



## Review on Morianga Oleifera Plant Prospective in Personal Care Uses

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### ABSTRACT

Moriangaoleifera lam, popularly known as the "Drumstick tree," is a rich and inexpensive source of phytochemicals with potential applications in medicine, functional food preparation, water purification, and biodiesel generation. Proliferation, hepatoprotective, antiinflammatory, antiatheroscleretic, and antiperoxidative are just a few of the biological functions. The presence of useful bioactive substances such as phenolic acids, flavonoids, alkaloids, natural sugars, vitamins, minerals, and organic acids is linked to moriangaoleifera's medicinal uses. Because of its robust microbiological and anticoagulant effects, the molecular weight of M. Oleifera cationic proteins (MoCP) recovered from the seeds is particularly valuable and is utilized in water purification. M. Oleifera methyl esters (MOME) generated from seed oil meet the key standards of the German biodiesel standard.

Keywords: Drumstick Tree, Bioactivities, Biodiesel, Water Purification, M. Oleifera Cationic Proteins (MOCP)

### INTRODUCTION



Fig - 1 : Moringa

Because they are a source of multifunctional healing agents and bioactive components, products derived from a variety of herbs and plants are generally regarded as safe to consume. Moriangaoleifera Lam (syn. Pterogospermagaertan) is a natural and cultivated variation of the genus Morianga, which belongs to the Moriangaaceae family. Moriangaoleifera lam is a tiny tree that grows to a height of 5 to 10 meters. Moriangaoleifera lam is a highly valued plant found in many tropical and subtropical areas. It is grown across the world for various utilities. The morianga tree (moriangaoleifera) is a native of India that has been planted all over the world and has become naturalized in many areas. Morianga is known by a variety of names. Morianga leaves are known as "mother's best friend" and "malunggay" in the Philippines, where they are prepared and fed to babies. Benzolive tree, horseradish tree, and drumstick tree are some of the other names for it. In the moriangaaceae family, there are roughly 13 species of morianga trees. Moriangaoleifera is the most well-known of these species.

It's a multipurpose tree that's been dubbed "nature's medical cabinet." Almost every aspect of a plant has the potential to be beneficial. It produced a lot of oil, which has a lot of antioxidant properties and might be used in industrial, nutritional, and health applications. The oil derived from them is referred to as "ben oil" and is used for a variety of purposes. It is utilized as a cooking fuel and as a source of light in impoverished areas. It's also used to make soap and as a lubricant in watches and other farm machinery.

Morianga plantations in the West Indies exported the oil to Europe in the 19th century for use in fragrances and machinery lubricants. The most

abundant among the unsaturated fatty acids in *Moringaoleifera* is oleic acids, which has been recommended for use in pharmaceutical preparations, particularly in skin therapy. The oil from morianga seeds is extracted using a variety of processes. Morianga oil has a pale yellow consistency and is non-drying. It has a variety of cosmetic properties and is used as a moisturizer in body and hair care. Morianga oil is an effective natural cleanser for removing debris from the hair. Other applications include soap production and cosmetic preparations like lip balm and lotions. Ben oil has also been demonstrated to be very useful in the production of soap, resulting in a steady lather with great washing efficiency, which is ideal for several African countries. It's good for making biodiesel and has a lot of commercial and industrial use.

## BOTANICAL DESCRIPTION, DISTRIBUTION AND PRODUCTION

Moringaceae is a single genus of shrubs and trees that includes 13 species and is found throughout the Indian subcontinent and western Africa. A tropical deciduous tree, *Moringaoleifera* Lam. The stem is brittle, with corky, whitish gray bark and drooping branches. The leaves are pale green bipinnate or more usually tripartite, with opposing, oval leaflets. The *Moringaoleifera* tree was described, stressing its nutritional value for people as well as its propagation methods. The morianga tree thrives in temperatures ranging from 25 to 35 degrees Celsius, direct sunlight, a 500-meter altitude, and slightly acidic to alkaline soil. *Moringaoleifera* seeds can be sown immediately after maturity because they do not become dormant and remain viable for up to a year. The trees begin bearing fruit between the ages of six and eight months, with a modest fruit set in the first one to two years, but increasing yields in succeeding years. Because of the significant genetic differences caused by cross pollination, seed propagation is not recommended. *Moringaoleifera*, a native of northern India's sub-Himalaya mountains, is currently cultivated for a number of purposes throughout the world's tropical and subtropical climates.

## PHYTOCHEMICAL COMPOSITION

Different parts of the *moringaoleifera* tree have been identified as good sources of unique glucosinolates, flavonoids and phenolic acids, carotenoids, polyunsaturated fatty acids, highly bioavailable minerals, and folate. Benzyl glucosinolates are the most prevalent among glucosinolates in the stem, leaves, flowers, pods, and seeds of *moringaoleifera*, although. Furthermore, as compared to other folate-rich diets, such as green leafy vegetables, these forms are highly bioavailable in animals.

The fatty acid profile of the seed oil is equal to that of olive oil, with the exception of linoleic acid. Because of its effectiveness and ease of recovery, hexane is commonly employed in the extraction of oil from morianga seeds. Because of its much increased bioavailability, animal bioavailability studies show that morianga foliage can be employed as a significant source of iron. In comparison to full fat flour, the concentration of the other proximate elements was shown to be higher in defatted flour. Water absorption, fat absorption, foaming capacity, and foam stability of flour were all improved by defatting. Folate deficiency contributes to chronic disease and developmental disorders, such as neural tube defects in pregnancy.

## BIOLOGICAL ACTIVITY AND THERAPEUTIC POTENTIAL OF MORINGA OLEIFERA

The roots, barks, leaves, flowers, fruit, and seeds of the *moringaoleifera* tree have traditionally been utilized in numerous therapeutic uses, such as abdominal tumors, ulcers, and other skin ailments. *Moringaoleifera* phytochemicals have antioxidative, antibacterial, antiproliferative, antiulcer, and hepatoprotective effects. With enhanced internucleosomal DNA breakage, the *moringaoleifera* leaf extract causes substantial morphological alterations and decreased cell viability.

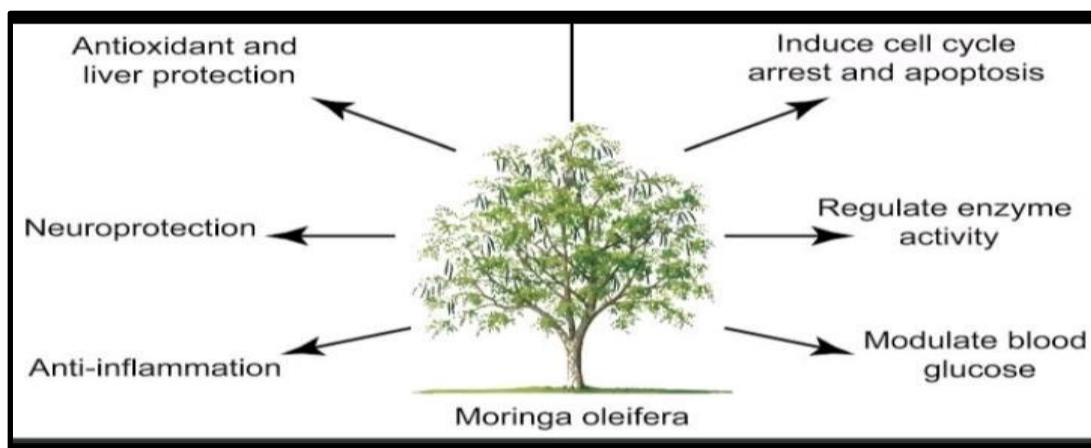


Fig - 2 : MORINGA OLEIFERA

In addition, the KB cells produce ROS. *Moringaoleifera* leaves are also high in phenolics and flavonoids, which block significant antioxidant action in vivo and in vitro. These findings point to the possibility of using concentrated moringaoleiferaisothiocyanides to treat low-grade inflammation associated with chronic illness.

**WATER COAGULATION PROTEINS FORM MORIANGA OLEIFERA SEEDS -**

Turbidity is caused by suspended negatively charged particles in the water as well as natural organic materials. *Moringa* seeds have yielded a high number of active proteins with flocculating capabilities, which have been extracted, isolated, and described. This cationic protein, also known as moringaoleifera cationic protein, inhibits the growth of bacteria and settles negatively.

**BIODISEL FORM THE SEEDS OIL OF MORIANGA OLEIFERA**

Biodiesel is a sustainable and environmentally favorable alternative to nonrenewable fossil petrodiesel fuel. Long chain alkyl esters generated by chemically reacting lipids from vegetable oil and animal fat are referred to as biodiesel. Ben oil is found in *Moringaoleifera* seeds.

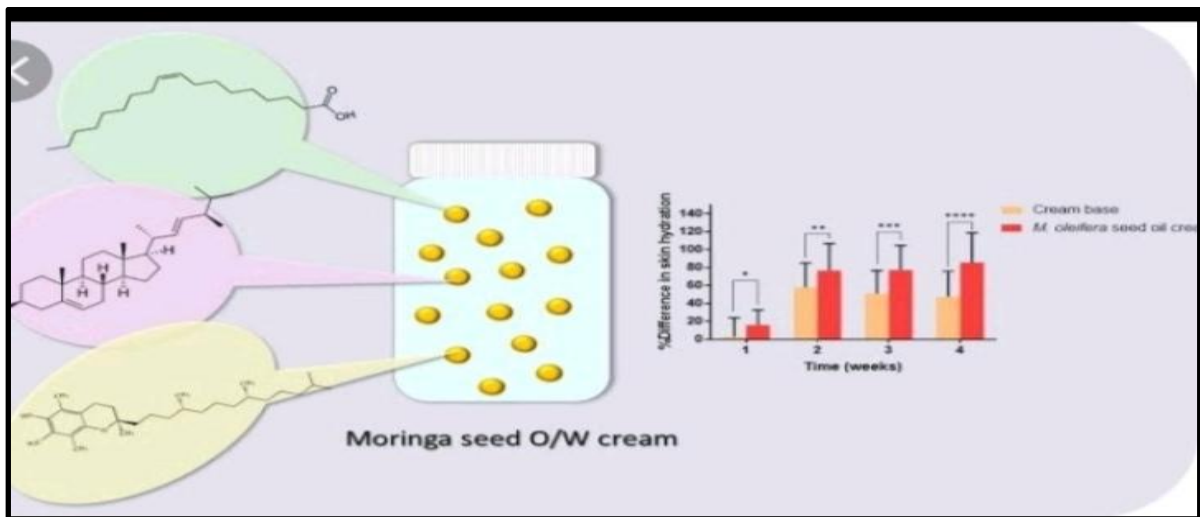


FIG - 3 : Moringa Seeds O/W Cream

**LIFE CYCLE OF MORIANGA OLEIFERA**

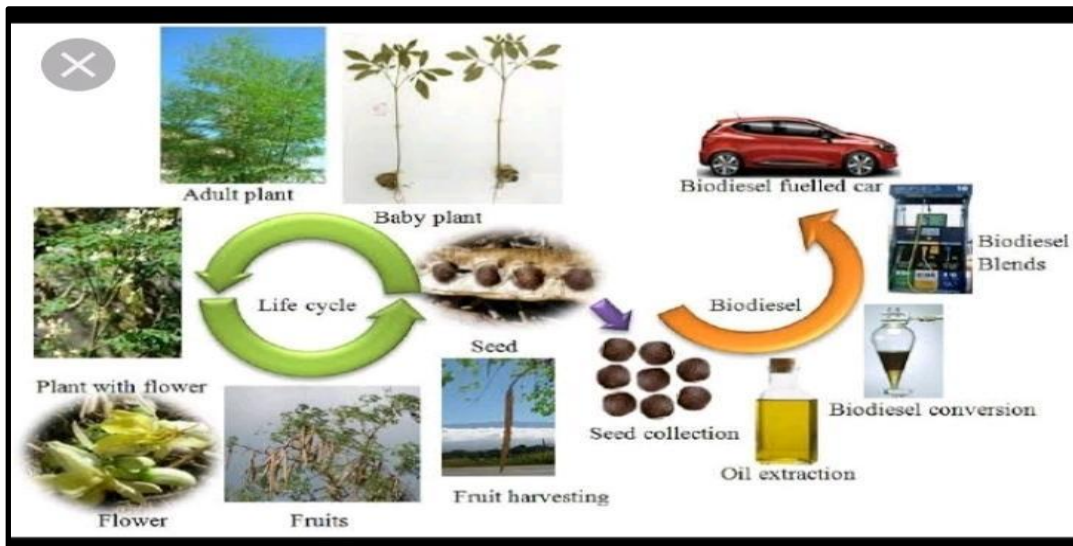


FIG - 4 : Life Cycle

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## PROPERTIES OF MORIANGA OLEIFERA

- 1.Morianga leaves are high in proteins, vitamin B6, vitamin C, riboflavin, and iron, among other nutrients.
- 2.Antioxidants abound in Moringaoleifera.
- 3.Morianga has the potential to reduce blood sugar levels.
- 4.Moriangaoleifera has anti-inflammatory properties.
- 5.Morianga has the ability to decrease cholesterol.
- 6.Moriangaoleifera has anti-arsenic properties.

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## USES OF MORIANGA OLEIFERA

- 1.skin and hair are protected and nourished
- 2..Edema treatment
- 3.Safeguarding the liver
- 4.cancer prevention and treatment
- 5.Taking care of stomach aches and pains.
- 6.Bacterial illness prevention and treatment
- Treating mood disorders is number seven on the list.
- 8.Cardiovascular system protection
- 9.Assisting in the healing of wounds
- 10.Diabetic treatment is number ten.

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## CONCLUSION

The MORINGA OLIFERA plant has a lot of medical characteristics that are also beneficial to humans.

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