

Helpline Hot Topic for June 2020

Moringa Oleifera

by Cynthia Zimmerman

What is Moringa? Do you dance it, drink it, put a dollop on pie, eat it, wear it, inoculate against it, play it, spray for it, or plant it?

One of the truly great things about working the Master Gardener Helpline is what you learn in the process of helping others. I had never heard of Moringa until a few weeks ago when I received a Helpline email asking where to get a Moringa stump and how to grow it in Fresno. In pursuit of an answer, I learned about an incredible plant; a tree, an agricultural crop, animal feed, a cooking ingredient, a superfood, a supplement, and a water purifier.

The *Moringa oleifera* is a small tree originally from the foothills of the Himalayas in northern India. It is also known as **drumstick tree** due to its long slender, triangular seedpods (not to be confused with the golden rain tree *Cassia fistula* that also goes by this name); **horseradish tree** because its root tastes similar to horseradish; **ben oil tree** or **benzolive tree** due to the oil derived from its seeds; **miracle tree** because of its supposed ability to treat and heal; **God's tree** because almost the whole tree is edible and provides nourishment for the human race; **tree of life** as it can provide basic nutrition for humans in times of survival; **memory tree** as an aid for neurological functions of the brain helping memory and cognition.

In Asia Moringa has long been grown for human food, livestock forage and feed, medicine, and dye. As one of the world's most nutritious crops, it is remarkable in that Moringa is rich in minerals, vitamins, essential amino acids, phytochemicals, vegetable proteins, anti-oxidants, anti-inflammatory agents and carbohydrates. Gram for gram Moringa can supply more potassium than bananas, more beta-carotene than carrots, more protein than peas, more vitamin C than oranges, more calcium than milk and more iron than spinach. Leaves can be used in salads, dried for use as an herb in cooking, and for making tea. It is also made into powder that can be used in slushes, baking, sauces and dips.

Moringa is even a water purifier. Michael Lea of Safe Water International published a report in the 2014 issue of *Current Protocols in Microbiology*, showing that Moringa seeds can reduce water muddiness by 80 to 99.5 per cent and cut bacteria up to 99 per cent. One shelled seed crushed into powder and mixed with a liter of muddy water yields water-soluble organic polymers that remove most impurities and pathogenic particles from the water. The residue is collected in sludge which is removed, leaving healthy water.

One of the biggest benefits of this drought tolerant tree is that it can be grown in regions where rainfall is limited to between 9 to 60 inches. It does best at altitudes below 2000 feet and at temperatures between 75-95 degrees F. but can tolerate up to about 120 degrees F. The tree will die if it freezes completely, but can handle mild frost. In the U.S. it appears to grow well in Hardiness Zones 9 and 10 outdoors, and with the right protections, can also survive in Zone 8.

One remarkable feature is that it grows from 9 to 16 feet per year if left uncropped. A fully mature tree can reach a height of 35 feet but can be cut back to 3-4 feet high making it easier to collect leaves and seed pods. It can tolerate a wide range of soil conditions preferring neutral to slightly acidic sandy or loamy soils.

Moringa resists most pests. It can get root rot in waterlogged soils causing wilting and death, or an increase in mites during dry and cool weather causing yellowing of leaves but recovering when warm weather returns. Aphids, leafminers, whiteflies, caterpillars and termites can but rarely are an issue.

If you're interested in growing something new and different that doesn't require a lot of water, give Moringa a try. According to the UC Kearney Agricultural Research and Extension Center, currently test growing Moringa, it is an easy plant to grow. Some people recommend soaking the seed for 24 hours before planting an inch deep in soil. It can be planted in the ground or in a 1-5 gallon pot. Make sure it gets lots of sun. During the fall in the Fresno area, it needs to be pruned back and covered with plastic to protect it from frost. It can't handle our cold winters and can die if not protected.

For more information on *Moringa oleifera* check out the following websites:

<http://smallfarmsfresno.ucanr.edu/Crops/Moringa/> Moringa (recipes and local small farmers)

<https://ucanr.edu/blogs/blogcore/postdetail.cfm?postnum=27627> Fresno's Southeast Asian farmers are on trend with new 'superfood'.

<https://moringafarms.com/growing-moringa/> Growing Moringa

<https://summerwindsnursery.com/blog-az/what-you-need-to-know-about-the-amazing-moringa-tree> The Amazing Edible Moringa Tree! Who Knew?

<https://miracletrees.org/growing-moringa/> Growing Moringa