

and it According to this indicator, it ranks third after the Republic of Kazakhstan and the Russian Federation.

In Uzbekistan, the control measures against harmful locust species have been carried out for more than 100 years. For the first time in 1911, the Central Asian entomological station was organized and in 1937 the Amudarya expedition was created to control the Asian migratory locust. Currently, each region has a locust control service under the Quarantine and Plant Protection Agency. They are engaged in determining areas of distribution and

focal harmfulness, predicting their development and combating them. Sometimes, due to mass reproduction and invasion of locusts from neighboring countries, treatment areas can reach up to 600,000 hectares [4,6].

Every year we conduct experiments to determine the biological effectiveness of chemical and microbiological preparations used against harmful locusts. It should be noted that microbiological preparations (Green Guard, NOVACRID, Alpha NUR) showed good biological effectiveness and high selectivity.

REFERENCES:

1. Nurjaniv AA, Medetof MZH, Kholmatov BR, Abdullayev II, Tufliyev NKH, Nurjonov FA. 2023. Orthoptera (Insecta) fauna o f the Kashkadarya region, Uzbekistan. Biodiversitas 24: 112-121. DOI: 10.13057/biodiv/d240115
2. Гаппаров Ф.А. Биоэкологические особенности развития вредных саранчовых в Узбекистане и меры борьбы с ними Ташкент, издательство "Наврўз", 2014. – 336 с.
3. Токтаев Т. Фауна и экология саранчовых Туркменистана. Ашхабад. 1972.
4. Tufliyev N.X., Gapparov F.A., Nurjonov F. A., Axmedjanov Sh.Sh. The Effect of Abnormally Cold Weather on Locust egg Pods in The Kashkadarya region of Uzbekistan. // Scientific Journal "GOLDEN BRAIN". – Vol. 1 No.26 (2023.): ISSN:2181-4120. 09-2023. (IMPACT FACTOR 2023:3.587). – September 25, 2023, 1(26).- pp, 85–90. <https://doi.org/10.5281/zenodo.8379435>.
5. <https://www.bbc.com/russian/resources/1d-aff242d1-53e5-4ee9-8018-79c1af021693>
6. <https://www.fao.org/publications/card/ru/c/CB9821RU/>

SEED PROPAGATION CEPHALOTAXUS DRUPACEA SIEB. ET ZUCC. IN THE BOTANICAL GARDEN OF TASHKENT

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Abstract. *C. drupacea* plant is adapted to grow in the shadow and penumbral conditions, usually on the second tier. The experiments carried out on the germination of seedlings from seeds gave the following results: in the first year marked 22 % germination of seeds in the second year noted 19 % of seedlings in the third year marked 14 % germination. In the fourth year, too, are beginning to rise but still continue to grow.

Key words: morphogenesis, introduction, morphology, cotyledons.

Introduction. The family is represented by a single genus *golovchatotissom* (*Cephalotaxaceae* F. Neger), consisting of only 6 species. *Golovchatotissovye* phylogenetically closely related to the family *podkarpoviyh*, especially with primitive members of the genus *Podocarpus*. According to some, its distinctive features, this family is a kind of intermediary between primitive *Podocarpaceae* and yew. *Cephalotaxaceae* evergreen, dioecious, rarely monoecious trees relatively low altitude (up to 10-15) or bushes [1]. Male cones almost spherical shape. Arranged in groups in the axils of the upper leaves of last year's shoots. Female cones are located in the axils of scale-like leaves at the base of last year's shoots, sitting on the extended leg and thickened capitate at apex. Cone consists of 3-4pairs of opposite scales, thickened at the base. In nature, common in eastern India, Central and South China, Taiwanese Islands, Korea and Japan. Growing 400-2600 m above sea level. The leaves are dark green. The fruits of decorative, resistant to diseases. *Cephalotaxus drupacea* grows well in shady and penumbral areas under the trees forming a second tier [2]. The various taxa of *Cephalotaxus* are of interest and value not only as endangered sources of useful materials, but as exquisitely beautiful evergreens for a variety of modern landscapes, combining graceful habits and foliage with the tough stress resistance and ease of maintenance required by modern gardeners and landscape contractors. *Cephalotaxus* are slowgrowing conifers with dark olive to black-green foliage.

They are not only tolerant of shade butwith only one exception-perform well even in heavy shade, an unusual trait

for a needled evergreen. Indeed, most *Cephalotaxus* produce the best foliage when given at least some shade, although some maintain excellent foliage color in either full sun or shade. Plum yews are extraordinarily heat tolerant in humid climates, another unusual trait for a needled evergreen. For this reason, they have been called "the yew of the south," although they can serve as excellent landscape plants in an area extending far beyond the Southeast. Once established, they are tolerant of extended dry periods such as those experienced during most of our eastern summers. However, they are not good choices for hot, dry climates like those in much of the southwestern United States. *Cephalotaxus* are relatively deer resistant (I have come to believe that no evergreen is totally deerproof). Deer feeding on plum yews have been reported in areas with very heavy deer populations (for example, central New Jersey and Pennsylvania). Even in these cases, however, with only one exception, deer turned to *Cephalotaxus* foliage only as a last resort. Currently, the Botanical Garden *C. drupacea* Sieb. et Zucc. It passes all stages of ontogeny, forming viable seeds. mass cultivation *C. drupacea* technology has not been developed. Mass cultivation of plants for the purpose of planting in the botanical garden as well as in other regions of the country is an urgent task. For wide-scale introduction of landscaping practices *C. drupacea* necessary to examine the sowing dates, especially root formation and development of agricultural practices of cultivation [6].

C. drupacea is an evergreen shrub. He's been introduced in 1955 in Tashkent Botanical Garden of the Institute of the gene

Table:Indicators of germination

№	Options	Weight of 100 seeds (gr)	Terms of seed germination									Seed germination (%)
			May			June			July			
1	Large seeds	50,4	-	1	7	9	2	1	1	-	1	22
2	Average seeds	44,1	-	1	4	7	3	1	1	-	1	18
3	Small seeds	41,6	-	-	3	4	2	1	1	1	-	12

pool of flora and fauna. Stem and branch type *C. drupacea* studied based seed production. There are several methods for the study of plant life forms, one of which F. Halle method which is designed for tropical trees. The study of long-lived plant morphogenesis is important. The architectural model that is part of their low-light. The concept of an architectural model of the concept is narrow in comparison with the life form, which covers only the process of growth [3].

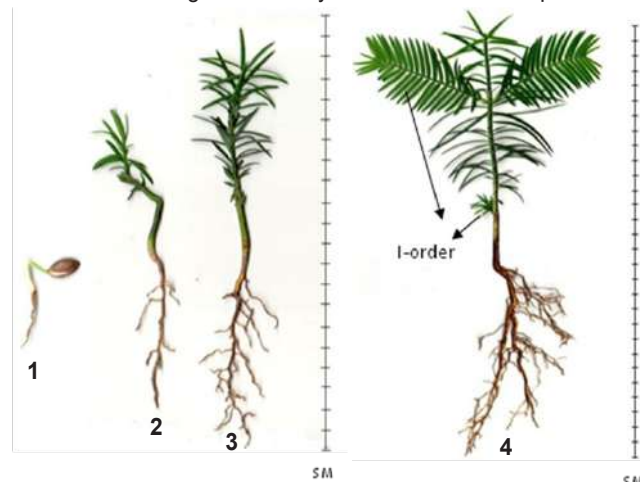
Material and Methods. Introduced in Tashkent Botanical Garden *Cephalotaxus drupacea* Sieb.et Zucc. It belongs to the family *Cephalotaxaceae* F. Neger. Located Tashkent Botanical Garden on the northern outskirts of Tashkent, on the tail of the Western Tien-Shan (right bank of the river. Chirchik), 1,5 km from the weather station BozSu. Altitude 480 m. The garden is almost flat, with a slight slope to the southeast. Soils cultural-irrigated, non-saline, in texture, loamy and clay, the water table is at a depth of 5-6 m. Tashkent Climate sharply continental, with long, hot, dry summers and short, mild, sometimes severe (1968 / 69g.) In winter. Spring (February, March, April) rainy and warm. Autumn brief, warm, dry, sometimes rainy. Winter is short (2-3 months), soft, sometimes quite severe, with unstable snow cover. Snow begins to fall from the end of November. The most abundant snowfalls are observed in January. Snow for long, rarely more than a few days. The average annual air temperature 13,3°S, 42,6°S maximum, minimum. -29,9°S. The average annual rainfall 359 mm. They fall unevenly -132mm winter, spring -141, -17 in the summer, in the autumn of -69. In severe winters, the soil freezes to a depth of 10-12cm, but in some years -even up to 25-30sm.According to climatic conditions Tashkent differs significantly from East Asia and is somewhat similar to eastern North America. The key distinction from the climate point of introduction of natural habitats is a discrepancy between the time of maximum precipitation.

The germination of seeds was studied by the method of T. Rabotnova (1960), M.G. Nikolaeva (1985), A.A. Molchanova and V.V. Smirnova (1967).

Results and Discussion. For the study, after stratification germination seed in the seeded to field conditions in 2015 October 3 versions of 100 pcs. (large, medium, small), (table). In 2016, during the second decade of May came the first shoots of the seeds sown in the month of October. New seedlings thickened, fleshy, pale yellow. In *C. drupacea* cotyledons including 2, length 15 mm, width of 2 mm. Cotyledon leaves upward, upper part dark green. The length of the primary real, leaves 6 mm, width of 2.5 mm, dark green, shiny, located in the shoots on the next. On shoots 1st year vegetative buds are located at the top and

4.2 on the sides of the main stem length of 7-8 sm, it terminates growth in October. Cotyledon leaves dry October and crumble in November.

In March, the 2-nd year of vegetation to grow shoots the order I-2 sometimes 3 main stem dries up in July, in August the side. The length of the 2-year-old main stem up to 12-13



Dynamics of growth of seed *C. drupacea* 1-young seedling, 2,3-flight one seedling, 4 two-year seedling.

sm. The length of the shoots I-about 10,4 sm, 3-year 1,6 sm. On I-shoots are about to 2-4 buds. In 3-year old seedling since mid april will sprout from the root neck of shoots up to 8 I-order before the end of the year current their length reach up to 2-4 sm. The needles are located mainly on the stem poochredno and shoots in I-order oppositely. Shoots formed in order II- 4-5 year-old seedlings. In the context of the Tashkent botanical garden *C. drupacea* seedlings grow slowly the first to the third year of vegetation. Shoots III formed in order of 7-8 year seedlings, length of the main stem reaches 90-100 sm of shoots I order the length can reach up to 25-35 sm, II of the order up to 12-15 sm shoots III order length is 5-7 sm. The leaves are arranged closer to the shoots I- II order from 5-6 seedlings fall flight. *C. drupacea* enters the generative phase with 10-12 years of vegetation, fruits are formed mainly in shoots II order. Adult fruit plants produced mainly in shoots IV-V order. Bloom in April, fruiting in September. Green fruit when ripe becomes the Reds. Fruits are large pits and covered with wood cladding. Fleshy peduncle. Branching in the kidney and *C. drupacea* opposite, coating monetopodobnoy shell.

Conclusion. Shoots *C. drupacea* appeared in may and July of the seeds sown in the autumn. Seed germination was 22%.

REFERENCES:

- 1 Takhtadzhyan A.L. Higher plants from Psilophytales to conifers, Moscow-Leningrad, 1956. C 257.
- 2 Rusanov F.N. Trees and shrubs Botanical Garden Tashkent: AN Uz SSR. ed AN Uz SSR, 1955, C. 100.
- 3 Halle A. The concept of architectural models in vascular plants // Materiaks of XII international conference / Leningrad, 1975. -P. 216.
- 4 Rabotnov T.A. Methods of study of seed breeding herbaceous plants in the communities. // Field geobotany. The 5 x T-M-L: ANSSSR. 1960. Vol.2 -C. 20-39.
- 5 Nikoloeva A. Guide to germination of dormant seeds. -A Science, 1985 -C. 177-178.

QORAQALPOG‘ISTON TUPROQ-IQLIM SHAROITIGA MOS BEHI NAVLARINI TANLASH

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Annotatsiya. Maqolada Qoraqalpog‘iston tuproq-iqlim sharoitida o‘rganilgan 6 yoshli behi navlaridan maydon birligidan eng yuqori hosil olishda rayonlashtirilgan standart Samarkandskaya krupnoplodnaya (st) naviga (170,3 s/ga) nisbatan 37,8-37,1 s/ga eng yuqori hosildorlikni Xorazm noksimon behisi (208,1 s/ga), Savxoznaya (207,6 s/ga) va Non behi (207,4 s/ga), shuningdek, 16,9-13,2 % ga ko‘p Aromatnaya (199,1 s/ga), Otlichnitsa (195,2 s/ga) va Yablokovidnaya (192,8 s/ga) navlarida aniqlanligi bayon qilingan.

Kalit so‘zlar. Qoraqalpog‘iston, behi, standart, nav, yetishtirish, chidamli, hosildorlik, vazn.

Аннотация. В статье из 6-летних сортов айвы, изученных в почвенно-климатических условиях Каракалпакстана, наибольшую урожайность на единицу площади получила айва Хорезмская грушевидная (208,1 ц/га), Савхозная (207,6 ц/га) по сравнению со стандартным районированным сортом Самаркандская крупноплодная (ст) (170,3 ц/га) и Нон описано также выявление у сортов айва (207,4 ц/га), на 16,9-13,2% больше, чем у сортов ароматная (199,1 ц/га), отличница (195,2 ц/га) и яблочковидная (192,8 ц/га).

Ключевые слова. Каракалпакстан, айва, стандарт, сорт, выращивание, устойчивость, урожайность, масса.

Abstract. In the article, among the 6-year-old quince varieties studied in the soil and climate conditions of Karakalpakstan, the highest yield per unit area is 37.8-37.1 s/ha compared to the regionalized standard Samarkandskaya krupnoplodnaya (st) variety (170.3 s/ha), the productivity of Khorezm pear quince (208.1 s/ha), Savkhozная (207.6 s/ha) and Non quince (207.4 s/ha), as well as 16.9-13.2% more Aromatnaya (199.1 s/ha), Otlichnitsa (195.2 s/ha) and Yablokovidnaya (192.8 s/ha)

Key words: Karakalpakstan, quince, standard, variety, cultivation, resistant, productivity, weight.

Kirish. Behi (Cydonia oblonga Mill) – butun dunyo bo‘ylab keng tarqalgan urug‘ mevali ekinlardan hisoblanadi. FAO ma‘lumotlariga ko‘ra, dunyoda 1050 ming tonna behi ishlab chiqarishda birinchi o‘nlikda (hissasi va tonna) Turkiya (27,53 % va 190,01 ming t.), Xitoy (15,97 % va 111,38 ming t.), O‘zbekiston (13,98 % va 97,54 ming t.), Eron (12,98 % va 90,56 ming t.), Marokko (7,83 % va 54,64 ming t.), Azarbayjon (4,13 % va 42,07 ming t.), Argentina (4,13 % va 28,81 ming t) va Serbiya (1,49 % va 10,43 ming t.) davlatlari hisoblanadi.

Dunyoda behi navlari assortimentini kengaytirishda shuningdek, oziq-ovqat hamda qayta ishlash korxonalarini xom ashyo bilan ta‘minlashda Turkiya, Xitoy, Eron va Argentinada sanoatbop past bo‘yli, Serbiya, Marokko va Eronda yirik mevali, Rossiya, Gruziya, Azarbayjonda sovuqqa chidamli va serhosil navlarini yaratish bo‘yicha tadqiqotlar olib borilmoqda [1; 2; 3; 4].

Mazkur tadqiqotlar tahlillarga ko‘ra, O‘zbekistonda oxirgi 30 yilda behi navlarini tanlash bo‘yicha ilmiy-tadqiqot ishlari yetarlicha amalga oshirilmagan. Shu munosabat bilan O‘zbekistonning shimoliy hududlariga mos behi tanlash doirasida ilmiy tadqiqotlar o‘tkazish dolzarb hisoblandi.

Tadqiqot uslublari. Dala tajribalari “Programma i metodika sortoizucheniya plodovix, yagodnix i orexoplodnix kultur” (Orel 1999), “Mevali va rezavor mevali o‘simliklar bilan tajribalar o‘tkazishda xisoblar va fenologik kuzatuvlar metodikasi” (Buriyev X.CH., va boshqa., 2014), kabi uslubiy qo‘llanmalar asosida olib borildi, tadqiqot natijalarining statistik tahlili «Excel 2010» va «Statistica 7.0 for Windows» kompyuter dasturida, 0,95% ishonchlilik oralig‘i bilan «Metodika polevogo opita» (Dospexov B.A., 1985) dispersion usuli bo‘yicha hisoblandi.

Tadqiqotlarda obyekt sifatida O‘zbekistonda rayonlashtirilgan “Samarkandskaya krupnoplodnaya” (st), “Aromatnaya”,

“Izobelnya”, “Mushk bexi”, “Savxoznaya”, “Krimskaya aromatnaya”, “Otlichnitsa”, introduksiya qilingan “Anjerskaya”, “Grushavidnaya”, “Zakatolskaya”, “Konservnaya”, “Micha urojaynaya”, “Nagibrin”, “Tursh Buxarskaya”, “Yablokovidnaya” hamda xalq seleksiyaga mansub “Xorazm noksimon behisi”, “Non behi”, “Nordon” navlarining daraxtlari, mevasi va hosildorligi xizmat qildi.

Tadqiqot natijalari. O‘zbekistonda rayonlashtirilgan hamda xorijiy seleksiyasiga mansub behi navlari o‘rganilganda standart Samarkandskaya krupnoplodnaya (st) navining bir dona meva vazni – 264 g bo‘lib, unga nisbatan 320,0 g ga yirik meva vazni Non behi navida (584 g) shakllanganligi aniqlandi.

Shu bilan bir qatorda, standart Samarkandskaya krupnoplodnaya (st) naviga nisbatan 21,0-13,0 g og‘ir meva vazni Xorazm noksimon behisi (285 g), Micha urojaynaya (279 g) va Konservnaya (277 g) navlari namoyon qildi. Aksincha, standart Samarkandskaya krupnoplodnaya (st) naviga nisbatan 76,0-122,0 g kichik meva vazni Savxoznaya (188 g), Aromatnaya (172 g) va Anjerskaya (142 g) navlarida shakllanganligi aniqlandi (1-jadval).

Qoraqalpog‘iston tuproq-iqlim sharoitida o‘rganilgan 6 yoshli behi navlarining bir tup daraxtidan olingan hosil aniqlanganda o‘rta 2020-2022 yillar bo‘yicha standart Samarkandskaya krupnoplodnaya (st) navining bir tup daraxtidan – 41,0 kg hosil olingan bo‘lsa, unga nisbatan 8,9-8,8 kg yuqori hosilni Xorazm noksimon behisi (49,9 kg), Non behi (49,8 kg) va Savxoznaya (49,8 kg) navlarida aniqlandi. Shuningdek, bir tup daraxtdan 7,1; 5,8 va 5,2 kg ko‘p hosilni standart Samarkandskaya krupnoplodnaya (st) naviga nisbatan Aromatnaya (48,1 kg), Otlichnitsa (46,8 kg) va Yablokovidnaya (46,2 kg) navlari namoyon qildi. Aksincha, behining standart Samarkandskaya krupnoplodnaya (st) naviga nisbatan 11,5-17,3 % kam bir tup daraxtdan hosilni Krimskaya