

The Awesome Neem Tree

By Dr Reese Halter

Of the more than 80,000 tree species on our planet, the Indian neem tree (*Azadirachta indica*) is magnificent and known by millions of people as “the village pharmacy.”

Imagine one kind of tree that offers medicine, cosmetics, rope, tea, glue, wood, fertilizer, pesticides and insecticides, lubricant, lighting and heating oil, veterinary medicine and shade. Welcome to the neem tree.

Neem is native to India and Burma. It grows from the southern Indian tip of Kerala to the Himalayan hills. It spans both tropical and subtropical latitudes, from wet tropical to semi arid regions and from sea level to 2,300 feet elevation. It does not tolerate cold temperatures or saturated soils.

These evergreen beauties can easily reach 100 feet in height with impressive regal crowns and 8 feet girths. They are very fast growing trees that are able to recolonize denuded and infertile soils. Their profuse white mellifluous flowers bear fruit that at first glance resembles an olive.

The fruits have a sweet pulp that is an important source of food for birds, bats and baboons. A hard shell encases seeds known as a kernel – sometimes there are as many as three kernels in each fruit. Young saplings produce fruit by the age of four and 10-year-old trees can yield up to 110 pounds of fruit.

The neem tree can easily live for more than two centuries. And there are over 20 million neem trees in India alone.

Neem has been introduced to over 30 countries around the globe including the following states in the U.S.: Arizona, California, Florida and Hawaii.

Neem is particularly important in the developing world. It provides shade throughout the year and only in extreme droughts does it shed its leaves. Neem plantations provide employment and help generate income in rural communities.

Ground-up kernels provide oil for lighting and heat for cooking. The oil is also used as a lubricant for greasing cart wheels. The solid material left after making oil – known as cake – is spread over the fields adding essential organic matter and enriching the soil. In addition, the cake acts very effectively at repelling crop-destroying root and stem sucking nematodes.

Moreover, the developing world is utilizing the tremendous ability of neem to successfully combat encroaching desertification, deforestation and rising greenhouse gases.

For three thousand years the Indian Ayurveda shamans have known of neem's potent insecticide, pesticide and medicinal properties.

The neem tree's remarkable defense belongs to a class of compounds called triterpenes, more specifically limonoids. At least 9 of these limonoids block insect growth.

Azadirachtin is neem's main defense. It blocks and disrupts growth and reproduction of insects. Both meliantriol and salannin are efficacious insect feeding inhibitors.

Extracts of neem are effective against at least 200 different insect species including locust, mosquitoes carrying malaria and voracious Australian blowflies.

Neem residue can be sprinkled on the soil, taken up by plant roots and used by crops as a plant defense mechanism, for up to 10-weeks, against insect infestations. There is no trace of neem residue in crops. Furthermore, pollinators like bees, moths and bats as well as beneficial insects such as spiders, ladybugs and dragonflies, nor any known warm-blooded animals or birds are harmed from neem extracts.

Azatin, Align and Margosan-O are all neem-based products that protect crops.

Neem extract is an excellent general antiseptic, successful against a variety of skin disease, septic sores and infected burns. The leaves – applied in a paste – are used to treat boils, ulcers and eczema.

Neem is very effective at fighting *Trichophyton* fungus or athlete's foot.

As an antibacterial, neem extract is Nature's weapon against *Staphylococcus aureus*.

Neem extract provides millions of impoverished people with low-cost pain relief as an analgesic and as an antipyretic or fever-reducer.

Interestingly, neem extract is being used to immunize insects carrying the parasite (*Trypanosoma cruzi*) causing Chagas' Disease, which has crippled over 20 million people in Latin America.

Each day in India, millions of people break-off a neem twig and use it as a tooth-brush. Compounds in the neem bark have strong antiseptic properties and prevent tooth decay as well as preventing and healing inflammation in gums. A number of companies now offer neem toothpaste and mouthwashes.

Veterinarians use crushed neem leaves applied to open wounds on cattle to eliminate maggots. They regularly use neem oil to repel blowflies, and azadirachtin to prevent biting and horn flies.

The list of beneficial products used by people from the neem tree is astonishing. They include wonderful facial and body creams, soaps, nail polishes, furniture, cricket bats, cabinetry, flooring, waxes, dyes, prized honey and soon to be food additives.

Neem is truly one of Mother Nature's most remarkable trees.

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