

## Medicinal Plant: Amla

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**ABSTRACT** : Research has indicated that amla and some of its phytochemicals, including gallic acid, ellagic acid, and pyrogallol, have anti-inflammatory properties. Amla, also known as *Emblica officinalis*, is frequently used in Indian medicine and is said to boost the body's resistance to illness. In Sanskrit, amla is known as amalaki. It's one of the earliest eastern remedies that the Ayurveda system mentions as a potential treatment for a variety of diseases. Alkaloids, tannins, and flavonoids are just a few of the phytochemical components of amla that have been demonstrated to have beneficial biological effects. Shoot gall producer *Rhodoneura emblicalis* and *Betousastylaphora* are the most common insect pests seen in Amla; leaf. The demand for amla is very high. Additionally, it is among the best sources of vitamin C. Amla has reportedly produced a number of value-added goods. Drying can be used to increase product stability and make this product and products developed from it easier to distribute and store. A remarkably powerful natural anti-aging product is *Emblica officinalis*. Peptic ulcers and acid reflux can both be effectively treated with *emblica officinalis*.

**Key words** : Amla, Chemical constituents, Methods, benefits.

India gooseberry or Amla :

One of the oldest fruits in India, amla is known as a "wonder fruit for health" due to its special characteristics. It has a high vitamin C content, which contributes to its citric acid.<sup>[1]</sup> Botanically speaking, the tree from the Euphorbiaceae family is called as *Emblicaphyllanthus* or *Emblica officinalis*<sup>[16]</sup>. It goes by a variety of names, including Anola, Amalaki, Nelli, and Indian Gooseberry. There is a high demand for the amla fruit because of its medicinal qualities.<sup>[2]</sup> They are helpful in treating a variety of illnesses, including diabetes, bronchitis, asthma, cough, headaches, and ocular disorders. Making pickles and preserves uses it. Several Ayurvedic remedies, including Chyavanprash and Rasayana, which support health and longevity, contain the fruit as a key ingredient. Huge healing plants have been gifted to humanity by the unstoppable force of life to help people live healthy, disease-free lives.<sup>[3]</sup>

It grows in South East Asia, China, Malaysia, Pakistan, Uzbekistan, Sri Lanka, and India. Amla is a small to medium-sized deciduous tree. It grows to be between 8 and 18 metres tall, has a delicate light-dim bark, basic, light-green, sub-sessile leaves that appear to be pinnate leaves, and greenish yellow blossoms.

### I. INTRODUCTION :



Nature has given humans amla as a gift. System with incredible therapeutic capabilities. It is referred to as Amalaki or Dhartiphala in Sanskrit.<sup>[5]</sup> The plant Amla may be the one that appears the most frequently in the Ayurvedic medical text "Charak Samhita" (500 BC). To make the sour fruits more pleasant, gooseberries are sometimes eaten in India after being steeped in salt water and turmeric.<sup>[4]</sup> Amla comes in two varieties: wild and cultivated (gramya) (vanya). While farmed amla is large, smooth, and juicy, wild amla is little.<sup>[5]</sup>

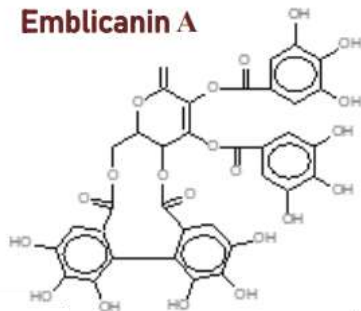
Additionally, it contains minerals, protein, carbohydrates, fibre, and gallic acid, a strong polyphenol. It's critical for humans to consume vitamin C. The intercellular cementing agent, which holds the body's cells together, needs to be synthesised in order for the body to function. Copper, zinc, and chromium are found in amla fruit ash. It is regarded as an adaptogen that boosts

immunity. The tree has a crooked trunk, spreading branches, and is modest to medium in size, growing 8 to 18 metres tall. The branchlets are 10–20 cm long, glabrous or slightly pubescent, and typically deciduous. The light green, simple, subsessile leaves are closely spaced along branchlets and resemble pinnate leaves<sup>[6]</sup>. Greenish-yellow blooms are seen.<sup>[11]</sup> The fruit has six vertical stripes or furrows and is almost spherical in shape. It is pale greenish yellow in colour and appears to be quite smooth and rigid.

#### Chemical Constituents :<sup>[9]</sup>

Alkaloids, phenolic substances, amino acids, and carbohydrates are the main components of EO. The most Vitamin C per 100 mL is found in its fruit juice (478.56 mg). When combined with other fruits, the fruit improved the nutritional value in terms of Vitamin C content.<sup>[4]</sup>

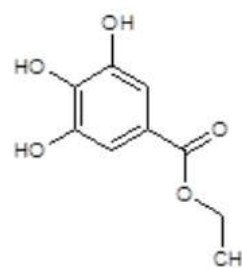
**Emblicanin A**



**Emblicanin B**



**Phyllemblin**



## II. MATERIALS AND METHODS :

Ingredients and manufacturing of amla powder – While the wild type of amla was taken from the Panna forest in Madhya Pradesh, India, the farmed amla of the Chakiya kind was purchased from a nearby market.<sup>[7]</sup>

To extract juice, the Amla fruits were washed, cut into pieces, and then quickly pressed using a small lab manual press. To generate spray dried powder, juice was evaporated using a rotary evaporator up to 50%. Using a mechanical stirrer, the concentrated juice was combined for five minutes with maltodextrin (5%, w/v of the initial juice), and the sample was then dried using spray drying (Model LU 228 advance, Labultima, Mumbai, India) at temperatures of 200°C for the inlet and 150°C for the outlet, with a 40% aspiration speed.<sup>[8]</sup> 200 cc of juice were freeze-dried in a freeze-drier (Model Alpha 1-4, Martin

Christ, Germany) at 60 °C for sixteen hours after being frozen at -35 °C for three hours.

Minerals (Ca, P, and Fe) were analysed using AOAC (1990) methods, whilst the samples' moisture and crude fat contents were assessed using AOAC (1997) guidelines.<sup>[9]</sup>

#### Ascorbic Acid :

A sample solution containing 0.2 mg of ascorbic acid per millilitre was made in water containing 3% (w/v) metaphosphoric acid. It was titrated against a typical 2, 6 dichlorophenol indophenol (2,6 DCIP) solution at a concentration of 0.5 mg/ml up until the pink colour fully developed. Once more, the operation was performed using an empty (Indian Pharmacopia).<sup>[10]</sup>

#### colour stimulus trist :

The Hunter L, a, and b values of the tristimulus colour were measured using an X-Rite spectrophotometer (USA) with a D-65 illuminant and a 10 degree observer. "L" stands for lightness, "a" for redness-greenness, and "b" for blueness-yellowness in the samples.

**Amla's Ayurvedic description:**

- Rasa (taste): The fruit contains five flavours, with sour and astringent being the two that predominate, along with sweet, bitter, and pungent.  
 Veerya (natural phenomenon):

- Vipaka: a pleasant flavour acquired through digesting
- Guna (properties): dry and light
- Doshas (impact on humours): quietens vata, kapha, and pitta, with pitta benefiting the most.<sup>[11]</sup>

**Nutritional Value :**

Amla is renowned for being very nutrient-dense. It contains high levels of polyphenols, minerals, and other nutrients and is one of the best sources of vitamin C (200–900 mg per 100 g of edible part). There are acknowledged key dietary elements.<sup>[12]</sup>

NUTRIENT	VALUE PER 100 GRAMS	% OF RDA
Calories	44	2%
Carbohydrates	10.2g	3%
Fiber	4.3g	
Total Fat	0.6g	1%
Omega 3 fatty acid	46mg	
Omega 6 fatty acid	271mg	
Vitamin A	290 IU	6%
Vitamin C	27.7mg	46%
Calcium	25mg	2%
Iron	0.3mg	2%
Magnesium	10mg	2%
Phosphorus	27mg	3%
Potassium	198mg	6%
Folate	6mcg	1%

Source: [SelfNutrition Data](#)

**Improves meal assimilation :**

Regular consumption of amla berries can improve meal digestion, absorption, and assimilation. People that take it report that the food tastes better to them. Each of the 13 digestive fires are bolstered by it (Agni).<sup>[13]</sup> People with a lot of Pitta can take it without having to worry about producing too much stomach acid since it operates more gradually and gently than ginger or other

herbs that help with digestion. It also improves the absorption of iron for healthy blood.

**Respiratory Conditions :<sup>[2]</sup>**

The Indian gooseberry is useful for treating respiratory conditions. It is very helpful for bronchitis, asthma, and lung tuberculosis.

**Strengthens the heart :**

It improves circulation, blood flow, and the heart. The cardiovascular system is supported by it. On the other hand, it occasionally has a stimulating effect on the heart. Amla helps decrease cholesterol and protect against heart problems, according to research.

#### **favourable to the skin :<sup>[4]</sup>**

Amla-Berry is excellent for the complexion because it supports digestion, aids in liver detoxification, and is loaded with vitamins and minerals, including Vitamin C.<sup>[3]</sup> Amla-Berry hydrates the skin, purges toxins from the tissues, and improves skin immunity to bacterial illness. It improves shine and glow.<sup>[14]</sup> Amla contains a natural blood purifier, and consuming such foods on a regular basis will improve skin radiance. The amla products can also aid in the treatment of certain skin allergies.

#### **Antioxidant effects :**

In addition to being powerful broad-spectrum antioxidants and free radical scavengers, amla-berry and other rasayanas also aid to prevent disease and slow down the ageing process. Amla is a powerful free radical scavenger. Studies revealed that superoxide dismutase, a free-radical scavenger, was present in significant concentrations in amla preparations (SOD).

#### **In Diabetes, Amla :<sup>[6]</sup>**

Amla has long been used as a natural therapy to manage or control diabetes. Stress-related disorders are the primary cause of diabetes.<sup>[8]</sup> Vitamin C is abundant in amla. It is an effective antioxidant that will aid in counteracting the production of free radicals and the effects of oxidative stress. Regular intake of goods containing

amlam can lower your risk of developing diabetes.<sup>[15]</sup> The fibres in amla can assist in absorbing extra sugar in the body to maintain normal blood sugar levels through a different process. In order to effectively manage your diabetes, you should therefore include amla in your diabetes diet plan.<sup>[19]</sup>

#### **Heart Disease Treatment :**

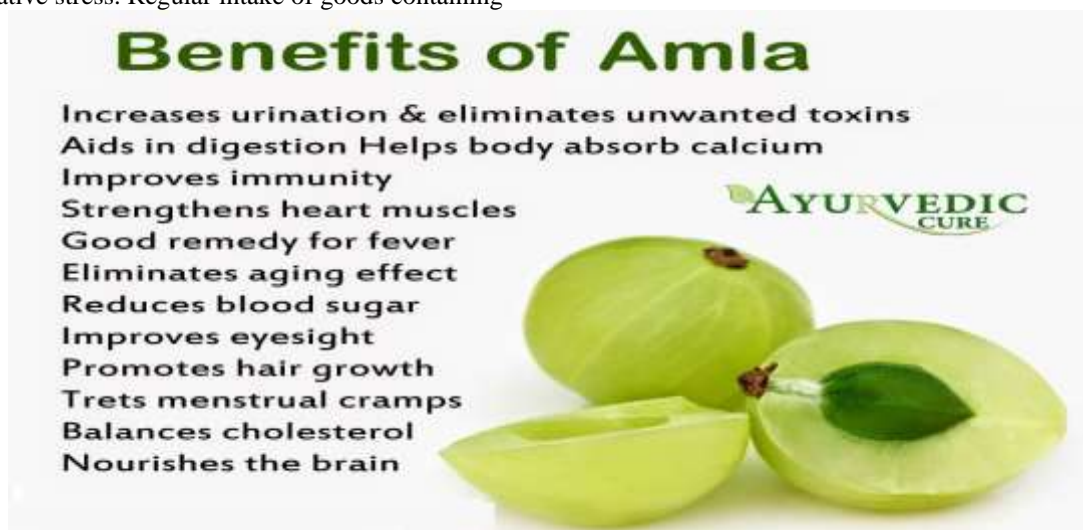
The body needs cholesterol to function properly. The main causes of heart disease include cholesterol, diabetes, and hypertension. Unused cholesterol is accumulated in blood vessels. Making candy using a powdered dry amla powder mixture and sugar can help to get around these obstacles.<sup>[17]</sup> When consumed on an empty stomach, Amla contains vitamin C, which expands blood vessels and lowers blood pressure.

#### **Amla Juice :**

A number of health benefits are shown by drinking amla juice with honey every morning and evening, including the treatment of blood purification problems, diabetes, colds, and coughs.

#### **AMLA: THE HEALTH TONIC WITH BENEFITS :**

Amla tonic is frequently used to treat scurvy, jaundice, prevent indigestion, and regulate acidity due to its haematinic and lipolytic properties. Amla boosts energy, increases resilience to disease, slows down ageing, and is a key component of the chyawanprash ayurvedic health tonic<sup>[17,18]</sup>. The following list of advantages of amla health tonic. Advantages of amla as follows :



**Benefits of Amla**

- Increases urination & eliminates unwanted toxins
- Aids in digestion Helps body absorb calcium
- Improves immunity
- Strengthens heart muscles
- Good remedy for fever
- Eliminates aging effect
- Reduces blood sugar
- Improves eyesight
- Promotes hair growth
- Treats menstrual cramps
- Balances cholesterol
- Nourishes the brain

AYURVEDIC CURE



### Caution when consuming Amla:

1. Consuming Amla products can raise the risk of bleeding for some allergic persons.
2. Amla should be consumed by diabetics with caution because it can significantly lower blood sugar levels when consumed.<sup>[20,21]</sup>
3. The dosage of amla juice may cause skin dryness.
4. Amla is not advised before, during, or following surgery since it may increase the risk of bleeding.

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