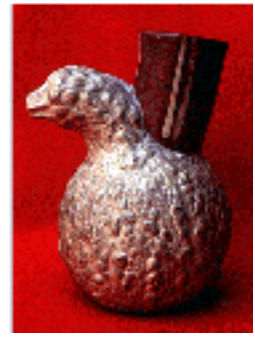




Ethnobotanical Leaflets



The Neem Tree: The Village Pharmacy

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The neem tree *Azadirachta indica* A. Juss. (= *Melia azadirachta* L. and *Melia indica* Brandis) is known as the Indian lilac or Margosa (Koul, 1990). Neem is a large evergreen tree with a wide trunk, which can grow 12-24 meters tall. The leaves are bright green with 9-15 leaves, oblique at the base or slightly curved, coarsely toothed, with a pointed tip (Shodini, 1997). In India, neem flowers from January to April, and fruits mature from May to August (Koul, 1990). The one-seeded neem fruits are yellow when ripe, and are about one inch long (Shodini, 1997). neem is native to the and regions of the Indian subcontinent, was introduced into Africa, and is presently grown in many Asian countries, as well as tropical areas of the New World (Koul, 1990).

Neem trees are fast growers, and in three years may grow to 20 feet in height from seed planting. It will grow where rainfall is only 18 inches per year and it thrives in areas of extreme heat up to 120 degrees. Neem trees can live up to 200 years (Conrick).

The neem tree's history goes back a long way, with indications it was used in medical treatments about 4,500 years ago. There is evidence found from excavations at Harappa. and Mohenjo-Daro in Northwestern and western India, in which several therapeutic compounds including neem leaves, were gathered in the ruins (Conrick).

India's ancient books of knowledge are called the Vedas. Some of the most ancient surviving documents that have been translated, are the Caraka-Samhita (about 500 BC), and the Susruta Samhita (about 300 AD). These books are the foundations of the Indian system of natural healing, or Ayurveda. These texts mention neem in almost 100 entries for treating many diseases which affect human society (Conrick). In Sanskrit, the language of ancient Indian literature, neem is referred to as *Nimba*, which is derived from the term *Nimbati Swastyamdadati*, which means 'to give good health' (Randhawa, 1993).

Neem was used in every stage of life throughout India, and is still used today for its many beneficial qualities. Starting from birth, the Sarira Sthanam recommended that newborn infants be anointed with herbs and oil, laid on a silken sheet and fanned with neem tree branches. The child was given small

doses of neem oil when ill, bathed with neem tea to treat cuts, rashes, and chicken pox. neem twigs were used as toothbrushes to prevent gum diseases and tooth caries. Wedding ceremonies included neem leaves placed on the floor of the temple, and neem branches for fans. neem oil was used in small lamps for lighting. Neem wood was used for cooking fuel and for making the roof of the house. Grains and beans were stored in containers with neem leaves to keep out insects. At the time of death, neem branches were used to cover the body and neem wood was burned in the funeral pyre (Conrick).

In the Indian book about healing plants for women, called "Touch Me, Touch-me-not: Women, Plants and Healing," the author describes the role of neem for the village folk of India. Shodini describes neem as an all-purpose medicine and as a tree used in some form of goddess worship. Neem leaves were used in the earliest societies in India to exorcise the spirits of the dead. Branches of neem were placed in households because it was believed that the goddess lived in the branches and would guard the household against smallpox. Though smallpox is not as great a threat as it was, neem branches are still used for bathing scars, and is used as a ritual termination of an attack of chickenpox or measles even today. The neem tree was considered protective of women and children. Delivery chambers were fumigated with its burning bark. In some parts of India, to celebrate the new year, neem leaves are mixed with other eatable ingredients symbolizing the sweet and sour experiences of the upcoming year (Shodini, 1997).

The neem tree is listed in various sources as having many uses, from medicinal uses to agricultural. Neem's pharmacological properties are detailed in "Properties and uses of neem. In this article, it states that neem seed oil has been used for antimalarial, febrifuge, antihelminthic, vermifuge, and antiseptic and antimicrobial purposes, for bronchitis control, and as a healing agent for various skin disorders (Koul, 1990). Neem oil is known to control mycobacteria and pathogens, including *Staphylococcus typhosa* and *Klebsiella pneumoniae* (Koul, 1990). Analgesic and antipyretic effects have been shown, as well as antinflammatory and antihistaminic properties as well (Koul, 1990). Numerous studies describe the insecticidal, antifeedant, growth inhibitory, oviposition deterring, antihormonal, and antifertility activities of neem against a broad spectrum of insects (Koul, 1990).

Some of the present uses of neem for animals are dog soap and shampoo, cattle feed supplement which kills worms, neem cream, fly and mosquito repellent, and wound dressings (Koul, 1990). Bathing soap, toothpaste, tooth powder, and mouth wash are made from neem products (Koul, 1990).

In his website page, Neem--The Ultimate Herb, John Conrick lists the overall uses for the neem tree: Psoriasis--neem seed oil and leaf extracts relieves itching and pain, while reducing the scale and redness of lesions; Diabetes--oral doses of neem leaf extracts reduced insulin requirements for nonkeytonic, insulin fast and insulin-sensitive diabetes; AIDS: reports by the National Institutes of Health state that neem extracts killed the AIDS virus and patents have been awarded for these extracts as an AIDS treatment; Cancer: polysaccharides and limonoids found in neem bark, leaves and seed oil reduced tumors and cancers with no side effects; Heart disease: neem delays coagulation of blood, calms erratic heartbeats and helps reduce elevated heart rates and high blood pressure; Periodontal disease: German researchers have proven neem extracts prevent periodontal disease and tooth decay; Ulcers: neem extracts give protection from discomfort and speed healing of gastric and duodenal lesions; Birth control

(women): used as a vaginal lubricant, neem oil was up to 100 percent effective in preventing pregnancy; Birth control (men): trials in the United States and India show neem extracts reduced fertility in male monkeys, without inhibiting libido or sperm production; Malaria: irocin A, an active ingredient in neem leaves, is toxic to resistant strains of malaria; in vitro studies show 100 percent mortality in 72 hours with a 1:20,000 ratio. Insect repellent: one neem compound is a more effective insect repellent than the widely used synthetic DEET; Insecticide: neem extracts have been approved by the US Environmental Protection Agency for use on food crops. It is non-toxic to animals, birds, beneficial insects or man and protects crops from over 200 of the most costly pests.

The following is a table listing medicinal uses for neem using sources from India:

Medicinal Uses For The Neem Tree

Author/Source	Use	Parts
Shodini, 1997	body heat	leaves
Shodini, 1997	fever	bark
Shodini, 1997	infections	leaves
Shodini, 1997	painful periods	leaves
Shodini, 1997	vaginal problems	bark/leaves
Shodini, 1997	worms	leaves
Sharma, 1996	fever	leaves
Sharma, 1996	hemorrhage	leaves
Sharma, 1996	piles	seeds
Sharma, 1996	wounds	leaves
Sharma, 1996	eye diseases	fruit juice
Sharma, 1996	jaundice	leaves
Sharma, 1996	poisoning	seeds
Sharma, 1996	fumigation	all parts
Sharma, 1996	teeth diseases	root bark
Sharma, 1996	heart diseases	neem decoction
Sharma, 1996	vaginal problems	neem decoction
Sharma, 1996	gray hairs	neem decoction

There have been studies of Neem's possible toxicity, which have resulted in a determination that the leaf and bark are very low in toxicity. Very large doses of neem leaves taken internally by some of the animals tested have caused some side effects. Neither leaves or bark should be taken in large doses for extended periods of time (Conrick). As with any substance taken internally, neem should not be taken to excess, as even a good thing can be misused. Keeping this in mind, here are a few recipes for various ailments:

To make enema leaf tea:

1. Use distilled water.
2. Measure one handful or one cup of whole leaf to one quart water. If using neem powder, use 1 ounce or a 1/4 cup of powder per quart of water.
3. Bring water to boil.
4. Remove from heat.
5. Add whole leaf or powder.
6. Cover, and let stand overnight or 24 hours.
7. Strain liquid, put in bottle, and drink as needed.
8. Refrigerate for long term storage.

To build body's immune system:

Chew 8-10 neem leaves early in the morning for 24 days. This protects body from diseases like diabetes and hypertension; skin problems are also helped.

For wounds, bedsores, varicose veins:

Prepare neem water with 8-10 leaves, boiled in one liter of water, let cool and bathe wounds as needed.

In researching this paper, I found that there is an enormous amount of knowledge about the neem tree, its history, and uses. I also came across some recent news articles about the possibility of the wondrous neem tree being patented, "Wonders of neem tree may become inaccessible due to patenting," (Businessworld; Manila; June 21, 1999). The neem tree has so much to offer humanity and the whole earth; it would be sad to see its potential being shortchanged due to business greed. This issue is something which needs to be followed and paid close attention to. Hopefully, this little paper will help inform people who are not aware of the neem tree's multifarious beneficial properties for medicine, agriculture, and husbandry.

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