

## Moringa Oleifera – the tree of life

### Introduction

*Moringa Oleifera* originates in India, from the valleys of the southern Himalayas. Today it can be found along the tropical and subtropical zones.

Moringa, which is also known as “Never dies”, can grow just as well in poor soil conditions as it can in rich soil types and it is only minimally affected by difficult climate conditions such as draught. It grows quickly as soon as it is sewn or pruned. It can also self-propagate, after thorough pruning.



### Summary

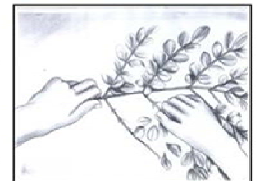
This “Médecine de la Nature” (natural medicine) document is presented by the ONG, highlighting the virtues of the *Moringa Oleifera* plant and its possible uses: helps fight malnutrition, purifies water, is a source of revenue and a medicinal plant.



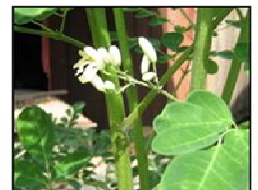
The **seeds** are round and covered in a thin, brownish shell. The shell resembles 3 sided pod which houses a kernel.



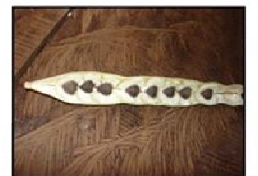
The **leaves** grow in clusters of two or three at time, mainly at the end of the tree branches.



The **flowers** are white or cream in colour with a yellow spot at the base.



The **fruit** consists of a slim pod which grows from 20 - 60 cm in length. Each pod contains 12 - 35 seeds.



### **Names given to Moringa Oleifera :**

Acacia blanc, Ben ailé, moringa ailé, Benzolive, pois quenique, neverdie, and Mother’s Best Friend.

## I/ Fights malnutrition

The extremely high nutritive value of the Moringa leaves is something rarely seen. In fact, the leaves contain very high concentrations of vitamins A and C, vitamin B complex, iron, calcium, proteins, zinc, selenium and the 10 essential human amino acids, which is a rare plant phenomenon.

Component	Powdered leaf
calories	205
Protein (g)	27,1
Fat	2,3
Carbohydrates	38,2
Fibre (g)	19,2
Calcium (mg)	2003
Copper (mg)	0,57
Iron (mg)	28,2
potassium (mg)	1324
magnesium (mg)	368
Phosphorus (mg)	204
Sulphur (mg)	870
Selenium (mg)	0,09
Zinc (mg)	3,29
Oxalic acid (mg)	1600
Vitamin A (mg)	18,9
Vitamin B1 (mg)	2,64
Vitamin B2 (mg)	20,5
Vitamin B3 (mg)	8,2
Vitamin C	17,3
Vitamin E (mg)	113

Amino acids (mg)	Powdered leaf
Arginine	1 325
Histidine	613
Isoleucine	825
Leucine	1 950
Lysine	1 325
Methionine	350
Phenylalanine	1 388
Threonine	1 188
Tryptophan	425
Valine	1 063

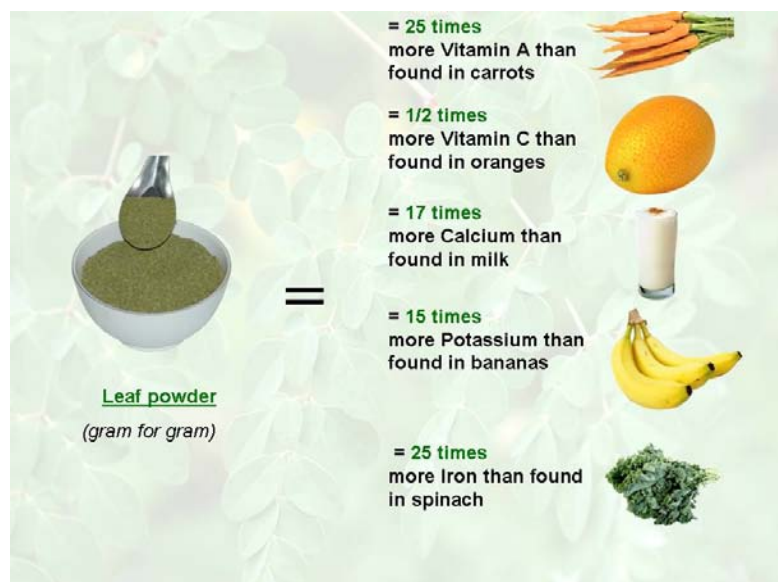
	Breastfeeding mother	Child
Protein	21	42
Calcium	84	125
Magnesium	54	61
Potassium	22	41
Iron	94	71
Vitamin A	143	272
Vitamin C	9	22

**Average daily intake for:**

- a breastfeeding mother: with 48 grams of powdered Moringa leaf /day
- a child aged 1 to 3 years: with 24 grams of powdered Moringa leaf / day

**For 100 grams of dried leaves**

The values for dried leaves are noted here because, except for vitamin C, they represent a higher vitamin and mineral content.



The high content of iron, proteins, copper and various essential amino acids found in the Moringa leaves make it an ideal nutritional supplement. Moreover, introducing Moringa leaves into programmes fighting malnutrition means that renewed emphasis can be placed on resources available locally. The long term prospects of the project are therefore not threatened by any potential shortage of imported produce.

## II/ Clarifying water

Once in powder form, Moringa Oleifera seeds become a natural flocculent which can clean contaminated waters, eliminating between 90 to 99% of bacteria. In fact, it has been proven that this combination of seed constitutes a premium coagulant for the treatment of river water which contains high levels of suspended solid matter. (>100 UTN- Nephelometric Turbidity units).

The mixture of crushed grains can be prepared from seeds, as well as any pressed residues (food) obtained during the seed oil extraction process.

## III/ Producing Moringa oil

Moringa seeds contain 40% oil and the fatty acid profile of the oil shows that it contains a 73% level of oleic acid. Moringa oil therefore has similar qualities to superior quality oil - such as olive oil.

Moringa oil can be used as an edible vegetable oil and cooking oil (deteriorates very slowly); as industrial oil; or as a quality oil ingredient for the perfume and cosmetic industry; or even as a lighting oil in oil lamps as it produces a practically smoke-free, clear light; or finally, as a base for fine paints.

## IV/ Using Moringa in traditional medicine

The leaves, fruit, seeds, roots and even the flowers each possess their own particular medicinal virtues.

All these uses have not yet been scientifically verified, but Moringa is considered an effective treatment for anaemia, loss of appetite and it increases lactation in women. It also combats gastric discomfort, stomach ulcers, diarrhoea, dysentery, colitis and can be used as a laxative, purgative and a diuretic – to fight colds, bronchial infections, fever and head pain – rheumatic discomfort, muscular cramp, bruises and skin infections, scabies, ringworm and insect bites.

In certain cases of diabetes, Moringa can also be used to stabilise sugar levels and can stabilise arterial tension.

*However please note that **the roots or root peelings must never be given to pregnant women.***

## VI/ Others uses for Moringa

Other uses for this tree include cattle fodder (cows, sheep, goats, pigs, rabbits) and fish food (e.g.: carp), biogas production, dye (blue colour) and tannin for branding livestock, fertilisation and the prevention of certain plant diseases (eg: *Pythium debaryanum*), nutritive substance for foliar application (increases crop harvest by more than 30%), green fertilizer, paper production, ropes, etc...

### References :

Document distributed by the Cambodian Ministry for Health

The tree of life, the multiple uses of Moringa. CTA, CWS – Lowell J.Fuglie

**Trees for Life** : [www.treesforlife.org/project/moringa](http://www.treesforlife.org/project/moringa)

**ECHO** : [www.echo.net](http://www.echo.net) with the video "Moringa Oleifera : Natural Nutrition for the tropics"

[www.moringanews.org](http://www.moringanews.org)