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Melia Azedarach L. And Caesalpinia Gillesii Wall Plant Generative Propagation Methods

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Abstract
Methods of generative reproduction of Melia azedarach L. and Caesalpinia gillesii Wall plants are studied in the article. Also, the morphometry of plant seeds, planting dates, the height of annual branches, the diameter of the root neck, bluishness, the preservation of seedlings, the dynamics of growth of branches, and the compliance of seedlings with the requirements of UzDst level has been studied.

Keywords. Melia azedarach L., Caesalpinia gillesii Wall, generative organ, seed, seedling, stem growth dynamics.

Introduction

At the video director meeting held on October 11, 2022, under the presidency of our president “Yashil makon” tasks were given on the end of the work carried out within the framework of the nationwide project, as well as on future priorities. The meeting was tasked with planting 75 million fruit and ornamental seedlings by the end of the year as part of the project and another 125 million in spring 2023.

To carry out these priorities in a full-fledged way, it is necessary to improve the methods of reproduction of fruit and ornamental seedlings, the technology of care and the increase in the output productivity of standard seedlings.

In particular, 77 types of coniferous and deciduous tree and shrub seedlings are grown and cared for in the nursery of ornamental plants, which are located in Pakhtaabad district under Andijan region “Andijonyulkokalam” UK. The total land area of the nursery is 20 hectares, and the fields are divided into plantations such as a nursery, a nursery and a nursery. The annual seedling

production of the nursery is set at 140-150 thousand. Ornamental trees and shrubs such as Catalpa, totim, safora, Birch, chitalpa, majnun tol, shumtol, pavlonia, false chestnut, oak, Melia, Maple, arghuvan, Acacia, Poplar, gladechia can be seen in the nursery using local methods.

Seedlings grown in the nursery are used mainly for the purpose of greening highways in the territory of the Andijan region.

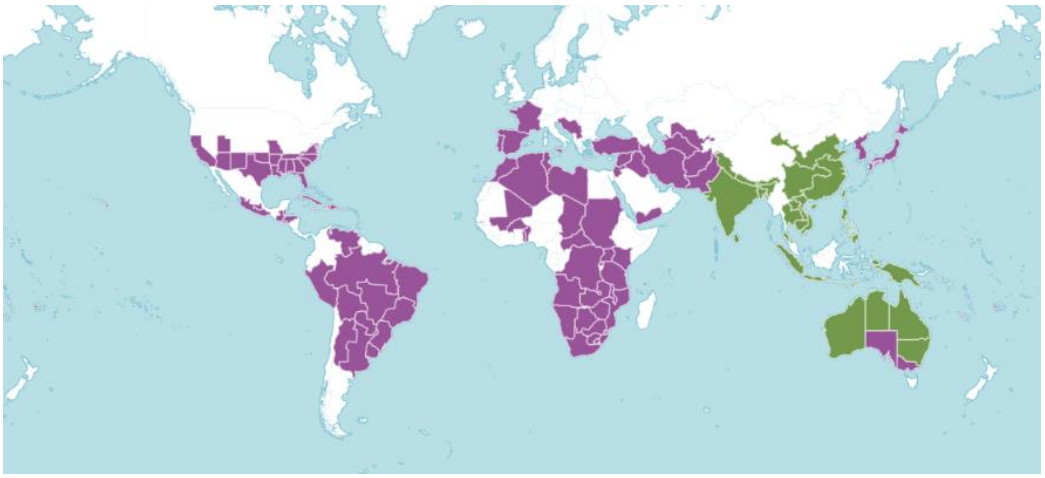
One of the pressing issues is the introduction into practice of effective technologies and methods in the reproduction of ornamental plants, depending on the demand of the time.

Analysis of Thematic Literature

Among the many ornamental trees and shrubs, Melia azedarach L. In the work of landscaping of settlements and highways in the country. and the use of Caesalpinia gillesii Wall plants is also important.

Melia azedarach L. man'sub tree in the family meliaceae. Dendrologist scientists Galaktinov and Osin M.azedarach describes its uniqueness with rapid growth, resistance to soil and climate factors[5].

M.azedarach grows naturally in South and Southeast Asia (Himalayas, China and Japan) at an altitude of 600-900 meters above sea level[7]. In the south-western part of the continent of Australia, Africa, America and Asia, that is, 30-40° of land is distributed along the northern and southern geographical latitudes(Figure 1).



1 picture. *Melia azedarach* L. distribution of areal

Note: natural scattering area in green, ink-color induced areas

P.Korovin said that his “Растительность Средней Азии и Южного Казахстана” in his treatise, meliaya is cited as a fast-growing tree. Melia gives an example of growing 5-6 m in 3-4 years, reaching a body diameter of 10-15 cm[8].

Foreign scientists have brogan in research using the in Vitro method to create a mature plant from callus formed in regeneration of the root parts of Melia. It has been found in experiments that the root's potential to form Calluses is faster compared to other organs[3].

Kulna University scholar Shyama Proshad Mukharjee wrote " Monograph on Melia azedarach Linn.", Which explores ways to reproduce Melia in its mnography. The most optimal temperature for Melia seeds to germinate is 24 °C. It is stated that seeds can be sown from February to may[2].

Botanical scientist B.X. Baysunov conducts research on the morphobiology and phenology of Melia in the southern regions of our Republican [4]. Having determined that Melia can grow in a warm and arid environment, he recommended it for use in landscaping.

Caesalpinia gillesii Wall is a family of legumes (Fabaceae) in the Caesalpiniaceae family (Caesalpinioideae Taub.) is an ornamental shrub of the youngest family. Native to South America (Argentina and Uruguay). In MDX countries, mainly 2 species are found in Caesalpinia gillesii and Caesalpinia japonica [10].

M.A.Sharopova has conducted research on the use of Caesalpinia gillesii Wall in tumor introduction, reproduction, and greening. He scientifically substantiated that cesalpinia can be used in landscaping work for the Kashkadarya region, taking into account its high ornamental peculiarity, resistance to heat and cold, reproduction from seeds[9].

I.S.Gaevskaya conducts experiments on the introduction and reproduction of sazalpinia in Turkmenistan. The scientist in his experiments s. gillesii seeds are processed in acid for 1-2 minutes before sowing and soaked in water for 24 hours, C.japonica seeds, on the other hand, have been insisted that they should be sown from cultivation [6].

Seeds can be sown all year round in a mixture of soil, compost and sand. Before planting, it is recommended to break the outer shell of the seed (by sawing or cutting) and soak in warm water for 6-8 hours so that it germinates quickly. Seeds germinate in light at a temperature of 22-26 °C. Seedlings are transplanted into separate containers in 4 real leaf stages, trying not to damage the delicate root system [1].

Analyzing the soil and climatic conditions of the Fergana Valley, it is considered relevant issues to increase the number of ornamental plants suitable for this environment and withstand the heat and coolness of the environment, as well as to recommend greenery.

Materials and styles

Experiments were carried out during 2021-2022. The experiments were carried out in the nursery of growing ornamental plants, located in the free massif of Pakhtaabad district under Andijan region “Andijonyolkokalam” UK. Melia azedarach L. As the object of research. and Caesalpinia gillesii Wall plants were selected.

The norm for sowing seeds is determined by the formula Q=PN•10/GCH per 1 meter of experimental area. Where Q is the norm of sowing seeds, g/m; P is the seed weight of 1000, g; n is the optimal number of unborn seedlings, PCs / m (C.gillesii – 15, M.azedarach-30); g – seed germination in soil,%; Ch – seed purity, %.

Research results and their discussion

M.azedarach is a tree with a spherical Crown, 12-16 m tall. Young branches are reddish-brown, on trees they have a trunk with a dark gray tint. The Leaf is two to three times more complex panicle, 25-80 cm long, consisting of 3-13 petals. Hairless, shiny. The flower is whitish-purple, 2 cm in diameter, with a strong honey smell. The ball is a complex scarf. The pollinators grew 10 in a wedge shape. The fruit is a yellow, fleshy, granular fruit. Hangs on the tree until spring. Ornamental tree.

C.gillesii is a bushy plant 1.5-3 m tall. Stems and leaves are bright green. The leaves are complex, doubly odd patchy. The petals are yellow and the pollinators are red. The flowers are arranged in

a pyramid-shaped dense cluster. Flowering time lasts from May to October. High ornamental plant. Light-loving and drought-resistant.

C.the fruit of the gillesii is legumes, in which 6-7 seeds settle. The ripening season begins on June 10 and ends on October 5. In the rest of the fruit, the seed does not fully mature.

M.the azedarach fruit lasts a full ripening phase from October 25 to November 20. Granular fruit is required to undergo stratification. The stratification period includes a minimum of 60 days. Seeds are recommended to be planted in open areas from the first decadence of April. C.gillesii seeds are soaked in hot water (80 Co) before sowing and stored throughout the day.

C.in gillesi, 1,000 seeds weigh 136±0.01 g and weigh 1 kg. at 7350 seeds were noted to be present. M.in the azedarach tree, 1,000 seeds weigh 640±0.04 g and weigh 1 kg.the number of seeds in it was found to be 1562 pieces.

During the experiment, the amount of seed (furrows are 1 meter long and 60 cm wide) that can be used to sow and propagate from seed in open field areas is C.2.71 gr for gillesii, M.for azedarach, 25.5 gr. turned out to be (Table 1.).

Table 1 Seed morphometry, sowing dates and the amount of seed spent on 1m furrows.

Plant name	Seed picking time	Sowing time of seeds	Sown seed condition	Seed length, mm	Seed diameter, mm	1000 PCs seed weight, gr	The norm of sowing seeds, m / gr
Caesalpinia gillesii Wall.	10.VI - 5.X. 2021	15.IV.2022	Soaked in hot water	10,09± 0.14	7,02±0,38	136±0,01	2,71
Melia azedarach L.	25. X. 2021	10.IV.2022	Stratified	11,21± 0,08	9,31±0,03	640±0,04	25,5

1 the amount of seed consumed per plot is C.452 gr for gillesii, M.and for the azedarach tree is 4250 gr.

Gross standard litter output from nurseries is C.240-250 thousand pieces in the gillesii Bush, M.the azedarach tree, on the other hand, was found to be 480-500,000 pieces.

Seed germination is typical of ground upper type, with C.gillesii seedpalla leaves are elliptic or ovoid in shape. The height will be 15-19 mm, and the width will be 10-15 mm. The germination hypocotyle first turns light-green, and later Green.

M.the seedpalla leaf of azedarach germination is oblong in shape, divided into 3-4 pieces or in a sheared state. It will be 25-30 mm tall and 8-12 mm wide. The hypocotyle first turns light-green, and later dark-green. The root of the Arrow will be of a starving or serrated tone.

During the experiments, Caesalpinia was studied for the delay in germination of seeds with a hard pod, since Melia seeds are covered with a granular layer, and therefore it was determined that the seeds should have a stratification period.

During the growing season, we also conducted research on the dynamics of the growth of the branch of seed sprouts. The Caesalpinia gillesii Wall plant is 145±0.76 cm high in the growth stage and 1.1±0.02 in Root throat diameter sm.ni organized. Seed germination rates were observed to be 79%, while seedling retention rates were observed to be 96% discarded.

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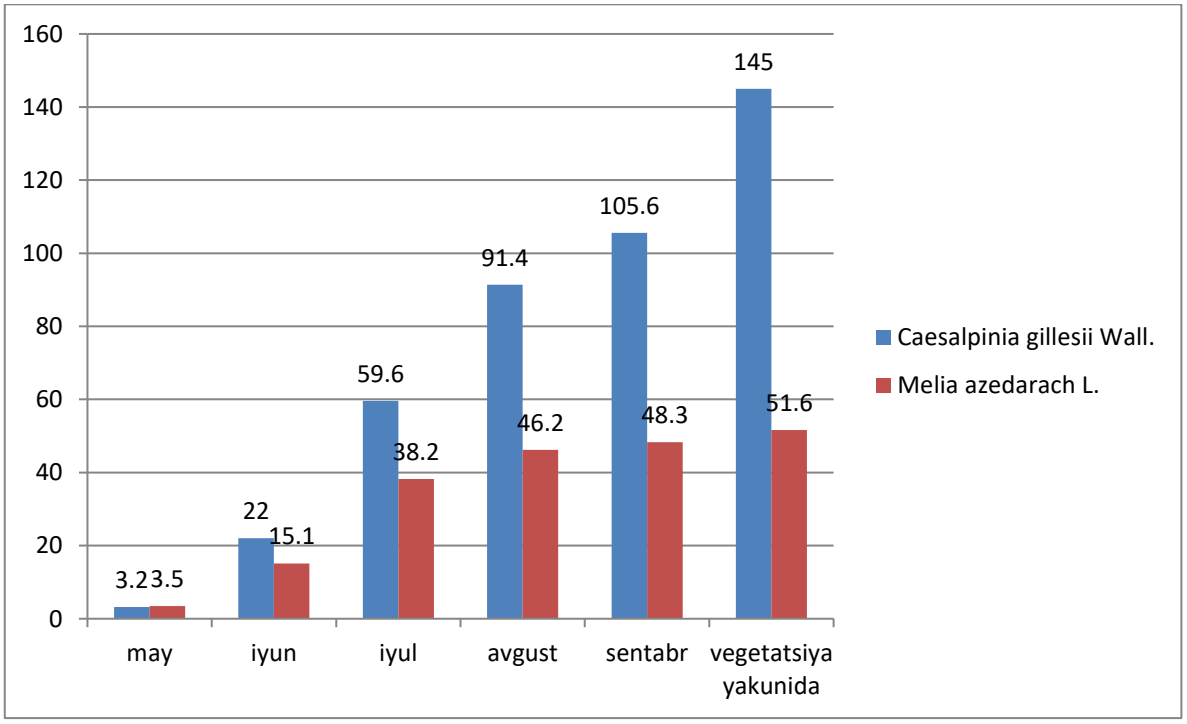
Melia azedarach L. the seed pods of the tree are 51.6±0.5 cm tall at the end of growing season and the root collar diameter is 0.8±0.03 CM. it turned out to be. The seed germination rate was 82%, and at the end of the year it was found that the amount of preserved seed pods was 94% (Table 2, graph 1).

Table 2 The dynamics of the growth of seed pods during the growing season and the preservation of seed pods (2022).

Plant name	The dynamics of the growth of seed pods during the growing season. sm.				The dimensions of the seed pods at the end of the growing season.		Seed germination, %	Seed conservation, %
	may	june	july	August	Height, cm	Diameter, CM.		
Caesalpinia gillesii Wall.	3,2±0,06	22±0,43	59,6±1,38	91,4±1,7	145±0,76	1,1±0,02	79	96
Melia azedarach L.	3,5±0,08	15,1±0,19	38,2±0,44	46,2±0,34	51,6±0,5	0,8±0,03	82	94



1-graph. **Indicators of change in the growth dynamics of seed pods during the growing season(2022.).**

Conclusions

C.gillesii and M.azedarach flowers and leaves are highly ornamental trees and shrubs.

C.gillesii seeds are ivitized in hot water, M.azedarach seeds, on the other hand, are sown after the stratification period has elapsed.

The amount of seed consumed for sowing and breeding from seed is 1 m. C for furrow.gillesiida 2.71 gr, M.azedarachda 25.5 gr.ni organizes.

The growth dynamics of the stem of seed pods during the growing season of the Caesalpinia gillesii Wall plant is 145±0.76 cm in height at the stage of growth, and the diameter of the root throat is 1.1±0.02 sm.ni organized.

For 1-year seed care, seedlings are planted in nurseries in 60*60 schemes. It can be used in landscaping from the 3rd year of age.

References

1. http://happyflora.ru/view_post3.php?latter=593
2. Mukharjee Sh.P. Monograph on Melia azedarach Linn. Khulna. 2004. P. 45-48.
3. Silvia Vila, Ana Gonzalez, Hebe Rey, Luis Mroginski. Plant regeneration, origin, and development of shoot buds from root segments of Melia azedarach L. (meliaceae) seedlings. Journal of the Society for In Vitro biology. Volume 41. Number 6. November-December 2005. P-746-751.
4. Байсунов Б.Х. Об итогах интродукции видов Melia L. в Кашкадарьинском оазисе. Интродукция, сохранение и использование биологического разнообразия мировой флорыматериалы. Международной конференции, посвященной 80-летию центрального ботанического сада национальной академии наук Беларуси. (19–22 июня 2012 г., Минск, Беларусь). С – 26-28.
5. Галактинов И. Осин А.А. Декоративная дендрология. Издательство «Высшая школа» М.; 1967. С-218. 320.
6. И.С.Гаевская. Интродукция древесных и кустарниковых растений из семейства бобовых в туркмению. Автореферат диссертации на соискание ученой степени кандидата биологических наук. Ашхабад—1964. С – 24.
7. Коркешко А.Л. Влияние суровых зим на результаты интродукции деревесных и кустарниковых пород в районе Сочи. // Труды Сочинской научно - исследовательской опытной станции субтропического лесного и лесопаркого хозяйство. –М., 1968, -С. 117-124,
8. Коровин Е.П. Растительность Средней Азии и Южного Казахстана. Изд.-2-е, доп. И перерабо. Кн. 2, Т., Изд-во АН УзССР, 1962. С. 409
9. Шаропова М.А. Интродукция цезальпинии Джиллиса (Caesalpinia gilliesii Wall.) в условиях Кашкадарьинского оазиса. Интродукция, сохранение и использование биологического разнообразия мировой флорыматериалы. Международной конференции,посвященной 80-летию центрального ботанического сада национальной академии наук Беларуси. (19–22 июня 2012 г., Минск, Беларусь). С – 334-336. с497
10. Шипчинский Н. В. Сем. цезальпиния – Caesalpinia L./ Деревья и кустарники СССР т. 4. М: Л. Из-во АН СССР, 1958 г., с. 63–68.