilizers in 4 rows. One pile is 15 m wide, 16 m long, 240 m² in area, with 3 rows per pile, including 1 row of observation rows in the middle and one row of protection rows on each side. The number of options is 10, the number of returns is 4 and the number of shares is 40. Agrochemical and biochemical analyzes were performed according to generally accepted methods. Phenological and biometric observations were carried out on the basis of “Methods and programs of testing of fruit varieties” of the Russian Research Institute of Horticulture named after I.V.Michurin (1973) and the Uzbek Scientific Research Institute of Horticulture and Viticulture named after Academician Mahmud Mirzayev. The analysis was analyzed by the method of processing BADospekhov (1985) [2,3].

Research results. The time of harvesting depends on the characteristics of the species and varieties of fruit trees, the demand for the product and the purpose for which it is used. Fruits intended for drying, processing and fresh consumption are harvested when they are ripe for consumption, ie when the taste and color of the fruit are specific to the variety.

In our study (2016-2017), compost made from plant residues, phosphogypsum, and manure sludge led to an increase in the amount of humus in the soil. When we used mineral fertilizers, manures and composts in different ways, there was a convincing difference in the average weight and yield of the fruit.

One of the most important indicators in horticulture today is productivity. Therefore, it is important to study the effect of mineral and organomineral fertilizers on tree yield in Unabi Garden. Due to the natural nutrients in the soil, the average mass of fruit per bush in the Unabi tree diet was lower than the optimal values. The application of mineral and organomineral compost fertilizers resulted in a significant increase in the two-year average mass of fruit on the Unabi tree compared to the non-fertilized control option.

As a result of the application of mineral fertilizers, the amount of nutrients in the soil increased dramatically. However, over time, due to the reduction of these nutrients, the average weight of fruits was slightly lower than that of 15 t / ha compost and 15 t / ha manure in the background of mineral fertilizers (Table 1).

For example, in the non-fertilized control variant, the average mass of biennial fruit per bush was 22.0 grams, or 100%. This is an indicator N120P60K30 23.35 grams, or 106.1%, respectively, in the variant used in the tape method, 22.3 grams, ie in the norm of 15 t / ha, 101.3%, at a rate of 15 t / ha when gong is applied by the tape method, 22.7 grams, ie 103.2%, at a rate of 15 t / ha+N120P60K30 23.95 grams, or 108.8%, 15 t / ha in the normal mass method +N120P60K30 24.05 grams, ie 109.3%, 15 t / ha of compost in the variant used by the tape method +N120P60K30 24.2 grams, or 110.0%, in the tape version N120P60K30 in moderation

Table 1

Influence of mineral and organomineral fertilizers on change of average mass of unabi Ta-yan-szao fruits

(Samarkand branch of ITU UzBUV, 2016-2017)

| № | Options | 2016 | | | 2017 | | | Average mass of biennial fruits, g | | |
|----|---|-----------------------|-------------------------|-------|-----------------------|-------------------------|-------|------------------------------------|-------------------------|--------|
| | | Average fruit mass, g | Difference from control | | Average fruit mass, g | Difference from control | | Average fruit mass, g | Difference from control | |
| | | | g | % | | g | % | | g | % |
| 1 | Fertilizer control | 22,0 | 0,0 | 100 | 22,0 | 0,0 | 100 | 22,0 | 0,0 | 100 |
| 2 | N ₁₂₀ P ₆₀ K ₃₀ - tape method | 23,0 | 1,0 | 104,5 | 23,7 | 1,7 | 107,7 | 23,35 | 1,35 | 106,1 |
| 3 | 15t/ga manure mass | 22,2 | 0,2 | 100,9 | 22,4 | 0,4 | 101,8 | 22,3 | 0,3 | 101,3 |
| 4 | 15t/ga go'ng- tape method | 22,5 | 0,5 | 102,3 | 22,9 | 0,9 | 104,1 | 22,7 | 0,7 | 103,2 |
| 5 | 15t/ga go'ng+ N ₁₂₀ P ₆₀ K ₃₀ - manure mass | 23,9 | 1,9 | 108,6 | 24,0 | 2,0 | 109,1 | 23,95 | 1,95 | 108,8 |
| 6 | 15t/ga go'ng+ N ₁₂₀ P ₆₀ K ₃₀ - tape method | 24,0 | 2,0 | 109,1 | 24,1 | 2,1 | 109,5 | 24,05 | 2,05 | 109,3 |
| 7 | 15t/ga kompost+N ₁₂₀ P ₆₀ K ₃₀ - tape method | 24,1 | 2,1 | 109,5 | 24,3 | 2,3 | 110,4 | 24,2 | 2,2 | 110,0 |
| 8 | N ₁₂₀ P ₆₀ K ₃₀ - awkward | 23,0 | 1,0 | 104,5 | 24,0 | 2,0 | 109,1 | 23,5 | 1,5 | 106,81 |
| 9 | 15t/ga compost- awkward | 23,2 | 1,2 | 105,4 | 23,2 | 1,2 | 105,4 | 23,2 | 1,2 | 105,45 |
| 10 | 15t/ga compost+N ₁₂₀ P ₆₀ K ₃₀ - awkward | 24,2 | 2,2 | 110,0 | 24,5 | 2,5 | 111,3 | 24,35 | 2,35 | 110,6 |

3.5 grams, ie 106.8%, in the variant used in the nesting method, 23.2 grams, ie 105.4% and 15 t / ha in the variant of kopost nesting at the rate of 15 t / ha. ng +N₁₂₀P₆₀K₃₀ In the case of nesting at the rate of kg / ha, this figure is the highest in accordance with the above 24.35 grams, or 110.6%.

From the results obtained, it became clear that when we apply the prepared organomineral compost fertilizers to the soil against the background of mineral fertilizers, they have a positive effect on the nutrient regime of the soil, and the optimal application of fertilizers by trees. The average weight of fruits increased by 2.35 grams compared to the control.

The results of the analysis showed that the total amount of nitrogen, phosphorus and potassium was significantly lower in the non-fertilized variant, ie in the control. This led to a low yield. The application of mineral and organomineral fertilizers has a positive effect on the amount of mobile nutrients in the soil, improves tree nutrition and leads to higher productivity.

Fertilization (2016) N₁₂₀P₆₀K₃₀ tape - and N₁₂₀P₆₀K₃₀ - In the nesting variant, the yield compared to the control variant is 3.08 - 3.98 t / ha, ie 137.6 - 148.6%, respectively, 15 t / ha in the background of compost mineral fertilizer, and in the nesting variant 7, An increase of 60 - 10.38 t / ha, ie 192.8 - 226.8% was observed.

Fertilization (2017) N₁₂₀P₆₀K₃₀ lenta - va N₁₂₀P₆₀K₃₀ - uyalab varianlarida, nazorat variantiga nisbatan hosildorlik mos ravishda 4,62 - 5,47 t/ga ya'ni 154,9 - 165,0 % ga, 15 t/ga kompost mineral o'g'it fonida lenta hamda uyalab variantida 7,58 - 11,77 t/ga ya'ni 210,0 - 240,0 % ga ortishi kuzatildi.

Average biennial yield N₁₂₀P₆₀K₃₀ In the case of tape and nesting options, the yield compared to the control is 3.85-4.725 t / ha, ie 146.4-156.9%, 15 t / ha compost on the background of mineral fertilizers and nesting in the variant 8.425 - 11.08 t / ha, ie an increase of 201.5 - 233.4% was observed (Table 2).

Table 2

Influence of mineral and organomineral fertilizers on the yield of unabi Ta-yan-szao variety

(Samarkand branch of ITU UzBUV, 2016-2017)

| № | Options | 2016 | | | 2017 | | | Two-year average yield | | |
|---|--|----------------------|-------------------------|-------|----------------------|-------------------------|-------|------------------------|-------------------------|-------|
| | | Productivity, t / ha | Difference from control | | Productivity, t / ha | Difference from control | | Productivity, t / ha | Difference from control | |
| | | | t/ga | % | | t/ga | % | | t/ga | % |
| 1 | Fertilizer control | 8,19 | 0,0 | 100 | 8,41 | 0,0 | 100 | 8,3 | 0,0 | 100 |
| 2 | N ₁₂₀ P ₆₀ K ₃₀ - tape method | 11,27 | 3,08 | 137,6 | 13,03 | 4,62 | 154,9 | 12,15 | 3,85 | 146,4 |
| 3 | 15t/ga manure mass | 10,18 | 1,99 | 124,3 | 11,35 | 2,94 | 139,9 | 10,77 | 2,47 | 129,7 |
| 4 | 15t/ga go'ng- tape method | 11,01 | 2,82 | 134,4 | 11,77 | 3,36 | 140,0 | 11,39 | 3,09 | 137,2 |
| 5 | 15t/ga go'ng+ N ₁₂₀ P ₆₀ K ₃₀ - manure mass | 13,48 | 5,29 | 164,5 | 15,13 | 6,72 | 179,9 | 14,305 | 6,005 | 172,3 |

| | | | | | | | | | | |
|--------|--|-------|-------|-----------|-------|-------|-----------|------------|-----------|-----------|
| 6 | 15t/ga go'ng+ N ₁₂₀ P ₆₀ K ₃₀ - tape method | 14,20 | 6,01 | 173 ,4 | 15,98 | 7,57 | 19 0,0 | 15,0 9 | 6,7 9 | 18 1,8 |
| 7 | 15t/ga kompost+N ₁₂₀ P ₆₀ K ₃₀ - tape method | 15,79 | 7,60 | 192 ,8 | 17,66 | 9,19 | 21 0,0 | 16,7 25 | 8,4 25 | 20 1,5 |
| 8 | N ₁₂₀ P ₆₀ K ₃₀ - awkward | 12,17 | 3,98 | 148 ,6 | 13,88 | 5,47 | 16 5,0 | 13,0 25 | 4,7 25 | 15 6,9 |
| 9 | 15t/ga compost- awkward | 11,85 | 3,66 | 144 ,7 | 12,19 | 3,78 | 14 4,9 | 12,0 2 | 3,7 2 | 14 4,8 |
| 1 0 | 15t/ga compost+N ₁₂₀ P ₆₀ K ₃₀ - awkward | 18,57 | 10,38 | 226 ,8 | 20,18 | 11,77 | 24 0,0 | 19,3 75 | 11, 08 | 23 3,4 |

EKF_{0,5}=2,0 t/gaEKF_{0,5}=1,16 t/ga

SX%=4,3 %

SX=3,8 %

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