

Coscinium fenestratum (Gaertn.) Colebr.

Sanskrit names: Harichandan, Pitassara, Pitasandan

Hindi name: Jhar-haldi, Daruharidra

English name: False Calumba

Trade name: Pitchandan Parts used Wood, root



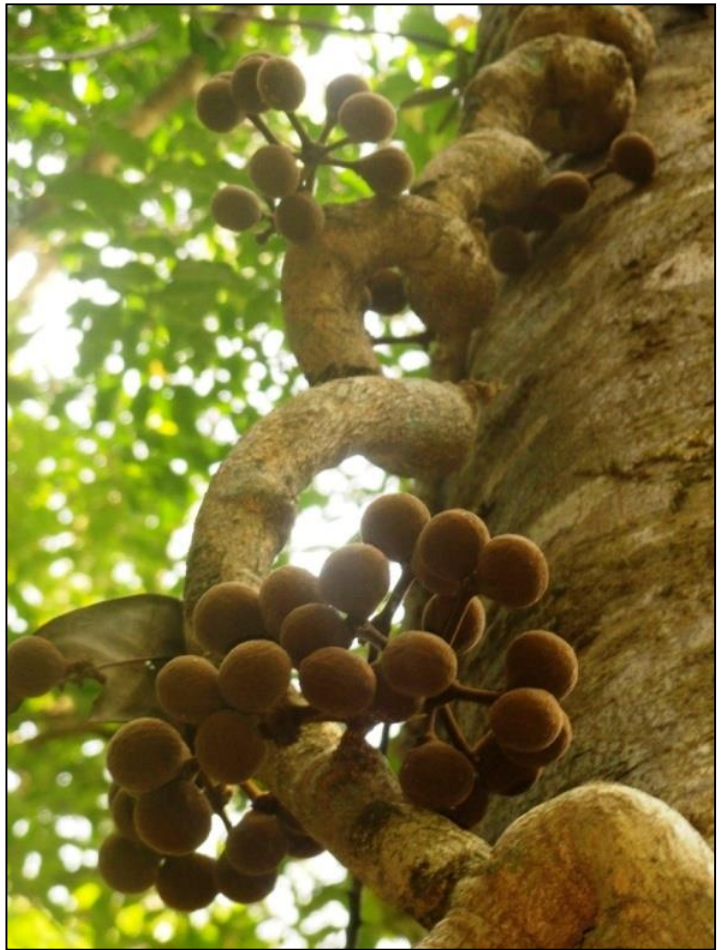
Description: Woody dioecious climbers; wood yellow, branchlets pubescent. Leaves simple, alternate, deltoid, 15-18 x 13-15 cm, ovate, apex acuminate, base truncate, margin entire, glabrous above and hoary pubescent below; petioles 3-15 cm long, swollen at both ends. Inflorescence supra-axillary or cauliflorous. Male flowers: sessile or shortly pedicellate, ca. 1 mm long; sepals broadly elliptic to obovate, 1.5-2 mm long, densely sericeous outside, yellow; outer ones 3-6, broadly elliptic, 1-1.5 mm long; inner ones 3-6, spreading, 1.5-2 mm long, yellow. Stamens 6, outer 3 free and inner connate to the middle; filaments ca. 1 mm long. Female flowers mostly from mature stem. Sepals 6, sericeous. Petals 3; ovary densely pilose, staminodes 6. Fruit of 1 or 2 drupes, to 2 cm dia, globose, brown villous, peduncle to 1.2 cm; seed 1, black, glabrous.

Distribution

Plant is a native to south-and south East Asia. In India, the species is restricted to the semi-evergreen and wet evergreen forests the Western Ghats.

Therapeutic Uses: Root of Harichandan is used in the form of powder and decoction to treat indigestion, flatulence, diseases of liver and fever. Decoction of bark is used in intermittent fevers.

Chemical Constituents: Roots contain alkaloids such as berlambine, dihydroberlambine and noroxyhydrastinine, oxo-berberine, berberine, tetrahydroberberine, cytosterol, stigmasterol and jatrorrhizine. Stem contains protoberberine alkaloids and jatrorrhizine.



Climate and Soil

This plant prefers rain forest climate and high humidity throughout with a temperature ranging from 15-25^o C. The soil is acidic (pH of 5.2) with very high organic matter (2.3%) content.

Agro-technique Nursery Technique

Propagation Material: The planting material is seed.

Raising Propagules: The plant is propagated through seeds. Fruits mature from May to October. Remove fruit pulp by rubbing against rough surface. Seeds may be soaked in 3000ppm GA for 20 hours to hasten germination up to 90%. Seed should be immediately put for germination since they lose viability within two weeks. Seeds germinate very slowly, beginning after 4 months and may take even 8-10 months. Germination percentage of fresh seed is approx. 60%. The plants from nursery bed are carefully shifted to polybags filled with mixture of sand, soil and FYM @ 2 kg/polybag. Plants are watered on alternate days and kept in shade in mist chamber. They are maintained for nearly 6-9 months and then shifted to main field after it has attained 60 cm in height

Transplanting and Optimum Spacing: Well-grown plants are planted with minimum disturbance in main field along with soil attached to the roots in poly bags. Plant to plant spacing is 2 m X 2 m. Add 2 kg FYM in a pit. Care is taken to put plant underneath a shrub or tree having 50-60 percent shade for quick establishment of crop. Provide a pole to support for better plant growth

Irrigation Practices: Plant needs frequent irrigation and daily in summer months

Harvest Management

Crop Maturity and Harvesting: Crop matures after about 15 years. The economic parts are root and stem. It is expected to give about 3-5 kg of fresh root/plant depending on the growth of plant and its environment.

Post-harvest Management: The root and stem are dried in shade and stored in air-tight gunny bags.

Yield: The plant yields about 3-5 kg fresh root and reduced to half on drying. Thus, about 4 t dry roots can be expected from 2500 plants/ha.