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Noni : A powerful adaptogen

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Introduction

The use of the medicinal plants for curing disease has been documented in history of all civilizations. Man in the pre-historic era was probably not aware about the health hazards associated with irrational therapy. With the onset of research in medicine, it was concluded that plants contain active principles with curative properties. Appreciation for the preventative and therapeutic value of herbal remedies and the additional benefits of their low cost, wide accessibility, and cultural relevance remains strong in many traditional cultures. Interest in and demand for traditional remedies and other plant-based health products (the so-called botanicals) are increasing worldwide, particularly in rapidly expanding urban societies.

Dietary supplements, also known as food supplements or nutritional supplements, are herbal medicines intended to provide nutrients such as vitamins, minerals, fatty acids or amino acids that are missing or are not consumed in sufficient quantity in a person's diet. Dietary supplements continue to be a major market in U.S. and Western world and constitute a multi-billion dollar industry. Global demand for dietary supplements continues to escalate steadily in mature major markets and exponentially in smaller emerging markets. Worldwide, sales are expected to hit approximately US\$60 billion in 2010. Currently more than 1500 botanicals are sold as dietary supplements in the market.

Morinda citrifolia, popularly known as noni, has been generating great enthusiasm within the green health industry for the past two decades. Noni fruit has a long history of use as food in tropical regions throughout the world. In India, its use dates back to Indus Valley Civilization (c.3300 BC). Traditional Indian medicine *Ayurveda* (Science of Living) listed noni as an important medicine which can correct imbalances in the body. Both *Ayurvedic* and Chinese traditions list an impressive set of health benefits from noni. Neither traditions, however, relies as heavily on

noni for as many conditions as do the Hawaiians! Noni is arguably one of the most important medicinal plants in Polynesia, based on the number of indications reported and the breadth of usage among different cultures.

Renaissance of Noni

While Scottish bacteriologist Alexander Fleming was busy discovering penicillin and ushering in a new era of disease treatment, residents in the Pacific Islands were content to sip noni cocktails. "Antibiotics will wipe out illness entirely by the end of the 20th century!" American scientists once boldly predicted. The 20th century is yesterday's news and antibiotics are not cure-alls. Diseases like SARS, bird flu, swine flu and tuberculosis confront the medical fraternity. Frustrated by the pharmaceutical industry, rising costs of medical treatment and side effects that accompany some antibiotics - combined with a heightened desire to age gracefully - many consumers prefer to look to nature. Medicinal plants like purple coneflower (*Echinacea purpurea*), ginseng (*Panax* sp.) and St. John's Wort (*Hypericum perforatum*) experienced an unprecedented buying frenzy in the 1990s as if the age-old remedies were brand new products. Since 1990s, as natural products become increasingly popular around the world, noni has become part of a growing healthcare trend and the subject of much science, myth and marketing hype. Demand for noni is increasing in the world market as an effective nutritional supplement. Noni has exceptional nutritional value with rich array of phytochemical compounds of extensive therapeutic significance. Noni juice, a supplement from the "superfruit", is one of the most commonly used dietary supplements in U.S., annual sales of which has exceeded \$260 million in 2007.

Noni plant is a living biochemical factory for it produces many biologically active useful chemical compounds of therapeutic importance. So far, more than 200 phytochemicals have been isolated from flowers, fruits, leaves, stems, roots and cell cultures of

noni plant. These primarily consists of a number of anthraquinones and anthraquinone glycosides, fatty acids and their derivatives, iridoid and iridoid glycosides, lignans and neolignans, flavanol glycosides, phenylpropanoids, saccharides and triterpenoids.

A number of scientific investigations have now validated the traditional medicinal properties of noni. This include anti-cancer and chemo-preventive activity, anti-diabetic activity, cardiovascular diseases, antioxidant activity, anti-inflammatory and analgesic activity, immunological activity, anti-infective activity, fertility and genotoxicity.

Healing power of Adaptogens

Wouldn't it be great if a plant could help us handle stress better and stimulate our body's own ability to bring itself back into balance? Well, there is an entire category of herbs that do just that - Adaptogens!

Adaptogens are nature's solution to sickness. They are natural substances found in certain plants that shield the body against the impact of various stresses by balancing and harmonizing the body systems. Adaptogens are not in the food we normally eat and must be added to the diet through supplementation. They are plant substances that regulate body processes and improve overall health by supporting the body's systems particularly the immune system. By balancing the secretions of cortisol (stress hormone) and other hormones secreted from the adrenal cortex, these multipurpose adaptogens modify a wide range of positive responses, proving to be particularly helpful in protecting the body from impacts of stress as well as increasing energy levels. According to a more recent definition, adaptogens must:

- *Show a nonspecific activity* – that is, increase the body's ability to resist physical, chemical, or biological noxious agents.
- *Have a normalizing influence* independent of the nature of the pathological state.
- *Be innocuous* and not influence normal body functions more than required.

This implies that adaptogens reinforce the nonspecific power of the body's resistance against stressors. In other words, it helps the body adapt to a variety of internal and external stresses without the harmful side effects seen with synthetic drugs. Adaptogens often work by helping the body make

better use of energy supplies or by helping it repair damaged cells and tissues and improve vital functions.

Adaptogens have been known in Chinese and *Ayurvedic* healing systems as rejuvenating herbs for thousands of years. But it was not until the second half of the 20th Century that adaptogenic plants underwent a major scientific scrutiny and began to become better-known in the Western world. The term 'adaptogen' was coined by a Russian scientist Nikolai Lazarev in 1947. However, much of the early research on adaptogens was done by Dr Isreal Brekhman, who in the late 1950's carried out extensive studies on medicinal plants. Dr. Brekhman is aptly recognized as 'father of adaptogens.' Adaptogens have been scientifically proven through clinical and laboratory studies for more than 40 years, with their actions well documented, and their safety confirmed.

Attuning with Noni

Noni is a powerful adaptogen and the therapeutic importance is attributed to its adaptogenic properties. Scientific studies now confirm the healing potency of noni. Vital nutrients contained in noni strengthen the immune system, boost energy and may even be effective in the treatment of more serious diseases such as hypertension, diabetes and certain types of cancer.

Without a variety of daily nutrients, the body's complex immune system will not always function properly. Our daily lives are filled with stresses and complications which can contribute to weakening our immune system. Research shows that drinking noni juice can help support a healthy immune system. Noni works with the immune system to fight and prevent illness. Over exposure to stress hormones compromise our immune systems leaving us vulnerable to illness or disease. Adaptogenic plants like noni affect our immune, endocrine and nervous systems, increasing our ability to adapt to internal and external stress.

Clinical studies have shown that polysaccharide-rich substances from noni fruit enhances immune functions up to 160 per cent with 30 per cent increase in natural killer cell activity and 32 per cent increase in IL-2 levels (IL-2 are messengers of immune system).

Noni has been shown to combat many types of bacteria, inhibits pre-cancer function and the growth of cancer tumors by allowing abnormal cells to function more normally. Noni also contains ascorbic acid (vitamin C), an excellent immune booster.

Serotonin is a neurotransmitter found in human body. Low serotonin levels in the brain are linked to clinical depression, suicidal tendencies, anxiety disorders, obsessive-compulsive behaviors, eating disorders, sleep problems, migraine headaches, drug and alcohol addictions and patterns of violent behavior. Raising serotonin levels can miraculously make these disorders disappear. Prozac (with all its side effects) is the answer from the drug companies; noni (with a bounty of fringe benefits) is the better answer. Noni can both initiate and enhance feeling good via its ability to stimulate our bodies to produce serotonin which is known as the "mood molecule" because it modulates raw information and gives it emotional tone.

Noni possesses high antioxidant properties that fight free radicals within the body and helps to remove oxidative stress-induced oxidative damage. It also helps to neutralize the free radicals from oxidation of "bad cholesterol" and protects the arterial endothelial lining from injury and developing plaque. Antioxidants in noni work synergistically to neutralize the effect of free radicals, protect the cells from accelerated ageing, and allow the body to restore normal metabolic functions. Recent clinical studies elucidate the importance of noni juice in improving endurance (21 per cent increase) in athletes via potent antioxidant effects.

Nitric oxide is an important signaling molecule that controls a seemingly limitless range of functions in our body. It regulates the activities of the brain, heart, lungs, liver, kidneys, stomach, gut, genitals and other organs. The immune system uses nitric oxide in fighting viral, bacterial and parasitic infections and tumors. Nitric oxide transmits messages between nerve cells and is associated with the process of learning, memory, sleeping, feeling pain and probably, depression. It is a mediator in inflammation and rheumatism. Few clinical studies have shown the role of noni juice in stimulating the production of nitric oxide in our body. Noni has a rich complement of vitamins that help the body to produce nitric oxide required for proper body functions.

Noni is a treasure chest of chemical compounds. So far, more than 200 phytochemical constituents have been isolated from noni plant. These known chemical constituents (and even some of the unknown) come together in way that supports the needs of many of our internal systems. Many of these ingredients in noni are found in varying quantities in other foods or

plants. However, there seems to be no known food or herb with either the rich list of substances or high amounts of key substances all put together in one super food like noni.

In short, as an adaptogen, noni helps us handle stress by providing:

- Antioxidant activity
- Liver protection and antitoxin activity
- Improved blood-sugar metabolism
- Less craving for alcohol or sugar
- Improved immune resistance
- Increased energy and stamina
- Improved muscle tone
- Increased strength
- Faster recovery
- Better focus and concentration
- Less anxiety
- Better sleep
- Better motivation and productivity

Conclusion

Adaptogens work at the cellular level, on every cell in the body at the same time. They help body to attain full energy potential and the cells remain healthy. The cells return to healthier functioning as the various body organs and systems begin to normalize. Ultimately the entire body will normalize itself and achieve the balance that nature intended. Adaptogens are 'nature's key to well-being.'

No matter how healthy or unlit we are, the majority of us need to follow some nutritional guidelines. Anyone interested in achieving long-term health should consider supplementing their healthy lifestyles with nutrient rich adaptogens.

Over the past 10 years, the nutrition market has become flooded with different noni products. Noni is not only tasty, but it provides an array of benefits, regardless of how healthy we are. While there are thousands of supplements on the market, noni makes sure to target every aspect of our body. Why spend a fortune on vitamins and mineral supplements when you can get everything you need in noni? Noni certainly helps people re-claim what they have been missing for years. No matter what type of product (juice, tea, powder etc.) you prefer, as an adaptogen noni will let you lead a better lifestyle.