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BIOLOGICAL BASIS OF REPRODUCTION OF SUBTROPICAL FRUIT PLANTS AND TECHNOLOGY OF GROWING SEEDLINGS

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Abstract

In this scientific article, the biological basis for the reproduction of subtropical fruit plants in the soil and climatic conditions of Uzbekistan is studied in detail. Information on the technology of growing subtropical plants, including the technology of growing seedlings of subtropical plants and the nursery.

Key words

Subtropical crops, propagation methods, cuttings, cultivation technology, cultivation of seedlings, efficiency

Introduction. Decree of the President of the Republic of Uzbekistan dated March 20, 2019 No. PQ-4246 "On measures to further develop horticulture and greenhouses in the Republic of Uzbekistan" Decree of the President of the Republic of Uzbekistan dated January 28, 2000 PQ-4575-No. The tasks of establishing new orchards and rehabilitating existing ones are specified separately in the decisions on measures for the implementation of tasks. Subtropical fruit plants are distinguished from other fruit trees by their high aroma and caloric content, good taste and aroma. Subtropical fruit plants are mainly important for humans because they contain sugar, matter, organic acid, pectin and other substances that are necessary for the human body to digest food. Subtropical fruit dramatically increases the absorption of proteins necessary for human life. They are also rich in vitamins and are of great importance in the absorption of essential elements in food.

Together with the information presented above, it was found that the use of subtropical fruits as food can prevent a number of diseases in the body. Subtropical fruits are rich in essential substances for the human body and play a major role in food digestion. There is a lot of sugar in the fruit of the Sharq date. Kata is important as food. Subtropical fruits are used in the wet state in the preparation of

confectionery products, and are considered a useful drink. At the same time, subtropical fruits are useful for bees in collecting flower nectar, and the wood of their trees is used in industry for various purposes. Subtropical fruits are used effectively for their suitability for transportation. Subtropical fruit plants should be noted separately, as they are suitable for long-distance transportation and storage. . All the expenses spent on the establishment of subtropical orchards will pay off in the short term and provide a basis for the fruitful development of the sector.

Experimentation and its methodologyю

In order to study the good experience, the growth, development and technology of subtropical plants and seedling cultivation in the orchards of the horticulture, horticulture and nursery experimental farm named after Academician M. Mirzayev were thoroughly studied. In this farm, the experiment was carried out during the years 2022-2024. The place where the experiment was planted, and the soil and climatic conditions are suitable for growing subtropical crops. The soil is an alluvial soil that has been irrigated since ancient times. In the course of the experiment, the biological basis of subtropical plant reproduction, as well as the technology of seedling cultivation, were studied.

Analysis and results:

Farms where subtropical fruits are grown have great economic returns and are considered to have all the conditions for good production.

Also, the amount of production of subtropical fruit plants in the Republic of Uzbekistan is increasing year by year, farms and agroclusters are taking care of subtropical fruit plants on the basis of scientifically based modern resource-efficient technology and high quality harvest is obtained. Subtropical fruit plants are mainly propagated by seeds, cuttings and grafting. Among the above methods, the most common methods are cutting and grafting of subtropical plants, Seedlings grown using these methods are quick to harvest, regularly produce abundant and high-quality crops. In the soil and climatic conditions of Uzbekistan, a widely used grafting method for breeding subtropical plants and establishing nurseries, cuttings, i.e. cuttings rooted on the sides of growing branches, grow well, develop and yield faster. Therefore, the main method of propagating subtropical fruit plants by seed is subtropical fruit plants propagated by rooting side shoots suitable for subtropical plants. Preparation of cuttings for planting Cuttings preparation for planting subtropical fruit plants is very important. In order for pomegranate and fig cuttings to take root, it is appropriate to process them, and the main purpose of this is to prepare cuttings for rooting. Grafting gives the best result, accelerates the harvest, bears fruit in the fourth year, the quality of the fruit is high. When the sprouts germinated from the seeds of subtropical fruit plants are grafted to the

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grafting in the following years, the time of the seedlings to bear fruit increases significantly.

picture Rooted pomegranate seedling.

Subtropical fruit plants need to be fed 2-3 times during the growing season for their seedlings to develop well. In the first feeding, it is recommended to give 20-25 kg nitrogen, 35-40 kg phosphorus and 15-20 kg potassium fertilizers per hectare. 2nd and 3rd feeding with the same fertilizers is carried out. In order to determine the purity of the varieties in the subtropical fruit nursery, the approbation is held in August-September of the year and the purity of the seedlings is determined, the mixed varieties are marked and they are dug up separately. It has been determined that it is possible to get 60-65 thousand clean seedlings from one hectare of subtropical fruit tree nursery. To create a garden of subtropical fruit plants, standard pomegranate, fig and olive seedlings will be ready in two years. Figs and pomegranates can be grown from the roots of figs and pomegranates when they emerge from the soil in early spring.

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Figure 2. Pomegranate seedlings ready for planting.

Choosing a place for a nursery.

To create a nursery of subtropical fruit plants, the selection of fertile, clean, flat soil, fully supplied with water for irrigation, where the sun's rays fall equally on all parts of the nursery, protected from dry and cold weather not without benefits.

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Fertile gray, light and medium sandy soils are the best soil for planting a subtropical fruit orchard. It should be noted that for subtropical fruit plants, the mechanical composition is heavy, saline, swampy lands are not suitable for creating a nursery.

Summary. The nursery area intended for subtropical fruit plants is plowed in the fall with a plantation plow to a depth of 50-60 cm or with a regular plow to a depth of 30-35 cm. 20-25 tons of rotted manure per hectare, 90 kg of phosphorus and 40-45 kg of potash are applied to the ground before plowing the area where the nursery will be built. The area to be planted is leveled and aired before planting.

Basic grafts for subtropical fruit trees.

In the soil and climate conditions of Uzbekistan, the role of grafting is invaluable in ensuring the quality of seedlings of subtropical fruit plants. It should be noted that grafting is the basis of fruit seedlings, of which the growth and development of grafted cuttings and the production of healthy seedlings in the last cycle are of great importance, the quality and quantity of productivity directly depends on it. is considered. 1. V. Michurin showed the importance of grafting in his classic scientific works, and considers grafting to be directly related to the growth ability of the graft, the development of its branches, its relationship with the soil, and the increase in productivity. Grafts almost affect the size of the fruits and their taste. For subtropical fruit plants, the main grafts are propagated by seed and root cuttings grown from lateral branches.

Methods of growing seedlings of subtropical fruit plants

In the soil and climatic conditions of Uzbekistan, figs, pomegranates, and olives are propagated from subtropical fruit crops by grafting oriental persimmons with one-year cuttings. In fruit growing, there are several methods of propagation from cuttings from cuttings. After the fruits are harvested, they are propagated from one-year cuttings during the rest period. From the preparation of seedlings from blue cuttings, 20 cm long cuttings are made from the tip of the tree in September-October. The trenches are prepared in the size of 1.5-3 m, planted in sand 12-15 cm thick at a distance of 10x10 cm and covered with a polyethylene film and the necessary humidity is maintained. Subtropical fruit plants are recommended to be planted in rows of 70x10 cm in early spring as the days warm up, and to speed up the annual processes in this nursery and get seedlings of subtropical plants with quality roots. One of the main factors is the organization and creation of conditions for the growth of new branches with the formation of roots from pomegranate and fig cuttings.

Pinching of cuttings. Pinching of subtropical fruit plants such as figs and pomegranates is carried out at the end of March and beginning of April. If there are

no oozing bumps-callus at the cutting site, the cuttings are renewed by cutting and watering within a day or two is agrotechnically appropriate. Sand, rotted manure or shavings, straw are placed on the soil to speed up the germination and covered with greenhouse frames.

Planting and care of cuttings. The cuttings are planted in the prepared egates in April, the planting depth is 35-40 cm. For the convenience of soil cultivation and mechanized digging of grown seedlings, cuttings are planted in a scheme of 70-80-90-x10-15 cm, 125 mm of cuttings are used per 1 ha.

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