



NATIVE FLOWERING PLANTS OF DELHI

A GUIDE

DEPARTMENT OF FORESTS AND WILDLIFE, GNCT OF DELHI

SIRIS (*Albizia lebbbeck*)

koko, rattlepod, siras, kalshish

Description: Middle-sized tree, short stem, and thin spreading crown, symmetrically branched, umbrella like canopy. The bark is rough but not deeply fissured (deep split or crack to form a long narrow opening) biscuit brown to dark brown in colour. Leaves are twice – feathered, up to 25 cm long, forking into 2-4 pairs of side stalks. Each side stalk bears 3-10 pairs of leaflets. Flowers are fragrant, powder puff shaped with long greenish yellow stamens. Fruits are flat pods up to 30 cm long, straw coloured when ripe, and clatter noisily in the breeze.

Leaves start dropping in January remains bare till end of March, when new leaves come up. Flowers in early April, spent by May. Fruit pods start turning yellow in November. They remain till March or later.

Value: Used as a food resource for some of the animals. Source of nectar and pollen for bees, and host plant for butterflies. Nitrogen fixing species. Pods are a rich protein source and leaves make for rich manure. Due to its extensive, fairly shallow root system, the tree is a good soil binder and is recommended for eroded lands and erosion control, for example along sewer embankments. Free-standing trees appear to enhance forest regeneration and quality beneath the canopy due to the increased nitrogen status of the soil

Locations in Delhi: A common street tree in Delhi, naturalized on the Ridge.



Siris is a medium to large sized tree with fragrant, puffy flowers that show up early in April.

SEED SCIENCE

Seed Collection Time: December – March

Fruiting Time: November-March

New Leaf Time: March

Viability: 2-3 year

No. of Seeds per 100 Gm.: 800-1300

Germination: 60-94 %

Germination Period: 60 days

Notes on Harvesting Seed/Germination: Pods to be collected when light brown

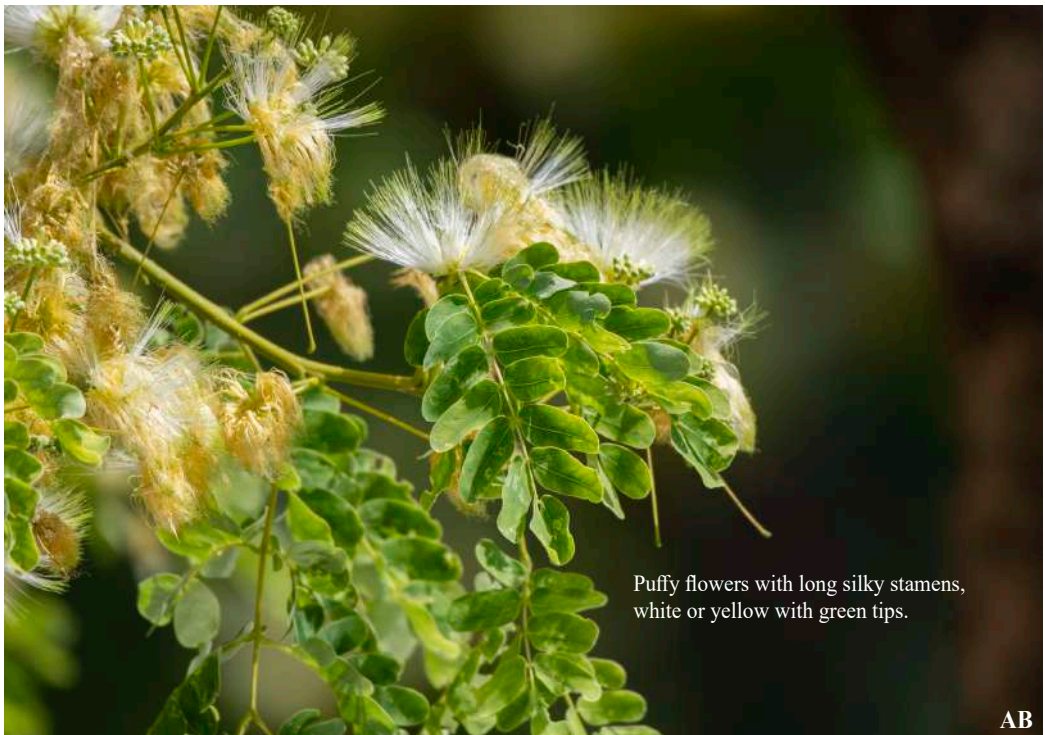
Pre-treatment:

Immersion in hot water (80-100°C) then allowing it to cool followed by soaking for 24 hours

Treatment with concentrated sulphuric acid for 2-30 minutes or more followed by washing with cold water



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Puffy flowers with long silky stamens, white or yellow with green tips.

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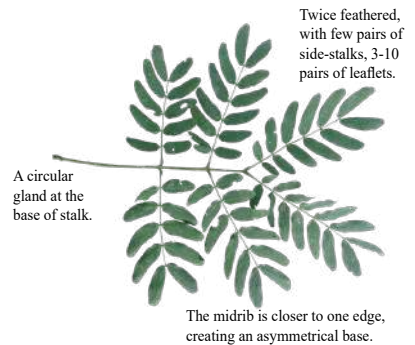
Color varies from dark brown to grey. Rough, exfoliating in irregular semi brittle scales. Inner bark is red.

SITE SUITABILITY

Soil Regime: Sandy, rich topsoil and little moisture

Sunlight Requirement/Growth pattern: Full sunlight, fast growth

Moisture Requirement: Medium



Flat, papery, straw-colored pods, 20-30 cm in length.

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VAJRADANTI (*Barleria prionitis*)

Porcupine flower, katsareya, piya basa

Description: It is a small, erect, perennial, fast-growing spiny shrub. Bark is usually single-stemmed, growing to about 1.5 m tall. Spines are about 1.2 cm long. Leaves are simple and ovate with narrower end at the base. Leaves are fringed with hairs on the margins and leaf-stalk is up to 2 cm. Flowers are solitary in the lower axils, golden yellow-orange in colour. Fruit is an ovoid capsule, beaked; whereas seeds are in pairs and hairy. Flowers appear October to December and February to March.

Value: Caterpillars of the Pansy group of butterflies feed on the plant. Extracts of the plant used as medicine. Extremely hardy once established and can withstand severe drought conditions.

The whole plant or its specific parts (leaf, stem, root, bark and flower) has been utilized for treatment of toothache, catarrhal infections, whooping cough, inflammations, glandular swellings, urinary infection, jaundice, fever, gastrointestinal disorders and as diuretic and tonic.

Locations in Delhi: Grows wild in undisturbed areas of the Ridge, can be found in Asola-Bhatti Wildlife Sanctuary, Sanjay Van etc.



Vajradanti is a fast growing perennial plant with beautiful golden yellow flowers.

SEED SCIENCE

Seed Collection Time: March-April

Fruiting Time: December-February

New Leaf Time: July

Viability: 1 week

No. of Seeds per 100 Gm.: propagation mainly by cuttings

Notes on Harvesting Seed/Germination: Cuttings with root nodules have great chance of success



SITE SUITABILITY

Soil Regime: Rocky, dry open areas, grows as undergrowth also but best in open areas

Sunlight Requirement/Growth pattern: Full sunlight, fast growth

Moisture Requirement: Very low

SEMAL (*Bombax ceiba*)

red silk cotton, bombax, Indian kapok

Description: A tall deciduous tree with a characteristic branching formation and broad conical head; capable of reaching up to 50m. Its branches grow in tiers radiating from the trunk like ribs of an umbrella. Ashy, smooth bark when young having conical prickles on lower trunk, becomes somewhat rough as it ages. Leaves are palmately compound with 5-7 pointy leaflets radiating from the end of a long common leaf- stalk. It has large, deep red, coral or yellow flowers with 5 waxy petals; stamens many, in separate bundles. Woody capsule fruits up to 18 cm long with a velvety covering and Splits open releasing white, silky fibres with black seeds.

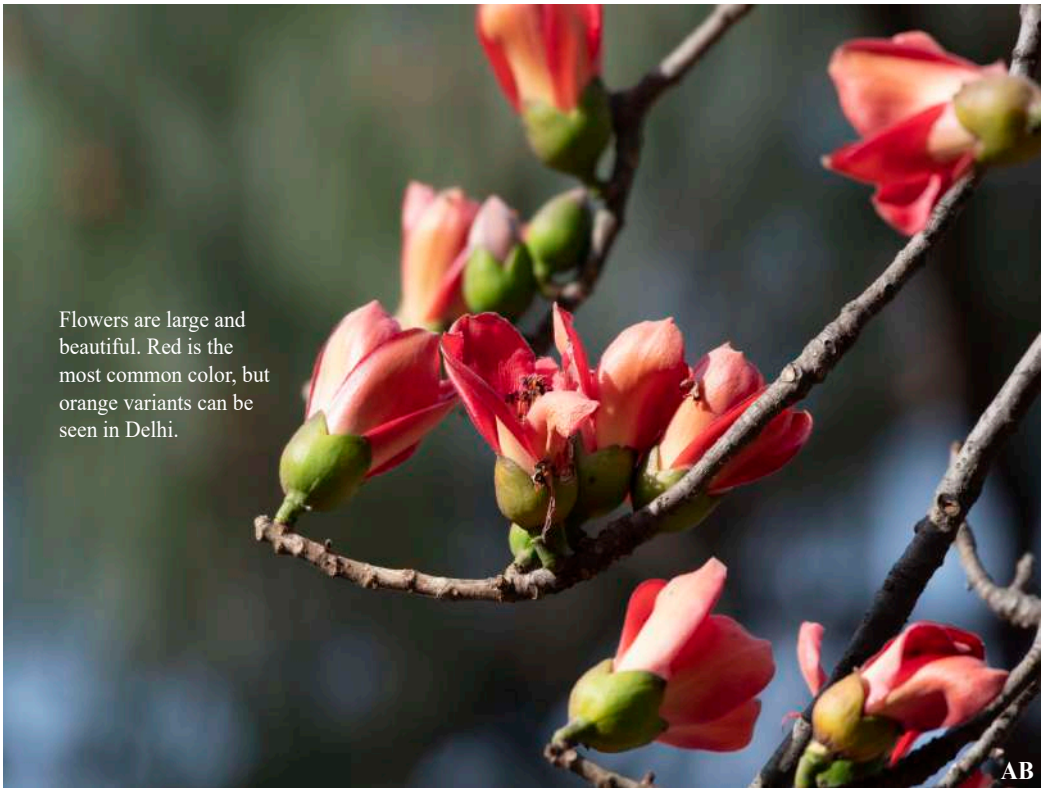
Flowers begin before the leaves appear, from late January to mid-March. Fruit ripen and split open on the tree in late April- May, releasing microfibers into the air.

Value: Semal is favoured by the Large Indian Rock bee (*Apis dorsata*) to build hives. It can be used as a pioneer when restoring native woodland. An oil is obtained from the seeds. Flower buds and calyx are eaten as cooked curry vegetables. Semal is also used in Ayurveda and folk medicine.

Location in Delhi: Found in many parks and avenues. Asola Bhatti Wildlife Sanctuary, Neeti Marg, Jaunapur, Hauz Khas District Park.



Semal is a large deciduous tree.



Flowers are large and beautiful. Red is the most common color, but orange variants can be seen in Delhi.

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Semal has compound leaves, 5-7 leaflets with pointy tops.

The silvery-grey bark of semal trees has prickles on the bottom.



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SEED SCIENCE

Seed Collection Time: May

Fruiting Time: February-March

New Leaf Time: April - May

Viability: 1-2 year

No. of Seeds per 100 Gm.: 2143-3850

Pre-treatment: No treatment or soaking in cold water for 2-3 hours

Germination: 14-75%

Germination Period: 25 days

Notes on Harvesting Seed/Germination: Care to be taken because seeds are dispersed through air in cotton balls.



SITE SUITABILITY

Soil Regime: Deep soil with high moisture and rich topsoil

Sunlight Requirement/Growth pattern: Full sunlight, medium growth

Moisture Requirement: Low

Semal fruits are large capsules that are green before splitting, pods split to reveal dense woolly cotton.



PALASH (*Butea monosperma*)

Flame of the forest, Bengal kino, dhak, tesu

Description: A medium sized dry season-deciduous tree, growing to 15 m tall. It is a slow growing tree. The plant has lent its name to the town of Palashi, famous for the historic Battle of Plassey fought there. Palash trees are recognised for their vibrant flowers.

The bark of the tree is more or less rough with shallow cracks, greyish- brown bark, flaky. Young branches are soft. The leaves are usually very leathery and not eaten by cattle. The flowers are 2.5 cm long, bright orange-red, and produced in racemes up to 15 cm long. The orange-red flowers can be spotted even from afar like a flame burning amidst the green and browns of a forest, earning it the title Flame of the Forest. The fruit is a pod 15-20 cm long and 4-5 cm broad. It contains a flat brown seed per pod. Seed collection time is normally before rains. Leaves shed in February- March; New leaves come up in late April; Flower buds appear in January, but do not open till early to mid- March; Flowering splutters in April. Fruit forms very quickly after flowering and ripens just before rains.

Value: The Palash tree is used by birds and bees for nectar and as a host plant by butterflies and the flowers are pollinated by parakeets, sunbirds, bees and even crows. Lac insect (among a few sources of sealing wax) dwells in it. This is a mosquito repellent plant. Insects are attracted by the smell and colour of the flower. Eggs that are laid into the liquid within the flower never hatch and the mosquitos that touch the fluid gets killed. Traditional Holi colours were made from flowers.

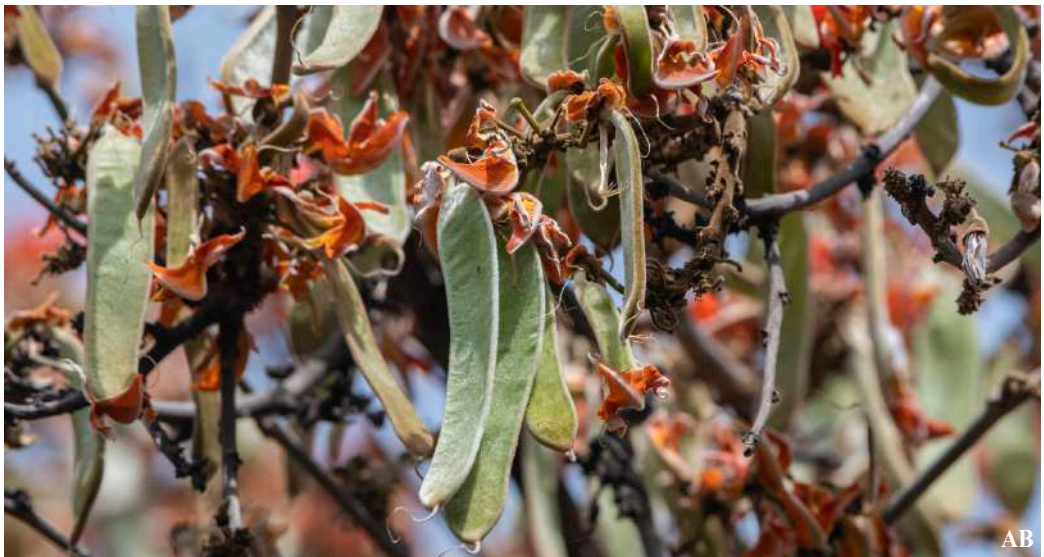




Locations in Delhi: Palash trees are common throughout the ridge as well as in large gardens like Buddha Jayanti Park, Nehru Park and Asola Bhatti Wildlife Sanctuary.



The bark is grey-brown with cracking plates fitted together,



The pods are broad, green at first, brown when ripe. Each has a single seed within.

SEED SCIENCE

Seed Collection Time: April-June

Fruiting Time: April

New Leaf Time: May - June

Viability: 1 year

No. of Seeds per 100 Gm.: 990-1480

Germination: 73-90%

Germination Period: 15 days

Pre-treatment: No treatment or soaking in cold water for 2-3 hours

Notes on Harvesting Seed/Germination: Pods are collected when they are light brown.



SITE SUITABILITY

Soil Regime: Dry sandy, coarse soil, survives water logging for short periods

Sunlight Requirement/Growth pattern: Full sunlight, moderate growth

Moisture Requirement: Medium



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Weaver birds (*Ploceidae* sp.) make their intricate, labor intensive nests on palash.

SAFED AAK (*Calotropis gigantea*)

Description: Is a fast-growing, erect, nearly evergreen flowering shrub that grows up to 5 m tall. Much branched, gregarious, young branches covered with white, cottony hairs, contains milky latex. The plant has oval, light green leaves and milky stem. It has clusters of waxy flowers that are pale purplish or greenish- white, 3cm across, bell- shaped petals. Each flower consists of five pointed petals and a small «» rising from the centre which holds the stamens. Fruit dilated to form a sac having many seeds. Crown flowering and fruiting throughout the year.

Value: Aak is considered a good plant for bringing waste land under tillage and for reclaiming drifting sands. This plant plays host to a variety butterflies and a nectar source for other insects. The leaves are used to treat severe chest colds and heart conditions. The smoke of dried, burned leaves is inhaled to calm asthma attacks. The powdered flowers are valued for treating coughs, colds and asthma.

Location in Delhi: Asola Bhatti Wildlife Sanctuary and Vasant Kunj area.



Safed aak is a large shrub that acts as a host plant for a variety of insects and butterflies.



Aak flowers are white or mauve, unscented.

SEED SCIENCE

Seed Collection Time: August-September

Fruiting Time: July-August

New Leaf Time: February

Viability: 3 months

No. of Seeds per 100 Gm.: N/A

Germination: 50%

Germination Period: 25 days

Pre-treatment: No treatment or soaking in cold water for 2-3 hours.

Notes on Harvesting Seed/Germination: Seeds inside a green pod with cotton fibre, should be collected when dark green or brown.



Oval, light green leaves with a milky stem.

SITE SUITABILITY

Soil Regime: Plant of degraded landscapes, does well in dry, open rocky or sandy area.

Sunlight Requirement/Growth pattern: Full-sunlight, medium growth

Moisture Requirement: Low

AAK (*Calotropis procera*)

Description: Is a spreading shrub growing up to 4m high, oozing copious milky sap when cut or broken. The word “*Calotropis*” is derived from Greek, meaning “beautiful,” which refers to its flowers; whereas “*procera*” is a Latin word referring to the cuticular wax present on its leaves and stem

It is an evergreen xerophytic plant, generally found in arid and semi-arid habitats. Its’ leaves are opposite, grey- green, broadly elliptic but varying between ovate and obovate, large upto 15 cm long and 10 cm broad, with a pointed tip. It has no leaf stalk. Waxy, white, 5 petals flowers appear purple-tipped inside with a central purplish crown, carried in stalked clusters at the end of branches. The fruits are 8-12 cm long, inflated, gray-green, containing numerous seeds with tufts of long silky hairs at one end. The plant flowers throughout the year.

Value: Seeds are generally disseminated by wind and water and occasionally, by birds and animals. The Aak plant can help improve soil water conditions and also acts as a soil binder. It often self- sows on overgrazed land and can be used as an indicator of exhausted soils. The flower is digestive and tonic.

Location in Delhi: Asola Bhatti Sanctuary, JNU and wild areas of the ridge.



The flowers are white with purple tips. Crown shaped upon opening.

SEED SCIENCE

Seed Collection Time: August-September

Fruiting Time: July-August

New Leaf Time: February

Viability: 3 months

No. of Seeds per 100 Gm.: N/A

Germination: 25%

Germination Period: 25 days

Pre-treatment: No treatment or soaking in cold water for 2-3 hours.

Notes on Harvesting Seed/Germination: Seeds inside a green pod with cotton fibre, should be collected when dark green or brown and shrivelled.



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SITE SUITABILITY

Soil Regime: Plant of degraded landscapes, does well in dry, open rocky or sandy area.

Sunlight Requirement/Growth pattern: Full-sunlight, medium growth

Moisture Requirement: Low



Aak leaves are green, sometimes with a shade of grey. The apices are pointed.

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HEENS (*Capparis sepiaria*)

hins, kanthari, hedge caper, wild caper bush

Description: A scrambling, prickly, evergreen shrub or tree, much branched, densely armed with zigzag twigs growing around 3 meters tall. It has a wide distribution, especially in dry deciduous forests, foothills and scrub jungles. Leaves are ovate or elliptic ovate up to 6 cm long, often retuse, soft velvety. Flowers are white to creamy wiry sub-umbels, petals oblong, spoon-shaped, hairy at the base. Fruits are globular, yellow in the beginning and turn to dark violet to black when ripe. 8-12 mm across. Heens flowers from February-April.

Value: Heens is a host plant of butterflies and pollinated by bees. It is extremely drought resistant and does well in degraded landscapes. Essential plant for degraded landscapes. It stabilises new moving soil and acts as a binder. Can also be utilised in suppression of *Prosopis juliflora*.

Locations in Delhi: Found in the wild all over the Ridge often growing on termite mounds, it forms impenetrable thickets when growing in clay soils of depressions and in seasonally flooded areas.



Wild caper is a scragging bush, densely branched and twiggy. Often climbs on trees in the Ridge.

SEED SCIENCE

Seed Collection Time: September-December

Fruiting Time: July-August

New Leaf Time: March - April

Viability: 3 month

No. of Seeds per 100 Gm.: 190

Germination: 5%

Germination Period: 40 days

Pre-treatment: Soaking in cold/tepid water for 24 hours

Notes on Harvesting Seed/Germination: Collected straight from the plant, shows vivipary.



Flowers are white, with spoon shaped petals.



The twigs are haphazardly branched, leaves are small and ovate.

SITE SUITABILITY

Soil Regime: Dry, stony, rocky, undergrowth. Very hardy

Sunlight Requirement/Growth pattern: Full sunlight, slow growth

Moisture Requirement: Very low

KAREEL (*Capparis decidua*)

bare caper, kair, dhalu

Description: A small, deciduous, spiny tree with a dark furrowed stem crowned by a mop of wiry green branchlets. It remains leafless most of the year to cut down on water loss. The bark is smooth and yellowish when young and becomes dark, thick and corky, and deeply furrowed as it grows. The corky tissue helps the tree to withstand ground fire. Has small orange-yellow spines in pairs. Small leaves are found only on young shoots. Flowers in showy clusters, brick red, pink, or orange-yellow coloured. The four petals are long and narrow with a prominent bonnet-like flower cup. Fruits are grey-green at first, pink or dull red when ripe. The size and shape of a grape with a grape like waxy bloom on the skin. It rarely exceeds a height of 5 meters. It is extremely drought-resistant and tolerates some frost. Seed collection peak time May to July; September to November. Leaves are mostly absent. New leaves appear nearly in March – April and shed within a month. Red conspicuous flowers appear in March to April and August–September and ripe by May and October. Flowers irregularly with two distinct peaks – from April to June and from August to October. Fruits ripen within a few weeks of flowering.

Uses: The pink fleshy berries are readily eaten by birds. Used as a larval host plant by butterflies and moths. Being harsh terrain species, considered for strategic planning for greening desert hilltops. Its fruit contains high nutritive ingredients like proteins, carbohydrates, minerals and vitamins. Highly drought resistant and finds use in reforestation of the Ridge.

Locations in Delhi: On the ridge, common in Jaunapur ravines and Jahanpanah city forest. One good specimen in Qutub compound and Asola Bhatti Wildlife Sanctuary.



Kareel is usually a spiny bush, but sometimes it can take the form of a tree.

SEED SCIENCE

Seed Collection Time: May – July

Fruiting Time: May-June

New Leaf Time: Feb - April

Viability: 3 month

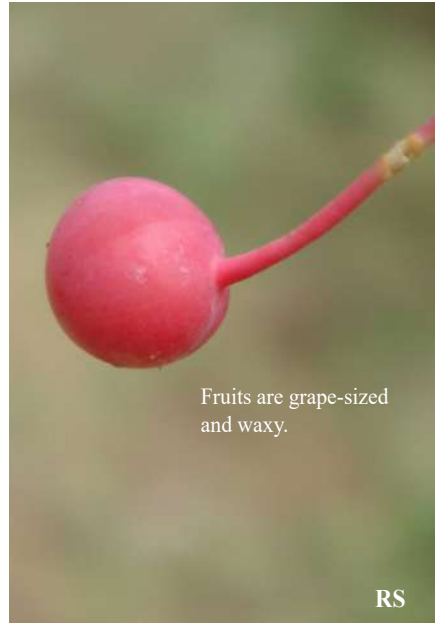
No. of Seeds per 100 Gm.: 150

Germination: 10%

Germination Period: 40 days

Pre-treatment: Removal of pulp by peeling or rubbing and washing

Notes on Harvesting Seed/Germination: Fruit consists of 3 to 5 seeds and collection should be done when deep red colour appears. Plant seeds sporadically so constant vigilance on the mother plant is required.



Corky and deeply furrowed bark.



SITE SUITABILITY

Soil Regime: Very dry, shallow topsoil or sandy

Sunlight Requirement/Growth pattern: Very slow growth, full sunlight, shrub to tree growing pattern

Moisture Requirement: Very low



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Kareel flowers are typically red, very rarely a yellow-orange variant can be found.



Bonnet like
flower cup.

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Green ovary

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JUNGLI KARONDA (*Carissa spinarum*)

Description: It is an erect thorny shrub, with forked branches, 2-3 m in height. The plant has leathery, ovate leaves and forked branches and is highly drought-resistant. It grows as a multi-stemmed shrub. Wood is very hard. The bark is light brown to green, can be stripped off longitudinally by hand, exposing the white to light-green wood underneath. The leaves are glossy green, opposite, narrow ovate. The flowers are short-stalked, sweetly scented with five white narrow petals. It has small dark berry fruits, confused with cranberries at first glance. It is highly nutritious and is a very good source of protein. The seed collection time is end of February to beginning of April.

Value: Jungli Karonda is host plant for various butterflies and moths. Fruits popular with birds and are edible, but only when fully ripe. Highly drought resistant used for forestation and planting projects. A soil binder can be used to create shrub land where little else grows.

Locations in Delhi: Grows wild in all undisturbed areas of the Ridge. Asola Bhatti Wildlife Sanctuary is a good place to see them.



The flowers are short-stalked with five white narrow petals.

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Jungli karonda is a thorny shrub with forked branches and a greenish brown bark.

SEED SCIENCE

Seed Collection Time: January-March

Fruiting Time: October-December

New Leaf Time: June-July

Viability: 6 months

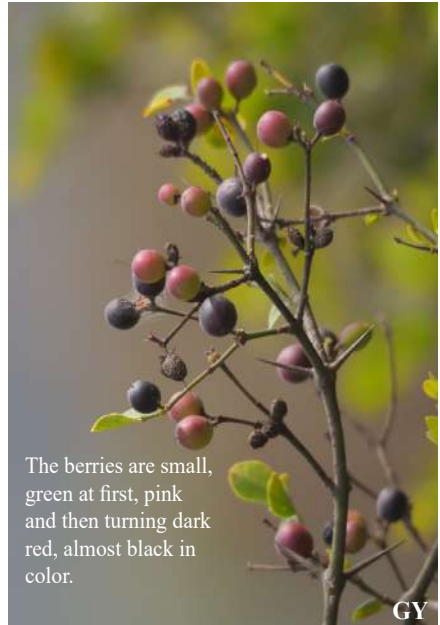
No. of Seeds per 100 Gm.: 200

Pre-treatment: Soaking in cold tepid water for 48 hours.

Germination: 15%

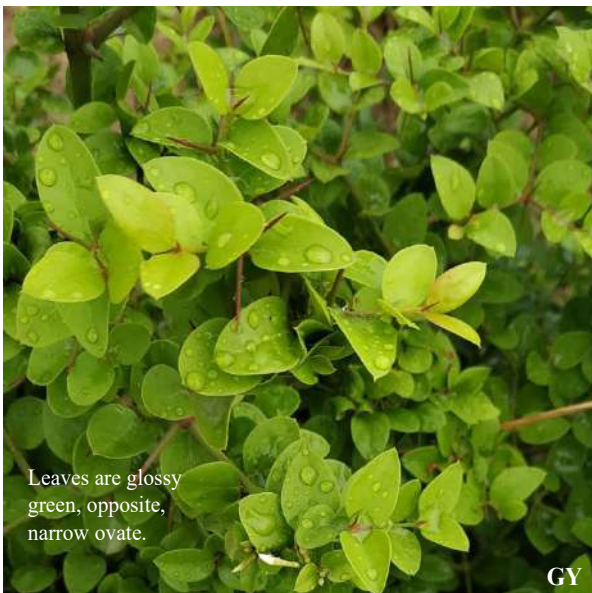
Germination Period: 40 days

Notes on Harvesting Seed/Germination: Should be collected over the winter and only the brown seed should be plucked. The plant fruits sporadically so constant collection is required.



The berries are small, green at first, pink and then turning dark red, almost black in color.

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Leaves are glossy green, opposite, narrow ovate.

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SITE SUITABILITY

Soil Regime: Dry, open, rocky soil. Very hardy.

Sunlight Requirement/Growth pattern: Full sunlight, medium growth.

Moisture Requirement: Very low.

AMALTAS (*Cassia fistula*)

Indian laburnum, golden shower, girmala, rajbrikh, alash

Description: A medium-sized ornamental tree with an irregular canopy, and an average height of 15-20 metres. It finds mention in the Mahabharata as a tree of the ancient city of Indraprastha. Though it was not one of the species selected for lining the avenues of Lutyen's Delhi, it is a beautiful native with bright yellow flowers which indicate the onset of summers in Delhi. These flowers are mildly fragrant, fall in drooping sprays, and about 60 cms in length. The brightness of yellow varies depending upon factors like sunlight and moisture availability.

Amaltas is one of the most widespread forest trees of India. The bark is smooth, yellow when young, becomes coarse and dark grey with crusts falling like scabs with age.

The leaves are feathered compound and about 45 cm with 4-8 pairs of large leaflets. Young leaflets are silvery, becomes smooth and loses its gloss as they mature.

The fruits are long, cylindrical pipes up to 6 cm long. The seeds are stored inside in little compartments encased in a strong-smelling, sweetish pulp. Ripe pods are black and fall whole to the ground. Animals play an important part in spreading the seeds in forests where it grows naturally. Jackals and pigs crack open the pods to get the sweet pulp, which helps in releasing the seeds for germination.



Middle-sized tree with a spreading canopy, covered with flowers during the summer.

Value: The sweet pulp inside the pods is eaten by monkeys, birds, jackals and bears. The tree also serves as a host plant for some of the moths and butterflies. The tree also acts as a nitrogen fixer and provides shade in open wooded areas. It is useful for afforestation projects as is relatively fast growing and cannot be consumed by cattle.

Amaltas is high in medicinal value. The pulp and the seeds found inside dry pods are used in medicines for digestive disorders. Leaves are used to heal ulcers. Powdered bark is effective in dysentery, skin complaints, jaundice and other diseases. A paste made from roots cures skin disease and leprosy.

Locations: The most common tree in and around Delhi, found in every park and garden. Amrita Shergil Marg, Shanti Path, Shaktisthal and Akbar Road in Delhi have many. Scattered throughout the Ridge.



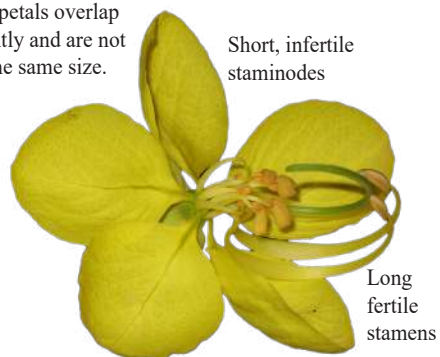
Bright yellow flowers in long drooping clusters.



Young leaves go through a coppery phase.

Leaves have 4-8 smooth, pointy leaflets.

The petals overlap slightly and are not all the same size.



Short, infertile staminodes

Long fertile stamens

SEED SCIENCE

Seed Collection Time: April -May

Fruiting Time: March-April

New Leaf Time: March - April

Viability: 1 year

No. of Seeds per 100 Gm.: 600-700

Germination: 22-60%

Germination Period: 10-20 days

Pre-Treatment: Soaking in cold/tepid water for 4-6 days.

Treatment with boiling water for 5 to 15 minutes followed by soaking for 12 hours or 24 hours or 48 hours

Harvesting Seed/Germination: Seed collection is done when pods are dark brown in colour



Long straight rod-like pod, green at first, dark when ripe.

Greenish yellow bark, smooth when young, over time it develops rough scabs.



SITE SUITABILITY

Soil Regime: Dry soil with medium topsoil

Sunlight Requirement/Growth pattern: Full sunlight, fast growth

Moisture Requirement: Medium

BARNA (*Crateva adansonii* subsp. *odora*)

Bengal quince, barun, bilasi, narnohi

Description: A small deciduous tree, usually crooked and slow growing. Remains bare during dry season, most beautiful when in full bloom. Bark is pale brown, with a silvery sheen, not very rough, becomes scabby with age. The tree has compound leaves with 3 leaflets, smooth, short pointy tips. Flowers in late April, in dense terminal clusters, with 4 white petals, that fade to yellow. The stamens have long electric-purple filaments. The strong solitary round ovary is at the end of a long stalk. Fruits are spherical, the size of a golf ball, growing at the end of thick stalk. Red Brown when ripe with pale spots. Inside of the fruit smells of garlic and the flowers are especially valued for their beauty.

Value: Fruit is consumed by birds, and is fodder for cattle. A nectar plant for butterflies. This tree does well in rich, slightly acidic soil.

The bark is an anti-inflammatory, diuretic and has antipyretic, sedative and tonic properties. Also used in Ayurveda medicine

Seasonal variations: Sheds leaves in November; new leaves in April, canopy renewed in May. Flowers in late April, fruits emerge in May and ripen in September.



Barna is a smallish deciduous tree.

Locations in Delhi: Few specimens in Asola Bhatti Wildlife Sanctuary. A few trees on Aurobindo Marg, in Northern Ridge, groves in Vir Bhumi and Buddha Jayanti Park. Qudsia mosque compound, Talkatora Garden, few in Delhi Golf Course.



Three pointy, yellow-green leaflets on a slender stalk.



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Bark can be pale gray or brown. Turns crusty with age.

SEED SCIENCE

Seed Collection Time: September

Fruiting Time: May-September

New Leaf Time: March-April

Viability: 2 months

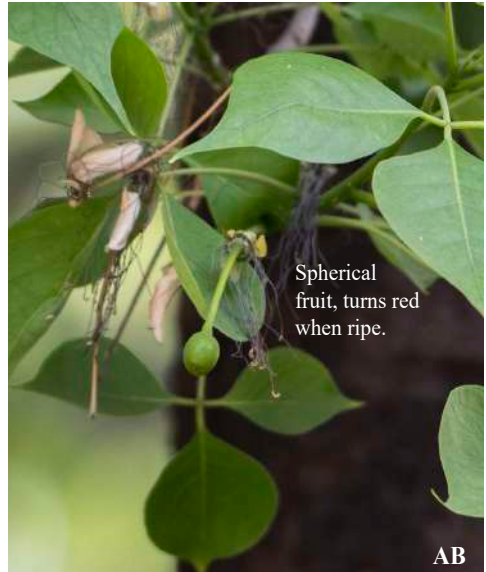
No. of Seeds per 100 Gm.:

Germination: 80%

Germination Period: 30 days

Pre-treatment: Soaking in cold/tepid water for 24 hours

Notes on Harvesting Seed/Germination: Fruit to be collected when dark red



SITE SUITABILITY

Soil Regime: Sandy, rich soil

Sunlight Requirement/Growth pattern: Full sunlight, slow growth

Moisture Requirement: Low

GOYA KHAIR (*Dichrostachys cinerea*)

sickle bush, marabou thorn, khairi, kunlai

Description: A small mimosa-related tree, growing up to 8 m tall. The English name Sickle bush stems from its seedpods which are packed close together and curves in the shape of a sickle. The trunk of the tree is heavy and strong. The bark is green when young and becomes grey-brown and fissured as the tree grows.

It blooms with beautiful bottle-brush like flower heads which are half pink and half yellow. Impressive bisexual flowers are borne in leaf axils. They are scented and found in pendulous, cylindrical bicolored spikes up to 8 cm long. The rear pink part fades to white with time. The buds look like beautiful pink and yellow mulberry fruits and the inflorescence is fragrant. The fruit-pod is narrowly oblong, variously curved and/or coiled, 5-7 cm long and 0.8-1.5 cm wide, blackish or the fruits are narrow, yellow or brown, twisted or sickle-shaped. Seed collection time is September through November.

Value: Goya Khair has a strong capacity for natural regeneration and used in soil conservation. The roots fix atmospheric nitrogen and the leaves are frequently used as a green manure. Fruit and seeds that grow on Goya khair are edible. It has a relatively high protein content. The leaves and fruits are relished by wild and domestic ruminants.

Locations in Delhi: Makes a great plant for the Aravali hills because it adapts very well to the local climate but scarcely seen anywhere in large numbers due to deforestation. Can be found in the Central Ridge.



Fluffy pink flowers of goya khair fade to white as they get older.

SEED SCIENCE

Seed Collection Time: October-December

Fruiting Time: September-October

New Leaf Time: May - June

Viability: 6 month

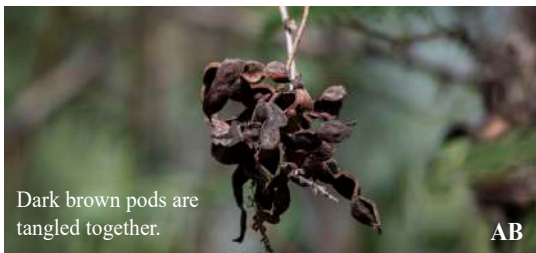
No. of Seeds per 100 Gm.: 450

Pre-treatment: Soaking in cold/tepid water for 48 hours

Germination: 30%

Germination Period: 25 days

Notes on Harvesting Seed/Germination: Pods should be collected when dark brown.



Dark brown pods are tangled together.



Twice feathered leaves with tiny stalk-less leaflets.



Brown or ashy grey bark with vertical fissures.

SITE SUITABILITY

Soil Regime: Dry, open rocky soil and very hardy.

Sunlight Requirement/Growth pattern: Full sunlight, medium growth.

Moisture Requirement: Very low.

BISTENDU (*Diospyros montana*)

Bombay ebony, kendu, lohari

Description: A small deciduous native of Delhi, which flaunts lush foliage at the driest time of the year. The size of the tree is much broader than taller. Older trees have spines that grow at the end of the twigs. It has short gnarled trunk and thick spreading canopy. The barks of the tree are dark gray, becoming black, rough and crusty with time. The leaves are minutely velvety from both the surfaces and form a slightly heart shaped base. The leaf elongates with nearly parallel sides that gradually tapers to a thin blunt point.

Both male and female flowers are small, cup shaped, and grow with four creamy petals bent backward. Female flowers are solitary and are larger. The fruits are about the size of a cheery, growing out of enlarged flower cup. They are initially smooth and green, and become yellow and orange tinged when ripe. The fruits set quickly after flowering, but the seedling growth is decidedly slow. The seedlings develop long taproots at an early stage, often before any appreciable elongation of the shoot takes place. New leaves come in early March, are strikingly beautiful in April and begin to drop in January. The tree normally flowers in April and the fruits remain on the tree till February or March.

Value: The branches of some of the trees spread wide, providing ample shade. The fruit, though toxic, act as a source of nectar for honey bees and eaten by birds with relish. Bistendu tree can also help recharge water table

Locations in Delhi: Bistendu is a fairly common tree on the Ridge as well as most of the large parks in Delhi like Lady Willingdon Park, Lodhi Garden, Roshnara Bagh and Qutub compound as well as Asola Bhatti Wildlife Sanctuary.



A short tree with a spreading canopy that is often wider than the length of the tree.

SEED SCIENCE

Seed Collection Time: December-February

Fruiting Time: June-December

New Leaf Time: March

Viability: 1 year

No. of Seeds per 100 Gm.: 200

Germination: 50%

Germination Period: 45 days

Pre-treatment: Removal of pulp by peeling or rubbing and washing

Notes on Harvesting Seed/Germination: Easily collected from seasonal streams, should be deep brown colour or black. Yellow berries can be taken. The pulp needs to be removed before storage. Prefers shade as a sapling



Fruits are round and green, turning orange when ripe.



Flowers are creamy, cup-shaped with 4 petals bending backwards.



Leaves are slender, velvety and 5-10 cm in length.

Bark is grey at first, turns black with age.



SITE SUITABILITY

Soil Regime: Deep soil, semi moist, stunted growth for prolonged periods

Sunlight Requirement/Growth pattern: Very slow growth initially, grows in partial shade. Can tolerate sun also

Moisture Requirement: Low

CHAMROD (*Ehretia laevis*)

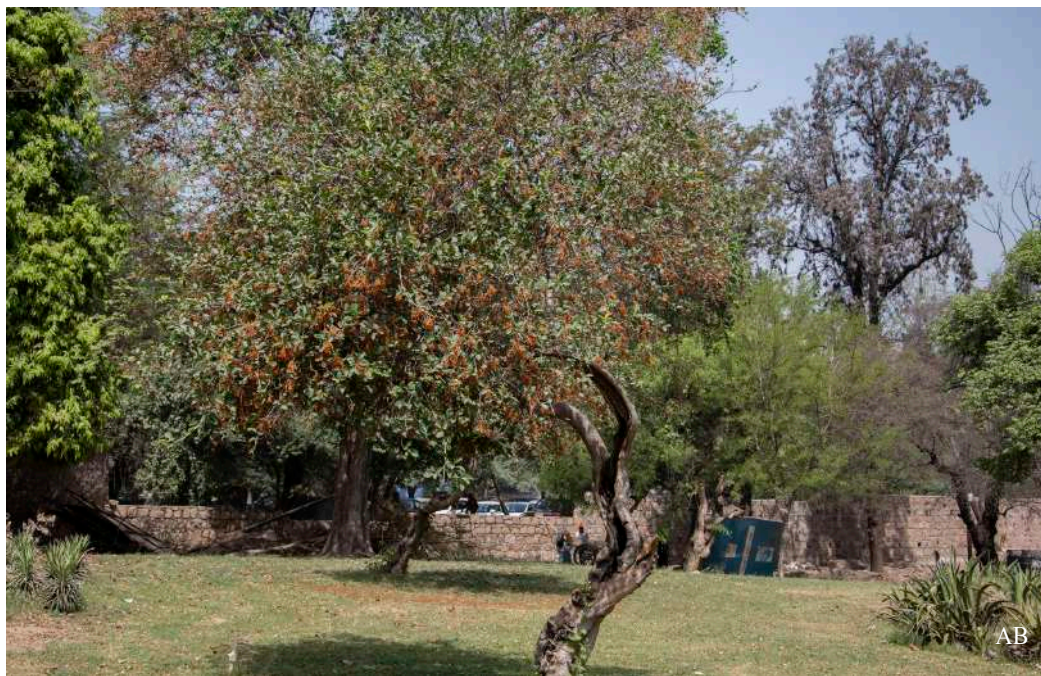
desi papdi, darar, koda, chambal

Description: A medium-sized fast growing deciduous tree primarily recognized by its pale, knobby trunk. The tree blooms from spring through summer when white, fragrant flowers that cover the tree in dense clusters. It is not bothered by insects or disease and grows quickly to full height casting a deep shade under its canopy. The trunk, at maturity, assumes a curious, fluted appearance. The Bark of Chamrod is generally yellowish or grey. Leaves are attractive dark green, elliptic, obtuse or acuminate, entire, membranous when young, hard when mature. They are quite broad, hairy at first becoming smooth and shiny later with a pointed apex.

Flowers of Chamrod tree are small, white star-shaped and present in loose cluster. The flowers drop off fast and form a charming mat of white under the tree. Fruits are in the form of tiny berries, bright orange and turn black when ripe. Prime time of flowering is March. Fruit set very quickly after the flowering, mostly by late March and turn orange in mid- April. The normal seed collection time is April to May.

Value: Chamrod is a rare Indian medicinal plant used from ancient times and is a nectar plant for butterflies. The tree has number of other nutrition and medicinal values. The fruit is eaten by migratory birds like Rosy Starlings

Locations in Delhi: All around Central and North Delhi ridge areas. Some can be seen on road dividers as well.



Chamrod is a small, crooked bush or tree.

SEED SCIENCE

Seed Collection Time: April-June

Fruiting Time: March-April

New Leaf Time: March - May

Viability: 3 months

No. of Seeds per 100 Gm.: 300

Pre-treatment: Soaking in cold/tepid water for 24 hours

Germination: 50%

Germination Period: 30 days

Notes on Harvesting Seed/Germination: Seeds should be collected when light orange



SITE SUITABILITY

Soil Regime: Dry rocky soil, with seasonal water flow

Sunlight Requirement/Growth pattern: Full sunlight, medium growth

Moisture Requirement: Low

INDIAN CORAL TREE

(*Erythrina stricta*)

mandara, pangra, tota, gadha-palash

Description: Is a thorny deciduous tree that can be up to 90 feet tall and spread 20 – 40 feet. The tree has a well spread foliage with brilliant red blossoms. It has stout branches with black tiger's claw spines. The leaf stalks have curved spines.

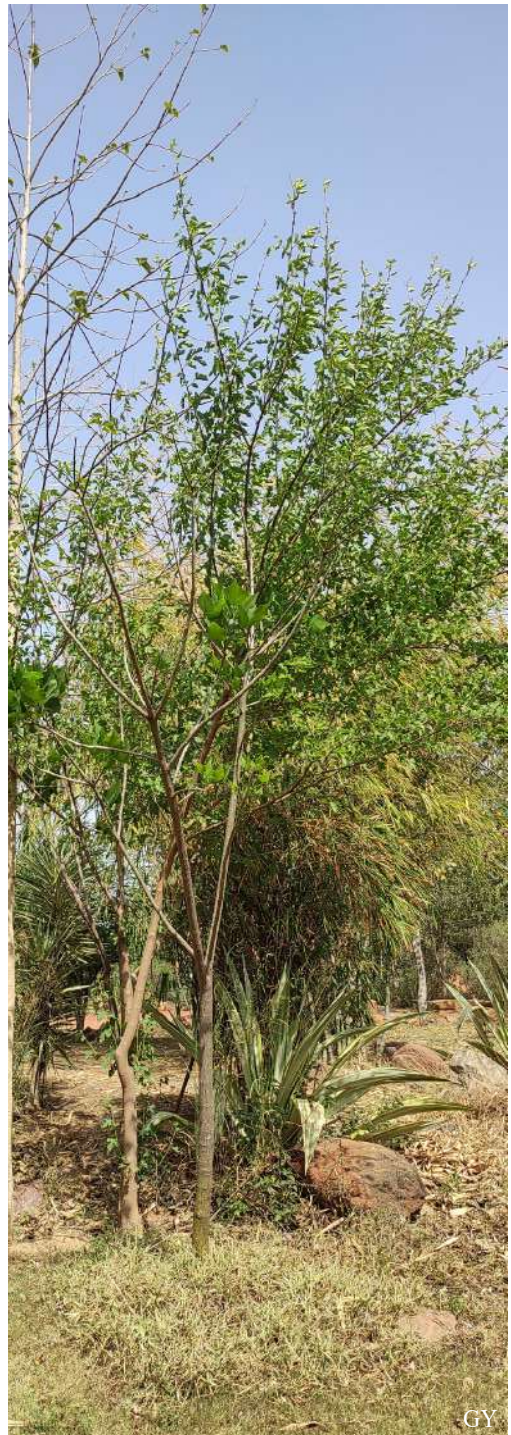
The leaves of Indian Coral Tree are compound, with three diamond shaped leaflets. In late winter or early spring, coral tree is covered with bright crimson flowers which may extend into early summers. The fruits that follow the flowers are cylindrical beanlike pods with reddish brown seeds. The coral tree flowers in late winter or early spring and the fruits show by early summer.

Value: The foliage of coral tree is high in protein and makes is an excellent feed for most livestock. They generally fix atmospheric nitrogen and have nutrient rich leaves which make for an excellent soil enriching mulch. The open crown does not restrict light to the plants going underneath.

Locations in Delhi: Asola Bhatti Wildlife Sanctuary



Coral tree flowers in late winter or early spring.



Indian coral tree is a thorny deciduous tree.

SEED SCIENCE

Seed Collection Time: May-June

Fruiting Time: April-May

New Leaf Time: March-April

Viability: 2-3 years

No. of Seeds per 100 Gm.: 600

Germination: 10-35 days

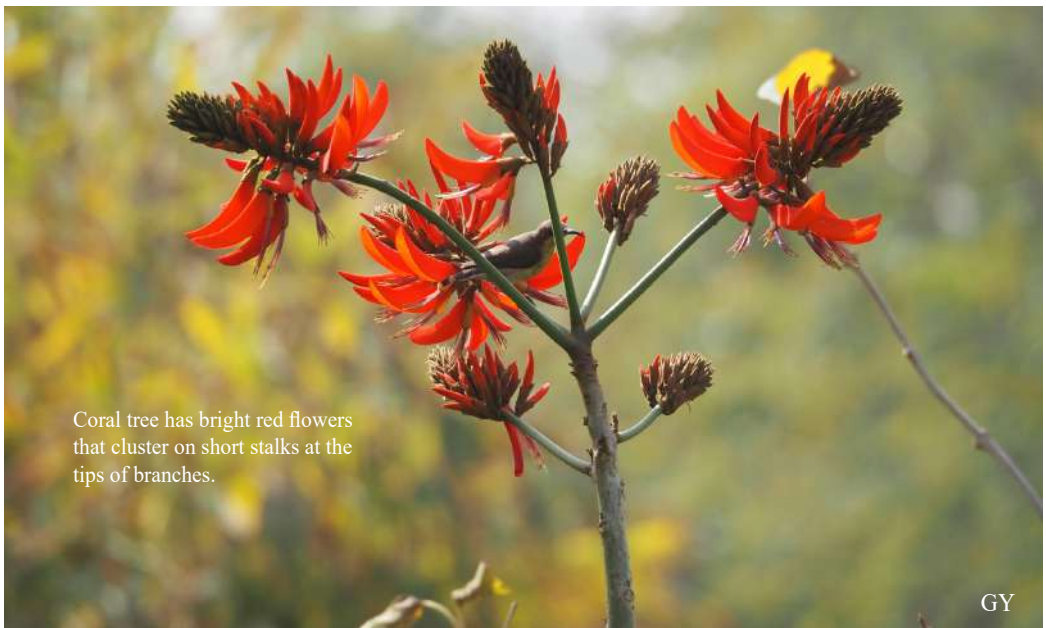
Germination Period: 54-82%

Pre-treatment: No treatment or soaking in cold water for 2-3 hours.

Notes on Harvesting Seed/Germination: Seed is brown kidney shaped with red or purple seeds.



GY



Coral tree has bright red flowers that cluster on short stalks at the tips of branches.

GY

SITE SUITABILITY

Soil Regime: Rocky and dry soil

Sunlight Requirement/Growth pattern: Full sunlight, fast growth

Moisture Requirement: Low

ADUSA (*Justicia adhatoda*)

Malabar nut

Description: Is a perennial undershrub with white inflorescence found growing wild in the areas of the Ridge. It is a native Indian plant, widely used in Siddha, Ayurveda, Homeopathy and Unani systems of medicine. Its trunk has many long opposite ascending branches, where the bark is yellowish in colour. The leaves are oppositely arranged, smooth-edged, and borne on short petioles. When dry they are of a dull brownish-green colour. They are bitter-tasting. Flowers are usually white and the inflorescence shows large, dense, axillary spikes. Fruits are pubescent, and are with club-shaped capsules. The flowering time is February-March, as the winter temperature rise in the Delhi.

Value: Adusa plants have a characteristic odour, a bitter taste and are excellent sources of nectar for butterflies and bees. The juice is a germicidal and a natural blood purifier. The plant has medicinal value for asthma, cough, cold, piles, cancer and skin diseases. It purifies water and protects it from flies and mosquitoes. The juice of fresh leaves mixed with honey and is given twice a day for 7-10 days as excellent cough remedies for chronic bronchitis and asthma.

Locations in Delhi: Grows wild in undisturbed areas of the ridge, can be found in Asola-Bhatti Wildlife sanctuary and Sanjay Van.



Adusa is a perennial shrub with white flowers, common in the Ridge.

SEED SCIENCE

Seed Collection Time: June-August

Fruiting Time: April-June

New Leaf Time: May-June

Viability: 1 month

Pre-treatment: Propagation mainly by cuttings.

Notes on Harvesting Seed/Germination:

Cuttings kept in shade and moist soil do well.



Narrow, oval leaves, smooth edges, minute hairs.



Adusa has large white flowers in compact spikes.

Throat of flowers is pink or orange in color.

SITE SUITABILITY

Soil Regime: Rocky to sandy soil, grows well in shade. Needs some organic content in the soil.

Sunlight Requirement/Growth pattern: Partial shade, fast growth.

Moisture Requirement: Medium

KAIM (*Mitragyna parvifolia*)

Kadamb, phaldu

Description: A resilient tree which has adapted to growing in the sandy beds of seasonal streams. The tall trunk is short and irregularly shaped, with a spreading foilage. This is the tree mentioned in the folklore of Krishna and gopis. The Bark is pale grey or yellowish, smooth, pitted by shallow depressions, where old bark is flaked off. Leaves are in opposite pairs, variable in size and shape. 5-17 cm long, sometimes oval, sometimes inverted oval, or almost round. New leaves are protected by pink buds, which fall off. Flowers are tiny, pale yellow, clustered in spherical heads, about 2.5 cm in diameter, either solitary or in sets of 3. Fruits are tiny capsules, clustered in round heads, between 100 and 150 in each cluster, mimicking the forms of the flower heads. The fruit start off green, turn brown and eventually black. Seed collection time is August end till a few months. Leaves start thinning out in January, remain bare through March, and new leaves in early May. Flowers in mid-May or June, continuing into rains. Fruit starts forming in August, remaining on the tree for many months.

Value: The leaves are a nutritious fodder and flowers are excellent bee-forage. Also used by butterflies and moths as a larval host plant. The fruit juice augments the quantities of breast milk in lactating mothers. In traditional medicine in the Indian subcontinent the bark and roots of the tree are used for fevers, colic, muscular pains, burning sensations in the stomach, poisoning, coughs, oedema, and as an aphrodisiac.

Locations in Delhi: Nehru's Samadhi, Teen Murthi Garden, Lodhi Garden, Talkatora Garden, Bhagwan Das road near Supreme Court. Rare on Ridge.



SEED SCIENCE

Seed Collection Time: August-September

Fruiting Time: July-August

New Leaf Time: April - May

Viability: 3 month

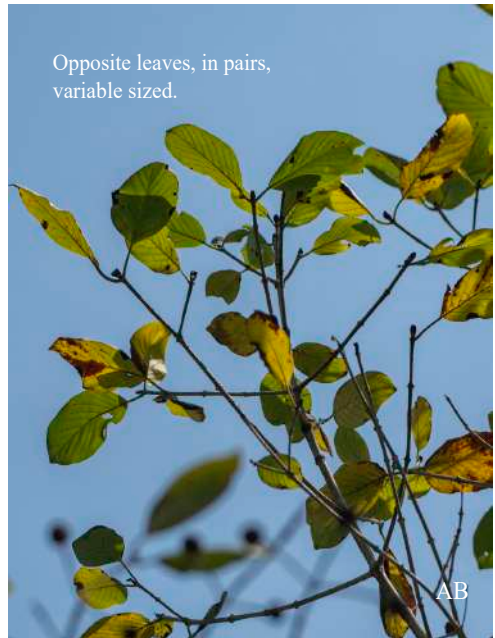
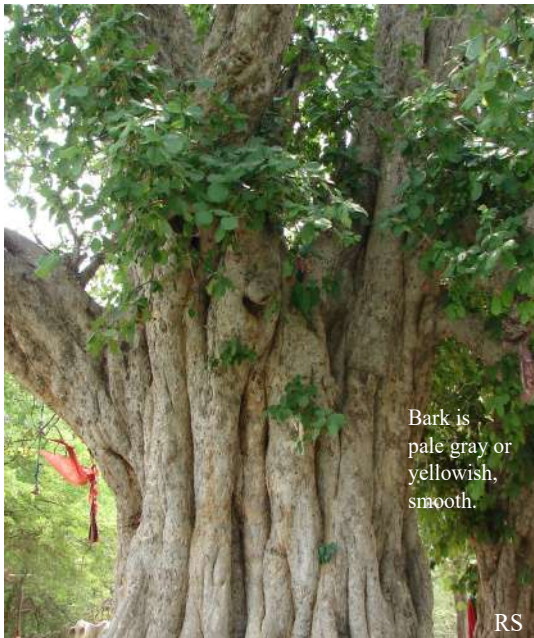
No. of Seeds per 100 Gm.: 1200-1500

Germination: 20%

Germination Period: 25

Pre-treatment: No treatment or soaking in cold water for 2-3 hours

Notes on Harvesting Seed/Germination: Fruits contain many light seeds, to be collected when dry and dark brown/blackish



SITE SUITABILITY

Soil Regime: Deep soil deposits, fertile and rich in organic matter

Sunlight Requirement/Growth pattern: Full sunlight, moderate growth

Moisture Requirement: Medium

SONJNA (*Moringa oleifera*)

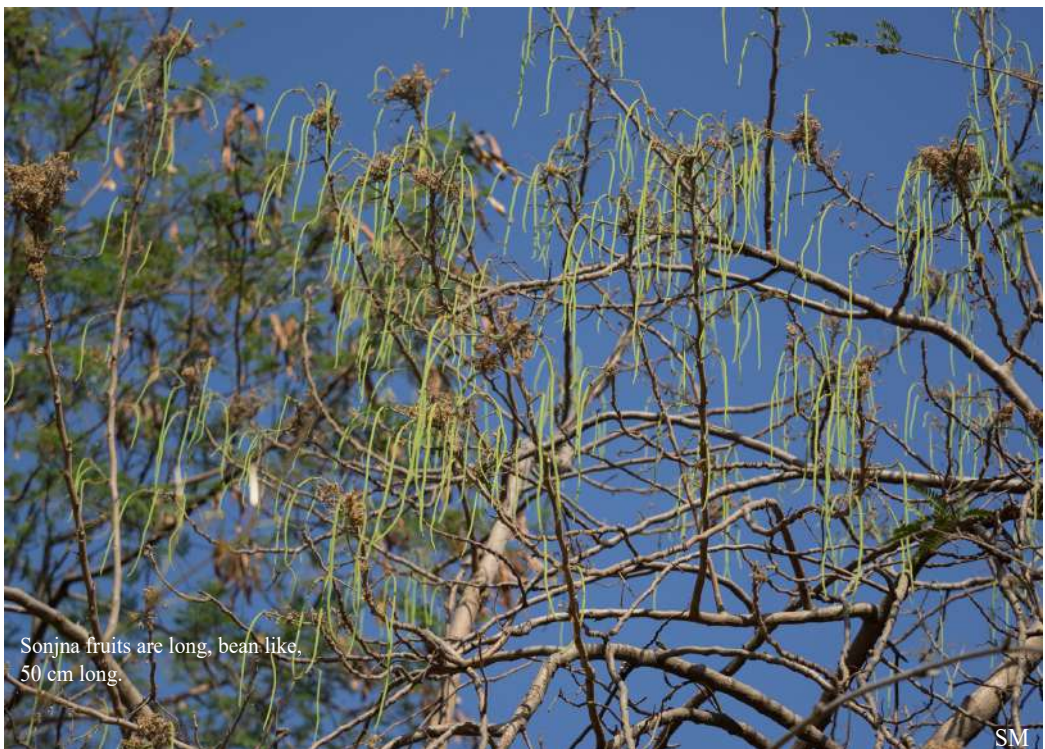
Drumstick tree, munga

Description: Medium-sized deciduous tree with sparse foliage and fast-growing. The bark is pale brown or silvery-white, corky and furrowed. Leaves are Tri or bipinnate, bearing leaflets in opposite pairs. Main leaf stalk branches into 4-6 pairs of widely spaced side-stalks, leaflets bluntly oval, 2 cm long. Flowers are fragrant, yellowish-white, and somewhat pea-like in form. Fruits are bean-like, up to 50 cm long with 9 faint ribs. Pale green and tender at first and becomes firm. Seeds are Large and distinctive, three-sided, brown capsules with dark brown seeds inside.

Value: Cultivated as one of the world's most useful plants also called the miracle tree. Flowers act as a nectar source for honey bees and butterflies. Because it is fast growing and readily establishes itself in dry areas, it can be extremely useful in creating woodlands. Also provides wind break and shade and support for other climbing creepers. The gum obtained from the stem is used for stomach and bladder ailments. Moringa seeds are effective against skin-infecting bacteria. Leaves and fruits are an astonishingly rich source of calcium, protein, vitamin B, A, and C.

Seasonal variation: new leaves appear in late March; Flowers between April and June; Fruits ripe in June. Shed leaves in December or January.

Locations in Delhi: Sunder Nursery and Asola Bhatti Wildlife Sanctuary.



SEED SCIENCE

Seed Collection Time: June-July

Fruiting Time: May-June

New Leaf Time: March-April

Viability: 1-6 month

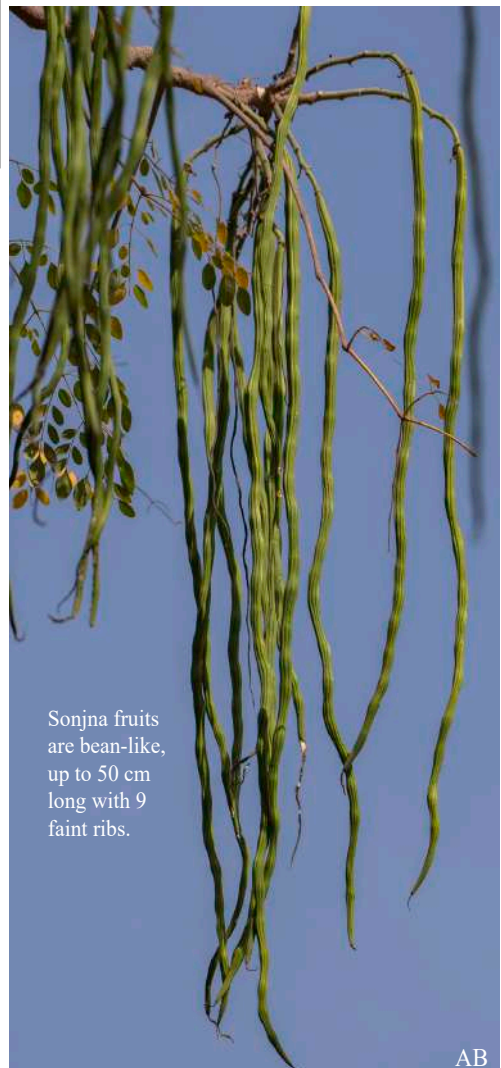
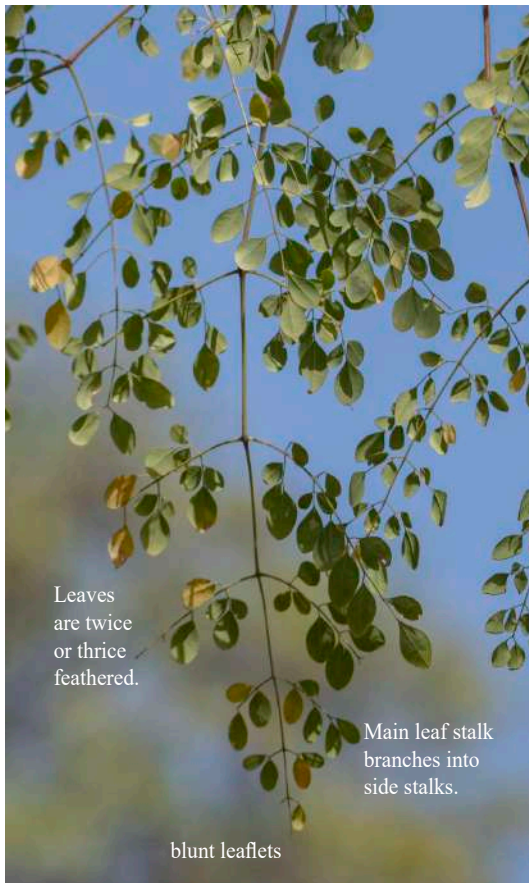
No. of Seeds per 100 Gm.: 800-900

Pre-treatment: Soaking in cold/tepid water for 24 hours

Germination Percent: 86%

Germination Period: 20-30 days

Notes on Harvesting Seed/Germination: Pods to be collected when light brown and crackling.



Pink buds of sojna flowers
are a delight to see, when
they emerge in April.

GY

Fragrant,
yellow-white
flowers in
large clusters.

GY



The leaves of sonjna saplings do not have the complex compound character of mature trees.

SITE SUITABILITY
Soil Regime: Generally adaptive to varied soil regimes
Sunlight Requirement/Growth pattern: Full sunlight, fast growth
Moisture Requirement: Medium



Furrowed bark, pale brown or silvery.

KADIPATTA (*Murraya koenigii*)

curry leaf

Description: A small deciduous tree or bush whose strongly scented leaves are a familiar ingredient of many Indian cuisines. Under the right conditions, it grows into a small tree with a shady crown of bright- green foliage and dense clusters of white flowers. The bark is, purplish brown; shallow fissures develop as bark gets old. The leaves are feather- compound with 9-25 thin, pointy leaflets; base asymmetric, apex notched. It has Small, white, fragrant flowers with 5 petals occur in sprays at ends of twigs. Fruits look like berry that turns from pink to shiny black; skin rough with glands.

Value: The pungent, aromatic leaves of Kadipatta are used in curries, chutneys, stews. The fruit has a peppery flavour. The leaves, roots and bark are all used internally to treat digestive problems. Leaves are used in treating constipation, colic and diarrhoea, and can be applied externally as poultice to treat burns and wounds.

A larval host plant for butterflies like Common Mormon and Common Lime Swallowtail.

Location in Delhi: Asola Bhatti Wildlife Sanctuary, widely cultivated across Delhi (mostly as a bush)



Feather-compound leaves with pointy leaflets.

SEED SCIENCE

Seed Collection Time: May-July

Fruiting Time: February-May

New Leaf Time: January-February

Viability: 6 month

No. of Seeds per 100 Gm.: 125-250

Pre-treatment: Soaking in cold/tepid water for 24 hours

Germination: 60%

Germination Period: 15 days

Notes on Harvesting Seed/Germination: seeds should be collected when dark green or brown



RS

Fruits green, turn black when ripe.
Small glands, rough skin.



Small white flowers with
5 petals at twig ends

AB



Bark is
purplish
brown, fissures
develop with
age.

AB

SITE SUITABILITY

Soil Regime: Rich topsoil and well-drained soil

Sunlight Requirement/Growth pattern: Full sunlight, medium growth

Moisture Requirement: Medium

HARSHRINGAR (*Nyctanthes arbor-tristis*)

Night flowering jasmine, parijat

Description: Also known as Night Jasmine or Parijat and is considered to be a flower fit for the Gods. The word ‘parijat’ literally means descended from heavens. It is a small tree or a shrub growing up to 33 feet tall with flaky grey bark. The leaves are opposite, simple, with an entire margin. The flowers are fragrant, look breath taking with a five- to eight-lobed white corolla with an orange-red centre; they are produced in clusters of two to seven together, with individual flowers opening at dusk and finishing at dawn. The fruit is a flat brown heart-shaped to round capsule 2 cm diameter, each lobe containing a single seed. Flowering occurs from September to December and seed can be collect from January to March.

Value: It is a host plant for moths. Used a hedge plant and can be planted as understory plant in plantation and reforestation projects. The extracts of the flowers, leaves and seeds are used by local people for their antifungal, and immune-stimulant properties. Flowers used in breakfast soup. Flowers and leaves are used to gain resistance against seasonal ailments, like several body pains, inflammation and fevers like flu, malaria and the common cold.

Locations in Delhi: Asola Bhatti Wildlife Sanctuary, Sanjay Van and Hauz Rani City Forest.



SEED SCIENCE

Seed Collection Time: January-March

Fruiting Time: November-December

New Leaf Time: June-July

Viability: 6 months

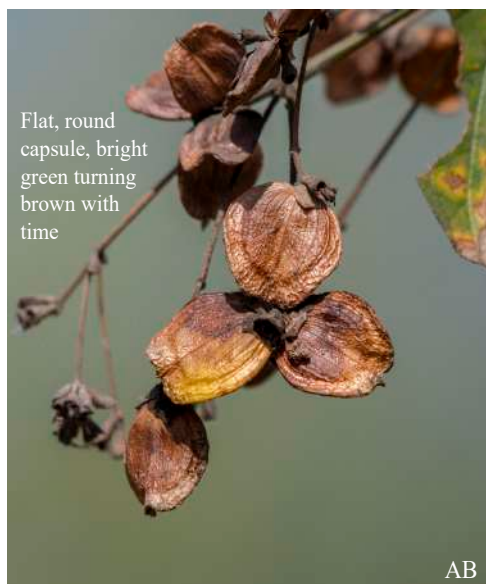
No. of Seeds per 100 Gm.: 900

Germination: 60%

Germination Period: 20 days

Pre-treatment: Soaking in cold/tepid water for 24 hours.

Notes on Harvesting Seed/Germination: Seeds should be collected when dark green and brown.



SITE SUITABILITY

Soil Regime: Dry, sandy and little water retention.

Sunlight Requirement/Growth pattern: Full sunlight, medium growth.

Moisture Requirement:

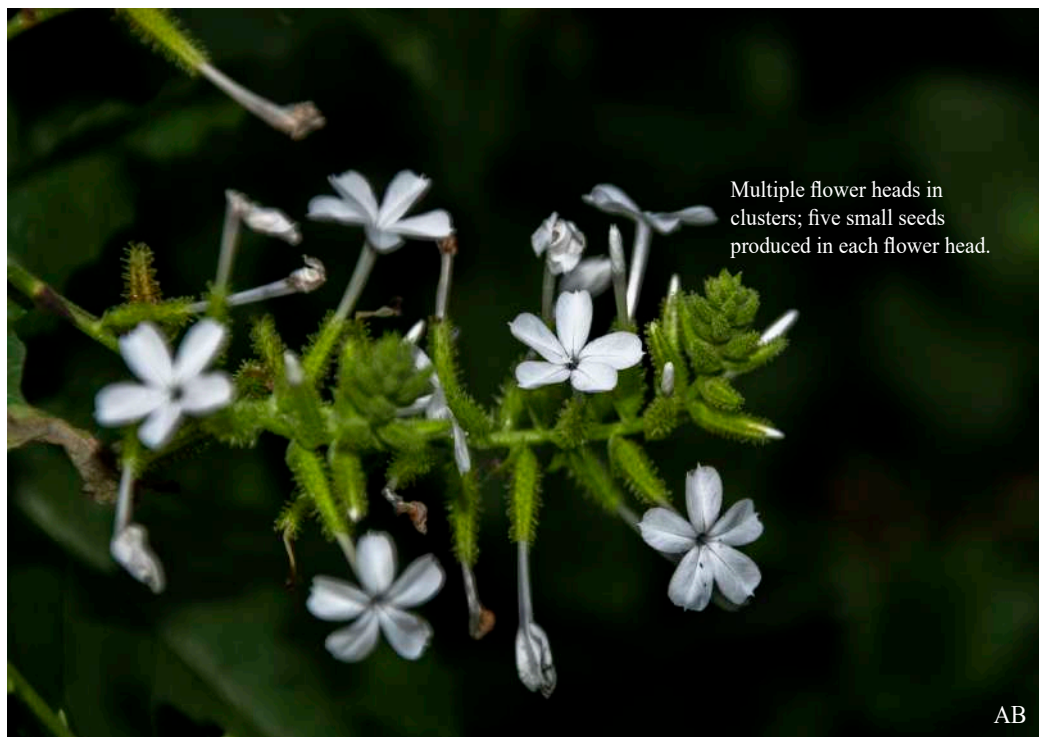
CHITRAK (*Plumbago zeylanica*)

Description: An evergreen perennial shrub sometimes with more persistent, semi-woody stems. Roots are light coloured inside, when fresh and reddish brown, when dry. Outer surface of the root is brown and striated. The stems, which are 1 - 2 metres long, have a somewhat lax habit and sometimes adopt a more climbing habit. Leaves are simple, opposite, 4–10 cm long, 3–5 cm broad, oval, pointed, smooth, and shiny, somewhat rough beneath. Flowers are white, in elongate, terminal, petals are 1-1.6 cm across. Fruits are membranous, 5-valved capsule, enclosed in a persistent calyx; stalked and glandular.

Its active growth occurs during rainy season and ceases in post-flowering stage. During summer, the plant remains almost leafless under natural conditions, but under irrigated conditions, the active growth starts in April.

Value: Chitrak plant although toxic, is commonly used medicinally and not for food. It is used in very small amounts internally to treat skin problems and intestinal worms. The active compound plumbagin, has various pharmacological properties, including antibacterial activity when used in small quantities, but high doses can be fatal. It is also a host plant for some butterflies of our region. It is useful in plantation programs, being highly drought resistant.

Location in Delhi: Asola Bhatti Wildlife Sanctuary, Sunder Nursery, Kamla Nehru Ridge.



SEED SCIENCE

Seed Collection Time: April

Fruiting Time: March-April

New Leaf Time: February

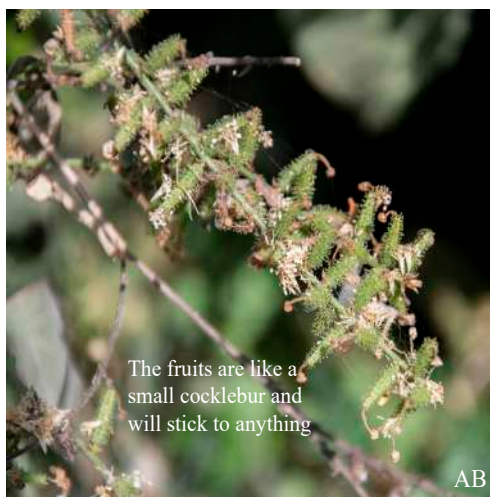
Viability: 6 months

No. of Seeds per 100 Gm.: N/A

Germination: 40%

Germination Period: 45 days

Pre-treatment: No treatment or soaking in cold water for 2-3 hours.



SITE SUITABILITY

Soil Regime: Rich sandy to loamy soil with moderate moisture

Sunlight Requirement/Growth pattern: Full sunlight, medium growth

Moisture Requirement: Medium



PHULAI (*Senegalia modesta*)

Amritsar gum, phulahi

Description: Phulai is a slow growing, deciduous tree, rich with cultural and mythical importance. The branches of the tree, which grow sideways, provide shade from glaring sun of the areas they grow in. The bark is reddish brown which covers its dark brown and black wood.

The tree is adorned by small, compound leaves which are deep green colour. Each leaflet resembles a flat cylinder that rounds up on both ends. In a beautiful contrast to the deep green leaves are the bright green flowers, which attract bees for nectar. The fruit closely resembles a large tamarind pod and is green colour initially, giving way to brown as it ages and hardens.

This drought tolerant tree is typically found in Aravalli hills, India where it can grow in areas with yearly rainfall between 250 and 1300 mm.

Value: The tree is a wild host of *Phenacoccus solenopsis* (cotton mealy bug), as well as paper mulberry, dodder and spherical mealy bug. In dry lands, *Senegalia modesta* is an important forage species. Tender leaves and twigs in particular have a high nutritional value and palatability. Typically planted in soil conservation schemes, where it is useful in stabilizing slopes.

Locations in Delhi: Mangar Bani is perhaps the only area in NCR where one sees these trees in such large numbers. Some specimens can be seen in the Central Ridge and the Asola Bhatti Wildlife Sanctuary.



Tiny, white flowers, clustered on spikes

SEED SCIENCE

Seed Collection Time: May-June

Fruiting Time: April-May

New Leaf Time: May

Viability: 1 year

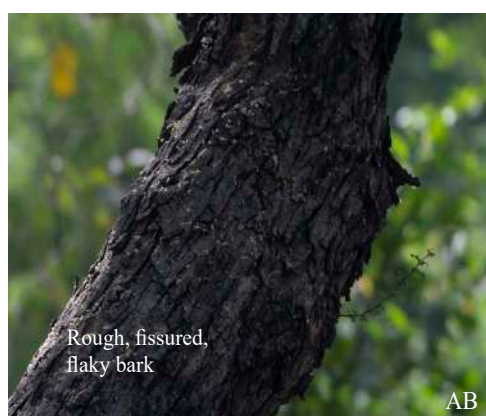
No. of Seeds per 100 Gm.: 820 to 1090

Germination: 56%

Germination Period: 30 days

Pre-treatment: Immersion in hot water (80-100°C) then allowing it to cool followed for soaking for 24 hours.

Notes on Harvesting Seed/Germination: Pods turn dark brown on the tree and can be collected then. Can be grown directly in bags for best results.



SITE SUITABILITY

Soil Regime: Dry slopes with rocks and gravel.

Sunlight Requirement/Growth pattern: Full sunlight, medium growth

Moisture Requirement: Low

JHAU (*Tamarix dioica*)

Description: A twiggy shrub or small tree which grows about 2-4 m tall in saline habitats in western Asia. Its bark is reddish brown, entirely hairless. The leaves are Alternate, scale- like, vaginate, abruptly tapering, 1.5- 4 mm long with a broad whitish margin. Flowers are Purple or purplish- pink, nearly stalk less; simple or loosely compound male racemes 3-8 cm long, 7-8 mm broad; female raceme may be longer; 5 free petals. Male and female flowers grow on separate plants. Fruit look like capsule, conical- pyramidal with multiple seeds. Flowering happens in April- December; fruiting in July- January.

Value: Extremely useful as a reforestation species for inundated lands. Highly tolerant of salts in the soil. A very good source of nectar for various insects.

Location in Delhi: Asola Bhatti Wildlife Sanctuary, JNU Campus.



Small-medium sized evergreen tree with delicate twigs,

SEED SCIENCE

Seed Collection Time: September-October

Fruiting Time: August-September

New Leaf Time: March

Viability: 1 week

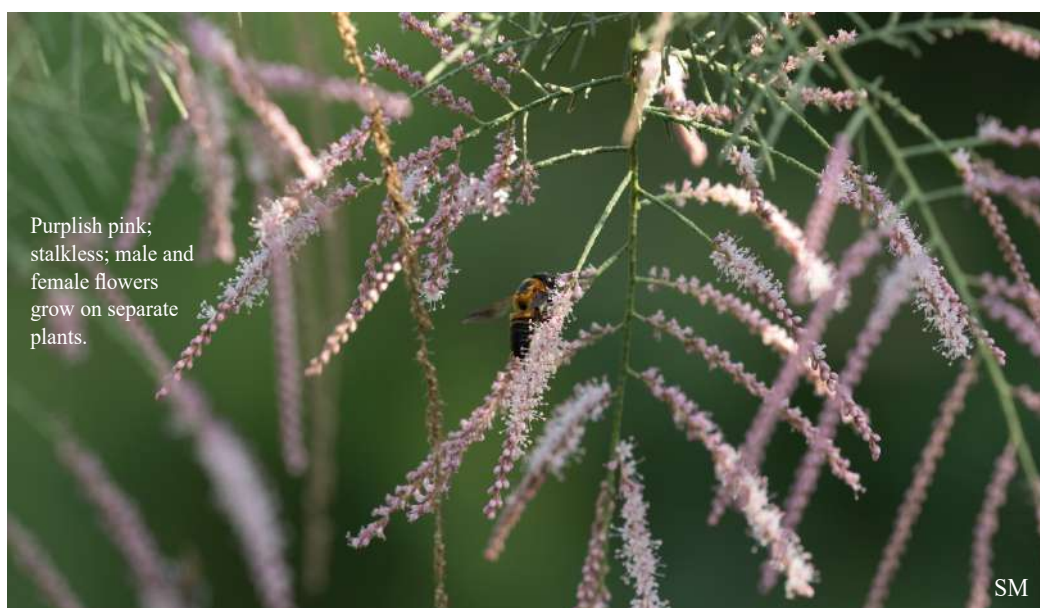
No. of Seeds per 100 Gm.: 29000, propagation by cutting mainly

Germination: N/A

Germination Period: 2-3 days

Pre-treatment: No treatment or soaking in cold water for 2-3 hours

Notes on Harvesting Seed/Germination: Short cuttings do well after initial heavy watering



SITE SUITABILITY

Soil Regime: Very saline, moisture rich, sandy to loamy soil

Sunlight Requirement/Growth pattern: Full sunlight, fast growth

Moisture Requirement: Medium

ROHEDA (*Tecomella undulata*)

barmer, desert teak, luar, lohura

Description: A small, deciduous, somewhat untidy tree with a loose open crown. It is a delight to behold in March when it is magnificent with orange trumpet flowers. It is a native of Delhi and grows in dry, arid areas. Bark is dark grey-brown, rough with shallow furrows. Leaves are in opposite or near opposite pairs, dull greyish, 5-12 cm long, lance shaped with wavy margins. Flowers are yellow, orange and red coloured, beautiful tubular and grows in clusters. Fruits are long thin, slightly curved capsules, 20 cm long, with winged seeds. Sheds leaves in January, leaves are renewed in February. Also it is highly responsive to rain. Starts flowering in mid-March peaking by March end. Fruits ripen in June.

Value: Flowers, leaves and pods are food source for herbivores. Shade giving tree for desert wildlife is now a threatened species due to over exploitation of its wild populations. It play an important role in soil binding and help settle rising sand dunes.

Locations in Delhi: Asola Butterfly Park, Lodhi Garden, Nehru Park, Mahavir Jayanti Park and JNU campus.



Small deciduous tree,
branches arranged
haphazardly.

SEED SCIENCE

Seed Collection Time: April-June

Fruiting Time: March-April

New Leaf Time: February

Viability: 1 year

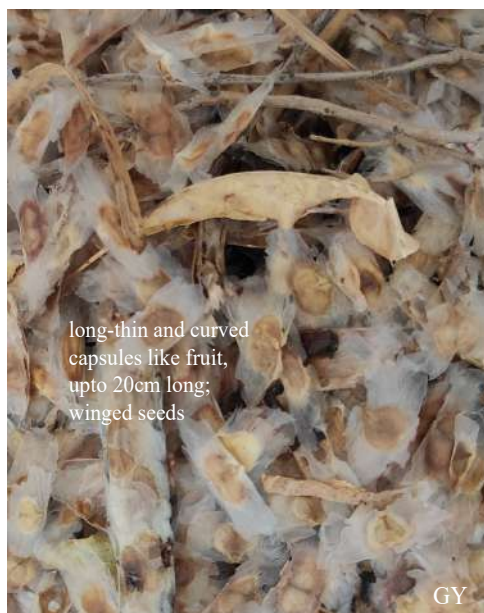
No. of Seeds per 100 Gm.: 1000

Germination: 10%

Germination Period: 82 days

Pre-treatment: soaking in cold/tepid water for 24 hours

Notes on Harvesting Seed/Germination: Very light seeds, care must be taken at time of sowing and transplanting.



long-thin and curved capsules like fruit, upto 20cm long; winged seeds

GY



Hollow clustered flowers, orangish yellow to red shade, upto 8cm long.



Dull greyish green flowers in opposite pairs, wavy margins.

RS

SITE SUITABILITY

Soil Regime: Dry, sandy, coarse soil with shallow top soil

Sunlight Requirement/Growth pattern: Full sunlight, very slow growth, high ground maintenance (threatened)

Moisture Requirement: Low

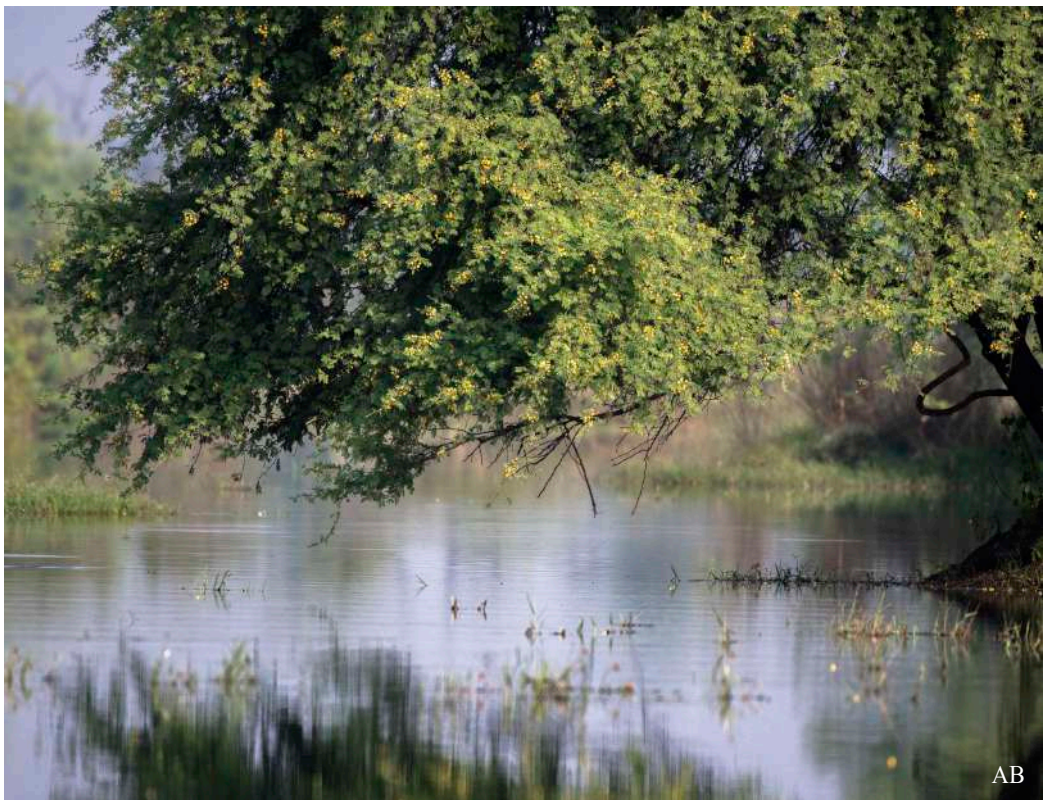
DESI BABOOL (*Vachellia nilotica*)

Egyptian mimosa, Egyptian thorn, babool

Description: A middle-sized, deciduous, thorny tree with a spreading, open, feathery crown with a maximum height of 10-15 m. The bark is black, thick, deeply ridged and fissured. The leaves are twice feathered, about 2.5-5 cm long with 3-6 pairs of side stalks. The leaf stalk, flower stalk and twigs are lightly downy but the leaflets are smooth. Flowers are bright yellow, clustered tightly together to form round heads. Like all other acacias, the petals are insignificant, the flowers are fragrant. The tree flowers from June into the rains, peaking in August.

The fruits are greyish, velvety pods, up to 20 cm long, deeply pinched between the seeds like a bead necklace. Ripe pods do not split open on their own but are adapted for dispersal by browsing animals that eat the fruit.

Shed leaves in March or early April; renewed fairly, quickly. Flowers from June into the rains, peaking in August; straggling flowers persists till November. Fruits in September, ripening between April and June.



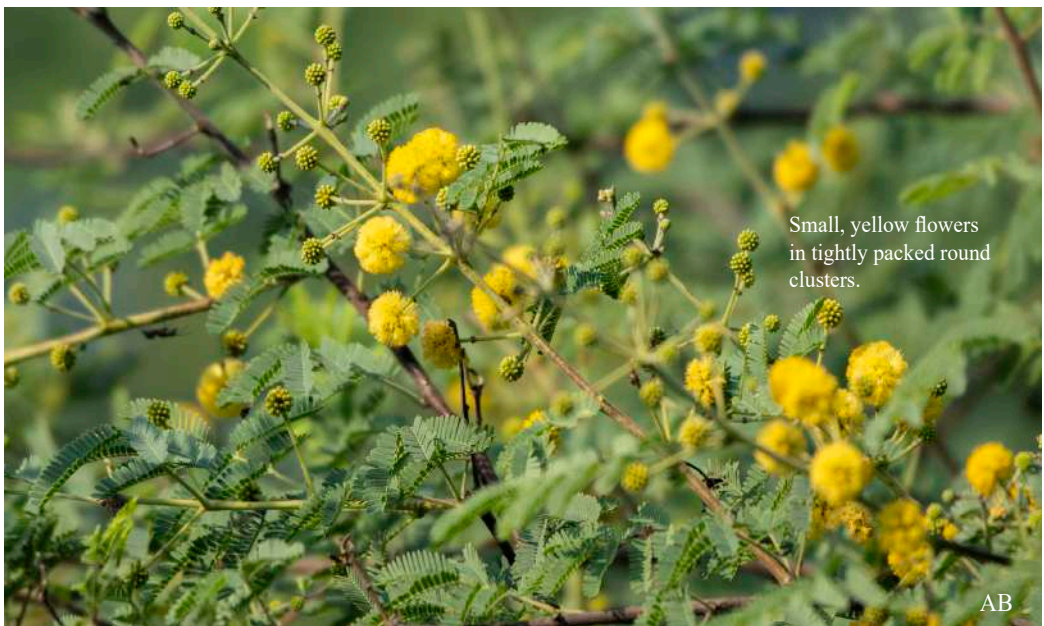
AB

Medium sized thorny deciduous tree with feathery canopy.

Value: Used for the reclamation of wastelands, especially alkaline soils. A pioneer species with deep and extensive root system helps in stabilizing sandy denuded hills of ridge. Very efficient nitrogen fixer can be used as hedge plants to protect plantations. The trees are also used in reforestation of inundated land.

The flowers attract a lot of insects and reptiles and birds that feed on them. A good species for wild Bovid of our region.

Locations in Delhi: Hauz Khas District Park, low-lying areas of JNU; Jaunapur ravines.



SEED SCIENCE

Seed Collection Time: June

Fruiting Time: September

New Leaf Time: February

Viability: 2-3 year

No. of Seeds per 100 Gm.: 700-1100

Germination: 80%

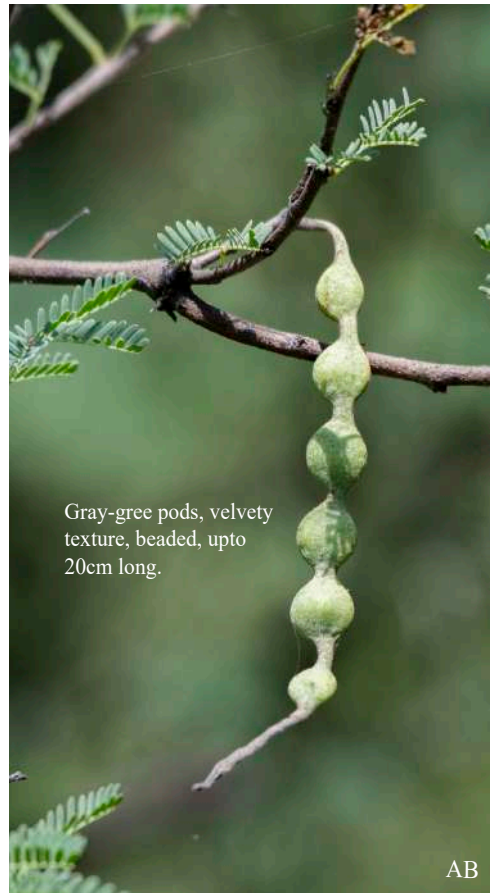
Germination Period: 30 days

Pre-treatment: Treatment with concentrated sulphuric acid for 2-30 minutes or more followed by washing with cold water.

Fermentation or cow-dung slurry treatment for two weeks or more, till the seeds show sprouting.

Treatment with boiling water for 5 to 15 minutes followed by soaking for 12 hours or 24 hours or 48 hours.

Notes on Harvesting Seed/Germination: Pods should be collected when dark brown and for better results grown straight in bags.



SITE SUITABILITY

Soil Regime: Deep sand or soil deposit, semi moist areas preferred.

Sunlight Requirement/Growth pattern: Full sunlight, fast growth.

Moisture Requirement: Medium

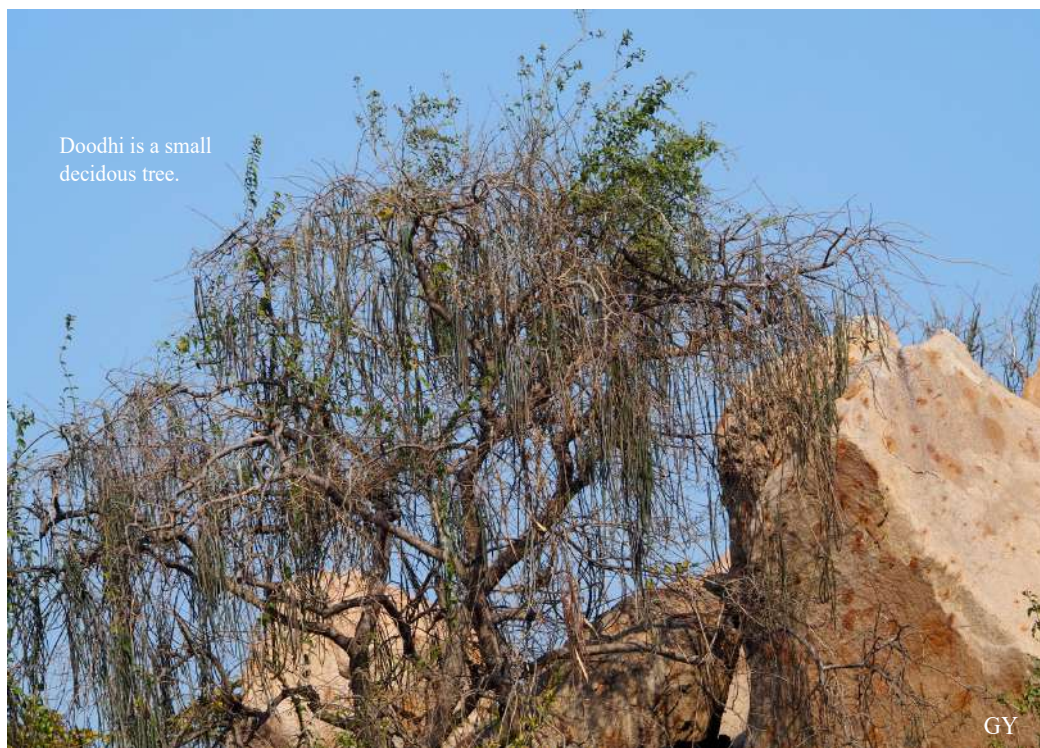
DOODHI (*Wrightia tinctoria*)

sweet indrajao, dyer's oleander, karu, indrajao

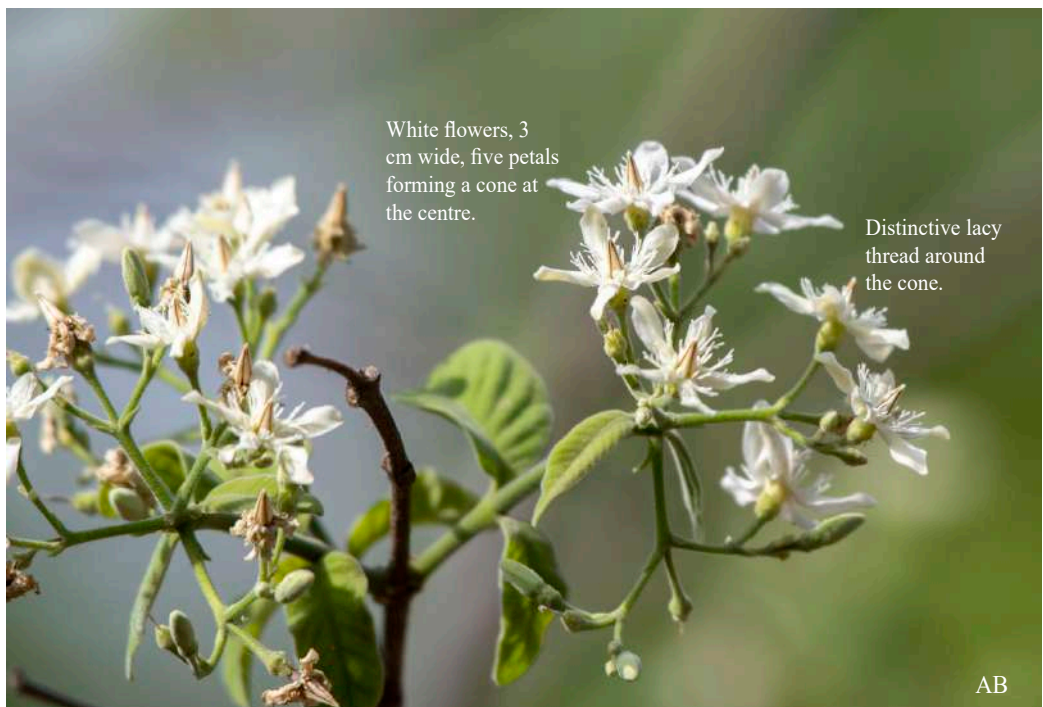
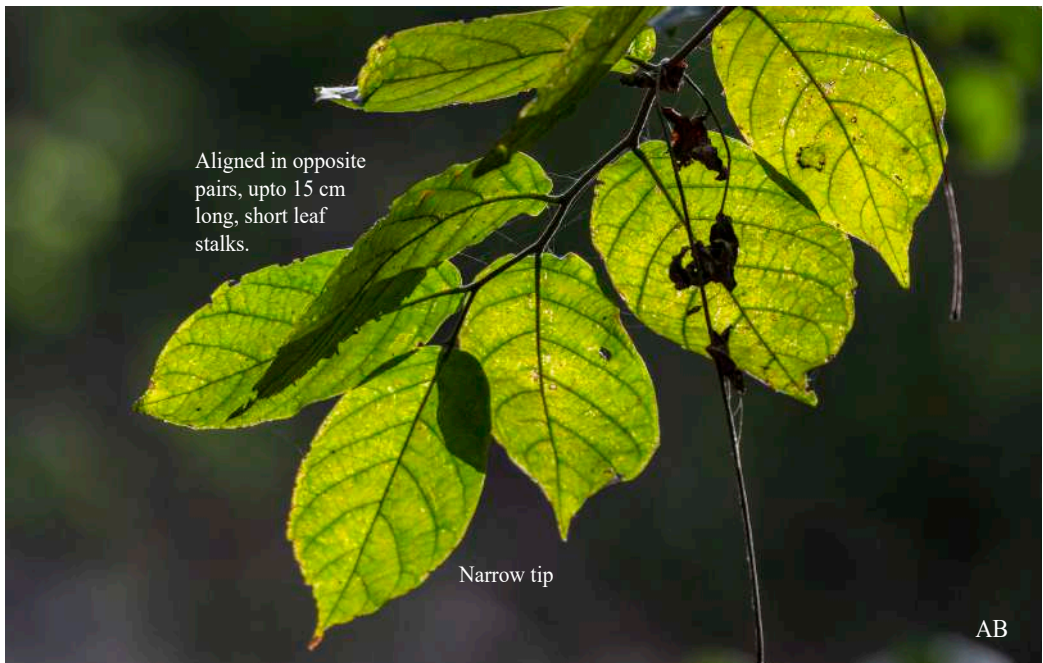
Description: A slow to moderate-growing deciduous shrub or a small tree, growing up to 3 m high. It has short stem and grey or pale brown bark with several branches becoming fissured with age. The outer layer of the bark is normally thin, while the inner layer is thick, brittle and creamy. The leaves are distichous, estipulate; petiole, pointy, oppositely arranged, ovate, obtusely acuminate around 10-20 cm long. Leaf stalks are very short.

Fragrant, white bisexual Corymb-like Flowers have five white petals 2-3 cm long which turn creamy yellow as they age. The flowers are beautiful with oblong petals which are rounded at the tip and remind one of frangipani. The stamens form a cone at the centre; distinctive lacy threads around the cone. The seeds are brown and flat with bunch of white hairs and the seed collection time is in late summer. Leaves fall in December or January, renewed in April or May. Flowers soon after the new leaves come up, mid-May to late June. Fruits in November, ripen by the following summer.

Value: The tree responds well to coppicing, and also produces root suckers. The leaves of Doodhi are used as a good source of manure for paddy fields. It also provides nectar to insects and tolerates high uranium levels in soils. The flowers, leaves, fruits and seeds are edible. It grows well in rocky habitat.



Locations in Delhi: Doodhi trees are commonly found in the northern and Central Ridge as well as Buddha Jayanti Park. Asola Bhatti Wildlife Sanctuary, especially areas around Kholi Mandir.



SEED SCIENCE

S Collection Time: June - July

Fruiting Time: January-February

New Leaf Time: April - May

Viability: 6 month

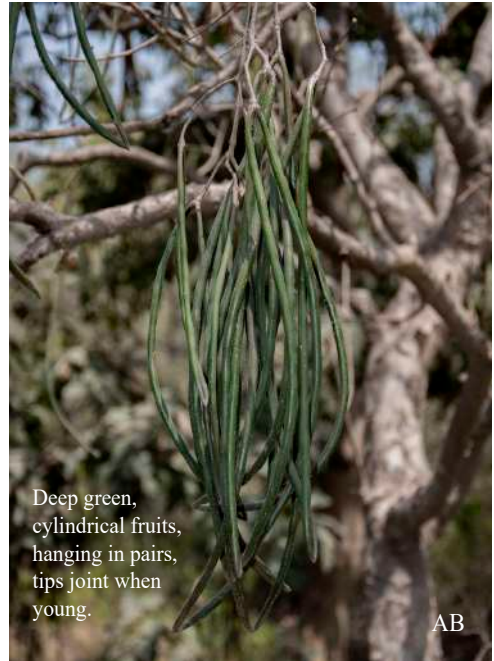
No. of Seeds per 100 Gm.: 3100

Germination: 60%

Germination Period: 10-15 days

Pre-treatment: No treatment or soaking in cold water for 2-3 hours

Notes on Harvesting Seed/Germination: Pods stay on the tree for almost a year and should be collected when brown. To separate seeds, pods should be dried in a paper bag in full sun.



Grey or pale brown bark, grows fissured with age.

SITE SUITABILITY

Soil Regime: Rocky slopes, with dry gravelly soil

Sunlight Requirement/Growth pattern: Full sunlight, slow growth

Moisture Requirement: Medium