



## Moringa leaf powder as Nutraceuticals

**M**oringa or drum sticks is among the well known vegetables being used in our food during its availability. It is commonly known as *Sejana*. Each vegetable and fruit has its own nutritional content; however, only few have medicinal properties along with its regular nutrition.

The literature and research findings on Moringa or drum stick leaves powder has confirmed it to possess high anti-inflammatory, antispasmodic (an antispasmodic is a drug or an herb that suppresses spasms qualities. These are usually caused by smooth muscle contraction, especially in tubular organs. The effect of Moringa powder is said to prevent spasms of the stomach, intestine or urinary bladder) and diuretic properties (A diuretic is any drug that elevates the rate of urination and thus provides a means of forced diuresis).



The south Indian states have a major area under the cultivation of moringa.

- Moringa contains properties which help rheumatism, arthritis and other joint disorders.
- It is also recommended as cardiac and circulatory stimulant.
- Biological studies have confirmed that the drum stick leaf has anti-inflammatory, antispasmodic and diuretic activities.

Many herbal manufacturers in India are already engaged in exporting Moringa leaves powder as a Nutraceuticals and in the oil form. According to the research findings Moringa powder can be filled in capsules.

### Moringa leaf powder

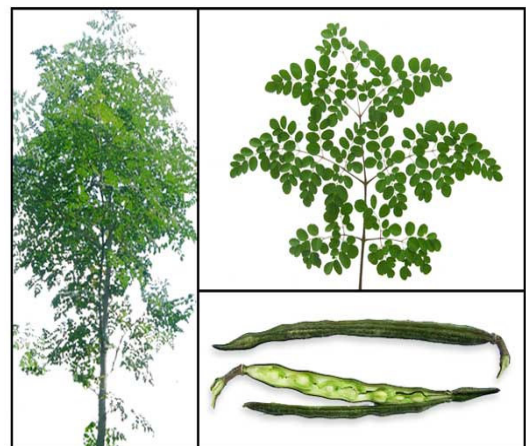
Moringa is referred to as the Tree of Life. Doctors use it to treat diabetes in West Africa and high blood pressure in India. We have looked at developing the pure form of the powder which is natural and safe. Currently Moringa powder is sold in capsules. It can be certified to prove that there are no additives in it.



Referring to the ancient texts of Ayurveda, the researchers have proved that the Moringa powder helps to boost energy and provides the required nutrition besides rebuilding weak bones, enrich anemic blood. It has calcium content equivalent to 4 glasses of milk, the vitamin C of 7 oranges, and the potassium of 3 bananas.

### Medicinal properties of Moringa leaf powder

- Further daily consumption of the Moringa leaf powder which is high in Vitamin A can prevent eye disease, skin disease, heart ailments, diarrhea among others.
- Its vitamin C content helps in preventing cold and flu.
- Its high calcium content is good for strong teeth and prevention of osteoporosis.
- Being a source of potassium and proteins it is recommended brain and nerves functions.
- Moringa powder has also been reported to purify water impurities to maximum extent.



The powder will also find suitable applications in preparation of Instant *Sambar* mix wherein it has projected demand in the Indian market as well as other nations having Indian residents too.

Reported information in online portal reveals that few agencies looking for value added products are developed from Moringa. In India planting of moringa tree material is also a house hold practice in rural area. In semi urban area the agro farm, self help groups are also engaged in the supply chain business of Moringa to the local market. West African countries are already having this plantation in surplus.

The industry prospective of this can be treated as a seasonal business.

### **Comparison of nutritional benefits with other vegetables**

The competitive advantage of the leaf is that as compared to the common food its value per 100gm edible portion is very high.

<b>Nutrients</b>	<b>Moringa</b>	<b>Other sources</b>
Vitamin A	6780 mcg	carrots: 1890 mcg
Vitamin C	220 mg	oranges: 30 mg
Calcium	440 mg	cow's milk: 120 mg
Potassium	259 mg	bananas: 88 mg
Protein	6.7 gm	cow's milk: 3.2 gm

There are several research institutes in India which have worked on the process and development of various products form Moringa leaf. Efforts are also on to bring out value-added products to the market.

### **Availability of raw material**

Till today it is only being used as a vegetable start up of any industry. There may be shortage at the beginning. On the other hand now self help groups, agri produce farm filed are also involved in the extension of area under cultivation of this tree.

### **Machineries involved in processing**

Pre processing of the raw material is followed by machine processing which includes hot air dryers, pulverisers, blenders, packaging machines, etc.



**Blender**



**Pulveriser**

## **Market potential**

This product is apt for Indian small and medium manufacturers of herbal products as it can be produced on a large scale. With the current high level of awareness about the Moringa leaf nutrition in the market, companies can capitalize on the revenue generation opportunities not only in the domestic market but also in the international arena.

## **Market within the country**

It is a new concept that requires further dissemination of information; however market is yet to be explored. But there are health cautious customers who are willing to try and accept a new product.

## **Investment**

Investment towards the development incurred is nominal for the existing enterprise. However, for startup entrepreneurs having good marketing skill in pushing this kind of product, it will be advantageous.

**Technology support:** The technology support for the startup enterprise can be facilitated by NRDC.

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Note: The author may have used various references in the preparation of this article. For further details please contact him/her.

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