

Justicia adhatoda L.

Synonyms: *Adhatoda zeylanica* Medik.

A. vasica Nees.

Family: Acanthaceae

Various names

Trade name: Vasika

Sanskrit names: Arus, Vajidantakahaatarusha, Vasa, Vasaka

Hindi names: Arus, Arusa, Aramadya, Aus, Ainh-parni, Aajini, Aisauta

Popular name/s in the southern region

- *Andaman & Nicobar Islands:* Not recorded
- *Andhra Pradesh:* Addasaram
- *Karnataka:* Adusoge
- *Kerala:* Aadalodakam
- *Lakshadweep:* Aadalodakam
- *Puducherry:* Siriyangai
- *Tamil Nadu:* Adathodai
- *Telangana:* Addasaram



Distribution

Justicia adhatoda is distributed in South and South-east Asia. In India, it is common up to an altitude of 1200 m and is widely cultivated in tropical low elevation sites.

Description

Perennial shrubs reaching up to 2.5 m height. Leaves are simple, arranged in opposite pairs at nodes, 5-30 cm long and 2.5-6 cm broad and elliptic - lanceolate in shape. Flowers are white with yellow or red bands at the mouth, are arranged at nodes in spikes. Fruits are 2-2.2 × 0.8 cm size with four rounded seeds. The seeds are globular, non-endospermic, born on minute hook like outgrowths called retinacula.

Uses

The root, leaves and flowers are used in the form of juice and decoction to treat fever, intrinsic haemorrhage, cough, asthma, kushtha, obesity, oedema, skin diseases, pradara, difficult labour, vomiting, piles, and diseases of mouth and as rasayana. Important drug preparations include Vasachandanaditaila, Vyaghri Tailam, Duralabharishtam, Vajrakaghrita, Balajeerakadi Kashayam, Kanakasavam and Vasakadyarishtam. A sweet prepared from Vasika flowers called Vasika Gulkand is used to treat tuberculosis

Agro-ecological requirements

Vasika can grow in a variety of climatic and soil conditions. Alluvial soils are suited for best growth. It prefers a mean annual rainfall in the range 700-1700 mm, but tolerates 500-4200 mm and temperature 20-27 °C, but can tolerate 12-32 °C. It can also be cultivated as an intercrop in coconut plantations and rubber plantations in the initial 3-4 years.

Planting-stock production

Vegetative propagation: Vasika is propagated using terminal/lateral stem tender cuttings of 15-20 cm long and 3-4 nodes. Pre-rooted cuttings give better results in the field. During March-April, the tender stem cuttings are planted in poly bags filled with potting mixture contains farmyard manure/vermicompost, top soil and sand in the ratio 1:1:1. Cuttings shall root readily and will be ready to transplant to field after two months. Since seed setting is very poor, vegetative propagation is recommended.

Field planting: Rooted cuttings of Vasika can be planted on mounds or ridges. After ploughing and leveling the field thoroughly, ridges/mounds are prepared 60 cm away from each other. With the commencement of rainfall, rooted cuttings are planted on the ridges with a plant to plant spacing of 30 cm. If growing on mounds, up to 5 cuttings can be planted on a single mound. In sloppy areas cuttings are planted directly by making holes with a sharp pole. Adequate care should be taken to prevent water logging as it may cause rotting.

Manuring/Fertilization: Apply organic manure such as farmyard manure, compost or green leaf at the rate of 10 tonnes per hectare as basal dressing. Keep the field free of weeds and give earthing up after topdressing with fertilizers.

Irrigation: The crop shall benefit from irrigation in drought conditions.

Pest and diseases: No serious pests and diseases are reported.

Harvesting & Post-harvest processing

Leaves, roots and stem of vasika are of medicinal value. Leaves can be harvested one year after planting at an interval of 3-4 months, but roots will be ready to harvest only after two years planting. December-January is the ideal time for harvesting roots. In the second year, the entire plant is harvested and roots are carefully dug out. Harvested roots are washed, cleaned and marketed either in fresh form or after drying.

Yield

The yield of root, stem and leaves would be 10-11 tonnes per hectare.

Economics of cultivation

Cost of cultivation: ₹ 1,25,000 per hectare

Market price: *Whole plant*- ₹ 50 per kg (as on July 2019).

Quantitative quality standards (acceptable limits) (w/w)

- Foreign matter (other plant parts, soil, stone, sand, dust, organisms and their parts):
Not more than 2.0 %.
- Ash: Not more than 14.29 %
- Acid-insoluble ash: Not more than 0.75 %
- Ethanol-soluble extractives: Not less than 6.12 %
- Water-soluble extractive: Not less than 23.39 %

Note: Farmers are advised to adopt appropriate practices so as to meet the quality parameters and standards of the buyers.