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Dimensions of medicinal plant neem

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Abstract

The medicinal plants and herbs have been used for many years in the treatment of various diseases in animals and human beings. Now-a-days, utilization of these medicinal plants is increasing. They act as antibacterial, antioxidant, anticarcinogenic, antifungal, analgesic, insecticidal, anticoccidial and growth promoters. These plant extracts compete with the synthetic drugs. Majority of medicinal plants do not have the residual effects. Azadirachtindica (Neem) have the strong antibacterial activity. Leaves of Azadirachtindica are used for feeding and reducing the parasitic load of animals. The fruit of Azadirachtindica also has the anticoccidial activity for poultry.

Keywords: Medicinal plants, animals, antibacterial, growth promoters

Introduction

The neem plant is an evergreen tree found commonly in tropical and subtropical areas like India, Sri Lanka, Burma and Pakistan. It is one of the most revered medicinal plants in the world, it possesses healing properties for a variety of ailments.

Botanical Name: Azadirachtindica.

The scientific or Latin family name derives from the Persian word "azaddhirak" which means precious wood. Azadirachtindica is sometimes confused with Melia azedarach (Chinaberry). These two species are closely related and have a similar medicinal effect.

Other Common Names: Margosa, azadirachta, bead tree, holy tree, Indian lilac tree, nim tree, pride of China, nim (Hindi), nimba (Sanskrit), neem des Indes (French), lila de la India (Spanish). It is now cultivated and has become naturalized in many other tropical countries including Malaysia, Indonesia, Australia and West Africa. It's not only grown for its medicinal applications but also as an ornamental tree, to provide shade and for fuel and timber. Neem is both drought resistant and can grow in poor soil, and it is highly resistant to pests and diseases.

Description: Neem is a member of the Mahogany family or Meliaceae. It is a fast growing evergreen tree that can grow up to 15 meters in height. It has long branches that form a broad crown. The bark of Neem is gray and rough and the leaves are pinnate, up to 30 cm long with 8-19 leaflets with saw-toothed edges. The flowers are small in size, yellowish-white and fragrant and form in clusters. The fruit is round, hard and yellow and contains one single seed. Plant Parts Used: The bark, leaves, seeds and the small branches are all used in herbal medicine. The oil obtained from the seeds (up to 50%) is also used medicinally. The oil from the seeds is known as margosa oil. The leaves and bark have a bitter taste and are mostly used in tea form, often combined with other herbs such as spearmint and cinnamon. The flowers produce nectar that can be used as a sweetener.

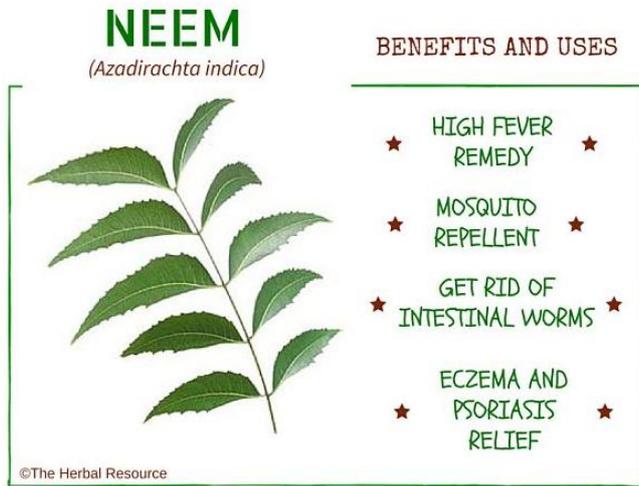
Neem Benefits, Therapeutic Uses and Claims of Neem, Active Ingredient and Substances

The healing properties of neem are mainly due to some bitter substances, known as triterpenes (limonoids), with azadirachtin as one of the main active ingredients.

Neem also contains beta-sitosterol, tannins, polysaccharides, flavonoids and essential oil.

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Neem in Ayurvedic or Indian Medicine

For centuries, the neem tree has played a big part in Ayurvedic medicine and Indian folk medicine and it is still one of the most commonly used medicinal plant in India as well as some other countries in East Asia.

In India, it is considered as a “cure-all” or a “miracle herb” that can heal most ailments. In the ancient Indian language of Sanskrit, it is known as “nimba”, which derives from the phrase “nimbatiswastyamdadati”, meaning “to give good health”.

The tree is also known in India as the “village pharmacy”, referring to its uses to treat a variety of ailments and diseases.

Internal Uses

Neem is known to have antipyretic properties and it has been used traditionally for a long time to lower high fever.

It is used as a treatment for a high fever caused by malaria and often used in combination with black pepper (*Piper nigrum*) and gentian root (*Gentiana lutea*).

The extract obtained from the leaves or bark has both antibacterial and antiviral effect, with little or no toxicity.

Neem leaf is used for leprosy, eye disorders, bloody nose, intestinal worms, stomach upset, loss of appetite, skin ulcers, diseases of the heart and blood vessels (cardiovascular disease), fever, diabetes, gum disease (gingivitis), and liver problems. The leaf is also used for birth control and to cause abortions.

The extract has been used internally as a treatment for asthma, sore throat, tuberculosis, eczema, jaundice, stomach ulcers, diabetes, arthritis, and rheumatism.

The bark is bitter and has astringent properties and a decoction made from it can be used as a remedy for hemorrhoids.

The herb has also been used to eliminate unwanted intestinal parasites, and as an anti-fungal agent for *Candida*.

It is sometimes used to treat hepatitis A and B, and “mono” or “the kissing disease” (mononucleosis), caused by the Epstein-Barr virus.

Neem oil does have anti-inflammatory and bactericidal properties and that it, at least to some extent, can be used to reduce high fever and lower high blood sugar.

A volatile (unstable) portion of the oil has demonstrated, in laboratory experiments, a potent spermicidal activity and is now being studied as a possible contraceptive for men and women.

External Use of Neem

Neem (*Azadirachta indica*) –Neem is considered useful bacterial, viral and fungicidal agent mainly because of the presence of limonoids and the seed oil and extracts from the leaves are widely used as a treatment for a variety of skin related ailments.

The oil has astringent and anti-inflammatory properties which can make it helpful in the healing of wounds and other minor skin injuries and to ease muscle and joint pain.

A juice, or an extract from the leaves, can also be used externally on wounds, boils, rashes, acne, ringworm, chicken pox, herpes, eczema and psoriasis, and as eye drops it can be used to treat night blindness (*Nyctalopia*) and pink eye (*conjunctivitis*).

The branches can be chewed on to clean the teeth, strengthen the gums and prevent gum inflammation.

Miscellaneous Uses

They are used in sex production made from neem have been used in India for over two millennia for their medicinal properties. They are said to be antifungal, antidiabetic, antibacterial, antiviral, contraceptive and sedative. Neem products are also used in selectively controlling pests in plants. Neem is considered a part of Ayurvedic medicine.

- Neem is also known as the 'village pharmacy'

All parts of neem are used for preparing many different medicines, especially for skin disease.

- Part of the Neem tree can be used as a spermicide.
- Neem oil is used for preparing cosmetics (soap and shampoo, ozone as well as lotions and others), and is useful for skin care such as acne treatment. Neem oil has been used effectively as a mosquito repellent.
- Neem is useful for damaging insects, mites, ticks, and nematodes, by changing the way they grow and act. Neem does not normally kill pests right away; rather it slows their growth and drives them away. As neem products are cheap and not poisonous to animals and friendly insects, they are good for pest control.
- Wound healer: Make a paste out of the neem leaves and dab it on your wounds or insect bites a few times a day till it heals.
- Goodbye dandruff: Boil a bunch of neem leaves till the water turns green, allow it to cool. After washing your hair with shampoo, cleanse it with this water.
- Eye Trouble: Boil some neem leaves, let the water cool completely and then use it to wash your eyes. This will help any kind of irritation, tiredness or redness.
- Treat that zit: Grind a few neem leaves, make a paste and apply it daily till the acne dries out. The paste also helps any kind of eruptions, dark spots and chronic ulcers.
- Ear ailments: Blend some neem leaves and add some honey to it. Use a few drops of this mix to treat any ear boils.
- Other skin disorders: Turmeric combined with a paste of neem leaves can also be used for itching, eczema, ring worms and some mild skin diseases.
- Boost immunity: Crush some neem leaves and take them with a glass of water to increase your immunity.

A variety of substances with non-toxic insecticidal effects are also found in the leaves and the seed oil of the neem tree. The oil is used as a mosquito repellent and to get rid of head lice, both in adults and children.

Some studies have shown that neem can be used as a treatment for scabies, a skin condition caused by a specific mite (*Sarcoptes scabiei*). In one trial, 98% of people suffering from scabies were cured by applying a preparation made from neem and turmeric on the afflicted areas.

Since neem also helps to kill bacteria and fungi, it is often used as an ingredient in toothpaste, soaps and skin care products.

As a herbal tea: Use one tablespoon of the dried leaves in half a liter of boiling water and steep for 5-10 minutes before straining. The usual recommended dosage is to drink two to three cups daily.

As a tincture: 40 drops in water three times daily. As a commercial standardized extract, it is often recommended to take two 500 mg capsules three times a day. Otherwise, the manufacturer's instruction should be followed.

NEEM Dosing

The appropriate dose of neem depends on several factors such as the user's age, health, and several other conditions. At this time there is not enough scientific information to determine an appropriate range of doses for neem. Keep in mind that natural products are not always necessarily safe and dosages can be important. Be sure to follow relevant directions on product labels and consult your pharmacist or physician or other healthcare professional before using.

Potential Side Effects of Neem

Neem is POSSIBLY SAFE for most adults when taken by mouth for up to 10 weeks, when applied inside the mouth for up to 6 weeks, or when applied to the skin for up to 2 weeks. When neem is taken in large doses or for long periods of time, it is POSSIBLY UNSAFE. It might harm the kidneys and liver.

Special Precautions & Warnings

Children: Taking neem seeds or oil by mouth is LIKELY UNSAFE for children. Serious side effects in infants and small children can happen within hours after taking neem oil. These serious side effects include vomiting, diarrhea, drowsiness, blood disorders, seizures, loss of consciousness, coma, brain disorders, and death.

Pregnancy and breast-feeding: Neem oil and neem bark are LIKELY UNSAFE when taken by mouth during pregnancy. They can cause a miscarriage. Not enough is known about the safety of neem during breast-feeding. Stay on the safe side and avoid use.

"Auto-immune diseases" such as multiple sclerosis (MS), lupus (systemic lupus erythematosus, SLE), rheumatoid arthritis (RA), or other conditions: Neem might cause the immune system to become more active. This could increase the symptoms of auto-immune diseases. If you have one of these conditions, it's best to avoid using neem.

Diabetes: There is some evidence that neem can lower blood sugar levels and might cause blood sugar to go too low. If you have diabetes and use neem, monitor your blood sugar carefully. It might be necessary to change the dose of your diabetes medication.

Reduced ability to have children (infertility): There is some evidence that neem can harm sperm. It might also reduce fertility in other ways. If you are trying to have children, avoid using neem.

Organ transplant: There is a concern that neem might decrease the effectiveness of medications that are used to prevent organ rejection. Do not use neem if you have had an organ transplant.

Surgery: Neem might lower blood sugar levels. There is a concern that it might interfere with blood sugar control during and after surgery. Stop using neem at least 2 weeks before a scheduled surgery.

Most healthy adults can use the herb without any adverse side effects or interaction, but in large doses, it can cause breathing problems, seizures, and lethargy (drowsiness).

The herb is considered unsuitable for young children, infants, the elderly or people suffering from debilitating diseases or conditions.

For some reason not yet known, the neem oil seems to be more toxic to children than to adults.

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