

kimyoviy tarkibiga, kristall tuzilishi va miqdoriga bog'liq.

Zish magmatik tog' jinslari va maydalangan (g'ovak) jinslar mineralogik tarkibi bir - biridan farq qiladi. Masalan, magmatik jinslar tarkibida ko'p tarqalgan birlamshi minerallar - dala shpatlari - 59,5 %, kvars - 12,0 %, amfibollar (shoh aldamchisi) va piroksenlar - 16,8 %, slyudalar - 3,8 %, boshqa minerallar - 7,9 % ni tashkil etadi. Magmatik jinslarning nurashi, g'ovak jinslarga aylanishi va boshqa joylarga ko'shirilib yotqizilishi natijasida ularning tarkibi bir munsha o'zgaradi. Shuning ushuni g'ovak jinslar tarkibida kvars - 40-60 %, dala shpatlari - 20 %, natriyli - kalsiyli dala shpatlari yoki plagioklazlar kamroq uchraydi, amfibollar, piroksenlar va ko'pgina boshqa slyudalar esa, juda oson nurashi sababli g'ovak jinslar va tuproqlardajuda kam miqdorda uchraydi.

Tuproq paydo qiluvshi jinslar va tuproq tarkibida juda ko'p xildagi minerallar uchraydi. Ularning umumiy soni yuzlab sanaladi. Har bir mineral ma'lum kimyoviy tarkibga va uning ushuni xarakterli bo'lgan ishki tuzilishga ega, ya'ni kristal panjaralaridagi atomlari ma'lum tartibda joylashgan. Kelib chiqishiga ko'ra bu minerallar: birlamshi va ikkilamshi gruppalariga bo'linadi. Ba'zan mvayyan bir mineral birlamshi va ikkilamshi shaklda uchraydi.

Umuman olganda tuproqlarnig paydo bo'lishida tuproq minerallarining ahamiyati kattadir. Bu esa tuproq unumdorligini shakllanishida alohida ahamiyat kasb etadi. Shu nuqtai nazardan biz o'rgangan xududda lyoss va lyossmion yotqiziqlar mavjud bo'lib, hudud tuproqlarining ona jinsi hisoblanadi. Shuningdek, bu yerda elyuvial, delyuvial va prolyuvial yotqiziqlar ham mavjuddir.

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## LOCUSTS - TRANSBOUNDARY PESTS, LOCUST CONTROL IN UZBEKISTAN

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**Аннотация.** В статье представлены материалы о стадных саранчовых в Узбекистане. Вредоносные свойства и вспышки массовых видов.

**Ключевые слова:** Азиатская саранча, Мароккская саранча, Итальянский прус, Пустынная саранча, Трансграничные вредители, Узбекистан, борьба с саранчой, фазовая изменчивость, стая.

**Abstract.** The article presents materials on gregarious locusts in Uzbekistan. Malicious properties and outbreaks of widespread species.

**Keywords:** Asian locust, Moroccan locust, Italian locust, Desert locust, Transboundary pests, Uzbekistan, locust control, phase variability, swarm.

**Discussion.** Locusts are common in all corners of the globe. Among them there are exotic species, rare species, endangered and Red Book species. Most of them are polyphagous and eat all the green mass. However, some species are considered transboundary crop pests. The reason for this is considered to be the formation of swarms in locusts. It should be noted that not all locust species have such properties; according to these properties, locusts are divided into gregarious and non-gregarious species. The gregarious locusts differ from the non-gregarious species by their mobility and greed. They can move up to 100 km per day and can devastate everything in their path. If the locusts do not find sufficient food, they can even feed on each other, i.e. they have the properties of commensalism. Borders between countries cannot prevent the spread of locust swarms. Therefore, gregarious locust species have been added to the list

of transboundary pests. For example, as a result of the spread of desert locusts in 2018-2020, great economic damage was caused to agriculture in 20 countries of the African continent and South-West Asia (15 million hectares) [1,2,3,5].

In the CIS (Commonwealth of Independent States) countries, 3 types of gregarious locusts are widespread - the Moroccan locust (*Dociostaurus maroccanus* (Thunberg, 1815), the Asian locust (*Locusta migratoria* Linnaeus, 1758) and the Italian locust (*Calliptamus italicus* Linnaeus, 1758) and they cause great damage to agriculture. According to FAO, in the countries of the Caucasus and Central Asia, the fight against harmful locusts is carried out annually by spraying insecticides. It is worth noting that the volume of treatment against harmful locusts is carried out on average 3800 thousand hectares. In Uzbekistan, an average of 446,600 hectares are treated against harmful locusts per year

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.

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## 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