



## APRICOT GROWING AND SELECTION OF GRAFTS

Sultonov S.N.

Jurayev E.B.

Termez State University of Engineering and Agrotechnology

<https://doi.org/10.5281/zenodo.14033375>

Preservation of the distribution range and genetic potential of plants on the globe based on scientifically and practically proven laws ensures the stability of the living environment. In particular, the expansion of garden plantations of cultivated plants plays an important role in satisfying the population's demand for fruit and food products. Currently, one of the fruit crops in high demand by the population is apricot.

**Keywords:** variety, seedling, fruit, temperature, humidity, light, area, starting material, grafting tag, grafting dust.

**Research location and methods.** Scientific research was conducted on the experimental site of the Gulistan (Salovat) MFY household landowners' farm and the TerAIRI information and advisory center (Extension-center) of the Termez district, phenological observations and biometric measurements were carried out on 3-4-year-old apricot seedlings (0.1 ha) and scientific research was conducted on the creation of a new apricot variety. The method created by (Kh. Buriev et al.) [1] was used to study and analyze the research.

**Research results.** It is known from research that apricot reproduces vegetatively and generatively. When propagated generatively, that is, through seeds, the main morphological and biological characteristics of the parent forms are not fully repeated. For this reason, seedlings obtained from one tree differ from each other in growth strength, productivity, ripening periods and other important economic characteristics. In the vegetative propagation of apricot, the grafting method plays an important role, in which it was found that the signs and characteristics of the mother trees are preserved.

Seed-bearing rootstocks for apricot were used as rootstocks. In this case, the correct choice of rootstock is important, and it was found that the resistance of trees to adverse soil and climatic conditions - soil salinity, proximity to groundwater, drought, and other factors - depends on the rootstock. The rootstock had a strong effect on the growth force, earliness and productivity of trees, regular fruiting, fruit quality, and the duration of the growing season [2, 3].

It turned out that the selected rootstock is resistant to factors limiting the growth and development of trees in this area. It is important to choose seeds of local forms of the crop species growing in the area where the orchard is being established for apricot, and the main rootstock is seedlings of local forms and varieties. It turned out that their germination capacity is high and the trees develop well.

As the grafted shoots of apricot in the experimental plot grew, small shoots were observed to emerge from around the root neck, which had to be removed. Further care was focused on the growth and branching of the grafted shoots. To do this, during the summer, the second field of the nursery was watered 8-12 times, up to 16 times on gravelly soils, the rows and inter-rows were loosened and fed with nitrogen fertilizers (60 kg/ha). The shoot growing

from the grafted shoot was given a shape. This process began in May and continued until August. When the seedlings were 70-80 cm tall, they were pruned to 10-15 cm from the tip to the formed leaf. The shoot continued to grow from the bud at the very tip of the trunk, and lateral shoots were observed to grow from the side buds. A plant stump was left at a height of 50-70 cm to form the future tree trunk, with evenly spaced branches around the plant body. [5]

**In the first year of the nursery.** The apricot seedlings in the experimental plot are very demanding on soil fertility, so great attention should be paid to preparing the land for the nursery. In this case, the root system of the nursery was formed at a depth of 20-30 cm. Taking this into account, the first field of the nursery was cultivated with organic and mineral fertilizers to a depth of at least 30 cm. On typical gray soils, 25-30 t/ha of rotted manure, 90 kg of phosphorus, and 30 kg/ha of potash fertilizers were applied in appropriate rates, taking into account the salinity levels of the soil. On low-yielding soils, the amount of fertilizers was cultivated by applying 1.5 times more. Irrigation was carried out every 10-12 days according to the plots. In this case, the moisture at the depth of the seedling roots (up to 40 cm) was always sufficient, the rows were loosened 5-6 times at a depth of 10-12 cm, and the rows were loosened 3-4 times. During the vegetation period, the first field of the nursery was fed with nitrogen fertilizers for the first time when the seedlings were 10-12 cm tall, and the second time 35-40 days before grafting.

**Grafting.** The apricot rootstock was grafted in late July - early August, when its diameter was 10-12 mm. 3-5 days before grafting, it was watered to enhance sap flow and improve bark separation, and before grafting, its stems were cleaned of side branches at a height of 15-20 cm. Cuttings were prepared from one-year-old branches, the immature tip and leaves were removed. Only a 1 cm long leaf blade was left. The prepared cuttings were labeled with the variety name and placed in a working solution. When grafting, hands and tools must be clean, and the grafting knife must be sharp. The root neck of the graft was opened, cleaned, cut with a knife in the shape of the letter "T" and the bark was opened. A single bud of 2-2.5 cm in length was cut from the grafted variety and placed inside the bark of the graft and tied with special binding materials. [4,6].

**In the second year of the nursery.** After grafting, the field was irrigated. In order for the shoots to sprout in due time, the grafted shoot was cut with vine shears at a 30° angle above the grafted shoot before the sap flow began. The cutting was done only at an angle. As the grafted shoots grew, small shoots could emerge from around the root collar. They were removed immediately. Further care was focused on the growth and branching of the grafted shoots. To do this, during the second year of the nursery, 8-12 times in gravelly soils were watered 16 times during the summer, the rows and inter-rows were loosened and fed with nitrogen fertilizers (60 kg/ha).

The branch that grew from the grafted bud was shaped. This process began in May and continued until August. When the seedlings were 70-80 cm tall, they were pruned to a 10-15 cm length from the tip to the formed leaf. The growth of the branch continued from the bud at the tip of the trunk. Lateral branches grew from the lateral buds. The branches, evenly spaced around the trunk, were left at a height of 50-70 cm to form the trunk of the tree next year. The results of the study show that the use of resistant apricot varieties adapted to various local conditions in the propagation of apricot seedlings is of great importance for the successful cultivation of apricot seedlings in the future. The biological and morphological

characteristics of various rootstocks were studied in the studies and their adaptation to local climatic and soil conditions was determined. Rootstocks had a strong impact on the growth of trees, rapid fruiting, resistance to soil and climatic conditions, and ensuring crop quality and stability.

### References:

1. Buriev Kh.Ch. Jurayev E.B. "Methodology of calculations and phenological observations in experiments with fruit and berry plants". Methodological manual. -Tashkent. 2014. -54.p.
2. Mirzaev M.M. Apricot cultivation in Uzbekistan. T., 2000. -190p.
3. Kayumov A.K., Buriev Kh.Ch. Selection, variety science and propagation methods of fruit crops. A training manual for a circle of young breeders. Tashkent, 2020. 72 p.
4. Stepanov S.M. Fruit nursery. Kolos Publishing House, M., 1981. -256 p.
5. Tarasenko M.T. - Industrial technology of growing planting material of garden crops based on green cuttings. M., TSXA. 1984. -32 p.
6. Tarasenko M.T. - Reproduction of plants by green cuttings. M., Kolos. 1967. -352 p.

