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Herbal Remedies of *Azadirachta indica* and its Medicinal Application

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Abstract

The Neem tree (*Azadirachta indica*) has been known as the wonder tree for centuries in the Indian subcontinent. It has become important in the global context today because it offers answers to the major concerns facing mankind.Neem *(Azadirachta indica)* is considered harmless to humans, animals, birds, beneficial insects and earthworms, and has been approved by the US Environmental Protection Agency for use on food crops. Azadirachtin and other active ingredients in the neem seed have insecticidal properties that are effective against a broad spectrum of insects, many mites and nematodes, and even snails and fungi, and do not seem to generate resistance in the pests they affect. Nowadays, neem and its extracts are used in numerous herbal and allopathic medicines. What's more, even neem contraceptives are available in the market these days.Neem extract which have Nimbinin, nimbandiol as active constituents, alcoholic extract of the leaves was found to possess a significant blood sugar lowering effect, which are very useful against diabetes. Neem is used in Dermatitis Eczema, Acne, Bacterial, Fungal infections and other skin disorders. It has demonstrated its effectiveness as a powerful antibiotic. Neem also has shown antiviral, anti-fungal and anti-bacterial properties. It helps support a strong immune system and is used in cases of inflammatory skin conditions. Traditionally Neem has been used for skin and blood purifying conditions. Neem not only helps in curing diseases, but it also provides us with the strength of fighting diseases by enhancing our immunity.

Key words: Neem, Ayurveda, Antimicrobial dermatitis.

Introduction

The medical properties of Neem have been known to Indians since time immemorial. The earliest Sanskrit medical writings refer to the benefits of Neem's fruits, seeds, oil, leaves, roots and bark. Each has been used in the Indian Ayurvedic and Unani systems of medicines, and is now being used in the manufacture of modern day medicinals, cosmetics, toiletries and pharmaceuticals.The Neem tree has been known as the wonder tree for centuries in the Indian subcontinent. Neem has become important in the global context today for its variety of medicinal uses.Neem extract which have Nimbinin, nimbandiol as active constituents, alcoholic extract of the leaves was found to possess a significant blood sugar lowering effect, which are very useful against diabetes. Neem is used in Dermatitis Eczema, Acne, Bacterial, Fungal infections and other skin disorders. It has demonstrated its effectiveness as a powerful antibiotic. Neem also has shown antiviral, anti-fungal and anti-bacterial properties. It helps support a strong immune system and is used in cases of inflammatory skin conditions. Traditionally Neem has been used for skin and blood purifying conditions. Perhaps Neem's most touted advantage is the effect it has upon the skin. Preparations from the leaves or oils of the tree are used as general antiseptics. Due to Neem's antibacterial properties, it is effective in fighting most epidermal dysfunction such as acne, psoriasis, and eczema. Ancient ayurvedic practitioners believed high sugar levels in the body caused skin disease; Neem's bitter quality was said to counteract the sweetness. Traditionally, Indians bathed in Neem leaves steeped in hot water. Since there has never been a report of the topical application of Neem causing an adverse side effect, this is a common procedure to cure skin ailments or allergic reactions. Neem also may provide antiviral treatment for smallpox, chicken pox and warts--especially when applied directly to the skin. Its effectiveness is due in part to its ability to inhibit a virus from multiplying and spreading. Neem produces pain-relieving, anti-inflammatory and fever-reducing compounds that can aid in the healing of cuts, burns, sprains, earaches, and headaches, as well as fevers. Several studies of Neem extracts in suppressing malaria have been conducted, all supporting its use in treatment. Neem has broad applications to human and animal health, as well as organic farming. Neem is a powerful antiviral and antibacterial. But, it has peculiarities that set it apart from other herbs in that class of broad antimicrobials. Neem oil is also commonly added to a variety of creams and salves. It is effective against a broad spectrum of skin diseases including eczema, psoriasis, dry skin, wrinkles, rashes and dandruff. A few drops can be added to hand healing salves and shampoo. Neem oil is highly effective as a mosquito repellent. Because of its unpleasant smell, it is best when it is added to a formula with other essential oils, such as citronella.Neem oil is an effective and environmentally safe pesticide when it is diluted and sprayed on crops through irrigation systems. It is a healthier alternative to artificial chemical pesticides. Neem oil does not harm the soil and it increases yields

Chemical constituents and properties

Neem contains a bitter fixed oil, nimbidin**,** nimbin, nimbinin and nimbidol, tannin and uses are:

- ✓ Antiinflammatory (nimbidin, sodium nimbidate, gallic acid, catechin, polysachharides).
- ✓ Antiarthritic, hypoglycemic, antipyretic, hypoglycemic, diuretic, anti-gastric ulcer (nimbidin)
- ✓ Antifungal (nimbidin, gedunin, cyclic trisulfide)
- ✓ Antibacterial (nimbidin, nimbolide, mahmoodin, margolone, margolonone, isomargolonone)
- ✓ Spermicidal (nimbin, nimbidin)

- ✓ Antimalarial (nimbolidfe, gedunin, azadirachtin)
- ✓ Antitumor (polysaccharides)
- ✓ Immunomodulatory (NB-II peptoglycan, gallic acid, epicatechin, catechin)
- ✓ Hepatoprotective (aequeous extract of neem leaf)
- ✓ Antioxidant (neem seed extract)

Taxonomical description of Neem

Kingdom	Plantae
Division	Magnoliophyta
Order	Sapindales
Family	Meliaceae
Genus	Azadirachta

Ecology

Neem grows in the plains and in areas up to an elevation of 1850 m. In its introduced range, Neem is cultivated from sea level to an altitude of 1500 m. Neem is tolerant to most soil types including dry, stony, shallow soils, lateritic crusts, highly leached sands and clays. With an extensive and deep root system, the hardy Neem can grow and flourish even in marginal and leached soils. The Neem tree is noted for its drought resistance. Normally it thrives in areas with sub-arid to sub-humid conditions, with an annual rainfall between 400 and 1200 mm. It can grow in regions with an annual rainfall below 400 mm, but in such cases it depends largely on the ground water levels. Neem can grow in many different types of soil, but it thrives best on well drained deep and sandy soils (pH 6.2-7.0). It is a typical tropical/subtropical tree and exists at annual mean temperatures between 21-32 °C. It can tolerate high to very high temperatures. It does not tolerate temperature below 4 °C (leaf shedding and death may ensue).

Health Benefits

Neem needs no introduction in today's world.. Neem is known as free tree of India as it is found almost everywhere in India. It is considered as a magic tree, which has properties that not only relieves but also cures from illness.Neem is an herb that has been a great assert to human species since thousands of centuries. Neem is extremely useful to humans and this is the reason it is being worshiped in India and is considered as the place where Gods resides. It is said that no evil sprits dares to come near a neem tree and this is the reason neem is a part of every Indian

house.Neem is used for treatment of eye problems such as night blindness and conjunctivitis. In case of night blindness, apply the juice of the neem to the eyes externally each night. Direct application has better results. This is done by grinding the neem leaves to a fine powder and then making a paste of this with water. Strain this juice through a clean cloth and apply the juice which filters out onto the eyes with an eye rod. In conjunctivitis, apply the neem juice obtained from its leaves directly onto the eyes. Neem has been used as a medicine for more than 5000 years. Neem is especially good for those with skin disorders such as eczema. As a natural eczema remedy, neem when applied on the skin relieves you from itching and the painful symptoms arising from your disorder. You can also take a warm bath with neem leaves in it. In fact, this is a very common custom in India. It is also highly suitable in the instance when you have some minor infections. Acne causing bacteria are killed by neem. Boil some neem leaves in water and use the water to wash your body.

Medicinal Properties

Medicinal properties of neem have been known to Indians since time immemorial. The earliest Sanskrit medical writings refer to the benefits of neem's fruits, seeds, oil, leaves, roots and bark. Each of these has been used in the Indian Ayurvedic and Unani systems of medicine.In Ayurvedic literature neem is described in the following manner: 'Neem bark is cool, bitter, astringent, acrid and refrigerant. It is useful in tiredness, cough, fever, loss of appetite, worm infestation. It heals wounds and vitiated conditions of kapha, vomiting, skin diseases, excessive thirst, and diabetes. Neem leaves are reported to be beneficial for eye disorders and insect poisons. It treats Vatik disorder. It is anti-leprotic. It's fruits are bitter, purgative, anti-hemorrhoids and anthelmintic'.It is claimed that neem provides an answer to many incurable diseases. Traditionally neem products have been used against a wide variety of diseases which include heat-rash, boils, wounds, jaundice, leprosy, skin disorders, stomach ulcers, chicken pox, etc. Modern research also confirms neem's curative powers in case of many diseases and provides indications that neem might in future be used much more widely. Some important medical and veterinary application of neem is given on this website.Neem has rightly been called sarvaroghari. Since time immemorial, Indians have learnt and made use of neem in a variety of ways both for personal and community health by way of environmental amelioration. Despite all the vicissitudes India has gone through over the centuries, neem has managed to remain a friend, philosopher and guide to an average Indian. It is time this heritage is appreciated and in area of promotional and preventive health care, our indigenous knowledge and resources are made use of on an increasing scale as low-cost, effective ingredient for the realization of the lofty goal of 'Health for all'.As Naveen Patnaik (1993, p. 40) says, "Possessed of many and great virtues, this native Indian tree has been identified on the five-thousand-year-old seals excavated from the Indus Valley Civilization". How the tradition lives on has also been graphically brought out, "Today the margosa is valued more highly for its capacity to exercise the demon of disease than the spirit of the dead, and an image of the folk goddess Sitala can often be seen suspended from a margosa branch where she guards against small pox, once the great killer of the Indian country side. Renowned for its antiseptic and disinfection properties, the tree is thought to be particularly protective of women and children. Delivery chambers are fumigated with its burning bark (Margosa seed oil has been chemically tested as an external contraceptive, used by women as a spermicide). Dried margosa leaves are burned as mosquito repellent. Fresh leaves, notorious for their bitterness, are cooked and eaten to gain immunity from malaria.Neem's antiseptic properties are widely recognized now. "Neem preparations are reportedly efficacious against a

variety of skin diseases, septic sores, and infected burns. The leaves, applied in the form of poultices or decoctions, are also recommended for boils, ulcers, and eczema. The oil is used for skin diseases such as scrofula, indolent ulcers and ringworm. Cures for many diseases have been reported but these need to be confirmed independently by trials under controlled conditions. Laboratory tests have shown that neem is effective against certain fungi that infect the human body. Some important fungi against which neem preparations have been found to be effective are: athlete's foot fungus that infects hair, skin and nails; a ringworm that invades both skin and nails of the feet; a fungus of the intestinal tract; a fungus that causes infections of the bronchi, lungs, and mucous membranes and a fungus that is part of the normal mucous flora that can get out of control leading to lesions in mouth (thrush), vagina, skin, hands and lungs.Neem has been used traditionally in India to treat several viral diseases. Even many medical practitioners believe that smallpox, chicken pox and warts can be treated with a paste of neem leaves – usually rubbed directly on the infected skin. Experiments with smallpox, chicken pox, and fowl pox show that although neem does not cure these diseases, but it is effective for purposes of prevention. Its effectiveness is enhanced on account of its easy and plentiful availability and low cost along with the advantage – a big and critical advantage – of crating income and employment for the poor. Neem is effective against dermatological insects such as maggots and head lice. It is a common practice to apply neem all over the hair to kill head lice. Rural inhabitants in India and Africa regularly use neem twigs as tooth brushes. Neem twigs contain antiseptic ingredients. That explains how these people are able to maintain healthy teeth and gums. Ayurveda describes neem as herbal drug which is used to clean the teeth and maintain dental hygiene. Neem in the form of powder is also used to brush teeth and massage gums.Chagas disease is a major health problem in Latin America. It cripples millions of people there. Laboratory tests in Germany and Brazil show that neem may be an answer to this dreadful disease which so far remains largely uncontrollable. The disease is caused by a parasite which is spread by an insect called kissing bug. Extracts of neem have effects on the kissing bugs. Research has shown that 'feeding neem to the bugs not only frees them of parasites, but azadirachtin prevents the young insects from molting and the adults from reproducing'.

Antibacterial Compounds: Recent reports focus on antibacterial activities in the mouth, specifically in gum disease and cavities, as well as preventing sexually transmitted diseases and as a vaginal contraceptive.

Antifungal Properties: The current research proved its antifungal properties which control fungi that can cause athlete's foot, ringworm and Candida, the organism that causes yeast infections and thrush.

Anti-Inflammatory: Nimbidin, a component of Neem, has been show to posses potent anti-inflammatory and antiarthritis activity. Nimbiden suppresses the functions of macrophages and neutrophils involved in inflammation.

Antioxidant Compounds: The process through which free radicals are created, is a normal function of the body but the resulting molecules are unstable and can damage other cells. A series of disorders, including cardiovascular disease, eye health, cataracts and macular degeneration, age-related neurodegeneration (decline of the brain cells and nervous system) and even cancer occurs due to high levels of free radicals. Neem protects against chemically induced carcinogens and liver damage by boosting antioxidant levels.

Antiviral Compounds in Neem: Neem inhibits the growth of Dengue virus, a hemorrhagic fever related to Ebola, and interferes with the reproduction of the coxsackie B virus, one of a

group of "enteroviruses" that are second only to the common cold as the most infectious viral agents in human beings.

Cancer: Neem's efficacy in killing cancer cells or boosting the body's immune system to protect it from damage. Neem or its isolated compounds have shown impressive action against a wide variety of human cancer cell that include colon, stomach, lung, liver, skin, oral, prostate and breast.

Potential Contraceptive Properties of Neem: Use of Neem as either a pre or post coital contraceptive, noting that it prevented proliferation of sperm cells in concentrations as low as 0.05 to 1%. Purified extracts of Neem contained immunomodulators that stimulate the cells and macrophages that terminate pregnancies. Fertility was regained after one or two cycles with no apparent impact to future pregnancies.

Diabetes: With its extremely bitter properties, Neem has been used in disorders caused by overeating sweets. Recent studies have focused that Neem's hypoglycemic effect.

Immuno stimulatory Compound: Immuno stimulating properties of neem is most important benefit. It boosts both the lymphocytic and cell-mediated systems, including "Killer T" cells which are able to destroy microbes, viruses and cancer cells by injecting toxic chemicals into the invaders.

Liver functions: It helps to protect the liver from damage, which in turn helps to cleanse the blood. Neem leaf minimize, chemically induced liver damage by stabilizing levels of serum marker enzymes and boosting levels of antioxidants, like those found in vitamin C and E and in natural carotenoids, which neutralize free radicals and prevent damage.

Neuroprotective Effect: Antioxidant compounds in neem help to prevent brain damages, who had suffered a stroke by enhancing lipid peroxidation and increasing ascorbic acid (Vitamin C) in the brain.

Oral Diseases: Another traditional use of neem has been to chew the neem sticks. It is still used to clean teeth in rural parts of India. Antimicrobial properties that help to reduce plaque and gingivitis.

Dental Care: People used Neem twigs as tooth brushes for centuries. Neem twigs contain antiseptic ingredients necessary for dental hygiene and prevents tooth decay, periodontal diseases, Infections, tooth decay, bleeding gums and sore gums.

Sexually Transmitted Diseases: Neem shows great potential to control sexually transmitted diseases. Neem provided 75% protection from the HIV virus.

Stress: Low doses of Neem leaf extracts have sedative effects. The effect disappears at high doses, approximately 400 or 800 milligrams per kilograms of body weight. It also reduces anxiety and stress.

Ulcers: Using Neem bark decreases 77% gastric acid secretion as well as gastric secretion volume 63% and pepsin activity 50%, due to its anti-inflammatory compounds, gastric damage is reduced.

Arthritis: Neem has a long history of relieving inflamed joints. Neem not only helps in reducing inflammation but also suppress the pain. It is also useful in Rheumatism.

Heart Disease: Major causes of a heart attack include blood clots, high cholesterol, arrhythmic heart action and high blood pressure. Its leaf extracts have reduced clotting, lowered blood pressure and bad cholesterol, slowed rapid or abnormally high heartbeat and inhibited irregular heart rhythms.

Malaria: Malaria is quite common in India and throughout the tropics. Neem leaf extracts helps to prevent normal development of the malaria virus. Even though Neem may be effective against

the parasites that carry malaria, it has not been shown to prevent the malaria infection once it's in the body. Dried margosa leaves are burned as mosquito repellent.
Skin Diseases: Neem has been highly successfully against harmful fungi, parasites, and viruses. It has been most helpful in treating a variety of skin problems and diseases including psoriasis, eczema and other persistent conditions. Psoriasis is successfully treated with Neem oil.
Vitiligo: Vitiligo is believed to be an autoimmune disorder that causes patches of skin to lose its color. The dosage is of four grams of Neem leaves three times a day, ideally taken before each meal. Neem oil applied to the affected areas could aid in the reversal of discoloration.
Viral Diseases: In India, Neem is also used to treat viral diseases such as smallpox, chicken-pox. Neem has antibacterial characteristics as well.
AIDS: Some of the best news is that Neem may help in the search for prevention or a cure for. AIDS. AIDS may possibly be treated by ingesting Neem leaf extracts or the whole leaf or by drinking a Neem tea.

Therapeutic Uses

- ✓ Treating scalp conditions, including dandruff, itchiness and head
- ✓ Treating acne
- ✓ Providing relief for skin disorders such as eczema and psoriasis
- ✓ Healing of wounds
- ✓ Treating and healing fungal infections, ringworm, infected sores and burns 6.treating athlete's
- ✓ Treating nail fungus and restoring brittle nails

Commercial Uses

Almost every part of the Neem tree viz. roots, leaves, flowers, seeds, trunks and branches has multiple uses. Neem is not only an excellent source of pesticides, it also provides good fodder, fuel and timber. This makes Neem tree a very potentially profitable.
Timber: The sapwood of Neem tree is grayish white, while the heartwood is reddish brown. The wood is aromatic; it is not very lustrous though but is easily sawn. It seasons well when sawn still wet. It can be worked both by hand and by machines, but it does not take polish well. Neem timber is durable even in extended exposed conditions. In addition, it is resistant to termites and woodwarms.
Bark: Neem bark contains tannins which are used in tanning, dyeing etc. Compounds extracted from Neem bark are used in production of some dental-care products like toothpaste etc.
Leaves: Neem leaves possess excellent medicinal properties. In addition to it's usefulness in Pest management and Disease control they can also be fed to livestock when mixed with other fodder. Neem leaves are used in some parts of Indian as fertilizer in rice fields, especially in the south Indian states. In some countries, Neem leaves are used as mulch in tobacco and tomato fields. They can be very effectively used to kill weeds by spreading them over plant roots to retain moisture. Neem leaves can also be used to protect stored woolen and silk clothes from insects.
Neem Cake: Neem cake is versatile and has many uses. It can be used as livestock feed, fertilizer and natural pesticide. It not only provides organic nitrogen but also inhibits the nitrification process, when mixed with urea, before applying in the fields. Such use of the neem coated urea in 90:10 proportion can save upto 30% of the total chemical nitrogen requirement of

the crops which otherwise would go waste. This results in cost reductions of agricultural production. Neem cake is widely used in India as fertilizer for sugarcane, vegetable and other cash crops.

Fruits- Neem fruits are bitter, purgative, antihemorrhodial and anthelmintic (vermifuge) in nature.

Flowers- The flowers are used in vitiated conditions of pitta (balancing of the body heat) and kapha (cough formation). They are astringent, anthelmintic and non toxic.

Seeds- Neem seeds are also described as anthelmintic, antileprotic (cures or prevents leprosy) and antipoisonous. Seeds, along with leaves and dry Neem cake, are an active ingredient in mosquitocoils.

Oil- Neem oil, derived from crushing the seeds, is antidermatonic, a powerful vermifuge and is bitter in taste. It has a wide spectrum of action and is highly medicinal in nature. As an oil used in aromatherapy, it has been effective in the treatment of head lice in children, especially where tea tree has failed to clear up the condition. This was particularly noticeable on an outbreak of head lice, two years ago, at a school local to my practice, where I treated several children. Those with blonde to reddish hair had their head lice condition cleared up much quicker with Neem oil applied at a 3% dilution to a shampoo base, than with tea tree.

The Future Aspects

Medicines

Herbal medicines are used for treatment of different types of diseases in all parts of world. Neem tree is an important part of these herbal medicines and is mentioned in many ancient texts dealing with medicines. Traditional Indian medical authorities place it at the pinnacle of their pharmacopeia. Due to extraordinary properties of Neem, its bark, leaves, flowers, seed and fruit pulp were and are now used to treat a wide range of diseases and complaints ranging from leprosy, diabetes, ulcers to skin disorders and constipation etc. Scientists from the developed world are working extensively in exploring Neem tree and its properties to formulate new antibiotics.

Cosmetics

Different parts of Neem tree are being used extensively in manufacturing of soaps, skin creams/lotions, shampoos, toothpastes, beauty aids and toiletries. The Neem twigs are more commonly being used as antiseptic tooth brushes. In most cases Neem oil/extract is being used for making these cosmetics like soaps and tooth pastes etc.

Agricultural

It is in agriculture where most of the scientists focused their research for exploring the benefits of Neem for crop production. Because of those findings, Neem oil, Neem cake, leaves and other parts of Neem tree are being used quite extensively in the agriculture sector in different parts of world. Its main uses in the agriculture sector include being an insecticide in food storage, as soil amendment, fertilizer efficiency enhancer, and very effective foliar pesticide.

Food Storage

In all areas of tropics, much of the harvested food is lost during storage because of worms, beetles and other infestations. People do not prefer to use chemicals insecticides on stored grains in general and more specifically for food stored for their own consumption. For centuries, Neem oil has provided farmers with an effective remedy against such insects. A very light coating of Neem oil protects stored food crops for up to 20 months from all types of infestations with no

deterioration or loss of palatability. Neem fresh leaves are also used on small scale for storage of food grain at home quite effectively, but this is being done on a small scale.

Soil Amendment

Neem cake (after the oil is extracted from the seed kernels, the left over material is called cake) has been used for many centuries throughout Indian sub continent as an effective soil amendment. Farmers of this region have learned through experience that using Neem cake in soil produces larger and healthier plants that have few or no insect/disease problem. Several studies were also conducted by different scientists to find out why plants grew better in soil mixed with Neem cake. Their results revealed that Neem cake is richer in plant available nutrients than manures; it killed damaging nematodes, promoted large population of earth worms, helped keep nitrogen in the soil available for plants and provide significant protection from insects. Farmers of that region have a clear idea that by killing nematodes in soil, a major plant pest is eliminated from soil. Nematodes are very harmful for plants. Nematodes suck juice from roots of plants to the point where they are unable to supply sufficient nutrients to the plant. Then the plants look unhealthy, fail to grow and may eventually die despite sufficient food, water and care. Use of Neem cake in soil also helps keep soil loose by promoting earthworm activities in soil, which helps in absorption of nutrients and water by plants more easily and efficiently. Neem cake allows plants to develop a strong defense system against these pest attacks by initially protecting plants from insect/pest. Secondly, Neem compounds absorbed through soil enhance these natural defense systems with proven nutritive, antifungal and insect repellent properties of Neem.

Poverty

Today's exploding growth in human population is seriously depleting the world's natural reserves and economic resources. Unless the run-away human population growth rate is slowed down, there would be little hope for raising everyone out of poverty in the developing world. Besides educational constraints, the non-availability of inexpensive methods of contraception, which do not cause trauma or aesthetic, cultural, and religious sensitivities of people, limit the success of birth regulation programmes. However, recent findings indicate that some Neem derivatives may serve as affordable and widely available contraceptives. A recent controlled study in the Indian army proved the efficacy of Neem as a contraceptive. According to a recent report by the Washington based International Food Policy Research Institute, by 2020, the world will be an even more unfair place than it is at present, with food surpluses in the industrialised world and with chronic instability and food shortages in the south, particularly in African countries.

The US Academy of Sciences currently attaches very high importance to the Neem tree. The United Nations declared Neem as the "Tree of the 21st Century".

Conclusion

Neem leaves and roots are good for blood circulation and blood purification. Neem has been extensively used in Ayurveda, Unani and Homoeopathic medicine and has become a cynosure of modern medicine. Neem elaborates a vast array of biologically active compounds that are chemically diverse and structurally complex. More than 140 compounds have been isolated from different parts of neem. All parts of the neem tree- leaves, flowers, seeds, fruits, roots and bark have been used traditionally for the treatment of inflammation, infections, fever, skin diseases and dental disorders. Neem leaf and its constituents have been demonstrated to exhibit immunomodulatory, anti-inflammatory, antihyperglycaemic, antiulcer, antimalarial, antifungal, antibacterial, antiviral, antioxidant, antimutagenic and anticarcinogenic properties. It comes out

of my own personal experiences and study of the effects and properties of Neem. It is also my conviction that Neem is a wonderful cure for diseases and gives much to humans including shade, good air, health and overall well-being. I also think it important that people become aware of the values of Neem.Among all the plants on this planet that have proved useful for humanity, a few are distinguished by their astonishing versatility. Among these, the Neem tree is one of the most important one. Neem is deemed very effective in the treatment of scabies although only preliminary scientific proof exists which still has to be corroborated, and is recommended for those who are sensitive to permethrin, a known insecticide which might be irritant. Also, the scabies mite has yet to become resistant to neem, so in persistent cases neem has been shown to be very effective.

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