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ANALYSIS OF THE BIOECOLOGICAL CHARACTERISTICS AND MORPHOLOGICAL INDICATORS OF THE GROWTH AND DEVELOPMENT OF UNABI TREES IN THE CONDITIONS OF KASHKADARYA OASIS

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ABSTRACT

The article is about the analysis of the bioecological characteristics and morphological indicators of the growth and development of unabi trees in the conditions of the Kashkadarya oasis.

Keywords: Kashkadarya oasis, Unabi, tree, development, bioecological, features, morphological indicator, analysis.

QASHQADARYO VOHASI SHAROITIDA UNABI DARAXTLARNI O‘SISHI VA RIVOJLANISHINING BIOEKOLOGIK HUSUSIYATLARINI HAMDA MORFOLOGIK KO‘RSATKICHLARINI TAHLILI

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ANNOTATSIYA

maqolada Qashqadaryo vohasi sharoitida unabi daraxtlarni o‘sishi va rivojlanishining bioekologik hususiyatlarini hamda morfologik ko‘rsatkichlarini tahlili haqida.

Kalit so’zlar: Qashqadaryo vohasi, Unabi, daraxt, rivojlanish, bioekologik, hususiyatlar, morfologik ko’rsatgich, tahlil.

INTRODUCTION

Today, great attention is being paid to expanding the range of fruit varieties, establishing orchards and plantations, increasing productivity and quality indicators of fruit products. Currently, it is one of the types of subtropical fruit crops in the world, the cultivated area of unabi plantations is more than 410 thousand kegtars, and the total yield is 7.5 million tons. China, India, South Korea, Afghanistan, Pakistan, the USA and Russia are the countries that grow unabi products in large quantities. In the territory of China, unabi plantations of intensive

type make up an area of more than 200,000 hectares. Currently, in an era of globalized food security, the establishment of unabi plantations and the cultivation of fruits, obtaining a quality harvest is an urgent task.

On the territory of the republic, attention is being paid to the organization of fruit growing, in particular unabi plantations, and the systematic establishment of high-yield and high-quality fruits. In this regard, it is wise today to establish gardens in the republic from intensive-type seedlings imported from abroad, to implement modern agrotechnical measures, in particular, to pay special attention to each plant, taking into account their growth phases, in order to obtain a high-quality harvest. is an important factor in agriculture. Paragraph 3.30 of Decree No. PF-60 dedicated to the rapid development of the national economy and ensuring high growth rates of the development strategy of New Uzbekistan for 2022-2026 on the further development of the Republic of Uzbekistan Issues of "increasing the income of peasants and farmers by at least 2 times, bringing the annual growth of agriculture to at least 5%" were determined separately. The purpose of the research is to establish unabi orchards in the soil-climatic conditions of the Kashkadarya oasis, to determine the influence of the ecological environment on the morphological characteristics of the varieties, and to develop the cultivation technology.

Tasks of the research

Analysis of seasonal growth and development dynamics of unabi trees in Kashkadarya soil and climate conditions;

- determination of tolerance of unabi varieties to dry low temperature;
- proof of drought tolerance of unabi varieties;
- determining the tolerance of unabi varieties to soil salinity;

Determining the economic efficiency of unabi cultivation in the soil-climatic conditions of the Kashkadarya oasis.

Seasonal growth and development dynamics of unabi trees in soil and climate conditions of Kashkadarya oasis

In all plants, their growth, development, morphobiological indicators, manifestation of economic signs, processes of high yielding occur under the influence of a number of external environmental factors. In particular, the soil and climate conditions of the area where the experiments are conducted have an effect on the dynamics of seasonal growth and development of plants. Today, at a time when global climate changes are intensifying, it is possible to observe a number of negative situations for the world of plants.

It is known that the productivity of agricultural plants directly depends on the melorative state of the soil. This problem is especially reflected in the orchards that are being built in the republic today. Therefore, when establishing unabi gardens, it is necessary to select the soil conditions necessary for the plant. Planting unabi seedlings in areas with normal soil conditions allows to increase the potential productivity of unabi varieties and produce high-quality products.

It should be noted that soil is an important object that strongly affects the growth and development of plants. It is important to conduct a soil analysis in the establishment of unabi gardens. Soil conditions have a direct influence on the dynamics of their growth and development, depending on each variety of unabi.

The influence of soil conditions is first of all reflected in the vegetative development of trees. Observing the period of growth and recording of flower buds in unabi varieties planted in different soil conditions allowed to note that there is a certain difference between them. Therefore, in our experiments, the processes of growth and flower bud recording were observed in Ta-yan-sizo, U-sin-hun, and Mayabaizao, Jixinzao, and Zanhuangdazao varieties of unabi, recently introduced from China. (See Table 1).

1-table Recording of growth and flower buds, swelling of buds and flowering periods of Unabi varieties (2021-2023).

Varieties of Unabi	Start of recording of growth buds, date	Bloom, date			
		swelling of buds	50% bloom	75% bloom	the end of flowering
Unabi cultivars propagated from vegetative cuttings (control)					
Ta-yan-sizo	25-30. IV	5-10.V	12-17. V	20-25. V	2. VI
U-sin-hun	23-27. IV	3-8.V	10-15. V	18-23. V	1. VI
Mayabaizao	22-26. IV	3-8.V	11-16. V	17-22. V	30. V
Jixinzao	23-27. IV	4-8.V	10-15. V	18-23. V	30. V
Zanhuangdazao	24-29. IV	4-9.V	11-16. V	19-24. V	29. V
Varieties of unabi grown on small-plod grafts					
Ta-yan-sizo	24-29. IV	5-10.V	10-15. V	18-22. V	30. V
U-sin-hun	23-27. IV	3-8.V	9-14. V	17-921. V	28. V
Mayabaizao	22-29. IV	3-8.V	10-15. V	17-22. V	27. V
Jixinzao	22-26. IV	3-7.V	9-14. V	18-22. V	27. V
Zanhuangdazao	23-27. IV	4-9.V	9-14. V	18-22. V	28. V

The data in the table shows that, in comparison with the varieties of unabi cultivated in the territory of the republic for many years, with newly introduced varieties from China, there was no significant difference in the period of bud formation, swelling, and flowering as a result of physiological processes in plants.

In unabi cultivars grown in Melkoplodny grafting, it was observed that the period of the beginning of growth buds began in the 3rd decade of April in all cultivars. Ta-yan-sizo variety was observed between April 25-30, U-sin-hun variety, Mayabaizao variety 22-26, Jixinzao variety 23-27, and Zanhuangdazao variety 24-29. it was observed that the buds began to be written. Although there were no significant differences in the indicators of budding, beginning and duration of flowering between the varieties, it was observed that the final state of flowering was 2-4 days earlier in Mayabaizao, Jihinzao, and Anhuangdazao than in the other two varieties.

During our experiments, it was observed that in our varieties grown in Melkoplodny grafting, the beginning of growth buds, swelling of buds, the beginning, duration and end of the flowering period were consistent. In this case, it was observed that the beginning of growth buds began on April 23-24, and the swelling of buds was on May 5-10. The beginning of the flowering season was observed on May 10-12, and the end of flowering was observed on May 27-28. The highest result was observed in Mayabaizao and Jihinzao varieties. In the course of the conducted research, it was observed that in 2023, compared to previous years, one-year-old branches of unabi varieties

were more affected by frost. The reason for this is mainly explained by the fact that the air temperature dropped sharply in January and February 2023. Therefore, in our experiments, it was found that in 2023, the unabi plants woke up, and the awakening process was later compared to previous years.

In our experiments, when we observed the growth and development dynamics of unabi varieties during the season, it was observed that the physiological processes in plants under the influence of air temperature and relative humidity in certain months were different without significant differences between varieties. Basically, the growth and development dynamics of all our unabi varieties propagated by vegetative means were compared to the grafted plants. It was found that the dynamics of growth and development of unabi varieties propagated from vegetative cuttings were significantly different (see Table 2).

2-table Growth and recording of flower buds, swelling of buds and flowering periods in trees of Unabi varieties (2021-2023).

Unabi navlari	Kurtaklarni uyg'onishi	Novdalarning o'sishi sm			
		may	iyun	iyul	avgust
Vegetativ qalamchalardan ko'paytirilgan unabi navlari (nazorat)					
Ta-yan-sizo	25-30. IV	20-25	15-18	6-8	12-16
U-sin-hun	23-27. IV	21-25	14-17	6-8	12-18
Mayabaizao	22-26. IV	20-25	14-18	5-7	10-15
Jixinzao	23-27. IV	21-24	13-17	5-7	11-15
Zanhuangdazao	24-29. IV	23-28	16-20	8-10	13-18
Varieties of unabi grown on small-plod grafts					
Ta-yan-sizo	24-29. IV	20-25	15-20	6-8	13-18
U-sin-xun	23-27. IV	21-26	14-18	6-8	13-19
Mayabaizao	22-29. IV	22-27	14-20	5-7	12-17
Jixinzao	22-26. IV	22-26	13-18	5-7	13-16
Zanhuangdazao	23-27. IV	24-30	16-22	8-10	15-20

From the data in the table, it can be said that in all unabi varieties studied in the experiment, bud awakening took place between April 22 and 30. From this, it can be said that it was observed that the bud development was delayed for 5-6 days in all varieties. However, it was found that Mayabaizao and Jihinzao varieties had budding 2-3 days earlier than the other studied varieties. In the Unabi plant, the rapid growth of branches was observed in May and June, while in July, the growth of branches was slow in all varieties. From the first decade of August, it was found that the growth of plant branches has accelerated a little. From this, it can be said that 70-72% of the annual growth length of buds of unabi plant varieties was observed in our experiments, corresponding to May and June.

CONCLUSION

1. Analyzing the effect of environmental conditions on Unabi varieties on their unique characteristics and morphological indicators. The impact on the assessment of the bioecological potential of varieties based on the study of variability, the variability of morphological characters of unabi varieties, allowed to determine its ecological valence in the conditions of introduction.

2. In order to determine the morphometric parameters of unabi varieties, when Ta-yan-sizo, U-xin-hun, Mayabaizao, Jixinzao and Zanhuangdazao varieties of unabi were grown on Melkoplodny grafting, the comparison of the morphometric dimensions of the fruits propagated in vegetative cuttings. It is necessary to mention the difference.
3. When analyzing the drought resistance of Unabi varieties, dehydration of plant organs was observed when the plants were maintained in drought conditions. In areas with arid soil and climate conditions, the condition of plants, their growth and development, fruiting, and manifestation of variety characteristics depend on the soil and climate conditions of the area where the plant is cared for, air temperature and relative humidity, and plant care. It depends on the composition and rate of organic and inorganic fertilizers.

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