

EUROPEAN JOURNAL OF INNOVATION IN NONFORMAL EDUCATION



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Influence of Cutting Method and Level on Apple Tree Leaf Surface

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ABSTRACT

This article examines the effect of cutting method and level on the assimilation surface of an apple tree. Many years of research have shown that as the level of cuttings in apple trees increases, the surface area of each tree increases by 18-21%, and the area of leaf blades per hectare increases.

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In today's industrialized orchards, the cultivation of promising, high-yielding and high-quality varieties in intensive orchards is an urgent task. In the context of Bukhara region, in recent years, great attention is paid to the development of intensive fruit growing. And is building a variety of small orchards.

As a result of consistent work carried out in our country, more than 180 types of fruits and vegetables and products based on their processing are exported to the world market. Uzbekistan is one of the world's leading exporters of apricots, plums, grapes, nuts, cabbage and many other fruits and vegetables. The Resolution of the President of the Republic of Uzbekistan dated September 21, 2015 "On measures to implement the project for the development of the fruit and vegetable industry" plans to increase the gross yield of fruits and vegetables by 2-3 times in 2020.

Fruit growing in Uzbekistan plays an important role in providing the population of many large cities with fresh and dried fruits. Because the geographical zone of our republic is very suitable for growing sweet fruits. In 2000-2005, the production of fruits and berries in Uzbekistan should increase by at least 1.5 times, and the production of grapes by 3 times. There are great untapped opportunities for the development of horticulture in Uzbekistan. For example, in the territory of the Republic there are a lot of lands located at an altitude of 500-600-800-1000 meters above sea level, and it is necessary to use these lands for fruit growing. It grows wild on the slopes due to precipitation. However, the yield per hectare of wild orchards is only 1-1.5 quintals. Therefore, the current task is to widely implement the recommendations developed by scientific organizations, to cultivate wild fruit trees by grafting and dramatically increase their yield. Global climate change, increasing water shortages from year to year, fruit growing will become more important for export production. Then the improvement of agrotechnologies of fruit growing, introduction of intensive-innovative technologies, creation of new varieties will be important tasks for scientists. It is known that fruits contain many medicinal substances that are necessary for the human body. For example, ripe fruit contains sugars, organic acids, proteins, fats, additives, mineral salts, enzymes, and vitamins. These substances break down food in the body and help it be easily digested. On the methods of pruning excess branches of apple trees in Uzbekistan and abroad and the impact of trees on growth, development and productivity, A group of researchers conducted a series of scientific studies to study the effects of different soil climates on the biological properties of a variety. It should be noted that the research conducted in this area does not allow to fully reveal the

biological characteristics of fruit tree varieties, the fruiting of their branches, their rejuvenation cycles.

Scientific research was carried out in 2006-2016 at the farm "Amin Hayot Boghi" in Bukhara district of Bukhara region. The climate of Bukhara region is sharply continental, with an annual rainfall of 125-175 mm, mainly in early spring, late autumn and winter. Hot sunny days last up to 240 days, during which the average temperature is 26-30°C. The hottest days are observed in summer, when the daytime temperature reaches 38.7-46.20°C and above in late June-early July. Winter Dry and cold: In January, the average temperature ranges from 4.0°C to 13 °C. The average relative humidity is 40-60%.

If we compare the phase of the soil in the root layer (0-70 cm), the weight is -2.84 g / cm³, in the meter layer - 2.83 g / cm², some of the soil is 212% in the 51.6-51.9 cm layer, 0-70 cm - 21.1 % and 21.0% in the 0-100cm layer. ” The soil of the Amin Hayot Boghi farm consists of alluvial, ancient irrigated, weakly saline soils, which differ in surface location (2.3-2.5 m) from the water table, and are moderately healthy in terms of mechanical composition.

The main purpose of the study is the method of periodic pruning (3-4 years), which is the most efficient for production, and pruning, leaving 4-8 buds on the branches that bear fruit.

The most important condition for increasing the productivity of fruit trees is to make good use of solar radiation and increase the leaf surface area. For an apple tree, the size of the leaf portion is often fed by grafts and variety combinations, the order in which the trees are cut and shaped, and the thickness of the seedlings. Numerous studies, including ours, have shown that photosynthesis is the growth biomass of a plant organism, including the useful economic biomass of the crop.

The task of the gardeners is to increase the productivity of photosynthesis by placing the leaf surface in the tiers of each tree branch, following the levels of shaping and pruning of the trees. The optimum level of such full illumination in open areas is 50-70%. The process of photosynthesis occurs at the expense of increasing or decreasing the normal level of radiation at some point. Studies have shown that the growth and development of apple trees of 15 years and older reaches an acceptable level of leaf area, which is a measure of the average yield of branches over the years of the study when the branches are rejuvenated in 4-4-year cycles. In the Golden variety of apples D, up to 4-4,0ts /, in the Renet Simirinka variety up to 0,9-3,5ts /, and in the Pervenets Samarkand variety up to 0.6-3,1ts / in the control variant. additional yield was obtained.

In addition, photosynthesis productivity was improved by light rejuvenation in the case of cyclic rejuvenation of fruit-bearing branches as a substitute and reduction of fruit-bearing branches by leaving crop buds. This leads to an increase in the number and surface area of leaves and an increase in yield. The area of apple orchards in the Golden Delishes variety was 11.8-13.0 m² / tree, in the Ranet Simirenko variety 12.4-14.0 m² / tree, and in the Pervensky Samarkand variety 11.2-12.4 m² / tree. These figures are confirmed by other scientific results obtained in the care of apple orchards.

Thus, it was found that the leaf plate size decreased from 7.0 to 20.0% in the variants using replacement levels, rejuvenation and standardized cutting levels over a 3-4 year cycle. Experiments have shown that the distribution of the leaf surface is almost the same. Rejuvenation of apple trees at the beginning of the full harvest and pruning with 8-16 buds on the branches have been very useful.

In addition, 2-3 fruit buds were left on the 3-year-old branches of the Pervenets Samarkand and Golden delishes varieties on the 3-year cycle, and 2-3 fruit buds of the Renat Smirenko variety on the 4-year cycle. And it is advisable to cut them and satisfy these abandoned crop buds in the direction of the row. In order to improve the growth and development of the branches left for rejuvenation, it is necessary to clean the unnecessary, excess horns in front of the cut branch and increase the percentage of light.

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