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Opinion

Moringa: A Miracle Plant

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Introduction

Moringa, one of the most incredible and highly valued plant grown and cultivated in different parts of the world, belonging to family Moringaceae. Moringaceae family is well known for its 12-14 species but out of all *Moringa oleifera* is one of the most cultivated and useful species. *Moringa oleifera* is small to medium sized, fast growing evergreen plant commonly known by various names such as 'Drumstick tree' because it contains long, triangular seed pods, 'Horse radhish tree' because its roots taste similar to that of horse radish and 'Benoil tree' because benzoil is extracted from it. Moringa is truly a miracle plant because each and every part of this plant like the leaves, roots, flowers, pods, seeds etc shows some kind of nutritive and medicinal properties which have the potential to prevent and heal many diseases and gained importance in tradional medicine system such as in Ayurvedic, Unani system of medicines. Due to this reason people have been consuming this plant since a long time in various preparation forms in order to attain its nutritive value.

Moringa is a plant native to sub-Himalayan areas of India, Pakistan, Nepal, Bangladesh, Afghanistan. Beyond its native range it is grown and neutralized well in other regions such as in Southeast and West Asia, East and West Africa, Arabian Peninsula, West Indies, Southern Florida, in Central and South America as well as in Brazil and Paraguay. Moringa is usually grown worldwide because of its nutritious pods, edible leaves, flowers, fruits, roots, seeds and oil and used extensively as a useful source of food, fiber, traditional medicines and other products in its native as well as in other regions. The drugs obtained from natural origin are usually considered to be less toxic, cost effective and free from adverse effects so people do consume Moringa like on daily basis also either in raw or in some prepared form like Moringa plant parts and extracts have been proposed to different preparations such as Moringa tea, capsules, powder, syrups etc. and people consume their desired preparation form in oder to get the beneficial effect. India is known to be the largest production of Moringa and almost every species of Moringa come from India only because of the favourable climatic conditions. Moringa is a plant which grows well in dry conditions i.e., in Semi-arid, Tropical and Sub tropical regions as it is heat loving plant and can't tolerate the freezing and frost conditions. Moringa tolerates wide range of soil conditions but mostly prefers the loamy and sandy soil with pH ranges from 5 to 9 and can be grown in rainy water also as it requires small amount of water only. Altitude below 600m (2000ft) is best suited for Moringa, but in some tropical regions it grows up to 1200 to 2000m. So in order to achieve the maximum yield, Moringa should be cultivated according to the specifications required and yield could vary depending upon the season, variety, fertilization and by irrigation method. Moringa has the ability to grow as a annual or perennial plant depending upon the conditions and has the capability to recover itself it any damage occurs due to temperature conditions or some other reasons. As each and every plant is affected by some kinds of pests, weeds Moringa is also prone to weeds and diseases which can destroy plant cultivation In India caterpillars mostly effects Moringa species which include bark eating caterpillar, hairy caterpillar green

leaf caterpillar etc. so in oder to prevent the destruction made by insects or weeds, proper cultivation management is required.

Moringa is a highly valued and nutritious plant because its each and every part of this plant possesses some nutritive values as they are rich source of energy, carbohydrates, dietary fibres, fat, protein, vitamins, calcium, iron, zinc, magnesium, phosphorus, potassium, sodium and other constituents. Out of all parts, the most used part are leaves which are rich in vitamins, carotenoids, polyphenols, phenolic acid, flavonoids, alkaloids, glucosinolates, tannins, saponins and isothiocyanates. Almost every plant constitutes some bioactive compounds that may vary from plant to plant. Moringa provides a large store of various bioactive compounds with potential therapeutic properties that have been utilized in the treatment and cure of various human diseases. Starting from Vitamins, Moringa leaves are good source of Vitamin A which has important functions in vision, reproduction and immune competence. It also contains 200mg/100g of Vitamin C, E and protects the body from various toxins, pollutants. The Polyphenol compounds such as flavonoids and phenolic acid. Flavonoids provides the protection against chronic disease and the main flavonoids found in Moringa leaves are quercetin, myrecytin and kaempferol which acts as antioxidants and have multiple therapeutic properties and Phenolic acid compounds shows antioxidant, anti-inflammatory, antimutagenic properties. Alkaloids, Glucosinolates and Isothiocynates have important health promoting properties. Tannins shows anticancer, antiatherosclerotic and anti-inflammatory properties and Saponins also show some anticancer properties. Not only the leaves other parts of Moringa also contains important bioactive compounds like the stem bark contains two alkaloids namely moringine and moringinine. Moringa flowers contains nine amino acids, sucrose, D-glucose, traces of alkaloids, wax and quercitin. Moringa pods contains the antihypertensive compound thiocarbamte and isothiocyanate glycosides and fruits consists of cytokinins. Moringa seed oil consists of campesterol, stigamsterol, and clerosterol. So, in this way each and every part of Moringa plant contains certain bioactive compounds which are useful in one and other way. Thus, Moringa is among the most useful plant species around the world and it contains all the nutrients required by our body. The nutrients and bioactive compounds found in Moringa are 100% natural metabolites, quite effective, promotes healthy life and beneficial. It is truly a kind of miracle plant which has gained people beliefs and has been the centre for research as Moringa is an important source of naturally occurring phytochemicals and provides the basis for future development [1-10].

Conclusion

Moringa is a highly appreciated and nutritious plant because it contains nutrients in every part of the plant. Moringa contains a vast number of bioactive chemicals with medicinal potential that have been used to treat and cure a variety of human illnesses. Moringa's nutrients and bioactive substances are all natural metabolites that are highly effective, encourage a healthy lifestyle, and are useful. Moringa is an essential source of naturally occurring phytochemicals and lays the foundation for future development.

Bibliography

1. Jimenez VM., *et al*. "Bioactive Components in *Moringa Oleifera* Leaves Protect against Chronic Disease". *Antioxidants* (2017): 1-13.

2. Sohaimy El AS., *et al*. "Biochemical and functional properties of *Moringa Oleifera* leaves and their potential as a functional food". *Global Advanced Research Journal of Agricultural Science* (2015): 188-199.

3. Aja MP., *et al*. "Chemical Constituents of *Moringa Oleifera* Leaves and Seeds from Abakaliki, Nigeria". *American Journal of Phytomedicine and Clinical Therapeutics* (2014): 310-321.

4. Raja RR., *et al.* "*Moringa Oleifera*-An Overview". *RA Journal of Applied Research* 2 (2016): 620-624.

5. Ragasa YC., *et al*. "Chemical Constituents of *Moringa Oleifera* Lam. Leaves". *Der Pharma Chemica* 7.7 (2015): 395-399.

6. Anwar Farooq., *et al*. "*Moringa Oleifera*: A Food Plant with Multiple Medicinal Uses". *Phytotherapy Research* (2007): 17-25.

7. Yamego Charles., *et al*. "Determination of Chemical Composition and Nutritional Values of *Moringa Oleifera* Leaves". *Pakistan Journal of Nutrition* 10.3 (2011): 264-268.

8. Price LM. "THE MORINGA TREE". *ECHO Technical Note* 1-19.

9. Gadzirayi TC., *et al*. "Cultivation Practices and Utilisation of *Moringa Oleifera* Provenances by Small Holder Farmers: Case of Zimbabwe". *Asian Journal of Agricultural Extension, Economics and Sociology* 2.2 (2013): 152-162.

10. Parrotta AJ. "*Moringa Oleifera*" (2014): 1-9.