

Moringa oleifera health benefits and nutrition



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According to Dr. Lydia M. Marero of the Food and Nutrition Research Institute of the Philippines, Moringa oleifera is one of the worlds most useful plants. It is used as food, effective water treatment, antibiotic, source of oil, and coagulant for turbid waters.

Moringa Oleifera has several health benefits that are one of the reasons why it is named the “ Miracle Tree” and the “ Tree of Life” in many cultures.

People benefit from Moringa Oleifera both in terms of prevention and healing. Moringa Oleifera is nutritious, natural and energizing. The immature pods are the most valued and widely used of all the tree parts. The pods are extremely nutritious, containing all the essential amino acids along with many vitamins and other nutrients. The immature pod can be eaten raw or prepared like green peas or green beans, while the mature pods are usually fried and possess a peanut-like flavor. The pods also yield 38 - 40% of non-drying, edible oil known as Ben Oil. This oil is clear, sweet and odorless, and never becomes rancid. Overall, its nutritional value most closely resembles olive oil. The root is used as pickle. The leaves are eaten as greens, in salads, in vegetable curries, as pickles and for seasoning. The Bark can be used for tanning and also yields a coarse fiber. The flowers, which must be cooked, are eaten either mixed with other foods or fried in batter and have been shown to be rich in potassium and calcium.

Moringa Oleifera's on Dr. Oz Show

These are some of the uses of Moringa Oleifera:

- Moringa Oleifera for Diabetes Relief
- Moringa Oleifera for Healthy Skin

- Moringa Oleifera for Nutrition
- Moringa Oleifera to sleep better
- Moringa Oleifera for decreased depression and anxiety

Moringa Oleifera contains more than 92 nutrients and 46 types of antioxidants. Moringa leaves contain all the essential amino acids to build strong healthy bodies. Moringa is said to cure about three hundred diseases and almost have all the vitamins found in fruits and vegetables. Even in larger proportions. With all the health benefits of this miracle herb, it can easily be termed as the most nutritious herb on Earth. There are no side-effects which also has tried, tested, documented and proved evidence to support the same.

Some Facts about Moringa

- Moringa has following properties:
- 92 Nutrients
- 46 Antioxidants
- 36 Anti-Inflammatories
- 18 Amino Acids, 9 Essential Amino Acids
- Nourishes The Immune System
- Supports Normal Glucose Levels
- Natural Anti-Aging Benefits
- Provides Anti-Inflammatory Support
- Promotes Healthy Digestion
- Promotes Heightened Mental Clarity
- Boosts Energy Without Caffeine
- Encourages Balanced Metabolism

- Promotes Softer Skin
- Provides Relief From Acne
- Supports Normal Hormone Levels

Few Nutritional Value of Moringa

Gram-for-gram comparison of nutritional data:

2 times -the Protein of Yogurt

3 times – the Potassium of Bananas

4 times – the Calcium of Milk

4 times – the Vitamin A of Carrots

7 times -the Vitamin C of Oranges

The Vitamin and Minerals Component of Moringa Leaves and Pods

Vitamins are soluble either in water or in lipids. They help regulate almost all physiological processes in the body. When any vitamin is absent from the diet the body begins to show signs of deficiency. Minerals are also essential for our health; they are used by our body for building tissues such as bones, teeth, muscles. Some minerals are components of enzymes and help to regulate metabolic function of the body. Lack of minerals in diet can impair normal functioning of the body and may lead to a number of disease.

Without enough calcium and phosphorous our bones fail to grow properly.

The detail of vitamins and minerals in Moringa's fresh & dried leaves and its pod are presented in the following tables.

Table No. 1: Moringa Oleifera Pods [Raw]

Nutritional Value Per 100 g (3.5 oz)

Energy

26 kcal

Fat

0.10 g

Carbohydrates

3.7 g

Protein

2.50 g

Dietary fiber

4.8 g

Water

86.90 g

Vitamins

Vitamin A equiv.

0.11 mg

Calcium

30 mg

Thiamine (vit. B1)

0.05 mg

Iron

5.3 mg

Riboflavin (vit. B2)

0.07 mg

Magnesium

24 mg

Niacin (vit. B3)

0.20 mg

Manganese

0.25 mg

Pantothenic acid (B5)

0.79 mg

Phosphorus

110 mg

Vitamin B6

0. 12 mg

Potassium

259 mg

Folate (vit. B9)

44 $\hat{1}\frac{1}{4}$ g

Sodium

42 mg

Vitamin C

120. 0 mg

Zinc

0. 45 mg

Source: USDA Nutrient Database

Table No. 2: Moringa Oleifera Leaf Nutrient Composition

- Calories

Fresh Leaves (Value/100g): 92 cal

Dried Leaves (Value/24g): 49 cal

Macronutrients

- Protein

Fresh Leaves (Value/100g): 6.70 g

Dried Leaves (Value/24g): 6.5 g

- Fat

Fresh Leaves (Value/100g): 1.70 g

Dried Leaves (Value/24g): 0.55 g

- Carbohydrates

Fresh Leaves (Value/100g): 12.5 g

Dried Leaves (Value/24g): 9.2 g

Micronutrients

- Carotene (Vit. A)

Fresh Leaves (Value/100g): 6.78 mg

Dried Leaves (Value/24g): 4.54 mg

- Thiamin (B1)

Fresh Leaves (Value/100g): 0.06 mg

Dried Leaves (Value/24g): 0.63 mg

- Riboflavin (B2)

Fresh Leaves (Value/100g): 0.05 mg

Dried Leaves (Value/24g): 4.92 mg

- Niacin (B3)

Fresh Leaves (Value/100g): 0. 8 mg

Dried Leaves (Value/24g): 1. 97 mg

- Vitamin C

Fresh Leaves (Value/100g): 220 mg

Dried Leaves (Value/24g): 4. 15 mg

- Calcium

Fresh Leaves (Value/100g): 440 mg

Dried Leaves (Value/24g): 480. 72 mg

- Copper

Fresh Leaves (Value/100g): 0. 07 mg

Dried Leaves (Value/24g): 0. 14 mg

- Fiber

Fresh Leaves (Value/100g): 0. 90 g

Dried Leaves (Value/24g): 4. 61 g

- Iron

Fresh Leaves (Value/100g): 0. 85 mg

Dried Leaves (Value/24g): 6. 77 mg

- Magnesium

Fresh Leaves (Value/100g): 42 mg

Dried Leaves (Value/24g): 88. 32 mg

- Phosphorus

Fresh Leaves (Value/100g): 70 mg

Dried Leaves (Value/24g): 48. 96 mg

- Potassium

Fresh Leaves (Value/100g): 259 mg

Dried Leaves (Value/24g): 329 mg

- Zinc

Fresh Leaves (Value/100g): 0. 16 mg

Dried Leaves (Value/24g): 0. 79 mg

Source: The National Academies Press

Amino Acids: The foundation of our body

Our bodies need twenty different amino acids or proteins that are the building blocks for a healthy body. Nonessential amino acids are those that the body can synthesize for itself, provided there is enough nitrogen, carbon, hydrogen, and oxygen available. Essential amino acids are those supplied by the diet. They must be consumed as the human body either cannot make them at all or cannot make them in sufficient quantity to meet its needs. Of the 20 amino acids required by our bodies, eleven of them are nonessential and nine are essential.

Functions of Amino Acids: Proteins act as enzymes, hormones, and antibodies. They maintain fluid balance and acid and base balance. They also transport substances such as oxygen, vitamins and minerals to target cells throughout the body. Structural proteins, such as collagen and keratin, are responsible for the formation of bones, teeth, hair, and the outer layer of skin and they help maintain the structure of blood vessels and other tissues.

Enzymes are proteins that facilitate chemical reactions without being changed in the process. Hormones (chemical messengers) are proteins that travel to one or more specific target tissues or organs, and many have important regulatory functions. Insulin, for example, plays a key role in regulating the amount of glucose in the blood. The body manufactures antibodies (giant protein molecules), which combat invading antigens. Antigens are usually foreign substances such as bacteria and viruses that have entered the body and could potentially be harmful. If these critical components for a healthy body are not provided as part of a healthy diet, the body will look for other sources for them. This can include breakdown of our organs, leading to chronic problems such as liver and kidney problems, diabetes and heart disease among others.

Moringa as a Food

Moringa is considered a complete food as it contains all of the essential Amino Acids required for a healthy body. The dried leaf is a nutritional powerhouse and contains all of the following Amino Acids.

Ann Hirsch, PhD - " One of the things that impress me most about Moringa is the fact that it has the full complement of the essential amino acids those

humans beings need-there are nine of them that we cannot synthesize, so we have to get them from our food.” — Ann Hirsch, PhD, Professor of Botany at University of California Los Angeles

Malnutrition

In developing tropical countries, Moringa trees have been used to combat malnutrition, especially among infants and nursing mothers. Three non-governmental organizations in particular – Trees for Life, Church World Service and Educational Concerns for Hunger Organization – advocate Moringa as “ natural nutrition for the tropics.” Leaves can be eaten fresh, cooked, or stored as dried powder for many months without refrigeration, and without loss of nutritional value.

According to Optima of Africa, Ltd., a group that has been working with the tree in Tanzania, “ 25 grams daily of Moringa Leaf Powder will give a child” the following recommended daily allowances: Protein 42%, Calcium 125%, Magnesium 61%, Potassium 41%, Iron 71%, Vitamin A 272%, and Vitamin C 22%. These numbers are particularly astounding; considering this nutrition is available when other food sources may be scarce.

Moringa as medicine

Scientific research confirms that these humble leaves are a powerhouse of nutritional value. The Moringa tree has great use medicinally both as preventative and treatment. Much of the evidence is anecdotal as there has been little actual scientific research done to support these claims. India’s ancient tradition of ayurveda says the leaves of the Moringa tree prevent

300 diseases. One area in which there has been significant scientific research is the reported antibiotic activity of this tree.

Moringa and cancer

Findings of a study made in India, which were used as the basis of many news reports on malunggay as a wonder plant, states that moringa contains anti-cancer compounds (phytochemicals) that help stop the growth of cancer cells. Moringa is said to be effective in treating ovarian cancer, among a host of other diseases like arthritis, anemia, heart complications, kidney problems, scurvy, asthma, and digestive disorders (ulcer, gastritis, diarrhea, dysentery).

Another area of folklore which research supports is in cancer treatment. Moringa species have long been recognized by folk medicine practitioners as having value in the treatment of tumors. Studies examined certain compounds for their cancer preventive potential. Recently two of these compounds were shown to be potent inhibitors of activation of lymphoblastoid (Burkitt's lymphoma) cells. One of these compounds also inhibited tumors in mice bred to be prone to tumors. In another study, Bharali and colleagues examined skin tumor prevention following ingestion of drumstick (Moringa seedpod) extracts.

Liver and Moringa

Moringa has been observed by scientists to contain unique compounds and enact mechanisms that help purge the liver of these toxins and even reverse the damage that they cause. Silymarin is a flavonoid or specialized molecule found in moringa that has been shown to help reduce the effects of

hepatotoxins on the liver, improving its resiliency. It also protects the liver from the toxic effects. Moringa has also been observed to be an effective treatment against a wide array of liver diseases, such as both chronic and acute hepatitis, cirrhosis of the liver, fatty degeneration of the liver, and the metabolic liver disease brought about by alcohol and drug use. This is because moringa not only stops the toxicity that causes these diseases, but also helps reverse it. On its own, the liver is a very resilient organ, able to regenerate its cells and grow back even after over half of it is destroyed or removed. Moringa accelerates this regeneration process by about four times the normal speed, eventually helping the liver regain full functionality.

Water purification

After the oil is extracted from the pods, the seed-cake remaining contains the active components for removing turbidity (solid particles) from water. Because bacteria adhere to the solids, this seed-cake also effectively removes bacteria. At the Thyolo Water Treatment Works in Malawi, Africa, two researchers from the University of Leicester, England, have worked on substituting moringa seeds for alum to remove solids in water for drinking.

Conclusions

This tree is truly a “Miracle Tree” offering hope; nutritionally, medicinally and economically to devastatingly poor 3rd world countries. It has just recently begun being used as a supplement in a juice form and in powdered leaf tablets. We are not talking about believing us, the data is already out there to show the benefits of Moringa Oleifera. What has been missing, so far, is the willingness to create awareness about this.

In our local language it is called SOHANJNA

References:

Broin M (2006). The nutrient value of Moringa oleifera Lam. leaves: What can we learn from figure? 2006 Moringa news work shop. http://www.moringanews.org/doc/GB? Posters? Broin_poster. pdf. accessed 18/05/2010.

Fahey JW (2005). Moringa oleifera: A review of the Medical evidence for its nutritional, Therapeutic and prophylactic properties. Part 1. <http://www.TFLjournal.org/article.php/20051201124931586>. accessed 15/03/2010

Anjorin TS, Ikokoh P, Okolo S (2010). Mineral composition of Moringa oleifera leaves, pods and seeds from two regions in Abuja, Nigeria. *Int. J. Agric Biol.*, 12: 431-434.

Anwar F, Sajid L, Muhammad A, Anwarul HG (2007). Moringa oleifera: A Food plant with Multiple Medicinal Uses. *Phytother. Res.*, 21: 17-25.

Foidl N, Makkar HPS, Becker K (2001). The Potential of Moringa oleifera for Agricultural and industrial uses. What development potential for Moringa products? October 20 th- November 2nd 2001. Dar Es Salaam.

Fuglie LJ (2001). Combating malnutrition with Moringa. In: Lowell Fugile, J. (Ed), *The Miracle Tree: The Multiple Attributes of Moringa*. CTA Publication, Wageningen, The Netherlands, pp. 117-136.

Gidamis AB, Panga JT, Sarwatt SV, Chove BE, Shayo NB (2003). Nutrients and anti-nutrient contents in raw and cooked leaves and mature pods of Moringa oleifera, Lam. *Ecol. Food Nutr.*, 42: 399-411.

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Babu S (2000). Rural nutrition interventions with indigenous plant foods-a case study of vitamin A deficiency in Malawi. *Biotechnol. Agron. Soc. Environ.*, 4(3): 169-179.

Barminas JT, Charles M, Emmanuel D (1998). Mineral composition of non-conventional vegetables. *Plant Food Hum. Nutri.* 53: 29-36.