



Exploring Noni Fruit: A Natural Remedy for Optimal Health

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Noni fruit scientifically known as *Morinda citrifolia* is capturing the attention of researchers due to its remarkable potential for optimal health. Noni is a small perennial fruit-bearing tree belonging to family *Rubiacea* or coffee family, native to South East Asia and Australia. It is commonly known as Indian mulberry or Hog apple due to its resemblance to the mulberry fruit. Traditionally this fruit is considered as a natural remedy for curing various health issues. It has great ability to grow in wide number of harsh environments. The trees basically flourish in tropical and subtropical regions and can often be found near coastal areas. The noni tree is relatively easy to cultivate as it is hardy by nature and can grow in a variety of soil types, including sandy and rocky soils. Noni trees are not widely cultivated across all parts of India but are found where the climate is suitable especially in the coastal areas. They are often grown in wastelands due to its market value in manufacturing of various drugs. It is cultivated in some coastal states of India with tropical humid climate such as Tamil Nadu, Kerala, Karnataka, Andhra Pradesh, Goa and Andaman & Nicobar Island. Under an experimental project run by Rain Forest Research Institute, Noni trees are also cultivated in other states like Assam.



Source: Google images

The strong root system of Noni tree helps in proper retention of soil and prevents soil erosion. Its root system not only help in preventing soil erosion but also in supporting soil health and enhancing the local biodiversity by offering habitat and food source for a number of species. The flowers of Noni tree attract pollinators like bees, wasps and butterflies. Due to the adaptable and hardy nature, these trees are suitable for restoring degraded land areas and supporting ecosystem as a part of afforestation strategy. Noni trees are low-maintenance and require minimal care once established which can be advantageous for their cultivators. Noni can provide an additional source of income as its fruit, leaves, and juice can be used as nutritional supplements and in drug manufacturing industries allowing cultivators to get revenues from both local as well as international markets.

The noni fruit has a very distinctive and unusual appearance with its knob like yellowish-green tough skin and pungent aroma. Immature fruits are usually green in colour and their colour changes to white-yellow as they ripen. The skin of fruit is tough from outside

and inside part is leathery but fibrous with a number of small seeds. Despite its pungent aroma and unusual appearance, noni fruit is full of essential nutrients and various biologically active compounds that contribute to its various pharmacological properties.

Noni fruit is widely consumed as a tropical fruit with functional properties. The fruit is consumed when ripe and can be used for making other edible products such as juice, jam, jellies, herbal tea, decoctions etc. The seeds of Noni are good source of oil which can be utilized in pharmacological industries. Noni fruit can also be incorporated into various food products, which are designed to offer health benefits beyond basic nutrition. Noni fruit is used in various commercial food products and also as dietary supplements due to its potential but unique nutritional profile. It is also available in market in various commercial forms including capsules, tablets, powders, and extracts. These products are marketed for their potential health benefits and offer a convenient way to incorporate the fruit's beneficial compounds into a daily wellness routine.

Traditionally it has been used as therapeutic remedy in various physiological disorders such as gastritis, skin problems, respiratory tract infections, menstrual and urinary tract disorders, fever, diabetes etc. It has a unique nutrient profile with range of essential nutrients that contribute to overall health and wellness. The nutritional content of Noni fruit affirm that it contains 15g of carbohydrate, 1g protein and 0.5-0.7g fat and provide 73kcal of energy per 100g. The fruit contains various vitamins such as vitamin C and E which are potent natural antioxidant boosting immune functioning and preventing cells against oxidative damage. They also help in preventing various degenerative diseases. Noni fruit contains carotenoids, which the body can convert into vitamin A and is helpful in maintaining healthy vision, immune function, and skin health.

It is good source of major minerals such as calcium, potassium and magnesium which important for regulating various functions in body such as fluid balance, nerve and muscle functioning, maintaining strong bones and teeth, blood clotting, blood glucose control etc. It is also a novel source of various biologically active compounds contributing to its image as a functional food. Its pharmacological properties include its use as an antifungal, anti-bacterial, anti-diabetic, immunity booster, antioxidant, analgesic, anti-inflammatory etc. The phytochemical composition of Noni includes flavonoids, betalains, sterols, terpenes, indoles, phenolic acids, organic acids, alkaloids etc. which work synergistically to contribute to various health benefits of noni fruit. It is a good source of dietary fibre, which aids in digestion, maintain regular bowel movements, and supports overall gut health. It can help in relieving problems like constipation. The other pharmacological properties include anti-inflammatory properties which is beneficial in relieving pain and inflammation conditions like arthritis or gout. Noni fruit contains essential amino acids that are building block for protein synthesis, repairing the tissues and overall functioning of body. The seeds of noni fruit have linoleic acid, an essential fatty acid that helps maintaining healthy skin, membrane health and also involved in various metabolic processes in body. It has been traditionally used in various cultures for its medicinal properties, and the modern researchers are exploring its potential in diabetes management as this fruit may have a role in managing normal blood sugar levels and can also influence glucose metabolism in the body.

Noni fruit is more than just a normal fruit but a powerhouse of various nutrients and biologically active compounds with promising health benefits. From boosting the immune system and combating inflammation to support normal body functions, this fruit presents itself as a natural remedy for overall health. While more research is needed to fully unlock its therapeutic potential its integration in food could be a valuable step toward enhancing overall health and well-being. As interest in natural and functional ingredients continues to rise, noni fruit's unique properties offer promising opportunities for both health and commercial innovation.