

What You Should Know About Neem Oil

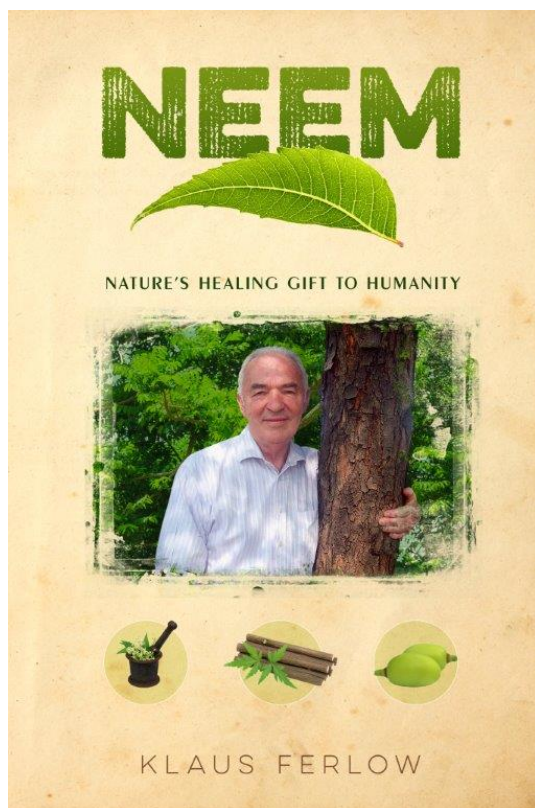
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The legendary miraculous medicinal Neem tree in India has grown with the human settlement all over the country and has been an integral part of the Indian way of life for centuries. The history of the Neem tree is inextricable linked to the history of the Indian civilization and **offers better plant health, human health, animal health and environmental health.**

The Neem tree was rediscovered in 1959 by world renowned scientist, entomologist, Neem expert and researcher Professor Dr Heinrich Schmutterer, Institute of Phytopathology and Applied Zoology, Justus Liebig University, Giessen, Germany which was one of the first Neem research institution in Europe.

He witnessed a locust swarm in Sudan. After the swarm had passed the only tree left untouched by the locust was the Neem tree. On closer investigation it was concluded that the locust did indeed land on the Neem tree, but they always left without feeding! Since this discovery, there has been worldwide scientific interest in Neem and intense research into its many properties. He published in 1995 his first book *The Neem Tree* and worked as editor with 50 academic institutions worldwide on his second revised book of 893 pages, published in 2002 by the Neem Foundation, Bombay (Mumbai), India. He was also a contributor to the book *Neem: A Tree For Solving Global Problems* and was interviewed by Dr David Suzuki of the CBC's *The Nature of Things* for the video *What's in A Neem?*



New Year's Day Farm Bill Extension a Giant Step Backward

Neem is the most researched tree in the world; no wonder that the United Nations declared it as “**the tree of the 21st Century**” as part of the oldest medical system in the world, Ayurveda with a history of over 5000 years. The Neem tree is cultivated in more than eighty tropical and subtropical countries! The tree has a history of over 4500 years; only the Ginkgo Biloba tree from China with a history of 10.000 years is older and survived the nuclear attack in Japan - a real miracle!

What is Neem Oil?

The Neem tree develops usually after 3-5 years flowers which become a fruit like an olive with seeds. The collection of fruit is a seasonal affair that has historically been organized by cooperatives. The fruit is then carried to a water supply to wash away the fruit covering the seed. After washing, the seeds are set out to dry in the sun. The dry seeds are bagged and sold to village merchants who sell them to oil producing facilities.

There are three main processes for extracting the Neem oil from the kernels of the seeds:

1. Mechanical pressing (crushing) method;
2. Steam and high pressure;
3. Solvent extraction.

Lately a new and better method has been developed for manufacturers of quality health and beauty products. It requires the collection of the fruit picked from the tree. Light green fresh kernels yield a light oil with only a slight odour and a tolerable bitter taste. The fresh fruit goes to an air conditioned facility where it is washed to remove the fruit from the seeds and the clean seeds are air dried quickly in a room that is cool and has low humidity. Dried seeds are de-husked and the kernels cold pressed in a low pressure, low heat oil press. The light Neem oil is placed in new drums and stored inside air-conditioned environment.

The best method for obtaining quality Neem oil with the majority of the active compounds intact is cold pressed. In cold pressing the oil is lighter in color and milder in odour and there is also elimination of any potential residual solvents in the oil that would post a health hazard to consumers. However, this is more expensive to produce and much harder to obtain. **The oil is perhaps the most important of the commercially available product of Neem.** The oil is generally light to dark brown, but could be also golden yellow, yellowish brown, dark brown, bitter and has a rather strong odour that combines odours of garlic and sulfur. It comprises mainly triglycerides and large amounts of triterpenoid compounds, which are responsible for the bitter taste. It is hydrophobic in nature; in order to emulsify it in water for application purposes, it must be formulated with surfactants. Neem oil contains steroids (campesterol, beta-sitosterol, stigmasterol) and a plethora of triterpenoids of which Azadirachtin is the most well-known and studied. The Azadirachtin content of Neem oil varies from 300ppm to over 2000ppm depending on the quality of the oil. See also the chart below. Average composition of Neem oil fatty acid:

Average composition of neem oil fatty acids		
Common Name	Acid Name	Composition range
Omega-6	Linoleic acid	6-16%
Omega-9	Oleic acid	25-54%
Palmitic acid	Hexadecanoic acid	16-33%
Stearic acid	Octadecanoic acid	9-24%
Omega-3	Alpha-linolenic acid	?%
Palmitoleic acid	9-Hexadecenoic acid	?%

A large industry in India extracts the oil remaining in the seed cake using hexane. This solvent-extracted oil is of lower quality as compared to cold pressed oil and is mostly used for soap manufacturing.

What are the Benefits of Neem Oil?

- Provides safe and therapeutic solutions to people, pets, plants and the environment;
- Its component are used in cosmetics and personal care products (creams, lotions, shampoos, conditioners, toothpastes, soaps etc.);
- In herbal products for pets;
- Shows promise as contraceptive;
- Skin care ingredients;
- Used in organic agriculture as fertilizer and soil enhancer;
- Used in the gardens as spray on fruits and vegetables, non toxic, mix ½ oz of quality organic Neem oil to one quart of warm water and add on environmental safe dish washing detergent to emulsify the oil in a spray bottle, spray both on top and below leaves;
- Use remaining mixture as a soil drench to benefit earthworms;
- Good to use the spray also for indoor household plants;
- Component Azadirachtin reduces insect feeding as it acts as a repellent, it also interferes with the insect hormone systems, making it harder for undesirable insects to grow and lay eggs;
- It also repels and reduces the feeding of nematodes;
- Other components kill insects by hindering their ability to feed; more research is in the works;
- Used for cats and dogs flea control;
- Neem cake is a by-product obtained in the solvent extraction process and a soil enhancer;
- Protection and prevention against unwanted insects, not harmful to birds, bees, other pollinators, butterflies and mammals.

Words of Wisdom

It is health that is real wealth and not pieces of gold and silver.

Mahatma Gandhi

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<http://www.discoverneem.com>

Author's Note

This information I summarized is for its educational value and should not be used for the diagnoses, treatment, or prevention of disease. Please contact your health care practitioner.

Further Information

Neem: Nature's Healing Gift to Humanity is now available to purchase via Amazon:

www.amazon.co.uk/book-Neem-Natures-Healing-Humanity/dp/0993727506

www.amazon.com/book-Neem-Natures-Healing-Humanity/dp/0993727506