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Brief Description and Significance of The Medicinal Plant Amorpha Fruticosa L

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Abstract. The article gives a brief description of Amorpha Fruticosa L, one of the medicinal plants, and its importance in pharmaceutical use. Amorpha Fruticosa is an introduced species in Uzbekistan, this plant is grown and researched in all regions of our republic as a decorative and medicinal plant.
Key words: Amorpha Fruticosa L, medicine, propagation, disease, morphological indicators

The territory of our country is very large and includes regions with different climates. Uzbekistan is a country with a contrasting landscape. In the west lies the barren Ustyurt Plateau, while the vast Turan lowland consists of Karakum deserts in the south and Kyzylkum deserts in the center. The territory of our republic is bordered by the Tien-Shan mountain system in the east and north.

The diversity of the natural landscape and the presence of vertical zones in the mountains have led to the formation of a wide range of ecosystems. The area covered by forest is 10.1%. Currently, 8 specialized farms engaged in the cultivation of medicinal plants have been established in our country. In addition, the cultivation of medicinal plants and the primary processing of raw materials have been established in many forestry systems, farms and other types of ownership [1].

However, despite the sharp increase in the demand for medicinal plant raw materials in our country, the technologies for growing medicinal plants that provide many valuable raw materials have not been fully developed. It should be emphasized here that no field can develop independently without relying on the achievements of other disciplines.

In turn, the cultivation of medicinal plants is based on the achievements of plant science, botany, dendrology, pharmacognosy, agrochemistry, soil science, plant physiology, plant biochemistry, plant biotechnology, chemistry, physics and other sciences. he can achieve his goals only by relying on [1].

The effect of medicinal plants on the body depends on the amount of compounds in their composition. These compounds accumulate in different amounts in different parts of the plant. The necessary parts of the plant for the preparation of medicine are collected at different times. For example, the bark, buds are taken in early spring, leaves are taken before or after flowering, flowers are in full bloom, fruits and seeds are ripe, underground organs (roots, rhizomes and bulbs) are taken in early spring or late autumn.

The active substance of medicinal plants can be alkaloids, various glycosides, anthroglycosides, cardiac glycosides, saponins, flavonoids, coumarins, astringents, essential oils, vitamins, resins and other compounds. Decorative Amorpha is included among these medicinal plants[1].

Bushy amorpha (Amorpha kustarnikovaya) - Amorpha fruticosa L. The Amorpha plant belongs to the Fabaceae family and was introduced to Uzbekistan (Fig. 1). Currently, it is grown in all regions of Uzbekistan, even in the climatic conditions of the Republic of Karakalpakstan. A branchy bush up to 2-3 m in height. The leaves (20-25 leaflets) are complex and arranged in a row on the stems and branches with the help of a band. Leaf pieces - the leaves are thin elliptic or elongated elliptic. Small, fragrant, purple-purple flowers form a cluster of flowers. The fruit is an elongated pod with one or two kernels, it blooms in June. They are an ornamental shrub of Central Asia and Russia, with elongated pods, blooming in June. They are grown as an ornamental shrub for landscaping purposes in the southern regions of Central Asia and Russia.

Amorpha leaves and seeds are used in folk medicine. The seed contains amorphine and amorphous glycosides, which are rotenoids, 13% oil and other biologically active substances. Glycosides, essential oil, dyes and other substances are present in the leaves as well as in the young branches. In Uzbekistan, the drug Fruticin was obtained from amorphous and used in medical practice. This medicinal product of Amorphan - fruticin is recommended for use in cardiovascular diseases (cardiovascular neurosis, paroxysmal tachycardia) as a sedative and cardiotonic agent [1].

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1-rasm. Butasimon amorfa (Аморфа кустарниковая)- *Amorphci fruticosa L.*

Amorpha fruticosa L. is an ornamental, medicinal and afforestation plant introduced in many countries of the world, its homeland is North America [2, 3, 4]. It is a plant with high ornamental value, which is mainly used in urban greening and protection of roadside slopes. In addition, A. fruticosa has medicinal properties, its seeds contain cytotoxic rotenoid glycosides, antibacterial and cytotoxic phenolic metabolite properties. A. fruticosa leaves are a traditional Chinese medicine used to treat fever, burns, suppurative carbuncle, and eczema. A. fruticosa is tolerant of drought conditions, but it is more common along stream banks and roadsides and at the edges of flooded forests, and is tolerant of even occasional flooding [5]. The high tolerance to different habitat conditions and strong reproductive capacity make A. fruticosa the basis for aggressive invasive behavior outside its native range [5].

Currently, the ecologophytocenotic condition of each species that makes up the invasive flora of Uzbekistan is studied, and they are evaluated according to the level of invasiveness [2]. At the same time, bioecological features of introduced plants are being studied [2,3].

Fruticin glucoside, which is part of Glirofam drug, is extracted from the fruit of A. fruticosa and is used in medicine as a cardiotonic, antisclerotic drug. In order to meet the demand for this drug, the methods of breeding A. fruticosa under introduction conditions were studied in order to have sufficient amount of amorphous raw material and to satisfy the demand for it. Amorpha L. species have been cultivated in the USA since 1724. 9 types of it have been introduced in the CIS countries. Representatives of the Amorpha L. series, according to their biological characteristics, have adapted to grow in different ecological conditions of the earth: in hot deserts, forests, and even in mountains at an altitude of 800-1500 m above sea level. Currently, Amorpha L. species are grown as ornamental plants in gardens and alleys of cities such as European countries, Kyiv, Minsk, Voronezh, Saint Petersburg, Almaty, Ashgabat, Nukus, Tashkent, from North America. Among representatives of Amorpha L., the most common type is A. fruticosa, which was introduced in mountain stations of Primorye, Ural, Balkhash botanical gardens, grew and produced flowering fruits during its vegetation, despite the frost damage to the surface of the earth in cold climates [4]. Therefore, A. fruticosa is considered the main resource in expanding forestry and enriching their collection with tree and shrub plants. Amorphine glycoside isolated from its seeds and fruits is used in the treatment of gastrointestinal diseases, preventing bleeding, and improving heart function, as well as stimulating the central nervous system and activating metabolism in the body [5]. Amorpha L. species are highly nectar-producing essential oil plants, and the aromatic essential oils extracted from the flowers are used in the perfumery industry, while the amorphine oil extracted from the fruit and seeds is stronger. used in the production of soap and glycerin products [4].

In addition, medical essential oils extracted from Amorpha L. species are used as an antiseptic agent to neutralize inflamed skin and fight against harmful insects [5]. Due to the medicinal properties embodied in many species of the Amorpha L. series, literature on medicinal plants, atlases. are listed as key plants in handbooks and pharmacognosy references [26-28]. Taking into account the use of Amorpha L. species in

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medicine and in various sectors of the national economy, 8 species of the genus were introduced to the botanical garden of the Federal Republic of Uzbekistan in 1949 [5]. But there is not enough information about their morphogenesis, reproduction and cultivation.

References

1. E.T.Berdiyev va boshq.O'rmon dorivor o'simliklari//O'quv qo'llanma-Toshkent 2016
2. Gorshkova, S.G. (1945). Rod Amorpha L. Flora SSSR. T. 11.-M.-L.:ANSSSR. S.302.
3. Kravchenko, A.K. Vidi Amorpha L. botanicheskogo sada i ix biologicheskie osobennosi. Itroduksiya i akklimatizatsiya rasteniy, 1: 213-223.
4. Xalmatov, X.X. i dr. (1998). Lekarstvennie rasteniya Sentralnoy Azii. -Tashkent: Ibn Sino. – S. 33. 23.
5. Vikov, V.P. (1939). Amorfa i yego razvedenie. Lesnoe xoz-vo, 3: 20-23. 24. Gluxov, M.M. (1955). A. fruticosa L. Medonosnie rasteniya. – M.:. Gos. Izd-vo. Selskoxoz. literaturi. S. 342.