**Madhuca indica - A Tree for All Reasons**

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**Abstract**

*Madhuca indica* a tree that is worshipped by tribal has versatile uses. It is an economic tree for tribal people as selling of its flowers, fruits and seeds fetch income enough to meet their day to day expenses. Every part of the tree has its own importance in one or other way. However, flowers have more weightage as they possess good nutritional value thus useful for various preparations like jams, jellies, biscuits, cakes, fermented products and many other food items. Pale yellow colored oil is extracted from seed which is widely used as adulterant by the tribal community, besides the fact that it has a number of applications in cosmetic industry. Madhuca species though has potential use often neglected due to unawareness. This article mainly focuses on how it can be put to use for various purposes.

**Introduction**

Indian forests hold wonderful tree treasures and *Madhuca indica* is one among them commonly called by the local name “Sweet butter tree/ Mahua” belongs to Sapotaceae family. It is an important tree for poor, greatly valued for its flowers and seeds. The tree has religious and aesthetic value in the tribal culture. Mahua leaves, flowers, fruits and seeds are edible, and are used in various forms for consumption by the people nearer to forest areas. Every part of mahua tree is used in various manners by tribal and nontribal communities. However, multipurpose use of this tree is often neglected and underutilized in the food and Pharma sector because of unawareness among the researchers. This article throws some light on multiple uses of Mahua plant.

**Benefits of Mahua**

1. **Culinary uses:** Sweet and fleshy flowers are eaten fresh or dried. Due to high content of sugar (sucrose, glucose, fructose, arabinose, small amount of maltose and rhamnose) tribal people are utilizing mahua flowers as a sweetening agent in numerous local and traditional dishes like halwa, meethi puri, kheer and burfi. Fermented flowers are also used as crude material for production of traditional alcohol and alcoholic beverages. Flowers are crushed and blended for use in sauces and compotes. Sundried flowers are boiled with seeds of Tamarind and Sal to make a sweet concoction, used as a quick source of calories. Mahua flowers along with some grains (rice, ragi, jowar) or root crops (sweet potato) are used for preparing cake. Mahua oil is extracted from seeds and the resultant defatted flour, has great potentiality in bakery products. Mahua flowers are also used to manufacture jam and jellies. Mahua butter extracted from seeds is a good source of essential fatty acids and can be used as substitute for cocoa.
butter for making chocolates.

2. Feed: Several mahua products are used to feed livestock. Leaves, flowers and fruits are lopped to feed goats and sheep. Seed cake of Mahua after oil extraction is used for ruminants in areas where mahua oil production is important, but is generally considered detrimental to livestock performance due to its high saponin content. The leaves of Madhuca are fed on by the moth *Antheraea paphia*, which produces tassar silk, a form of wild silk of commercial importance in India.

3. Timber: The Mahua timber can be put to a variety of uses such as building purposes as beams, door and window frames, posts etc. It is suitable for heavy work such as bridges, pile, sugar presses, cart wheels, ships, boats, sport goods, furniture etc. When seasoned, it is suitable in production of agricultural implements, drums and carvings. It is a good fuel wood.

4. Shade and shelter: Mahua with its large round crown provides shade and shelter to the animals and also to the tribal people.

5. Soil improver, soil reclamation and erosion control: Though not a legume, mahua develops mycorrhizal associations able to fix atmospheric Nitrogen. Its extensive superficial root system binds the soil and limits erosion. In India, mahua was used in soil reclamation on hard lateritic soils. Fallen leaves on the soil provide organic matter.

6. Health benefits: Various parts of Mahua such as flowers, leaves, bark, seed and seed oil have great medicinal value and are beneficial for skin disease, rheumatism, headache, constipation, piles, hemorrhoids, chronic tonsillitis, heart disease and diabetes.

7. Biodiesel production: High fatty acid content and quality of Mahua oil make it suitable as fuel. Mahua oil is reported to have potential use in biodiesel production.

8. Biopesticide/ fungicide: In addition to suitability of seed cake as fertilizer because of high saponin content, it helps to reduce root knot nematodes and fungal infections.

9. Industrial application: Seed oil of Mahua is used in the manufacture of hydrogenated fats, soaps and laundry chips and can be used as substitute of cocoa butter in preparation of cosmetics.

10. Source of employment: Tribal people collect the flowers, fruits and leaves of Mahua tree and sell in the local market and get money for their daily needs. Though it’s not a year round income to tribal people, but at least during flowering and berry bearing seasons, the tribals are assured of accessory income through sale of Mahua produce.

**Side Effects**

Though there are number of benefits of mahua, few side effects are encountered on regular consumption. Being hypoglycemic in nature mahua may interfere with the anti diabetic drugs and it also is reported to reduce fertility when consumed on regular basis.
Mahua with its multipurpose uses and applications, is satisfying the basic needs of tribal people in the form of 3F i.e. feed, fodder and fuel because of its vital components and abundant availability in that particular areas. The major factors affecting the quality of mahua flowers and their food products are poor postharvest storage and lack of modern technologies for value addition of mahua flowers. As a result, the poor tribal people and small local entrepreneurs are facing lots of economic problems due to low profit market of mahua flowers and their products. Now many researchers are working on the preparation of value added products like sauce, jam, jelly, pickles, cakes, biscuits and beverages from flowers and seeds which brings hope to the tribal people who are dependent on the sale of flowers and seed for their income.

References

