

MIRACLE TREE— *Moringa oleifera*

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INTRODUCTION

Moringa oleifera, a native species of the Indian subcontinent, is a fast-growing drought-resistant tree belonging to the family Moringaceae. It is widely cultivated for the diversified use of its young seed pods and green leaves as vegetables and for medicine. It is considered as a very good supplement because of its high protein value.

Most of the production and international trade of *M. oleifera* comes from India, in canned produce, fresh fruits, oil, seeds, and leaf powder. India has an annual production of 1.1-1.3 million tons of tender pods.



WHY IS MORINGA KNOWN AS THE MIRACLE TREE?

The Moringa tree grows quickly, and they grow from seeds or cuttings of branch of trees. The tree leaves are something more than amazing though they grow quickly in poor soil within a very short period. Moreover, the tree is sustainable at dry and hot climates and is resistant to drought. The leaves, fruits, flowers, and immature pods of this tree are edible, and they form a part of traditional diets in many countries of the tropics and subtropics. Moringa is rich in nutrition owing to the presence of a variety of essential phytochemicals present in its leaves, pods, and seeds. In fact, Moringa is said to provide 7 times more vitamin C than oranges, 10 times more vitamin A than carrots, 17 times more calcium than milk, 9 times more protein than yoghurt, 15 times more potassium than bananas, and 25 times

more iron than spinach.

The small leaves of Moringa pack a full punch of nutrients which contain more protein than eggs, more iron than spinach, more vitamin A than carrots, and more calcium than milk. The Moringa plant is found as a good source of energy with potential as pharmaceuticals and cosmetics (oils from seeds for hair and skin care) benefits. Moringa seeds are also rich in vitamins and minerals. Seed extracts show antibacterial activity and are also used as a water purifying agent. Various studies found Moringa seeds as oxidative stress-, inflammation-, blood sugar-, and blood pressure-reducing agents. People suffering from malnutrition and poverty found Moringa as a superfood because of its nutritional alternatives.

NUTRITIONAL CONTENT IN MORINGA LEAVES

Nutrients	Fresh leaves	Dry leaves	Dry leaf powder
	g/100 g plant materials		
Protein (g)	6.7	29.4	27.1
Fats (g)	1.7	5.2	2.3
Carbohydrate (g)	12.5	41.2	38.2
Fiber (g)	0.9	12.5	19.2

Moringa leaves possess many valued compounds such as protein, vitamin, calcium, iron, ascorbic acid, and antioxidants (carotenoids, flavonoids, and phenol). Different developing or underdeveloped countries of the world feed their children with Moringa. Moreover, Moringa leaves contain various amino acids. But nutrient variation is common because of climatic, location, and environmental factors. Nowadays, Moringa leaves have diversified uses, such as medicinal coated capsules (as powder), as drinks (Ziga drinks), and tea. Because of its nutritional properties, it is known as the miracle tree.

PROTEIN CONTENT IN MORINGA LEAVES

<i>Moringa oleifera</i>	Protein content (% dry matter)
Fresh leaves	6.7
Dry leaves	29.4
Leaf powder	27.1

Vitamins, such as vitamin A (beta-carotene), vitamin B (folic acid, pyridoxine, and nicotinic acid), vitamin C, vitamin D, and vitamin E, are found in *Moringa oleifera*. Therefore, Moringa leaf powder or processed food derived from Moringa could be a good source of vitamins. Apart from various vitamins, Moringa contains lot of minerals, which are essential for physiological growth and development. Calcium is considered as one of the most important minerals, where dried Moringa powder is a great source of that element. It possesses 17 times more calcium than milk. It contains 2 mg/100 g iron and 25.5-31.03 mg/kg zinc. It is well enough to fulfil the daily requirement of zinc in the diet.

MEDICINAL USES

Moringa oleifera has numerous medicinal effective uses which have long been discerned in both the Ayurvedic and Unani systems. Every part of *Moringa oleifera* is considered as important elements which have diversified medicinal value. Almost all parts of the Moringa trees have been used as natural medicine. Though Moringa tress extracts are used as a high valued food, besides it has various types of medicinal uses.

IT POSSES

- ✿ Antimicrobial and anthelmintic activities
- ✿ Antiasthmatic activity
- ✿ Anticancer and antitumor activity
- ✿ Antidiabetic and wound healing activity
- ✿ Cardiac and circulatory stimulant and antidiuretic activities
- ✿ Analgesic activity
- ✿ Antipyretic activity
- ✿ Hepatoprotective activity
- ✿ Antispasmodic and antiulcer effects

