

BIOECOLOGICAL PROPERTIES OF SOAP TREE (KOELREUTERIA PANICULATA) AND TECHNOLOGY OF INTENSIVE SEEDLING CULTIVATION

¹Shaymanov Sherzod Kamolovich, ²Juraev Javlon Mirzattillaevich, ³Shaymanov Kamol Kuchkinovich
Master student of Tashkent State Agrarian University, Uzbekistan¹, Associate Professor of Tashkent State Agrarian University, Uzbekistan², Teacher of Tashkent State Agrarian University, Uzbekistan³
Sher19913040@gmail.com¹

ABSTRACT

The article is very topical, in which the intensive measures of technology of seedling cultivation, the eastern flattened ornamental plant soap tree planted from seed in the open ground. Timely provision with irrigation and mineral fertilizers, row and row spacing. At the moment the seedlings of the soap tree are growing well. taxations measurements Measurements were made on the height of the soap tree at the test sites of the experiment. After that, we conducted agro-technical activities in the experimental field.

Key words: soap tree, decorative, seedling, saponin, seeds, stratification, soil, watering, fertilizers.

INTRODUCTION

The role of forests in maintaining the purity of the environment, landscaping and landscaping is invaluable. Among the forest trees, the soap tree is of great importance. Soap tree is grown for the purpose of obtaining raw materials for timber and chemical industries.

Due to the rapid development of science and technology, natural resources are increasingly being used for economic purposes. The world's population is growing year by year and requires the production of large quantities of food, fuel, clothing and other things. This has led to rapid deforestation, desertification, soil degradation, erosion of the upper atmosphere, rising ground temperatures, and more.

Of course, these processes also negatively affect the growth and development of tree species. To reduce the impact of adverse climatic factors in saline areas, it is necessary to establish forests of salt-tolerant tree species.

THE MAIN PART

Soap tree or Sapindus – Sapindaceae (Sapindaceae), a family of evergreen or deciduous leaves, small trees or shrubs that grow in the Asian and American tropics.

Evergreen deciduous trees, small trees or shrubs. The leaves are regular, 15 - 40 cm long. The flowers are small. The fruit, consisting of 1-3 pieces, about 1.5 cm in diameter, consists of one to three seeds.



The laxative of the fruit contains more than 30 different saponins. The name used in official documents is the fruit of the soap tree or the fruit of the sapindus. In addition, the fruits are sometimes referred to as “soap nuts”.



This deciduous ornamental tree was brought from China to Europe in the 18th century to green the city. It is named after the famous German botanist Joseph Gottlieb.

Collected seeds of the soap tree are stored in airtight fabrics or wooden boxes, which retain their germination for up to a year. The seeds are soaked in a strainer before sowing. Fertility is 55-60%, and the average weight of 1000 seeds is 100-125 g. Seeds are dried immediately after harvest in the fall and covered with plastic wrap. When sowing in the spring, the seeds go through a period of stratification of 2.5 - 3 months. To speed up the preparation of seeds, they are moistened with warm water (50-60%) and left in water for a day. After that, the seeds are stored in the sand at a temperature of 18 - 22 °, after 15-20 days they begin to grow. Sowing amount is 82g of seeds - 1 pogona m, up to 3 cm of soil can be placed on the seeds.

Before sowing the seeds are used in the soil with a harrow, cultivator, milling cutter and rake.

Prepared bows should be straight, their length should be 100–150 m, the distance between the bows 60–70 cm, height - 20–25 cm. The saddles are made using a tractor or horse harness. Before sowing the seeds, control watering is carried out in order to eliminate some defects.

In some regions of the country, the methods of sowing seeds on flat prepared soil are also used. Seeds of trees and shrubs can be sown in spring, autumn, summer and winter, but the most common are spring and autumn sowing. When seeds are sown in the spring, they are less exposed to spring frosts, the soils are soft and have enough moisture for them to germinate, and the risk of rodent damage to the seeds is low. Stratified seeds are sown in moist soil.

In general, when determining the timing of sowing seeds, it is important to know that they are ripe for growth. In the practice of growing seedlings, the following seeding times are used. When sowing seeds in spring: Seeds prepared a year ago or in winter are sown. Soap tree is one of them. When sowing autumn seeds: they are used without preparation for pre-sowing, Souvvn tree seeds can also be sown in autumn.

In most cases, the seeds are sown in rows (rows 4-5 cm wide) and seeds are planted in the middle of the branches.

The rate of sowing depends mainly on the quality class of seeds, their mass and sowing scheme. How deep (or surface) they are sown in the soil depends mainly on their size, climatic conditions of the region, physical and mechanical properties of the soil, sowing time and agronomic techniques for growing seedlings.

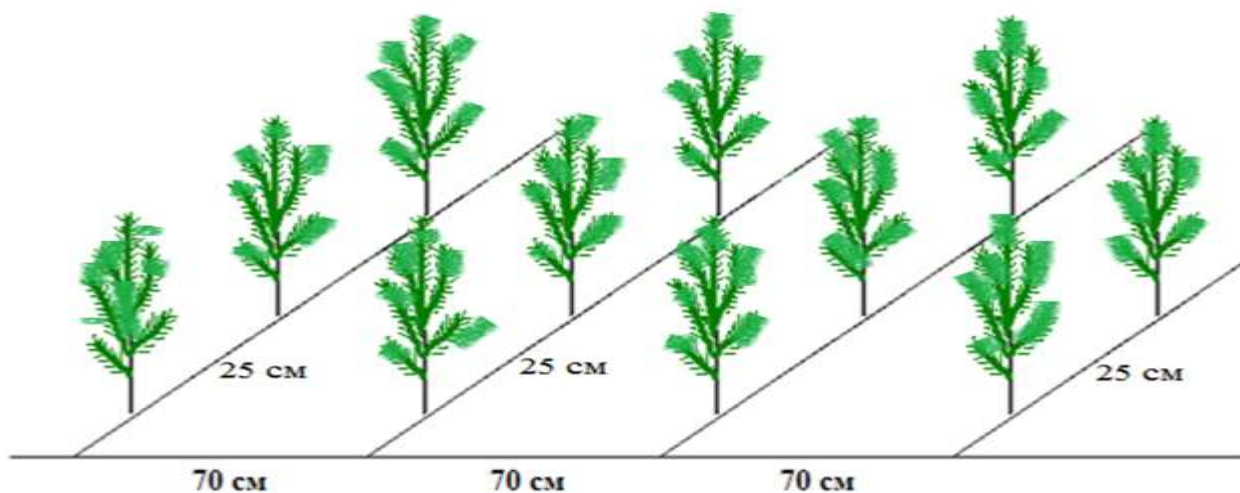
Soap tree seeds are sown 20 and 40 percent more, depending on the farm suitability. In arid nurseries, the seeds are sown a little deeper.

The cleaned seeds are mixed with washed river sand in November and buried in the trench and covered with a 2-3 cm thick cover. At the bottom of the trench is laid 5 cm thick gravel. It is sprayed 2-3 times a week with a water sprayer (30-40 l / m²). In early spring, the shoots are sown in pre-prepared furrows. The first sprouts of seeds appear when the air temperature rises steadily to + 10°C.

The norm of irrigation of seedlings is 350-400 m³ / ha, and it is recommended to irrigate once a week to keep the soil moisture at 25-30 cm at 65-85%.

Sowing the seeds in the seedlings planted in sandy zones gives good results when the daily air temperature is + 5°C. In the southern regions of the country, this period falls in late February and mid-March, in Khorezm and Karakalpakstan in late March and early April.

Soap tree seeds are sown in rows in a scheme 70x25 cm. The width of the furrows is 10-12 cm. Depth of sowing should be 2-3 cm.



The norm for sowing seeds for growing seedlings grown in nurseries is as follows (first class, high variety):

- Soap tree seeds 8 g / m, germination quality not less than 80%, purity 60%;
- Sometimes farms may not have first-class seeds.

In such cases, the seeds of seedlings of 2nd and 3rd class are sown at a rate of 2-3 times more. In sandy soils the process of sowing seeds is peculiar, they are sown in the furrows of the same thickness in the furrows taken at a height of 18-20 cm, and before the first water given during germination, irrigation furrows are obtained between planting rows.

In mountainous areas, irrigation is not required before seed germination. Seedlings should be watered 3 times during the growing season, ie in May, June, July and, if possible, in early August. The row spacing against weeds is cultivated 2-3 times, and the seeded furrows are cleared of weeds and watered.

Various cultivating works are carried out in order to ensure the germination and mass germination of seeds and to create favorable conditions. Methods of growing seedlings mainly include watering, covering with umbrellas, weeding, loosening the soil, fertilizing. After sowing the seeds are taken from the soil inside the

ditches and buried on top of the seeds. After that, the surface of the edges is lightly pressed with wooden wheels or a wooden board (width 30 cm, length 50 cm).



After planting the seeds of some trees and shrubs, cover them with 3-5 cm thick mulch (wood chips, wheat straw, reeds, grass residues, etc.). If the seeds germinate too thick, of course, it should be made uniform and leave to grow 35–40 seedlings per 1 meter of row.

Irrigation of seedlings is one of the main growth measures. A few days before sowing the seeds are watered at the rate of 600-800 cubic m / ha, from sowing to the full germination of the seedlings is irrigated 2-4 times at the rate of 600-800 cubic m / ha. The norm of irrigation of light gray, gray or brown soils with a depth of 30-40 cm below the ground is 400-500 cubic meters per hectare. should be But watering should be carried out every 15–20 days from May to August. After 2–3 days after each watering, the row spacing is loosened to a depth of 10–15 cm using cultivators. During the period of seedling growth, the work of loosening the rows and weeding is repeated 3–4 times. Especially in the storage of seedlings of trees and shrubs with sprouting sprouts delicate (maple, some coniferous), in the conditions of the Republic it is often desirable to cover the sawdust, straw, reeds, leaf litter with a thickness of 3–5 cm. After sowing the seeds of the trees, cover them with shade and take good care of them in the first year of germination.

Seedling preparation consists of the following processes:

1) Digging up seedlings. Seedlings are dug in the spring. It is advisable to start digging seedlings planted in the spring as soon as the snow melts.

2) Excavated seedlings should be quickly sorted and brought to the maintenance department. Selection of seedlings should follow the standard specified in the standard. Excavated young seedlings are not divided for planting, if they do not correspond to varieties I-II.

3) If the seedlings are brought from a long distance (from another nursery), the roots are tied tightly so that they are not touched by the wind and tied separately at a weight suitable for lifting. After that, the tied seedlings are loaded into the truck. Immediately after being brought to the designated place, the pits dug in front of the wind, depending on the size of the nursery, are collected and compacted by pulling moist soil on them.

4) Selection of seedlings should be carried out in the nursery before sending. Bunda:

- In all nurseries, the sorting work may not be completed before sending the seedlings;
- Even if the seedlings are fully selected, but due to the fact that they are well wrapped, placed in the car and kept on the road for a long time, some parts of them may be damaged and unfit for planting.

To ensure good growth and maintenance of seedlings, it is necessary to pay attention to the following:

- Seedlings should be placed in a row, between rows, between trees in a row in a defined system;
- If the soil is granular and moist, the sown seed immediately clings to the roots, and the roots quickly begin to develop;
- At the time of planting, a certain amount of soil should be removed, depending on the size of the rootstock.

Soap tree seedlings are transferred to the care department, from the section where the seeds are grown, and where they are cared for for 3-5 years. The purpose is to create conditions for the seedlings to take good, strong roots and grow freely. The soil is plowed to a depth of 35–40 cm. Seedlings dug from the seed section are transplanted in the spring. Planted seedlings will be placed at a distance of 0.25 m, row spacing 0.7 m or 5.68 thousand seedlings per hectare. Seedlings are planted until the buds develop. Seedlings prepared for planting, of course, must be divided into varieties. Before planting, it is necessary to remove their damaged, broken, rotten root parts. Before planting, the length of the root system of seedlings should not be less than 20 cm.

CONCLUSION

The soap tree can also be greened from cuttings. The cuttings grow quickly and can be transplanted to a nursery or permanent residence in 1–2 years. 2x3 in cultivated forests, 2.5x2.5m without group. It can be grown individually or in groups. It can also be grown in the open soils of Uzbekistan. Soap tree can also be grown in room conditions. It is recommended to wrap the young seedlings in winter and in the freezing cold. Seedlings prepared for planting should be stored in pits. From time to time it is necessary to water the buried seedlings. Seedlings should be planted 2-3 cm deeper than the root collar. The care department is divided into two. In the first section, seedlings are grown for up to 2 years. In the second section can be grown for 3–4 years. In the organization of the second section, the spacing between rows is increased to 1.4 m and the spacing of seedlings to 1 m, or 7,000 seedlings per hectare of land are dug with the soil (60x60x60 cm) of adult seedlings of soap tree.

The number of healthy seedlings will be higher if all agro-technical measures are carried out in a timely and quality manner during the growing season.

REFERENCES

1. President of the Republic of Uzbekistan Sh.M. Mirziyoyev's decree of PF-3262 of September 11, 2017 "On measures to improve the system of highway and landscaping system".
2. Қайимов А.К, Бердиев Э.Т. Ландшафтли қурилиш. Тошкент, 2016.
3. Усмонов А Дендрология Тошкент.Ўқитувчи. 1974.
4. Хоназаров А.А.,Кумзуллаев Г.К. Тупроқ эрозияси ва тоғ-ўрмон мелиорацияси. – Тошкент, Ўқитувчи, 1999.
5. Хоназаров А.А., Кайимов А.К. Лесные ресурсы Узбекистана. – Ташкент 1993 Tosheva Nurzoda Toshtemirovna. Education process directed to the person as the basis of increasing knowing activity of pupils. // The advanced science open access journal. United states, 2013. №6. . Стр. 83-85.
6. Tosheva N. T. Methods and techniques of developing cognitive activities of primary school pupils //ACADEMICIA: An International Multidisciplinary Research Journal. – 2020. – Т. 10. – №. 10. – С. 80-87.
7. Тошева Н. Т. ПЕДАГОГИКО-ПСИХОЛОГИЧЕСКИЕ ПОДХОДЫ К РАЗВИТИЮ ПОЗНАВАТЕЛЬНОЙ ДЕЯТЕЛЬНОСТИ УЧАЩИХСЯ НАЧАЛЬНОЙ ШКОЛЫ //Педагогические науки. – 2011. – №. 6. – С. 44-46.

8. Рустамова Г. ФОРМИРОВАНИЕ КОМПЕТЕНТНОСТЕЙ УЧЕНИКА ЧЕРЕЗ СПЕЦИФИЧЕСКУЮ ИНТЕРПРЕТАЦИЮ ОБРАЗА ТОПОЛЯ В УЗБЕКСКИХ НАРОДНЫХ ПЕСНЯХ," //Інновації в освітньому процесі: методологія, тенденції, технології. – 2020. – Т. 1. – С. 1,131-133.
9. Toshiyeva N. T. Peculiarity of Developing Elementary School Pupils //www. auris-verlag. de. – 2017.
10. Toshtemirovna T. N., Shukurulloevna M. M. REGISTRATION OF AGE AND INDIVIDUAL CHARACTERISTICS IN EDUCATION AS A PEDAGOGICAL PROBLEM. – 2021.
11. Рустамова Г. Б. HISTORICAL-MYTHOLOGICAL BASES OF IMAGES ASSOCIATED WITH TREES IN FOLKLORE.
12. Uraeva D. S. et al. THE EXPRESSION OF THE NATIONAL TRADITIONS AND BELIEFS IN UZBEK PHRASEOLOGICAL UNITS //Theoretical & Applied Science. – 2020. – №. 6. – С. 469-472.
13. Urayeva D., Niyazova M. Historical roots and some artistic features of folklore and blessings in English and Uzbek literature //EPRA International Journal of Multidisciplinary Research. – 2020. – Т. 6. – №. 8. – С. 533.
14. Husenova A. S. TRAINING OF FUTURE TEACHERS OF PRIMARY CLASSES TO GUIDE PROJECT ACTIVITIES OF STUDENTS //World science: problems and innovations. – 2021. – С. 219-221.

