

**Botanic name :** *Azadirachta indica* A.Juss. Mém. Mus. Hist. Nat. 19: 221. 1830

**Common name :** **Neem**, Persian word "azadhirakt" which means "noble tree", Indian lilac

**Family :** Meliaceae

**Habitat :** Terrestrial

**Distribution :** Native to India; abundance in tropical and semi-tropical regions, Indian Sub-continent, Myanmar; cultivated in parts of Africa (Sudan Sahel)

**Description :** Perennial tall (100 ft) evergreen tree; stem stout as trunk, branched, up to a diameter of 2.5-3 m., bark is rough and can be dark-grey, fairly thick, with many longitudinal and oblique crevices which are lighter in colour, sap-wood is greyish-white while the heart-wood is red, but becomes brownish when exposed; leaves compound, glabrous, alternate, stipulate, leaflets opposite, serrate, ovate, lanceolate, attenuated at the tip and unequal at the base, slightly denticulate; small white colored flowers and star shaped, with a pleasant smell; fruits appear between the age of 3 and 5 of the plant, Bracteeae are small and deciduous, stamens 10, fixed at the base of a disc form a long cylindrical pipe, gynoecium syncarpic with 3-5 carpels, stigma 5-lobed; fruits drupe, elliptical one seeded

**Phytochemicals:** Nimbin, nimbiol, nimbinin, nimbicidin, secondary metabolites, azadirachtol, azadirachnol, azadirachtin, azadirone, salannin (fruits), tiglic acid (seed oil), margosene (flowers). The bitter substances, known as triterpenes (limonoids), with azadirachtin as one of the main active ingredients. The heart-wood is very rich in tannin and in inorganic salts of Fe, K, and Ca and nimatone, a turpentine-like liquid, and also a glossy resin

**Medicinal/Economic uses :** In India, the tree, a patented, is variously known as "Heal All", or "Village Pharmacy". The bark, leaves and fruit have been, since ancient times, part of the 'Hindu' pharmacopoeia; used for treating all sorts of ailments, from syphilis to leprosy to rheumatism. Neem products are believed by Siddha and Ayurvedic practitioners to be anthelmintic, antidiabetic, contraceptive, sedative, antiseptic, antibacterial, antiviral, antifungal. Dry leaves are used in beds of chicken pox patient and its burning is useful as mosquito repellent and used externally to get rid of head lice. Twigs are used to brush teeth whereas neem oil is used in creams, hair lotions and soaps. The plant is auspicious in 'Hindu' religion and used extensively in rituals. Plant cures vitiated pitta, fever, ulcer, burning sensation, skin diseases, eczema, tumor, wound, worms, cough, blood toxicity, liver dysfunction, inflammation and rheumatoid arthritis. Leaf juice used as blood purifier, and externally on wounds, boils, rashes, acne, ringworm, herpes, eczema and psoriasis, and as eye drops to treat night blindness (Nyctalopia) and pink eye (conjunctivitis). Abstract of boiled leaves can also used as mouth wash, good on boils and fistula and helpful in itching. Bark of neem is used to manufacture cosmetics pesticides, leaves, flower is antiviral, eaten as 'neem pakopra' in rural Bengal, India; neem extracts and insect-repellent products from neem oil are effective against a wide range of crop pests. The wood is used to make carts, farm tools or even furniture. Seed pulp is useful for methane gas production and as carbohydrate which is rich base for other industrial fermentations. Neem bark contains tannins which are used in tanning and dyeing. Bark fiber is woven into ropes. Neem cake is widely used in India as fertilizer for sugarcane, vegetable and other cash crops. The flowers produce a nectar that can be used as a sweetener. The plant has anti-desertification properties and is a good carbon dioxide sink. It is both drought resistant and can grow in poor soil, and highly resistant to pests and diseases. Many countries have been consistently growing the Neem tree against the global warming.