



A Review Literature On Medicinal Plant Of Aegle Marmelos (Bael)

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ABSTRACT

This review aim to provide basic knowledge regarding the medicinal plant of bael (AEGLE MARMELLOS). The ripened bael fruits are popular among people because of the tasty fruit pulp, which is great for producing jam, syrup and pudding. Bael has several therapeutic properties and is thus employed in ayurveda herbal medicine preparations.) ie. fruits, bark, leaves, seeds, and roots of

Bioactive chemicals found in bael include coumarin, xanthoxol, imperatorin, aegeline, and marmeline.) These substances have antidiabetic, anticancer, antifertility, antibacterial, immunogenic, antiaoxidant, antiarrheal, wound healing, analgesic, insecticidal activity are a pharmacological properties. Bael plant is a traditional medicinal plant to use various diseases. Aegle marmelos has undergone extensive research on various components, leading to the isolation of many types of compounds, including alkaloids, coumarins, terpenoids, fatty acids, amino acid, tannis, flavonoid, saponins.

This study summarises information regarding the A. marmelos (Bael) photochemicals, pharmacological study, synonyms, traditional use.

KEY WORLD

Aegle marmelos (Bael) phytochemical, pharmacological properties. Nutritional component, historical use and marketed product

INTRODUCTION

India widely called as a botanical garden of the largest producer of medicinal plant. Plant as use in medicine rich source pharmacological activity for treatment of various diseases.

Natural medicinal plant are pollution free, no side effect, no toxic effect. Harbal medicine are use well liked developing countries. Bael is economical herbal compound. Bael is a one of medicinal tree in thousand of medicinal plant. Bael (A. marmelos) tree are a usually near by temple of lord shiva, Bael is also a sacred

tree to Lord Shiva. The bael fruit is recognized 'RAMAYAN' period. Bael tree in mention in book of 'CHARKA SAMHITA'

Bael is a ayurvedic medicinal plant, It is aromatic and all parts of tree are medicinal important like fruit, leaves, bark, root, and seed's use in ayurvedic for treating various diseases. Bael fruit have high nutritional component as like mineral: (phosphorous, potassium, calcium, magnesium, iron, copper, zinc), protein, carbohydrate, vitamins(B1,B2,B3,C), fatty acid.

Phytochemical in bael fruit contents coumarins, tannin alkaloids, flavonoids, carotens Bael fruit and leaves are use to treat dysentery diarrhea, dyspepsia, edema, vomiting etc. It is important in food processing.

In a bael trees included antioxidant, Phytochemical and nutritional composition are a making quality of food. Various study have shown many pharmacological activity includes antidiarrheal, antioxidant, antidiabetic, hepatoprotective, radio protective, anticancer, and antiulcer activities in pharma products.

PLANT PROFILE

Kingdom	: Plantae	Subkingdom	: Tracheobionta	Super division	:
Spermatophyta					
Division	: Magnoliophyta				
Class	: Magnoliopsida				
Subclass	: Rosidae				
Order	: Sapindales				
Family	: Rutaceae				
Genus	: Aegle				
Species	: Aegle marmalos				

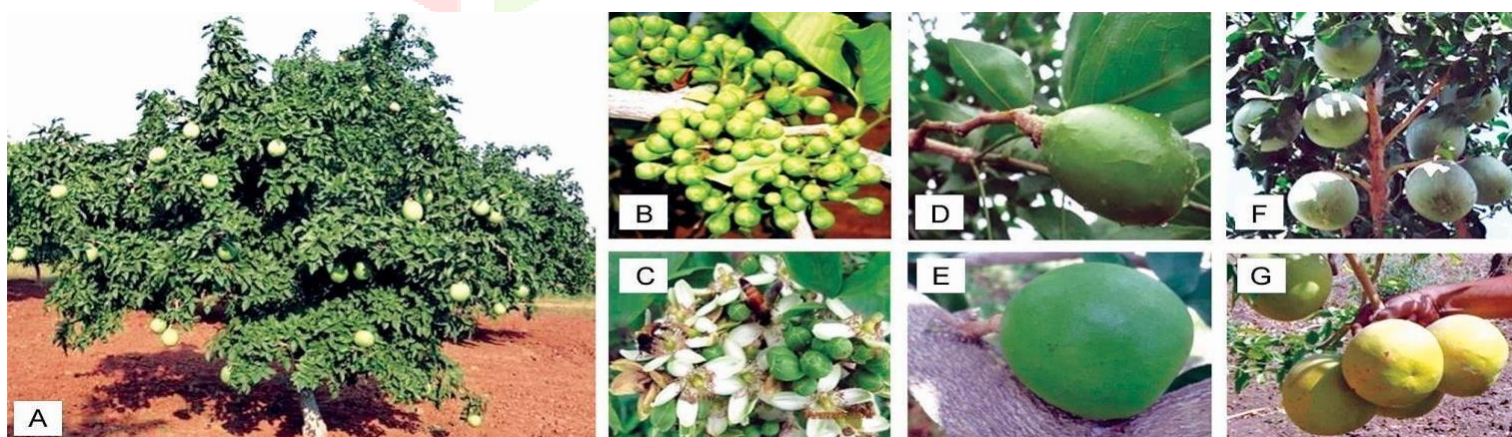
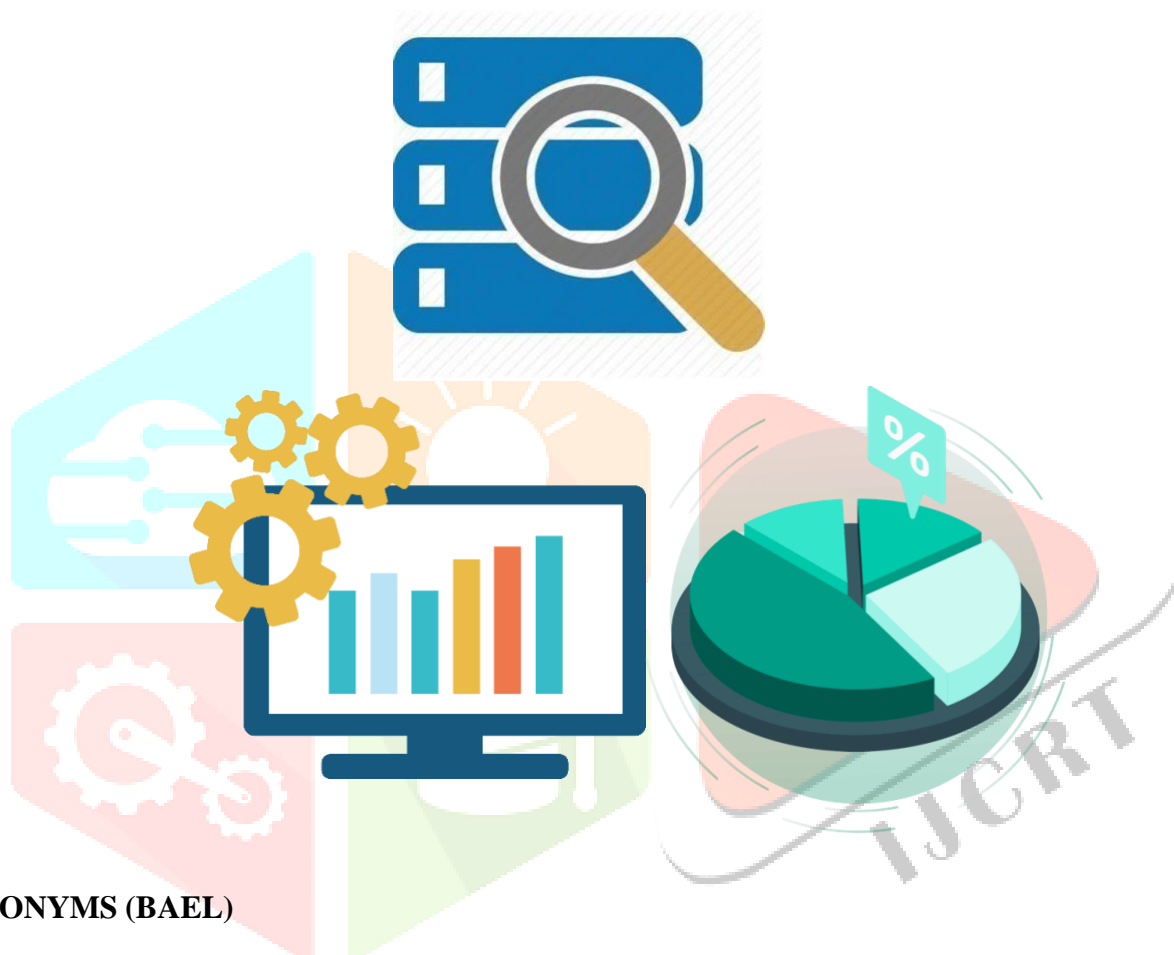


Fig:all parts of bael plant

DATA AVAILABLE

In the data collection use of literature review by finding primary data or source and official book and international journals also. In this making review article the using online media with keywords such as Aegle marmelos (Bael) phytochemical, pharmacological properties, traditional use, marketed use. The primary reference use in this article are searched through websites such as Researchgate, Google Scholar, Pubmed Central, Scopus,

Vikaspedia, Wikipedia and other Publish Journals.

**SYNONYMS (BAEL)**

· English : Bengal quince, Beal fruit, Golden apple, Stone apple.

· Tamil : Aluvigam, Iyalbudi, Kuvilam,

Mavilangai, Vilwam, Villuvam.

· Telugu : Bilvamu, Maluramu, Maredu,

Sailushamu, Sandiliyamu, Sripthalamu.

· HindiN : Bel, Bili, Sirphal, and Bela,

· Sanskrit : Adhararutha, Asholam, Atimangaliya, Bilva.

· Bengal : Bael, Bel,

· Gujarat :Billi,

- Kannada : Bela, Bilva
- Malayalam: Koovalam, Vilwam.
- Orissa : Belo



Fig. Bael fruit

PHYTOCHEMICAL

Bael (*A. marmelos*) in a many phytochemical compound contents carotenoids, alkaloids, pectin, flavonoids, tannin, coumarins, terpenoid. This phytochemical attention to pharmacological activity such as anticancer, antioxidant, antidiabetic, antimicrobial, hepatoprotective activity.

1. Bael fruit is a rich source of coumarin. In a previous year reported in a bael fruit content marmalosin, marmesin, alloimperatorin, imperatorin, marmin, xanthotoxol etc. This is medicinally important component of bael fruit.
2. Carotenoids – carotenoids present in yellow colour of a bael (*A. marmelos*) fruit. Bael in identify α - caretonoid, β - caretonoid, γ - caretonoid, δ - caretonoid etc.
3. Alkaloids- Bael fruit investigated to find alkaloids compounds such as Aegelenine, Aegeline, Ethyl Cinnamate, Ethyl cinnamamide, Frangine and Dictamine etc.
4. Terpenoids- in a terpenoid find a caryophyllene, valencene, cineol, terpinolene, cislinalooloxide, elemol, linalool, limonene etc.
5. Tannin- In a bael fruit find the Skimmianine .

NUTRITIONAL COMPONENT

100gm of bael fruit contains	
Ingredients	Amounts
Water	55-61.5 gms
Protein	1.8-2.62 gms
Energy	137 calories
Fiber	2.9 gms
Fat	0.2-0.39 gms
Carbohydrates	28.11-31.8 gms
Minerals	1.7 gms
Thiamine	0.13 mg
Carotene	55 mg
Niacin	1.1 mg
Riboflavin	1.19 mg
VitaminC	8-60 mg
Tartaric acid	2.11 mg
Calcium	85 mg
Potassium	600 mg
Phosphorus	50 mg

HISTORICAL USE OF BAEEL



Leaf- It is use in sore, stomach problem, wounds healing, stomach ulcer, cholera, bronchitis, beriberi.



Fruit- It is use in astringent, gastric issues, diarrhea, stomachic, antiviral, gonorrhoea, epilepsy, ulcer, anti diabetic, anti cancer, antioxidant, anti microbial.



Root- It is use in Gastrointestinal problem, heart sicknesses, fever, hypoglycaemic, stiffness.



Bark- Heart use in stomach problem, fever and heart problem.



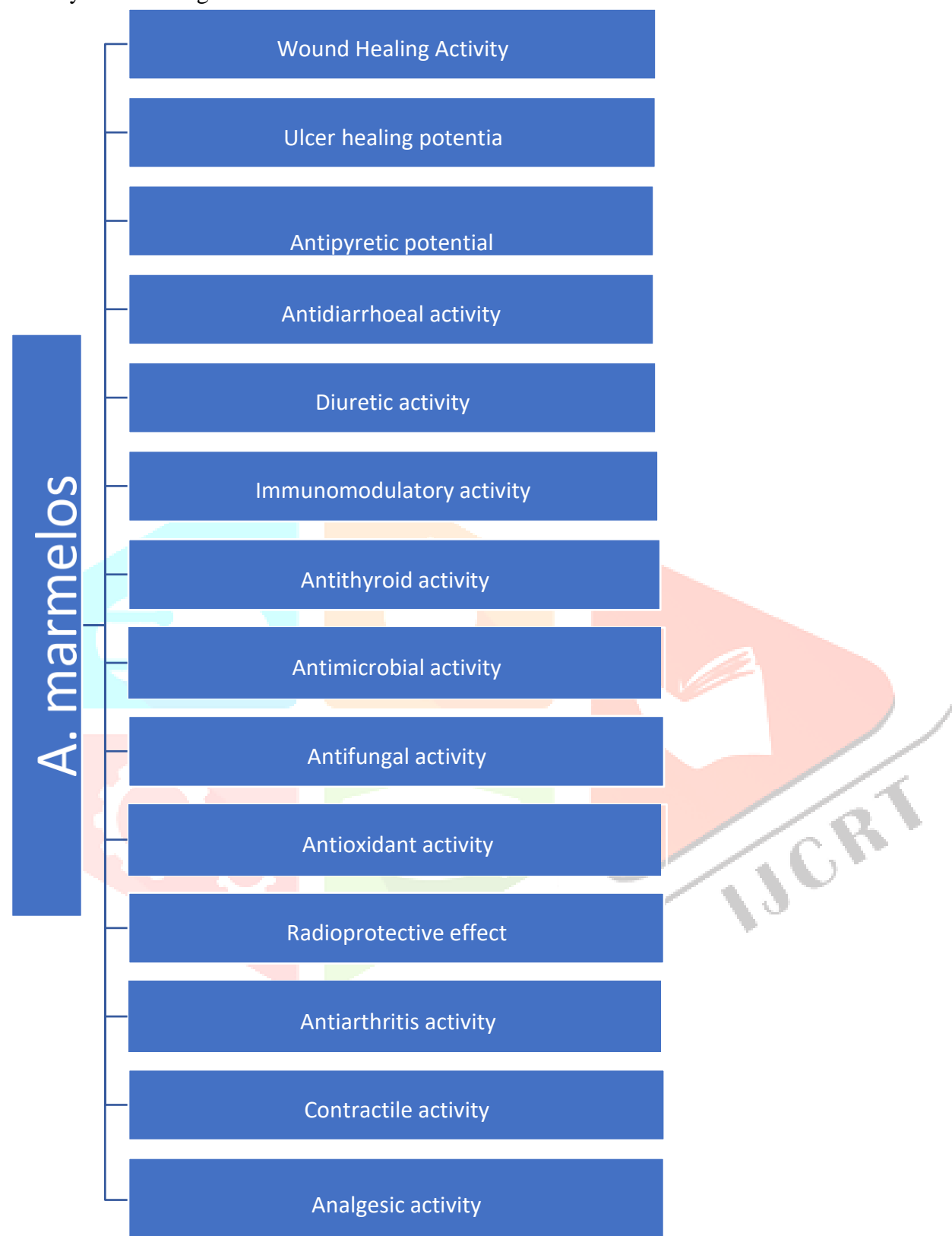
Seed- It is use in anti pyretic .



Flower- It is use in expectorant epilepsy

PHARMACOLOGICAL ACTIVITY

A. marmelos is a medicinal plant follow the rutaceae family. This plant found be to be variety of therapeutic activity shown in fig.



MARKETED PRODUCT'S

- 1. Food- Using a bael fruit made a jam, beverages, toffee, Tamarind, sauce, muramba, syrup (sarbat).
- 2. Fodder- Leaves and twigs use for fodder.
- 3. Timber- It is use for cards and construction. it is a base utilize for small scale turnery, tools, knife handles, pestles and combs etc.
- 4. Gum and resins- It is commonly use as glue using a bael fruit or seed mix with lime plaster for water proofing walls and added cement making a buildings wall.
- 5. Tannin or Dyestuff- Tannin present in fruit and leaves to yield and yellow dye for calico and silk fabric.
- 6. Essential oil- The leaves use as a essential oil for a hair oil.
- 7. Poison – The leaves are cause the abortion and sterility in women. The bark is use as the fish poison in the cebeles, Leaf extract of bael important pest of rice plant in asia.
- 8. Medicine – Using a unripe bael fruit with funnel and ginger in a hemorrhoids, it is maintaning of a normal skin colour .It is use in treatment of leukoderma. Mermelosin found in bael fruit for using laxative and diuretic. bael fruit use in most of diarrhea and dysentery prevalent in india for a summer month
- 9. Other Product - The bael fruit is use for a detergent action for washing the cloths. Flower is use as the perfume.



CONCLUSION

It is strongly believed information present in this review on the phytochemicals and pharmacological properties to provide evidence for the use of plant in a different medicins. Medicinal plant of *A. marmelos* have been caried out many parts of *A. marmelos* , The literature review support the potential value of *A. marmelos* medicinal plant in this review contains many phytocheicals are present to use for therapeutic benefits.

This medicinal plant can be used to treat many diseases in humans, such as diabetes, liver toxicity, fungal infections, microbial infections, immunomodulators, antiproliferative, wound healing, and antifungal analgesic, anti-inflammatory, antipyretic, hypoglycaemic, antidyslipidemic. Further Research caried out investigate potential value and marketed product their therapeutic benefits .

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