

NEEM

Botanical Name: *Azadirachta indica*

Common Name: Neem

Family: Meliaceae

Part Use: leaf, bark, fruit, seed [and whole part of plant]

- ⇒ The neem called Indian leg have originate in Indian sub continent and his ^{now} ~~heavily~~ widely distributed in tropical & subtropical.
- ⇒ Its naturally found in drier area of India, Pakistan, Sri Lanka, Myanmar etc.
- ⇒ In world including - Africa, America, Australia, South Pacific region.

Botanical Characters:

- ⇒ Neem is a tall, evergreen 30m in height tree habit can grow on different soil easily.
- ⇒ Deep rooted with Tap root.
- ⇒ Stem - erect, solid, branched external, outer, brown, greyish covered with bark & inside dark brown with annual rings.
- ⇒ Bark - thick furrow, greyish brown in-colour.
- ⇒ Crown - Rounded, dense, forming knob.
- ⇒ Leaf - Alternate compound, pinnate, reticulate variation.
- ⇒ Petiole - flower, found in cluster at the leaf excess small, fragrant ^{white} and bisexual fruit.
- ⇒ Fruit - Drupe.

Chemical Composition: Neem is rich in biochemical compound
 ⇒ Ascorbic acid - In leaves (Bitter Taste) ^{Neembideen, Neemdrohes, Neemvalibe, Azadirachtin}
 ⇒ Including nimesin nimbi [nimbiol, nimbolide, nimban]
 ⇒ Azadirachtin as well as flavonoids, Tannins and saponins in neem seed oil contains palmitic acids, linoleic acid, VIT E & minerals like Ca, P, Fe, Mg, K etc.
 Leaf - AA, Ascorbic acid, felbinoid, nimbine
 Azadirachtin, Azadiridin, Neebin, Shalaman, Shalamanon, vepentosepura
Cultivation: oil acid: 60%, ascorbic acid: 20%,
 lincic acid: 10%, admaric acid: 3%.

- ⇒ Neem trees are best cultivated from seeds either by direct sowing or transplanting seedling.
- ⇒ They thrive in well drained soils, prefer full sunlight, require moderate moisture.

Soil: ⇒ Neem trees do well in loamy, clayey soils that are well drained. They are also adapted to dry, stony and shallow soils. Avoid water logged or poorly drained soils.

Climate: ⇒ Neem trees prefer tropical & subtropical climate with tempⁿ 5-42°C. It needs full sunlight.

Seed Preparation: ⇒ Soak seeds in cold water for 24 hours and remove endocarp, cut the seed coat at round end for better germination.

Sowing: ⇒ Sow seeds 1-2 cm deep ensure they spaced at 2.5-5 cm.

Germination: ⇒ It occurs within 6-7 days. Seedling can be raised in nurseries for 1-2 years before transplanting.

Transplanting: ⇒ Transplant seedling when they are about 1-2 yrs old.

Field Planting: ⇒ Plant seedling at spacing of 4.5 to 5.5 m.

Irrigation: ⇒ Neem trees are drought-tolerant & require minimal irrigation, especially after establishment. Light irrigation during summer can support seedling growth.

Fertilizers: Apply fertilizers as needed, especially during first few years after planting.

Pruning: Prune the tree periodically, once a year to maintain shape & encourage growth.

Pest & Disease: These are generally resistant to pest & disease but monitoring & taking preventive measures.

Medicinal Uses:

- ⇒ Part use - leaves, seeds/ fruits, bark & wood.
- ⇒ In ayurveda, it is considered as 'Sarva Roga Niravahini' which means, universal cure. It's known for its antibacterial, antiviral, antifungal properties, making it useful for treating various ailments.
- ⇒ Neem used for skin revitalization, improves skin health especially acne & prevent pimples.
- ⇒ Neem's antibacterial properties help prevent tooth decay, gum disease & oral infections.
- ⇒ Neem twigs are traditionally used as natural toothbrush helping to clean teeth & freshen breath.
- ⇒ Neem can strengthen immune system by stimulating WBC production.
- ⇒ Neem helps detoxify & cleanse liver, aiding in digestion, metabolism.
- ⇒ Manage blood sugar levels.
- ⇒ Treat malaria & viral infections.
- ⇒ For skin diseases, septic sores, infected burns.
- ⇒ Nourish scalp, promote hair growth, prevent dandruff.
- ⇒ Treat fungal infections.
- ⇒ Reduce inflammation & relieve pain.
- ⇒ Neem releases a higher amount of O_2 than any other tree.
- ⇒ Res soil fertility & water holding capacity.
- ⇒ Very positive on environment.