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MEDICINAL VALUE OF *AMORPHA FRUTICOSA*

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ABSTRACT
The article discusses the medicinal value of Amorpha fruticose. Amorpha fruticosa is not just a shrub plant, but a valuable biological resource that plays a significant role in ensuring the stability and health of ecosystems. Due to its unique adaptability and a wide range of ecological functions, this species continues to attract the interest of scientists and ecologists around the world.
KEY WORDS: *shrub, family, ecosystem, root system, leaves.*

Amorpha fruticosa, also known as wild indigo or pigweed, is a perennial deciduous shrub in the legume family (Fabaceae). This species serves as an important component of ecosystems due to its unique biological features and ecological adaptations.

Widespread in North America, *Amorpha fruticosa* is often found along the banks of rivers, lakes, and other bodies of water. This plant has a powerful root system that allows it to gain a foothold on coastal slopes, preventing soil erosion and promoting the formation of stable coastal ecosystems. The leaves of the shrub are complex, pinnately divided, with lush greenery that acquires bright shades in the fall.

Amorpha fruticosa blooms in late spring to early summer, producing long, dense panicles of deep purple flowers with golden stamens. These flowers attract a variety of pollinators, including bees, butterflies, and other insects. The fruits are small strakas containing several seeds that can remain viable in the soil for a long time.

One of the key features of *Amorpha fruticosa* is its ability to fix nitrogen, which significantly increases soil fertility and helps restore damaged ecosystems. Thanks to its symbiotic relationship with bacteria of the genus Rhizobium, the plant is able to absorb nitrogen from the atmosphere and convert it into a form accessible to other plants. This makes the plant an important element of ecological medicine aimed at restoring soil resources.

In addition to its ecological significance, *Amorpha fruticosa* was used by the indigenous peoples of North America in traditional medicine. The leaves and bark of the plant were used to treat wound infections and skin diseases. In Europe and Asia, this species was introduced into cultivation as an ornamental shrub, often used in landscaping parks and gardens.

The *Amorpha fruticosa* shrub, popularly known as false indigo, has long attracted attention not only for its decorative qualities, but also for its exceptional medicinal properties. Popular in both Western and Eastern folk medicine, this plant is included in many recipes aimed at combating various diseases.

Amorpha fruticosa contains many bioactive compounds, including flavonoids, coumarins, saponins and alkaloids. The most attention has been paid to flavonoids, such as amorphadine and amorphine, which have significant therapeutic effects. These components have a powerful antimicrobial, anti-inflammatory and antioxidant effect, which allows the plant to be used as an effective remedy for healing the body.

Studies have shown that extracts from the leaves and bark of *Amorpha fruticosa* have pronounced antimicrobial activity. Flavonoids and coumarins extracted from the plant are effective against various pathogenic microorganisms, including bacteria, fungi and viruses. This makes the plant a promising source for the development of new antimicrobial drugs.

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Flavonoids isolated from the leaves and flowers of the shrub are actively used in the treatment of cardiovascular diseases. They help strengthen capillary walls, reduce vascular fragility and prevent the development of atherosclerosis. In addition, flavonoids reduce cholesterol levels in the blood, thereby reducing the risk of strokes and heart attacks.

Research shows that *Amorpha fruticosa* may also be effective in fighting cancer cells. Flavonoids and other active ingredients in the plant exhibit antiproliferative properties, which opens up prospects for the development of new anticancer drugs.

Coumarins found in the seeds and fruits of the plant exhibit antimicrobial and antifungal activity. These substances are indispensable in the fight against bacterial and fungal infections of the skin and mucous membranes. They are actively used in the preparation of tinctures and ointments intended for the treatment of dermatitis, eczema and other skin diseases.

Triterpenes present in the bark and roots of *Amorpha fruticosa* demonstrate pronounced anti-inflammatory properties. They help reduce inflammatory processes in the body and are effective in the treatment of arthritis, rheumatism and other joint diseases. Triterpenes also have a positive effect on the immune system, increasing its resistance to infections.

Essential oils contained in flowers and leaves have antispasmodic and calming effects. They are used in aromatherapy and phytotherapy to relieve nervous tension, improve sleep and generally strengthen the nervous system. Inhalations using essential oils help with colds, help cleanse the respiratory tract and make breathing easier.

Amorpha extracts are used in folk medicine to treat various dermatological diseases. They promote skin regeneration, wound healing and eczema treatment. For women, amorpha is useful in treating gynecological diseases, due to its properties to balance hormonal levels.

Infusions and decoctions of *Amorpha fruticosa* are widely used in folk medicine not only for internal but also for external use. They are used to wash wounds, relieve inflammation and accelerate the healing process of tissues. In addition, extracts from this plant are added to cosmetics due to their antioxidant and regenerative properties.

Amorpha fruticosa is a valuable natural remedy with multifaceted healing potential. Regular use of preparations based on this plant can help improve the general condition of the body, prevent and treat various diseases, and maintain health and longevity.

Thus, the Amorpha fruticosa shrub is not just a shrub, but an important biological resource that plays a significant role in maintaining the health and sustainability of ecosystems. Due to its amazing adaptations and diverse ecological functions, this species continues to attract the attention of researchers and ecologists around the world.

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