

Wonder Plant- “MORINGA” Uses In Agriculture

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“*Moringa Oleifera* finds home in almost every corner of the world. In Agriculture to achieve organic production Moringa have wonders of uses.”



Moringa, scientifically called *Moringa oleifera* “**miracle plant**” belongs to non-leguminous family locally called suhanjna is native to sub-Himalayan tracts of India, Pakistan, Bangladesh and Afghanistan and is cultivated worldwide. Moringa is amongst the most useful tree currently around the globe which has benefited the various sectors including agriculture, food, medical and industry for various purposes. It is used as a plant growth regular, green manure crop, water purifier and fodder for [animals](#). It is named as miracle plant due to its wonders in every sector including Agriculture. As Agriculture is backbone of our country economy so, moringa could be effective for food security.

It has diverted the attention of scientists to explore its beneficial aspects by research as it has wonders of chemicals such as antioxidants, cytokinin and macro micronutrients present in its

leaves. Now farmers are also being awarded for their miracle uses.

Moringa has maximum nutrients in each part of the plant i.e. leaves, stems, twinges, flowers and roots used in Agriculture sector. Fresh Morinaga oil contains [70 mg P](#), [2.3 mg minerals](#) and [137.0 mg of S](#) which is used for plant growth nutrition and its leaf extract contains cytokinin, zeatin, ascorbate, phenolic and minerals i.e. calcium, iron and potassium which boost crop production. Its various uses from different parts include

- Leaves are used for green manuring, foliar fertilizer application, Animal forage, biogas production and as a cleaning agent
- The tree is used for fencing purpose
- Tree trunk is used for gum production
- The bark is used for biopesticide and ornamental planting
- In Agroforestry in Alleys cropping used for biomass production
- The seed is used for the purification of natural water and oil Secretion called **Ben oil** most expensive oil used for lubrication.
- All parts of the plant can be used as a cure for many diseases



#Agriculture #wonders

#Moringa

Moringa as plant growth hormone

Plant hormones boost crop production by increase the growth and development of plants. There are five plant growth regulators used for plant yield increment. Amongst 5 plant hormone cytokinins are used for enhancing food production. In Morinaga leaves zeatin is present which is, a purine adenine derivative of plant hormone group cytokinin. The zeatin promotes the antioxidant properties of many enzymes and protects the cells from the aging effects of reactive oxygen species (ROS). As morning leaves extract to have antioxidant property so under harsh climate it is used as plant growth enhancer and increase tolerance ability of plant under harsh conditions.

Moringa as organic fertilizer

Farmers depend on inorganic fertilizers for plant nutrients essential for production but these fertilizers are not only of high cost but also degrade the soil environment. The awareness to eat healthily has forced farmers to grow organic food without chemical residues. So Moringa leaves are alternative and substitute for inorganic fertilizers. Moringa leaves treated with 80% ethanol and water to obtain its extract have numerous benefits and are used as organic fertilizer. The oil cake obtained from seeds is used as a soil conditioner and fertilizer.

Moringa as green manure

Agricultural land can be enriched by using Moringa as green manure. For this purpose, tillage operation on land is performed and plantation of moringa seeds at depth of 1-2 cm is done. To maintain distance between plants seeds are sown at a space of 10x10 cm. After 25 days time period seedlings are plowed to 15 cm depth. Again, land is now prepared for crops desired to be planted. The incorporation of Moringa in soil results in the breaking of plants and the release of nutrients as well as the source of organic matter required essentially for plant growth. It also improves the physical properties of soil such as drainage and water holding capacity.

Moringa for plant protection

Lab analysis showed that Moringa leaf extract increases the resistance of plants against pests and diseases. Leaves of moringa plants have antibacterial and antifungal properties so used for the plant against various diseases. It is recorded that incorporating Moringa leaves in soil was effective for the prevention of damping-off disease in the okra plant caused by *Pythium debaryanum*. Although little work is done for exploring Moringa's role as a biopesticide it serves alternative for the treatment of plant diseases.

Moringa as Livestock feed

Moringa has adapted to harsh climatic conditions i.e. dry as well humid regions unlikely to other forages. It has been reported by many studies that dairy animals consuming moringa stems and leaves produce more milk by 43-65% and gained more body weight. Apart from this its consumption boosts the immunity of animals and improves the performance efficiency of livestock so can be used for their feed supplement.

Moringa as Alley crop

Alley cropping is defined as the cultivation of field crops or forages in between rows of trees. There are many uses of alley cropping such as the reduction in soil erosion, diversification in farm products and is the supplementation of income source.

Moringa as wind breaker

Moringa plant is used as a hedge plant to control soil erosion caused by wind and water. It is being planted to protect plants against the wind, for reduction of sand storm and provide support to garden plants. It also provides shade to plants during intense sunlight.

Moringa for reforestation

The process of replanting the trees after being depletion of previously existing trees. For improving the environmental conditions by absorbing the pollution from the air and by mitigation of global warming Moringa tree is used. It is also used for the biosequestration of carbon dioxide from the atmosphere.

Conclusion

Regardless of the wonder of benefits of moringa in the agriculture sector, it is always ignored to be cultivated on large scale. In order to achieve a high economic return from Moringa scientists and researchers should work more to explore its possible use in agricultural production.

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