



MORPHO-BIOLOGICAL CHARACTERISTICS OF PISTACHIO PLANT AND CULTIVATION TECHNOLOGY

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Abstract: This article provides information on the cultivation technology of *Pistaceae vera* and *Pistaceae mutica* pistachios in Tashkent region.

Key words: pistachio nuts, pistachios with blunt leaves, essential oil, niche, provitamins.

In our developing country, a number of activities are being carried out in the field of growing fruits and vegetables and exporting them.

The declaration of 2018 as the year of active entrepreneurship, support of innovative ideas and technologies by the head of our state, President Shavkat Mirziyoyev, opens a wide way for the implementation of promising projects in the field of forestry. In particular, special attention is being paid to the effective use of rocky, infertile land, which has been used as pasture until now, the expansion of green areas by planting pistachio groves, the planting of medicinal plants between the rows until the pistachio tree begins to yield, and the cultivation of valuable raw materials.

The projects implemented in Tashkent region are important in this respect. In the mountain and sub-mountain areas of the region, there are many unused land areas, on which pistachio groves were planted on an average of 350 hectares every year. Now it is planned to establish pistachio plantations on 30,000 hectares of land in the balance of Bobotog State Forestry in Uzun district alone. According to the project, 2.5 thousand hectares of pistachios will be created this year. In 2018-2020, pistachio plantations will be expanded to 8,000 hectares and 2,000 jobs will be created.

The pistachio tree is a member of the *Pistaceae* family, and the pistachio tree typically lives up to 300 years. Pistachios are mainly found in Southern Europe, Western and Eastern Asia, East Africa and Central America. In our republic, mainly pistachios, Hondon pistachios (*Pistaceae vera*) and Blunt-leaved pistachios (*Pistaceae mutica*) grow. Pistachios are usually adapted to grow in dry lands, the seedling grown from the seed naturally comes into harvest in 10-12 years, if its seed is grown in special pots, the seedling comes into harvest earlier. This makes it possible to harvest earlier, that is, it will be harvested in 6-7 years. Pistachios contain substances necessary for human health. Currently, efforts have been made to create early-harvesting varieties of pistachios that can be grown on irrigated lands, as well as finding ways to increase them and using them in technology. It is 2.5-10 meters tall, and its branches are 10-12 meters wide.

Pistachio 2-housed plant can withstand -40 degree frost. It blooms in April-May, first the male and then the female bushes. The flower consists of a panicle, pollinated by the wind. The fruit ripens from the end of August to the beginning of September. After the pistachio fruit

ripens, the skin peels off and the tip opens. Pistachios are naturally harvested in 10-12 years in dryland, and in 8-9 years in irrigated lands. One bush of wild pistachios gives up to 15 kg of fruit, and 35-40 kg can be obtained from an 8-year-old tree. The pistachio tree is drought tolerant [1].

Planting of pistachios in our country began in 1937 in Tashkent region, more than 2000 pistachio groves were established around the Kattakorgon reservoir. The total area of pistachio fields in Uzbekistan is more than 80 thousand hectares. At the Forestry Institute of Uzbekistan, 6 varieties of pistachio were created, more than 30 varieties of pistachio were collected.

Pistachios do not differ from nuts in terms of composition, they contain essential oils. The color of the fruit is green, the core is surrounded by a thin skin. The pulp contains up to 63% fat, 22% protein, 7% carbohydrates. It also contains B group vitamins and A group provitamins. The fruit is eaten dried or fried.

In addition, pistachios contain antioxidants, useful fats, dietary fiber, protein, calcium and phosphorus. Pistachios are a cure for many ailments, including heart health, calming the nerves, improving metabolism, rejuvenating the skin, strengthening the retina, containing iron, and being a cure for camponitis [2].

Handon pistachio seeds are processed to reduce the time of their entry into the crop by selecting a good opening of the seed. First, the seeds are treated with special chemical drugs, then the drugs are placed in a container filled with water and frozen. The seeds are frozen for 3-5 days. After thawing, the seeds are removed from the water and buried in a mixture of wet soil and sand, covered with a wet gauze, and after the moisture of the gauze has escaped, it is covered again with moisture. A small amount of sunlight should fall on the seeds. The seeds remain in the soil for 3-4 days, and after germination, the seed pods are carefully removed from the soil and transplanted into special 30-40 cm long salafan containers with good soil and a small amount of sand and manure. The sprouted seedling is buried on the surface of the soil, the climate should be moderate. A small amount of sun will fall on the seed. Depending on the condition of the soil, a small amount of water is poured into the soil every 2-3 days.

The seeds will turn blue in 5-7 days, it is recommended to pour water until they turn blue, other chemicals should not be given until germination. Every 3 days after sprouting, the area around the seedling is softened with a knife without damaging the root of the seedling. In addition, 1 cap of carbomite is mixed with 1 liter of water and given once every 3-4 days, more than 1 cap of carbomite can cause the wilting of new seedlings. In addition, it is necessary to pay attention every day. With good care, the length of seedlings reaches 30-40 cm in 3 months. Now the seedlings have been planted for more than 2 months and their length has reached 20-25 cm. So the growth of seedlings increased by 0.4 cm per day. 70 seeds were planted for planting and all of them sprouted. Later, 12 of them died due to the excessive use of chemical drugs. The remaining 58 seedlings are now developing well and are growing normally.

Today, the price of pistachios is expensive compared to other fruits, for example, because pistachios are difficult to grow, and it takes many years for them to come into fruit. The market price of pistachios is around 100-150 thousand soums. We learned that pistachios are highly medicinal and contain many useful substances. It should be noted that 100% to 80% of the population can use it, but due to its high cost and low availability, it is difficult for the rest to use it. Taking this into account, we would have found a solution to this problem if

we could provide quick-harvesting varieties of pistachios or old varieties using chemical and biological methods.

It is said that if you eat 5-10 pistachios a day, your memory will be stronger. Pistachio is a cure for many diseases and is widely used in medicine.

References:

1. Holtz B. A. Plant protection for pistachio // HortTechnology. – 2002. – T. 12. – №. 4. – C. 626-632.
2. Onay A., Jeffree C. E., Yeoman M. M. Plant regeneration from encapsulated embryoids and an embryogenic mass of pistachio, *Pistacia vera L* // Plant Cell Reports. – 1996. – T. 15. – C. 723-726.
3. Turan V. Arbuscular mycorrhizal fungi and pistachio husk biochar combination reduces Ni distribution in mungbean plant and improves plant antioxidants and soil enzymes // Physiologia Plantarum. – 2021. – T. 173. – №. 1. – C. 418-429.
4. Etminani F., Harighi B. Isolation and identification of endophytic bacteria with plant growth promoting activity and biocontrol potential from wild pistachio trees // The plant pathology journal. – 2018. – T. 34. – №. 3. – C. 208.
5. Tojiboyev M. U. et al. The place and medicinal properties of certain species of the genus of Achillea in Uzbekistan plant coverage // European Scholar Journal. – 2023. – T. 4. – №. 1.
6. Menglikulovich A. S. et al. RESTORATION OF SEED FERTILITY IN ORDER TO RENEW THE SAMPLES OF VEGETABLE CROPS STORED IN THE GENE POOL // American Journal of Interdisciplinary Research and Development. – 2022. – T. 8. – C. 91-95.
7. Буриев Х. Ч. САБЗАВОТ ЭКИНЛАРИ СЕЛЕКЦИЯСИ, УРУҒЧИЛИГИ ВА КҮПАЙТИРИШ УСУЛЛАРИ ФАНИНИ ЎҚИТИШ УСЛУБИЁТИ // Scienceweb academic papers collection. – 2022.
8. Кадирова Д. Н. и др. ПРЕИМУЩЕСТВА ПРИВИВАНИЕ ПЛОДОВЫХ ДЕРЕВЬЕВ // Экономика и социум. – 2019. – №. 3 (58). – С. 202-204.