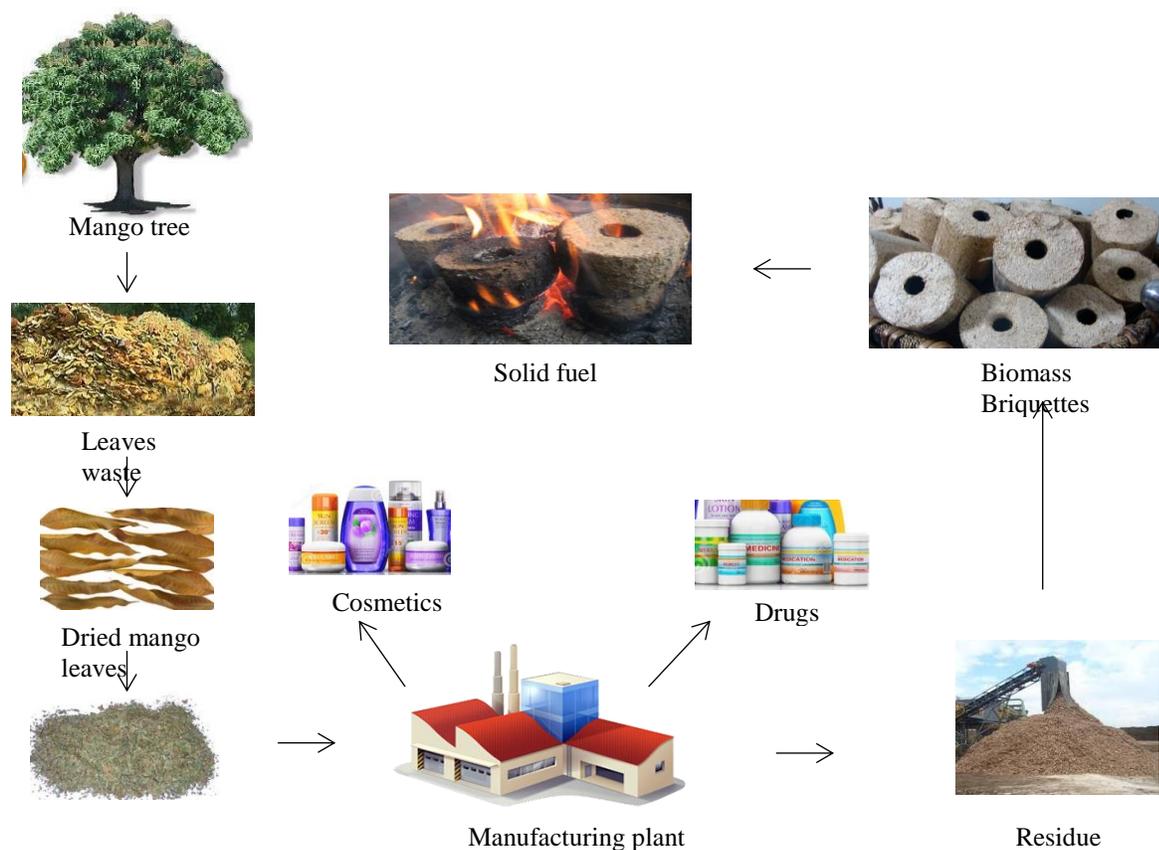


Useful products from dried leaves of Mango tree

Preamble:

Mango (*Mangifera indica*), the national fruit of India, is cultivated in several tropical and subtropical regions. Mangiferin is a major component of mango leaves and is an important natural drug with wide applications in pharmaceutical and related industries. Due to side effects of various synthetic drugs, the extraction of natural biomolecules for pharmaceutical use is gaining more importance. Thus, utilization of waste leaves for extraction of valuable biomolecules by using green solvent was the main focus of the project. The overall objective of the project was to develop a simple and user-friendly process for concentration and purification of product after extraction and to utilize the solid waste generated. This will generate employment for the local population, helping in boosting rural economy.

Process Flowchart:



Highlights of the Technology:

1. Optimized the method to achieve maximum extraction of mangiferin from dried mango leaves of mango trees
2. Developed a continuous extraction process using screw conveyor
3. Optimized concentration process for 1% mangiferin extract
4. Utilization of solid residue to make briquettes (calorific value 3500-4000 Kcal/Kg) generating no waste in process.
5. Studied different therapeutic properties of mangiferin extract and compared with standard mangiferin and drugs.

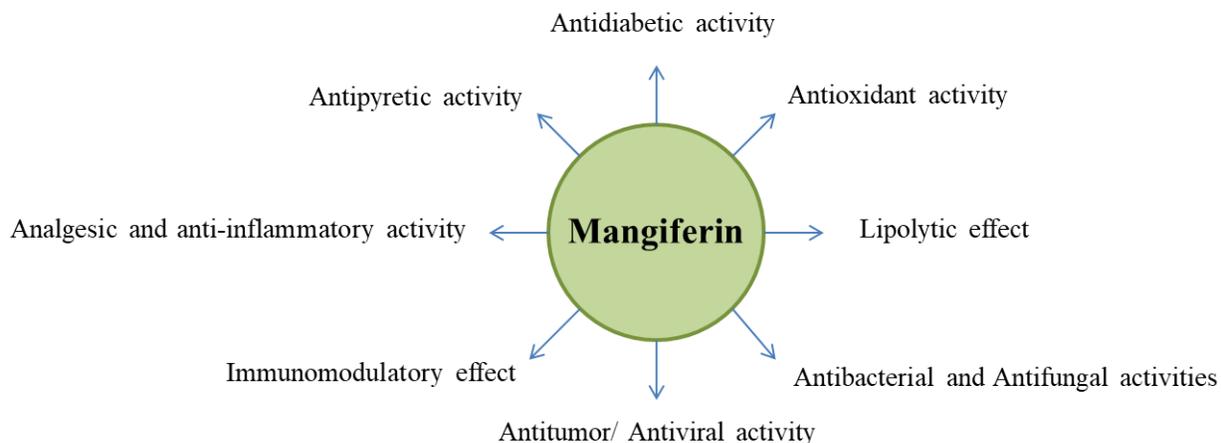
The IC₉₀ values for both α -amylase inhibition assay and α -glucosidase inhibition assay show that mangiferin can be highly efficacious in the treatment of diabetes.

Present Market: Various products are available in the market that use mangiferin for the pharmaceutical and cosmetic industries. Yves Rocher, France has launched various products containing Mangiferin as one of the prominent ingredients to resolve beauty issues. Various medicines related to Mangiferin are nowadays available which deal with issues of diabetes and obesity.

Product information:

India has a large number of mango trees generating huge amounts of dried mango leaves as a solid waste. Hence, utilization of waste leaves in a proper way has become a concern necessitating the development of proper extraction methods for extracting valuable biomolecules from the waste leaves. Mangiferin is reported to be present in high quantities in various parts of *Mangiferin indica*, which belongs to the family of Anacardiaceae. It is plant derived natural polyphenol which is abundantly found in *Mangifera indica* leaves. Mangiferin has Analgesic, antidiabetic, antisclerotic, antimicrobial and antiviral, anti-inflammatory, antiallergic properties. Several studies have indicated the ability of Mangiferin to inhibit cancerogenesis and cancer cells growth.

Presently Mangiferin is mainly imported and 99% pure powdered yellow Mangiferin Indica Extract is priced at around Rs. 20000/ Kg in the market.



Pharmacological properties of Mangiferin

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