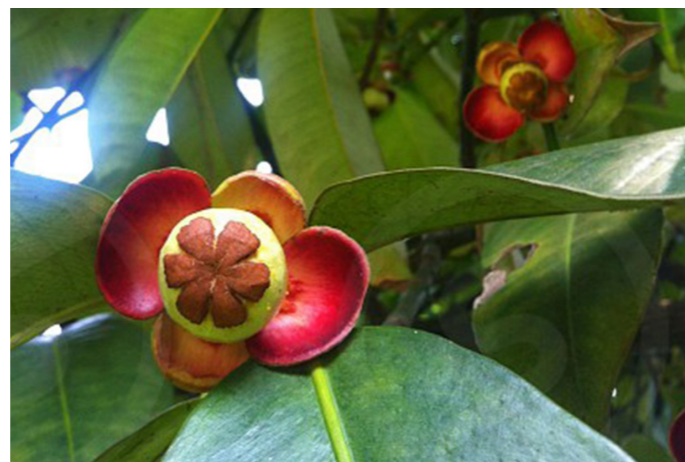


# THE QUEEN OF FRUITS MANGOSTEEN

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**F**ruits and medicinal plants – Two terms of different thoughts. It's the time when plant magic enlightened the world. One such fruit, known as Mangosteen, having reliable health benefits and used as medicinal plant too.

Mangosteen is a unique Indonesian fruit having sweet-sour and pleasant taste, enriched with beneficial compounds like xanthones. Mangosteen has been used as an important component in health supplement products for promoting health and also in weight loss. It is primarily used in various folk medicines for treatment of diseases like diarrhea, wound, fever and many more. Due to its wide pharmacological properties, it is considered as valuable fruit as well as medicinal plant.

## INTRODUCTION:

Mangosteen is a tropical fruit, belonging to family Clusiaceae and widely cultivated throughout South-East Asia including Thailand, Malaysia, Sri Lanka and Singapore. Recently, Indonesia is an emerged country in cultivation and exporting this fruit. Mangosteen is a slow growing tree, whose height lies in between 6-25 mt. Flowers are red or green coloured whereas, fruit is dark purplish in colour, having white fleshy pulp that is segmented with seeds. Botanically Mangosteen is

known as *Garcinia mangostana*, but vernacular names vary in different languages as called Mangustanin Hindi, Kokam in Marathi, Kaattampi in Malayalam, Hannu in Kannada and Kao in Bengali language.

Fruit of mangosteen enriched with several xanthones which shows antioxidant, anti-tumoral, anti-allergic properties. Mangosteen's peel has been used traditionally for treating skin infections, urinary tract infection and also considered as laxative, anti-fever agent. Seeds of mangosteen used during treatment of diarrhea, dysentery, ulcers and wound infection.

## HISTORICAL BACKGROUND:

The readily available sugar in fruits promotes them ideal candidate for hypoglycemic patients. Thailand and Burma were first countries which start domestication of mangosteen trees. In India, it was firstly introduced in 1881. Once, the Queen Victoria from Britain told about a divinely delicious purple fruit, which grown

in the region of Southeast Asia. The Queen made a promise to bestow knighthood on anyone who would bring it to her, but all efforts failed. The major reason behind it was that, in the 19th century, the journey from Southeast Asia took months. During transportation, this delicate fruit get deteriorate before reaching Britain. Durian and mangosteen shares the same fruiting season. While the 'King of fruits' is considered by the Chinese to be 'heaty' due to its rich and heavy flavor, the mangosteen possesses just the opposite, 'cooling' properties, and has the most exquisite juicy snow-white flesh - sweet yet slightly acid. These are the main reasons that mangosteen is honoured as the 'Queen among all the fruits'.

## CULTIVATION STRATEGIES:

Mangosteen grows well in temperature upto 36°C and at 90 % humidity conditions and preferred humid tropical environment. An annual rainfall of at least 200 cm and an altitude of 1500 m necessary for good growth. Well drained, deep clay loam, rich in organic matter, 5.5 to 6.5 pH is ideal for cultivation of this plant. Plant is shade loving, in which fruits and leaves are highly susceptible to high temperature. The seeds of mangosteen is an asexual propagule and propagation can be done through method of grafting, but trees develop from seeds are more vigorous and high yielding.

Nutrients percentage		Health Benefits	
Folates	8%	1.	Anti-cancerous
Niacin	2%	2.	Anti-inflammatory
Pyridoxine	3%	3.	Anti-oxidant
Riboflavin	4%	4.	Skin care
Thiamin	4.5%	5.	Immunity booster
Vitamin A	1%	6.	Fasten healing
Vitamin C	12%	7.	Cures diarrhoea
Sodium	0.5%	8.	Tackles menstrual problems
Potassium	1%	9.	Weight loss
Calcium	0.5%	10.	Safeguards heart health
Copper	7%		
Iron	2%		
Magnesium	3.5%		
Manganese	4%		
Phosphorus	1%		

## NOTABLE APPROACHES IN HUMAN HEALTH:

### A. Antioxidants Source:

This plant is a rich source of antioxidants as well as vitamins. Major antioxidants which are found abundantly of naturally occurring polyphenol compounds such as Xanthones. Mangosteen fruit consists of has two classes of Xanthones –alpha mangosteen and gamma mangosteen. There are about 20 known Xanthones are found, majority of which are found in the wall of fruit wall (pericarp) of the fruit. Xanthones play key role in reducing oxidative stress which is caused by free radicals. The antioxidants present in fruits protect the body from various diseases like common cold or flu by damaging the free radicals. This also decrease the risk of cancer as well as heart disorders.

### B. Immunity Booster:

Mangosteen enriched with vitamin C also, which improve immune system by coupling with Xanthones. On one side Xanthones help in fighting with the free radicals whereas Vitamin C help in promoting immunity, by increasing production of white blood cells (leucocytes).

### C. Maintain blood pressure and improves heart health:

Mangosteen enriched with potassium, magnesium,

copper, and manganese containing in mangosteen can help regulating blood pressure of body. Potassium especially weeds out the negative effect infused by excess intake of salt (sodium). It also promotes heart health by maintaining normal heart rate and keeping risk of coronary attacks at bay. Mangosteen not only lowers the cholesterol levels in the body but also reducing the blood pressure and the other consequent heart ailments.

### D. Anti-Inflammatory:

Due to compounds, it possesses property of anti-inflammation and help in reducing swelling. The inhibited release of Histamine and Prostaglandin helps in the anti-inflammation process. Inflammation can cause cold, flu, and increase pain in swellings.

### E. Prevention of skin disorders:

Due to high antibacterial as well as antimicrobial properties, and the important compound Xanthone can lower down the risk of many skin diseases to a great extent by repairing the damaged cells. Due to presence of vitamin C, skin health improves. Traditionally, there is usage of mangosteen for treatment of acne. Its ability of scavenging free radicals coupled with the suppression of production of Cytokines, which is major cause of acne problems and can prevent skin from developing acne.

**F. Weight Loss:**

The fruit of mangosteen can also help in reducing weight and maintain body figure. Mangosteen's fruit contain less (63 calories per 100 gram) and saturated fat is almost zero. It is almost free from cholesterol. Mangosteen fruit is enriched with dietary fibre.

**G. Anti-Cancer:**

Mangosteen have found that it's loaded with xanthenes, which are bioactive compounds offering numerous beneficial antioxidant properties. Mangosteen extracts had in vitro and in vivo anti-colon cancer effects while other tests on human cells demonstrated mangosteen's cancer-fighting properties against prostate cancer and skin cancer.

**CONCLUSION:**

During recent years, mangosteen becomes popular dietary supplement, due to its health promoting properties. Farmers can commercially cultivate it and get premium price in market. Mangosteen is rich source of antioxidants that reduce the ageing effect and make skin healthy. The signs of ageing are also brought about by oxidative stress caused by free radicals, which is battled efficiently by the antioxidants of mangosteen. The antioxidant Catechin especially works wonders for your skin by preventing wrinkles and signs of ageing. Hence it is "QUEEN OF FRUITS". Farmers can commercially cultivate it and can get premium prices in the market for this superfood.



Agriculture Minister (HIMACHAL PRADESH) Sh.VIRENDER KANWAR, BJP General Secretary Sh. TRILOK G and BJP Kisan Morcha President Sh. Rakesh Sharma, Mukesh Narwal Ji with the MD Arun Malik of Digital Kisan Farming and Organic Producer Company Pvt. Limited