

Intensive pear branch structure , body fatness type-weld tag And seedling from thickness addiction .

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In various regional conditions of the world, in the conditions of intensive fruit growing, industrial cultivation of pears and agricultural technology of intensive small-fruited pear orchards , varietal-grafting combinations, planting density, formation of branches of small-fruited apple orchards for obtaining abundant and high-quality harvests, protection from diseases and pests, etc. are studied. In the USA, Spain, China, Ireland and many others The scientific work was carried out by scientists and researchers from different countries.

In Uzbekistan, on large areas of promising pear orchards, orchards with medium-strength grafts are being planted at a high rate, yielding intensive, abundant and high-quality harvests. Intensive fruit growing, that is, in small pear orchards, is planned to sharply increase the volume of fruit production, improve their quality and radically change the level of production. At present, scientists and specialists involved in intensive fruit growing in our republic are planning to radically change the economy of this industry, and in fruit growing, it is planned to expand the area of small orchards, increase the density of planting seedlings, and sharply increase production volumes.[1]

Therefore, the technologies of creating intensive orchards, their care, and types of grafting have been practically not studied. It should be noted that varietal-grafting combinations in intensive pear orchards have been practically not studied from a scientific point of view. In the studies conducted, annual changes in pear trees, photosynthesis productivity, water and nutritional regime, lighting parameters, biological and economic productivity were not studied in depth and on a scientific basis. The methods of intensifying fruiting in intensive orchards and the compatibility of varietal grafting have also been poorly studied. These activities are intensive in nature . is the main goal, factor and task of building a garden.

In Uzbekistan, 1250-2500 pear trees are planted per hectare through high-yielding intensive orchards and grafting combinations, and scientific research is also conducted by other researchers. It is planned to significantly increase the volume of fruit production in the pear orchards of Pakana, radically improve their quality and change the level of production. At present, scientists and specialists involved in intensive fruit growing in our republic set themselves the task of changing the economy of this industry, and in fruit growing it is planned to expand the area of varietal-grafting combinations, planting density, small-fruited orchards, and sharply increase production volumes.

In Uzbekistan, including in the Bukhara region, the task of obtaining consistently high and high-quality yields in intensive dwarf pear orchards in the future is the study and application of optimal variety-grafting combinations, planting density of seedlings and cultivation technology in dwarf orchards. To increase the volume of pear cultivation, it is necessary to plant small-fruited orchards in fruit growing, use optimal variety-grafting combinations, planting density and modern resource-saving care technologies, use varieties with small bushes that consistently give abundant and high-quality yields, and sharply increase the percentage of mechanization. [2,3]

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⁰ 10 sh.k. in the southwestern part of Uzbekistan. and is located at 63⁰ 40 ju. In most farm orchards, the number of pear trees is 700-1000 trees per hectare. In recent years, orchards have been planted using seed, vigorous rootstocks. The trees in these orchards are tall, and the sun, penetrating through their branches, the amount of light decreases sharply.

Increasing the productivity of pear trees in the soil and climatic conditions of the Republic of Uzbekistan began in the 1990s, and since 2010, combinations of planting density and variety affinity have been scientifically studied and widely introduced into production conditions. In recent years, pear orchards have been planted on an area of 23.1 thousand hectares. In Uzbekistan, on an area of 128.6 thousand hectares, of which 92.5 thousand hectares are considered productive, 1 million 320 thousand tons of gross harvest are produced, 29 varieties of pears grow.

Methods of increasing planting density and using optimal combinations of varieties and grafts are widely studied and introduced into production. Experiments conducted in recent years have shown that the main requirement for orchard productivity is not the specific yield of pear trees, but the size of the branches and twigs of the trees and their high productivity indicators. Dense planting of fruit trees, their inability to properly use sunlight and their large size prevent sunlight from penetrating inside. [4,5].

The research was conducted at the Bukhara State University and the farm LLC "Siyovush Agro" in the Bukhara region in 2022-2024.

The field experiment site is located in the southwestern part of Uzbekistan at 40°10' N and is located at 63°40' E. Irrigation water for the experimental site is supplied from the Amu - Bukhoro canal. Experience areas Earth average at the level mineralized : Cl –0.04 %, SO₄ – 0.071 % . water level 2.5 -3.5 meters in the depths located .

The growth and overwintering of plants in each specific year depend on many factors that determine the effectiveness of intensive cultivation of dwarf pears . The main meteorological conditions for intensive care of low-growing varieties and obtaining consistently high and high-quality yields are air temperature and precipitation.

The average daily working hours of the farming enterprise OOO Siyovush Agro in Bukhara district is 2889 hours per year. In summer it reaches 361-395 hours per month, and in winter even 104-125 hours. One of the distinctive features of the climate of this region is its sharp continentality, which is characterized by sharp changes in temperature, relative humidity, precipitation and other meteorological elements both on an annual and daily scale. The amplitude of the change in the average daily temperature in January and July reaches 24-30⁰ C.

The best cold months - December , January , February . Separately in years minimum temperature up to -25-28⁰ C to go down possible . Snow lid you will notice And stable no , average thickness 5-10 cm. In early spring - at the end of February - beginning of March - the temperature gradually decreased every ten days and by the end of November dropped to 13⁰ C.

Precipitation in August 13 mm and there was little rain in September. In the first ten days of October, precipitation also fell rarely. From the second ten days, stable precipitation was observed. A particularly large amount (26.4 mm) fell in the third ten days. Rainy days alternated with clear ones. Relative air humidity was higher than the long-term average throughout the study period. Its highest value was recorded on days with precipitation.

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In 2022, the average monthly air temperature during the growing season was **1.1–1.3 °C** higher than in 2021, and **1.3–3.4 °C** higher than the long-term norm. Atmospheric precipitation during the growing season compared to the average long-term norm

a little weaker. Air relative humidity year within About **38-68 %** changed. Air high relative humidity year at the end **68%** It was July. in a month the lowest, **38 %** organization reached.

August many annual average from the indicators **6.2 mm of precipitation** it was With it was different, it was And monthly average temperature **4.5 °C** To decrease cause it was. August majority part, september And October dry And hot it was.

20 23 years old in July dry And heat hot observed. Maximum temperature **44.7 °C** To enough And this during the period precipitation not observed. In August until July relatively temperature some to go down observed And **41.2 °C** What organization reached. Second And third ten in days air average temperature many annual average from data **0.5 -0.8 °C** It dropped to. No precipitation was observed during this period.

September was dry and hot. The second with slightly lower temperatures stood out for ten days (**1.6 °C** below the long-term norm). The third

The air temperature was 2.3 degrees above the ten-day norm. No precipitation was observed, air relative humidity **-39-50 %** organization reached.

October relatively hot And dry it was. ten diaries in accordance with daily average temperature many annual to average relatively higher it was. In October it was raining precipitation quantity **7.8 mm** organization reached. In November his/her quantity **25.5 mm** to rose. In December rain less it was raining – **10 mm**.

20 24 year climate conditions from 20 2 1 perceptible did not differ. The months of February and April **were the months with the most precipitation** – suitable without **22.0 and 60.2 mm**. However, the amount of precipitation in October and December was six times less than in the previous year and amounted to 6.2 mm.

Summer in months temperature maximum value **43.0C** to enough.

Numerous scientific studies indicate that during the period of growth, development and fruiting of pear trees, the size of the branches and trunk increases due to a slight increase in the size of the branches, and this situation can be regulated mainly by shaping and pruning. When planting trees in dense stands, it is recommended to cut the lower skeletal branches of the Williams and Abbott varieties, and this factor gives good results.

This condition leads to an imbalance in the growth and development of fruit trees, both in the lower and upper parts of the fruit-bearing branches. As a result, the pear The condition is affected by the illumination of the lower parts of the trees. In such densely planted gardens, pruning methods become more complex and it becomes more difficult to maintain a high level of growth, development and productivity of the tree trunk.

The arrangement of the main skeletal forms on the trees of the Williams cultivar was more extensive than that of the Abbott cultivar (Table 1).

Table 1

THE MULTIDISCIPLINARY JOURNAL OF SCIENCE AND TECHNOLOGY**VOLUME-5, ISSUE-4****Dependence of pear branch structure on the combination of variety and scion and seedling thickness, 2023**

No.	Indicators	Variety Knockney Williams		Pear variety Abbot	
		4.0x1.0m	4.0x2.0m	4.0x1.0m	4.0x2.0m
1	Tree height, m	2, 4	2, 6	2.5	3, 5
2	Stamp thickness, mm	5 4	5 7	5 2	5 5
3	Horn of plenty , Row width Along the line	1, 4 1, 3	1.5 1, 4	1, 6 1.4	1, 7 1, 5
4	Number of main skeletal branches, pcs.	1 0	1 0	9	10 9
5	Angle of the skeleton of branches, deg.	45	46	47	4 8
6	Length of main growth branches, cm	48	46	43	41
7	Number of main branches, pcs.	96	101	92	98
8	Average length of branches, cm	35	4 0	3 2	3 7
9	Height, m	48	56	4 6	49
10	Fruit Number of collected buds, pcs. ∴				
	Ring	13 2	1 5 2	13 0	1 52
	The tip of the spear	7 0	8 6	67	75
	Collecting branches	40	44	43	52
		23	25	27	26

The studied varieties, with dense planting and irrigation by a modern resource-saving drip method, form a good light regime inside the crown of the pear. Provides growth, development and productivity of pear trees. Therefore, when grafting Williams and Abbott varieties onto a vegetative medium-sized rootstock, the growth of branches pushes fruit trees upward, which becomes noticeable in the fourth and fifth years of the garden's life.

Table 2

Dependence of the pear trunk thickness on the variety-scion combination and the thickness of seedlings, gardening enterprise OOO "Siyovush Agro" (2022-2024).

Seedling thickness, m	Thickness of tree trunk			Tree trunk growth, %
	2022	202 3 years	202 4 years	
Variety Knockney Williams				
4.0 x 1.0	67	70	71	105.9
4.0x1.2	68	73	73	107.3

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4.0x1.4	69	74	75	108.6
4.0x1.6	72	78	79	109.7
4.0x1.8	74	81	82	110.8
4.0x2.0	75	83	85	113.3
4.0x2.2	75	80	82	109.3
Nokni Abbot Navi				
4.0x1.0	66	68	70	106.1
4.0x1.2	67	70	72	107.5
4.0x1.4	67	72	73	108.9
4.0x1.6	70	76	77	110.0
4.0x1.8	72	79	80	111.1
4.0x2.0	74	82	83	112.2
4.0x2.2	75	78	82	109.3

Conclusion. In Williams and Abbott pear varieties, the dense arrangement of the crown and crowns on the trunk promotes greater growth of branches and the formation of fruit branches.

Williams and Abbott pear varieties produce more fruit buds and spikelets as they grow. This results in the formation of blind growth branches. These conditions are more common on medium-vigorous Williams and Abbott rootstocks and affect the growth, development and productivity of the pear tree.

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