

Sesbania's Role in Traditional Medicine: Cultivation and Healing Practices

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ABSTRACT

Sesbania is a fast-growing leguminous shrub widely cultivated in tropical and subtropical regions for its multiple agricultural and medicinal benefits. Belonging to the Fabaceae family, it plays a vital role in sustainable farming through its ability to fix atmospheric nitrogen, enrich soil fertility, and serve as high-quality green manure and fodder. The plant thrives in diverse soil conditions, from sandy to waterlogged areas, making it suitable for low-input and resource-limited farming systems. Beyond its agricultural value, *Sesbania sesban* holds significant medicinal importance; various parts of the plant viz., leaves, bark, flowers, and seeds are traditionally used to treat ailments such as fever, skin infections, and digestive and liver disorders. Its bio active compounds, including flavonoids and alkaloids, contribute to its antimicrobial and anti-inflammatory effects. The species also offers additional benefits such as fuelwood, shade, and erosion control, making it an ecologically valuable resource. Overall, *Sesbania sesban* represents a sustainable, multipurpose plant that enhances both environmental health and rural livelihoods through its combined agricultural and therapeutic uses.

Botanical name: *Sesbania sesban*

Family: Fabaceae

Origin: Tropical Africa



Flowers of Sesbania



Pods of Sesbania

INTRODUCTION

S*esbania sesban* is a small, fast-growing leguminous shrub that commonly grows in tropical and subtropical regions, especially near rivers, moist farmlands and wetlands. Belonging to the Fabaceae family, it plays a significant role in both agriculture and traditional medicine. In farming, it is highly valued as green manure and livestock feed, improving soil fertility through nitrogen fixation and supporting sustainable cultivation practices. Its ability to thrive even in poor soils with minimal care makes it especially useful for rural and resource-limited communities. Beyond its agricultural benefits, *Sesbania sesban* is also known for its medicinal uses. Different parts of the plant, including the bark, leaves, flowers, and seeds, are used in traditional remedies to treat various ailments. Bark infusions are taken for fever and digestive issues, while leaf preparations are applied to wounds and skin infections. These therapeutic properties come from natural compounds such as alkaloids, flavonoids and saponins, which have been found to possess antimicrobial, anti-inflammatory, hepatoprotective and anti-ulcer effects. In some regions, the flowers are also eaten as a vegetable, believed to aid digestion and provide a cooling effect to the body. Overall *Sesbania sesban* is a versatile and sustainable plant that benefits both the environment and human health. By enhancing soil fertility,

supporting livestock, and offering natural medicinal value, it contributes greatly to the well-being and sustainable lifestyle of tropical communities.

Vernacular names of *Sesbania sesban*

- 1 Tamil: Sithagatthi, Karunchempai
- 2 English: Common sesban, Egyptian rattlepod, Egyptian riverhemp
- 3 Hindi: Jainti, Jayanti
- 4 Telugu: Suiminta, Zaluga
- 5 Marathi: Shevari, Vaijayanti

Botanical Description

Sesbania sesban is a fast-growing, short-lived perennial shrub or small tree that typically reaches a height of 2–5 meters and completes its life span within 2–3 years. Stem is slender and soft-wooded, appearing green when young and gradually turning light brown as it matures. The branches spread irregularly, forming a loose and open canopy.

Leaves are alternately arranged and pinnately compound, measuring 10–15 cm in length. Each leaf has 6–20 pairs of thin, oblong leaflets, each about 2–3 cm long, giving the foliage a delicate, feathery appearance. The leaflets are light green, smooth along the

margins, and display nyctinastic movement, folding during nighttime. Flowers bright yellow and papilionaceous, often showing reddish or brown streaks. They appear in axillary clusters.

Fruit and Seeds: Long, hanging pods (15–30 cm) that turn brown at maturity, each holding many small, smooth, bean-shaped seeds (brown to black). A strong taproot system with lateral branches. The roots bear nitrogen-fixing nodules, contributing significantly to soil enrichment.

Origin and Distribution

Tropical Africa is thought to be the original home of *Sesbania sesban*, which has now expanded widely to other areas. It is currently found in portions of South America, Africa, and Asia. Commonly found near riverbanks, wetlands, and agricultural grounds, the plant thrives in warm, humid climates. Farmers greatly regard it as a source of green manure, fodder, and a natural way to increase soil fertility because to its quick growth and nitrogen-fixing capacity.

Medicinal Importance

Different parts of *Sesbania sesban* are widely used in traditional medicine for treating common ailments.

- 1 **Leaves:** Applied in the management of wounds, fever, and various skin conditions.
- 2 **Bark and Roots:** Traditionally used to alleviate liver-related disorders and digestive problems.
- 3 **Flowers and Seeds:** Employed in folk remedies to promote general health and well-being.
- 4 **Phytochemicals** studies reveal that the plant contains bioactive compounds with antimicrobial and anti-inflammatory

properties, which scientifically support many of its traditional medicinal applications (Mokhtar *et al.*, 2025).

Wealth of ecotypes

Sesbania sesban shows great variation in growth habit, leaf size, flower color, and pod length. Some varieties are soft-leaved and best for fodder and others are preferred for green manure and soil fertility. Some are capable of withstanding drought, while others grow well even in waterlogged conditions, showing remarkable environmental flexibility. Certain selected varieties are widely used for fuelwood, providing shade, and helping in soil erosion control, making them valuable for both farmers and local communities. This wide adaptability allows to thrive across different agro-ecological zones and meet a variety of farming and environmental needs (Nigussie *et al.*, 2013).

Cultivation Practices

Climate and Soil

Grows well in warm tropical areas and can tolerate sandy, loamy, or even waterlogged soils.

Cropping System

Often grown with crops like cereals, sugarcane, or vegetables to improve soil fertility and provide fodder for livestock.

Propagation

Mostly grown from seeds. Soaking or scratching the seeds before sowing helps them germinate faster.

Sowing

Seeds can be planted directly in the field or transferred from a nursery. Keep about 30–50 cm space between plants.

Manuring

As a legume, it naturally adds nitrogen to the soil, making it more fertile. Using compost or farmyard manure helps the plants grow better.

Irrigation

Usually rainwater is enough, but giving extra water during dry times helps the plants stay healthy.

Weeding

Remove weeds regularly when plants are small. Once grown, their thick leaves cover the soil and reduce weed growth.

Harvesting

Young leaves and shoots are cut for animal feed, while mature plants are used as green manure or fuelwood.

Economic Uses

Agriculture: Used as green manure and in mixed farming systems to improve soil fertility naturally.

Forage: Gives healthy and tasty fodder for cows, goats, and other farm animals.

Fuel wood: Works as a good source of firewood, useful for village households.

Medicinal uses: Leaves, bark, and flowers are used in traditional medicine to treat fever, skin problems, digestion issues, and liver troubles (Goswami *et al.*, 2016).

CONCLUSION

Sesbania sesban is a fast-growing and hardy leguminous shrub that provides many useful benefits. It helps improve soil fertility through nitrogen fixation and also gives fodder, green manure, fuelwood, and shade to farmers. Beyond farming, it plays an important role in traditional medicine, being used to treat fever, wounds, skin problems, liver and digestive disorders, cough, rheumatism, and infections. By supporting both agriculture and health, *Sesbania* proves to be a valuable, eco-friendly, and multipurpose plant that supports rural livelihoods and promotes sustainable farming practices.

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