## **MANGOSTEEN**

## 11 HEALTH BENEFITS OF MANGOSTEEN

By Ansley Hill, RD, LD on March 6, 2019

Mangosteen (*Garcinia Mangostana*) is an exotic, tropical fruit with a slightly sweet and sour flavor.

It's originally from Southeast Asia but can be found in various tropical regions around the world.

The fruit is sometimes referred to as Purple Mangosteen because of the deep purple color its rind develops when ripe. In contrast, the juicy inner flesh is bright white.

Though Mangosteen is a relatively obscure fruit, it shouldn't be overlooked, as it may offer many health benefits due to its rich supply of nutrients, fiber, and unique antioxidants.



#### HERE ARE 11 HEALTH BENEFITS OF MANGOSTEEN

#### 1. HIGHLY NUTRITIOUS

Mangosteen is relatively <u>low in calories</u> yet provides many essential nutrients (<u>1</u>Trusted Source).

A 1-cup (196-gram) serving of canned, drained mangosteen offers (<u>1</u>Trusted Source):

**❖ Calories:** 143

Carbs: 35 grams

Fiber: 3.5 grams

Fat: 1 gram

❖ Protein: 1 gram

Vitamin C: 9% of the Reference Daily Intake (RDI)

Vitamin B9 (folate): 15% of the RDI

Vitamin B1 (thiamine): 7% of the RDI

Vitamin B2 (riboflavin): 6% of the RDI

Manganese: 10% of the RDI

Copper: 7% of the RDI

Magnesium: 6% of the RDI

The vitamins and minerals in Mangosteen are important for maintaining many bodily functions, including DNA production, muscle contraction, wound healing, immunity, and nerve signaling ( $\underline{2}$ Trusted Source,  $\underline{3}$ Trusted Source,  $\underline{4}$ Trusted Source,  $\underline{5}$ Trusted Source).

Moreover, a single cup (196 grams) of this fruit provides almost 14% of the RDI for  $\underline{\text{fiber}}$  — a nutrient often lacking in people's diets ( $\underline{6}$ Trusted Source).

#### **SUMMARY**

Mangosteen provides a variety of essential vitamins, minerals, and fiber while being low in calories. These nutrients are important for maintaining many functions in your body.

#### 2. RICH IN POWERFUL ANTIOXIDANTS

Perhaps one of Mangosteen's most significant attributes is its unique <u>antioxidant</u> profile.

Antioxidants are compounds that can neutralize the damaging effects of potentially harmful molecules called free radicals, which are linked to various chronic diseases (7Trusted Source).

Mangosteen contains several nutrients with antioxidant capacity, such as vitamin C and <u>folate</u>. Plus, it provides Xanthones — a unique type of plant compound known to have strong antioxidant properties (<u>8</u>Trusted Source).

In several studies, the antioxidant activity of Xanthones has resulted in antiinflammatory, anticancer, anti-aging, and antidiabetic effects (<u>9</u>Trusted Source).

Thus, Xanthones in Mangosteen may be responsible for many of its potential health benefits. Still, more human research is needed before definitive conclusions can be drawn.

#### **SUMMARY**

Mangosteen contains vitamins with antioxidant capacity, as well as a unique class of antioxidant compounds known as Xanthones.

## 3. MAY HAVE ANTI-INFLAMMATORY PROPERTIES

The Xanthones found in Mangosteen may play a role in reducing inflammation.

Test-tube and animal studies suggest that Xanthones have an antiinflammatory effect and may reduce your risk of inflammatory diseases, such as cancer, heart disease, and diabetes (<u>9</u>Trusted Source).

Mangosteen is also rich in fiber, which offers various benefits. For instance, some animal research indicates that a <u>higher-fiber diet</u> may help reduce your body's inflammatory response (<u>10</u>Trusted Source).

Though this data is encouraging, more research is needed to better understand how Mangosteen affects inflammation and disease progression in humans.

#### **SUMMARY**

Plant compounds and fiber in Mangosteen may have anti-inflammatory effects according to animal research. More studies are needed to understand how this fruit may reduce inflammation in humans.

#### 4. MAY HAVE ANTICANCER EFFECTS

Population studies show that diets rich in vegetables and fruits like Mangosteen are associated with reduced incidences of <u>cancer</u> (<u>11</u>Trusted Source).

Specific plant compounds in Mangosteen — including Xanthones — have antioxidant and anti-inflammatory effects, which may help fight the development and spread of cancerous cells ( $\underline{9}$ Trusted Source,  $\underline{11}$ Trusted Source).

Multiple test-tube studies reveal that Xanthones can inhibit cancer cell growth, including in breast, stomach, and lung tissue (<u>11</u>Trusted Source).

Similarly, a small number of studies observed that this compound may slow the progression of colon and breast cancer in mice (11 Trusted Source).

Though these results are promising, insufficient research has been done in humans.

#### **SUMMARY**

Test-tube and animal research indicates that Xanthones in Mangosteen may protect against cancer. However, high-quality human research on this topic is lacking.

#### 5. MAY PROMOTE WEIGHT LOSS

In the health and wellness industry, one of Mangosteen's biggest claims to fame is its potential to aid <u>weight loss</u>.

One study found that mice on a high-fat diet who received supplemental doses of Mangosteen gained significantly less weight than mice in the control group (12Trusted Source).

Similarly, in a small, 8-week study, people who supplemented their diets with 3, 6 or 9 ounces (90, 180, or 270 ml) of Mangosteen juice twice daily tended to have a lower body mass index (BMI) than the control group (<u>13</u>Trusted Source).

Additional research on Mangosteen and <u>obesity</u> is limited, but experts theorize that the fruit's anti-inflammatory effects play a role in promoting fat metabolism and preventing weight gain (<u>14</u>Trusted Source).

Ultimately, more studies are needed to better understand how Mangosteen may fit into an effective weight loss plan.

#### **SUMMARY**

Some animal and human research suggests that Mangosteen may play a role in weight loss and obesity prevention. Still, more studies are needed.

## **6. SUPPORTS BLOOD SUGAR CONTROL**

Both test-tube and animal studies show that Xanthone compounds in Mangosteen may help you maintain healthy blood sugar levels (15Trusted Source).

A recent 26-week study in obese women found that those receiving 400 mg of supplemental Mangosteen extract daily had significant reductions in insulin resistance — a risk factor for diabetes — compared to the control group (16Trusted Source).

The fruit is also a good source of fiber, a nutrient that can help stabilize blood sugar and improve diabetes control (16Trusted Source).

The combination of the xanthone and fiber contents in Mangosteen may help balance blood sugar. However, more research is needed.

#### **SUMMARY**

Plant compounds and fiber in Mangosteen may contribute to reduced blood sugar. Still, current research is insufficient.

#### 7. PROMOTES A HEALTHY IMMUNE SYSTEM

Fiber and vitamin C — both of which can be found in Mangosteen — are important for a healthy immune system (1Trusted Source).

Fiber supports your healthy gut bacteria — an essential component of immunity. On the other hand, vitamin C is needed for the function of various immune cells and has antioxidant properties (17Trusted Source, 18Trusted Source).

Additionally, some research suggests that certain plant compounds in Mangosteen may have antibacterial properties — which could benefit your immune health by combating potentially harmful bacteria (19Trusted Source).

In a 30-day study in 59 people, those taking a Mangosteen-containing supplement experienced reduced markers of inflammation and significantly greater increases in healthy immune cell numbers compared to those taking a placebo (20Trusted Source).

Your immune system requires many different nutrients to function optimally. Mangosteen may be a healthy choice to include alongside other nutrient-dense foods as part of a balanced diet.

### **SUMMARY**

Research suggests that Mangosteen may increase your number of immune cells and reduce inflammation — potentially boosting immune health.

#### 8. HELPS MAINTAIN HEALTHY SKIN

Skin damage from sun exposure is a common occurrence worldwide and a major contributor to skin cancer and signs of aging (21Trusted Source).

One study in mice treated with supplemental Mangosteen Extract observed a protective effect against ultraviolet-B (UVB) radiation in the skin (22Trusted Source).

What's more, a small, 3-month human study found that people treated with 100 mg of Mangosteen Extract daily experienced significantly more elasticity in their skin and less accumulation of a particular compound known to contribute to skin aging (23Trusted Source).

Researchers assert that Mangosteen's antioxidant and anti-inflammatory capacity is the main reason for these skin-protective effects, but more studies in this area are needed.

#### **SUMMARY**

Research suggests that antioxidant and anti-inflammatory compounds in Mangosteen may protect skin cells from damage associated with sun exposure and aging.

#### 9-11. OTHER POTENTIAL HEALTH BENEFITS

Mangosteen may also have a positive impact on your heart, brain, and digestive system:

9. HEART HEALTH. Animal studies show that Mangosteen Extract effectively reduced heart disease risk factors like LDL (bad) cholesterol and triglycerides while increasing HDL (good) cholesterol (24Trusted Source, 25Trusted Source, 26Trusted Source).
439

- **10. BRAIN HEALTH.** Studies indicate that Mangosteen Extract helps prevent mental decline, decrease brain inflammation, and improve symptoms of depression in mice, though human studies in this area are lacking (27Trusted Source, 28Trusted Source).
- 11. **DIGESTIVE HEALTH.** Mangosteen is packed with fiber. Just 1 cup (196 grams) provides about 14% of the RDI. Fiber is essential for digestive health, and high-fiber diets help promote bowel regularity (1Trusted Source, 6Trusted Source).

Though these results are promising, human studies in these areas are lacking.

It's still too early to make definitive claims regarding Mangosteen's role in supporting brain, heart, and digestive health in humans.

## **SUMMARY**

Research suggests that nutrients and other plant compounds in Mangosteen may support optimal digestive, heart, and brain function.

#### **HOW TO EAT MANGOSTEEN**

Mangosteen is easy to prepare and eat — though it may be difficult to find depending on where you live. The fruit's season is relatively short, which often limits its availability.

Your best bet is to look for it at specialty Asian markets, but be aware that fresh Mangosteen can be quite expensive. Frozen or canned forms may be cheaper and easier to find — but be mindful that canned versions often contain added sugar.

The fruit can also be found in juice form or as a powdered supplement.

If you happen to score a fresh supply, choose fruits with a smooth, dark purple outer rind. The rind is inedible but can be easily removed with a serrated knife.

The inner flesh is white and very juicy when ripe. This part of the fruit can be eaten raw or added to smoothies or tropical fruit salads for a delicious boost of flavor.

440

#### **SUMMARY**

Fresh Mangosteen can be difficult to come by, but frozen, canned, or juiced forms are more common. The inner flesh can be eaten by itself or enjoyed in a smoothie or salad.

#### MAY NOT BE RIGHT FOR EVERYONE

Very few adverse health effects have been reported from consuming Mangosteen in its whole form, and it's likely safe for most people.

However, more concentrated forms — like supplements, juices, or powders — are not 100% risk-free.

Early research suggests that Xanthones found in herbal supplements may slow the process of blood clotting (29Trusted Source).

Because Mangosteen is a rich source of Xanthones, it may be a good idea to avoid concentrated sources of it if you have a blood clotting condition or are taking blood-thinning medications.

Research to determine whether Mangosteen supplements are safe for pregnant or breastfeeding women is currently insufficient, so it's probably best to avoid it during these life stages.

Always consult your doctor or other qualified health professional before making significant changes to your diet or taking a new nutritional supplement.

#### **SUMMARY**

Mangosteen is likely safe for most people but may increase your risk of bleeding. Consult your Healthcare Provider before taking a new supplement or changing your diet drastically.

#### THE BOTTOM LINE

It's revered for its many potential health benefits — most of which are related to its nutritional profile and unique antioxidant content. Still, many of these perceived benefits have yet to be scientifically proven in human studies.

Fresh Mangosteen may be difficult to come by, as it's a relatively obscure fruit. But canned, frozen, and supplemental forms are more common.

Its juicy, delicately sweet flavor makes it a delicious addition to smoothies and fruit salads. Try it for its culinary appeal or potential health benefits — it's a win either way.

#### **MANGOSTEEN:**

### **INCREDIBLE HEALTH BENEFITS OF THIS DELICIOUS FRUIT**

February 01, 2022

Mangosteen or Purple Mangosteen is the common name of a luscious fruit, which is scientifically termed Garcinia Mangostana. In the vernacular languages, it is called "Mangustaan" in Hindi, "Ivarumamidi" in Telugu, and "Kaattampi" in Malayalam.

It is grown widely in the tropical regions of Southeast Asian nations namely Thailand, Malaysia, Philippines and India. It is a seasonal fruit, harvested and consumed extensively in the hot summer months.



The hard, outer shell of this exotic fruit is deep purple in colour and can be opened easily, showcasing the inner white edible flesh with small almond-shaped seeds. The seeds however, are extremely bitter and hence inedible.

Mangosteen is renowned across the globe for its bright and attractive appearance, pleasant fragrance, sweet and delicious flavour and most importantly, for its high nutrient content.

It is inherently low in calories, aiding in weight loss regimes and provides natural sugars that can be easily absorbed and supply instant energy. Fibers in this obscure fruit aid in digestion while the noteworthy amounts of B vitamins <u>elevate metabolism</u>. In addition, Mangosteen is plentiful in <u>vitamin</u>

<u>C</u>, which aids in speeding up wound healing, as well as strong antioxidants, which prevent injury to body cells.

The unique properties of Mangosteen have made it a preferred summer fruit for many, to reap its amazing advantages for physical and mental well-being.

# SIGNIFICANT MERITS OF MANGOSTEEN FOR OVERALL WELL-BEING PROMOTES HEART HEALTH

Mangosteen ensures proper blood flow to all organs of the body, particularly to the heart, by dilating blood vessels. This hypotensive quality of Mangosteen is very valuable in remedying high blood pressure symptoms such as an intense high BP headache, stress and palpitations. It also controls the levels of triglycerides, regulates heart rate and aids in maintaining normal blood pressure. It is hence highly effective in preventing severe cardiac ailments such as chest pain, heart congestion and atherosclerosis.

#### **BOOSTS IMMUNE FUNCTION**

Being abundant in Vitamin C, Mangosteen offers protective antioxidant properties and builds an efficient immune system. Antioxidants eliminate harmful free radicals from destroying the healthy cells in the body, while the proteins called antibodies defend the system against viruses which cause diseases such as pneumonia, <u>flu and common cold.</u>

### **RELIEVES BODY PAIN**

Mangosteen possesses vast amounts of xanthones, a naturally occurring group of plant compounds which are potent anti-inflammatory molecules. Xanthones function in reducing the pressure in stressed out regions of the human system. This vital trait in Mangosteen makes it a remarkable remedy for relieving unbearable body pain due to <u>arthritis</u>, sciatica and <u>menstrual cramps</u>.

### **ENHANCES BRAIN ACTIVITY**

Packed with flavonoids (powerful antioxidants) and folate (Vitamin B9), Mangosteen assists in the smooth transmission of signals via nerves leading to the brain. Moreover, it prevents the accumulation of plaques in brain cells and also improves memory. It is hence very useful in augmenting cognitive capabilities in neurodegenerative conditions like <u>Alzheimer's disease</u>.

### **SLOWS DOWN AGEING**

Mangosteen is a powerhouse of an antioxidant called catechin, which is also present in green tea. This molecule protects healthy cells in the skin from

deterioration and promotes the flow of blood and nutrients to the skin cells. Mangosteen also combats bacterial skin infections, thereby guaranteeing a youthful, radiant and flawless look.

## **LOWERS BLOOD SUGAR LEVELS**

Mangosteen not only offers a delightful taste but also supplies profuse amounts of dietary fibers and Xanthones - powerful phytonutrients with antioxidant and anti-inflammatory properties. Soluble and insoluble fibers help regulate appetite, control untimely cravings, promote digestion, augment energy metabolism. Besides, Xanthones in Mangosteen eliminate detrimental free radicals, toxins from the body and elevate insulin synthesis, functions for better processing of blood glucose to be assimilated by the muscle cells. This helps to keep blood sugar levels in check and effectively manage diabetes symptoms.

#### **NOURISHES SKIN TISSUES**

Blessed with ample quantities of vitamin C, B vitamins, as well as Xanthone, flavonoid and catechin antioxidants, Mangosteen confers superb incentives for rejuvenating skin texture. Vitamin C is a powerful antioxidant that scavenges free radicals from the body and blocks them from oxidising healthy skin cells and B vitamins, particularly folate, boost blood circulation for the renewal of a new layer of skin tissues. Xanthones and flavonoids lower inflammation and heal acne, scars, shield skin from harmful UV rays of the sun, while catechins deliver excellent anti-ageing benefits by minimising wrinkles, sagging, fine lines for youthful, bright, clear skin.

## PREVENTS INCIDENCE OF CANCER

Mangosteen is bestowed with a plethora of bioactive components derived from plants – phytonutrients, which possess great anti-inflammatory, antioxidant and anti-cancer attributes. Compounds including Polyphenols, Xanthones, Tannins, Procyanidins, Anthocyanins display tremendous potential in destroying tumour cells and halting the metastasis of cancer cells within the body. Moreover, they considerably suppress the formation of malignant tissues in numerous key vital internal organs such as the breasts, lungs, liver, kidneys, stomach, intestines and pancreas, so as to avert the risk of cancer.

## **CONTRAINDICATIONS:**

Consume only the fresh fruit, when in season and avoid if the Mangosteen stock in your local store looks old, dry and blotched.

Mangosteen causes allergies in some people and hence it is advised for you to steer clear of this fruit, in case you are prone to hypersensitivity. 445

# 8 INCREDIBLE BENEFITS OF MANGOSTEEN THE QUEEN OF FRUITS

Sushmita Sengupta

Updated: April 12, 2017 13:28 IST



#### **HIGHLIGHTS**

- Mangosteen is also called the 'Queen of Fruits'
- Mangosteen is the national fruit of Thailand
- They are rich sources of antioxidants and Vitamin C

Also referred to as the Queen of Fruits, and the Food of the Gods, Mangosteen is the sweet and tangy fruit grown in various parts of South-East Asia like Thailand, Malaysia and Singapore. It also happens to be the national fruit of Thailand. Purple in colour, the fruit has a white fleshy pulp, segmented with seeds.

While the scientific name of the fruit is *Garcinia Mangostana*, in a varied country like India, the much loved fruit is popular and consumed under the names of Mangustan (Hindi), Kaattampi (Malayalam), Kokam (Marathi), Hannu (Kannada) and Kao (Bengali). The tropical fruit has won the fancy of many chefs and home cooks for its refreshingly tangy flavour, including that of Queen Victoria of Britain. Legend has it that Queen Victoria had kept a reward price of 100 pounds sterling to whosoever would bring her the fresh

purple Mangosteen. On the other hand, the Mangosteen Fruit was banned by the U.S for apparently harbouring 'Asian flies'. The ban was lifted in 2007, and the fruit was up for consumption in all its 'regal' glory again. Delicious, juicy and brimming with multiple health benefits, here's how this tropical fruit can help you –

## **SOURCE OF ANTIOXIDANTS**

Mangosteen is a rich source of antioxidants and vitamins. The special antioxidant found in abundance that gives the fruit a superior edge, is a class of naturally occurring polyphenol compounds known as Xanthones. Mangosteen has two classes of Xanthones - Alpha Mangosteen and Gamma Mangosteen. The Mangosteen Fruit is said to contain at least 20 known Xanthones, majority of which are found in the fruit wall or pericarp of the fruit. Xanthones work to reduce oxidative stress caused by free radicals. By damaging the free radicals, these antioxidants protect the body from various diseases, ranging from common cold and flu, cancer risk and heart disorders.



#### 1. BOOSTS IMMUNITY

The Xanthones coupled with Vitamin C found in abundance in Mangosteen work wonders for an enhanced and improved immunity system. While Xanthones do their bit in fighting the free radicals, Vitamin C promotes the

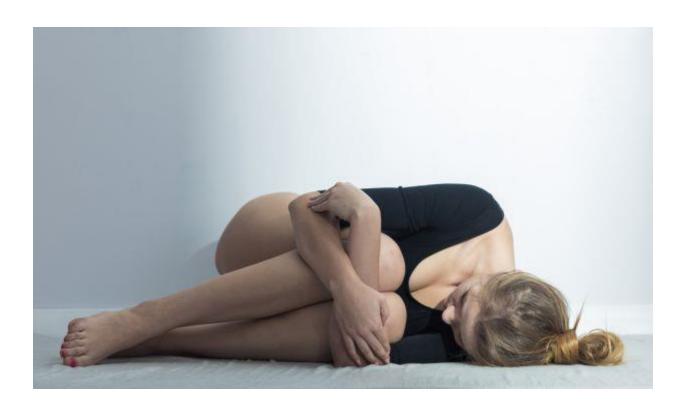
production and function of leukocytes or the white blood cells, which are majorly responsible for good immunity. The more the count, the more you are protected against infections.

(Also read: 5 IMMUNITY BOOSTING FOODS TO KEEP YOU FROM GETTING SICK)



#### 2. HELPFUL FOR MENSTRUAL PROBLEMS

Mangosteen roots have been traditionally used in different parts of Indonesia for regulating menstrual cycle in women. (Also read: 7 EFFECTIVE HOME REMEDIES FOR IRREGULAR PERIODS)



#### 3. REGULATES BLOOD PRESSURE AND BOOSTS HEART HEALTH

Battling with hypertension? Here is some good news for you. The abundant quantities of potassium, copper, magnesium, and manganese containing in Mangosteen can help regulate your blood pressure. 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 also reduces the cholesterol levels in your body, thus further checking the blood pressure and the consequent heart ailments.

(Also read: TOP 10 NATURAL FOODS TO CONTROL HIGH BLOOD PRESSURE)



#### 4. ANTI-INFLAMMATORY PROPERTIES

Mangosteen has high anti-inflammatory properties. The inhibited release of Histamine and Prostaglandin helps in the anti-inflammation process. Inflammation can cause cold, flu, and increase pain in swellings.

#### **5. BOOSTS SKIN CARE**

Mangosteen's high antibacterial and antimicrobial properties and the star component Xanthone can bring down the risk of many skin diseases to a great extent by repairing the damaged cells. And who can overlook the high component of Vitamin C, which further boosts skin health.

Mangosteen has also been used traditionally to treat acne. Its ability of scavenging free radicals coupled with the suppression of production of Cytokins (major contributor to acne) can prevent your skin from developing acne. Mangosteen can also reduce signs of ageing. 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.



## **6. SOLUTION TO YOUR TUMMY PROBLEMS**

Mangosteen is high on fiber, which makes it an effective aid to all your digestive problems. It can help ward off constipation. Consuming the pericarp and peel of the delicious fruit has been found effective in providing relief from diarrhea and dysentery. The high fiber composition of the fruit also increases your prebiotics intake, which is good for your intestines.



## 7. WEIGHT LOSS

Yes, Mangosteen can also aid your weight loss trail. The fruit is rather low in calories, 63 calories per 100 gram, has zero saturated fat, and is free of cholesterol. Plus, it's rich in dietary fiber. Load up on the wondrous food

already!



The pulpy fruit is back in the season with all its glory. Go gorge on these tangy delights while making most of these nutritional and health benefits.

## 19 HUGE HEALTH BENEFITS YOUR SKIN CAN GAIN EATING MANGOSTEEN FRUITS



You may be shocked when you hear about how eating exotic Mangosteen fruits can benefit a variety of health conditions with its health-enhancing properties.

Doing your research on this amazing fruit for the health benefits it may provide your family and friends is time honestly well spent. As you take a closer look at Mangosteen, you'll find substantial scientific evidence behind the fruit's many healing properties.

453

## MEDICAL PRACTITIONERS TOUT THE BENEFITS OF MANGOSTEEN

Experienced health professionals – who understand why it helps their patients and how it heals their bodies – have written extensively about the health benefits of the Mangosteen fruit.

Some of these health practitioners, who have experienced the benefits of this fruit in their own lives and their patients', have these to say:

"Mangosteen provides powerful support for every organ system in the human body. This fact is being confirmed on a daily basis by clinical experience... I am convinced that Mangosteen will, without a doubt, be the most successful food supplement ever."

– J. Frederic Templeman, M.D., a primary care physician for more than 20 years and board certified in both the United States and Canada.

## WHY DOES YOUR HEALTH BENEFIT FROM MANGOSTEEN?

Mangosteen contains more than 40 biologically-active, natural chemical compounds called Xanthones. While all these Xanthones have similar molecular structures, each one has the unique chemical composition that permits it to perform a specific function.

Alpha-Mangosteen, for example, is a very potent antioxidant. Gamma-Mangosteen is a powerful anti-inflammatory. Garcinone E is a robust anti-tumor agent.

These and the other Xanthones found in the Mangosteen provide a virtual medicine chest of natural healing compounds that address a wide variety of health issues.

### MANGOSTEEN'S MANY USES

Medical professionals have become very good at treating diseases, but we know they don't have all the answers.

There also are times when they have used a drug or treatment that later was found to have done more harm than good, or that have done enough damage which far outweighed the benefits the medication or therapy provided. Drugs like Vioxx, Celebrex and Phen-fen are a few that come to mind.

454

Here's a simple question: Why use drugs — with their harmful and sometimes fatal side-effects — when fruits can do the job?

Natural remedies provide health benefits without the harmful side-effects of drugs.

However, some who hear or read about the many health benefits of Mangosteen for the first time may be inclined to say that it's just too many and too good to be true for one exotic fruit to be able to provide them all.

## **MANGOSTEEN HEALTH BENEFITS**

Mangosteen has been a part of the traditional medicine of various Asian countries for a very long time and was once brought all the way around the world so that Queen Victoria could sample it. The health benefits of Mangosteen are known since the 18th century, and it has been proven that these benefits are not just mythical.

It is a storehouse of essential nutrients which are required for healthy growth, development and overall nutritional well being. Different parts of the fruit and plant are used in the treatment of various diseases and disorders. Here are some of the Mangosteen Fruit health benefits.

#### 1. ANTIOXIDANTS

Scientific Research has revealed that Mangosteen contains a class of naturally occurring polyphenol compounds known as xanthones. There are two types of xanthones in this fruit – Alpha Mangosteen and Gamma Mangosteen. Xanthones and their derivatives have been shown to have several benefits, including anti-inflammatory. Xanthones are an effective remedy against various cardiovascular diseases. These antioxidants have healing properties which heal cells damaged by free radicals, slow down aging and ward off degenerative diseases and physical and mental deterioration.

#### 2. LOW CALORIES

This fruit is very low in calories (63 calories per 100 g) and contains no saturated fats or cholesterol. Nonetheless, it is rich in dietary fiber (100 g provides about 13% of RDA), which can be very important for individuals who are concerned about putting on excess body weight.

#### 3. VITAMIN C

Mangosteens are rich in vitamin C and contain about 12% RDA per 100g. Being a potent water-soluble antioxidant, vitamin C provides resistance against flu-like infectious agents and scavenge harmful pro-inflammatory free radicals. Therefore consumption of fruits rich in vitamin C is vital for developing resistance against diseases. Folate plays an essential role in fetal development and evolution of new cells in the body. This particular vitamin is necessary during pregnancy and protects neural tube effects.

455

## 4. BLOOD FLOW



Mangosteen aids in promoting red blood cells and prevents against anemia. It improves the blood flow by causing dilation of blood vessels which helps to protect us against certain diseases like atherosclerosis, high cholesterol, heart congestion, and severe chest pains.

By increasing the amount of blood flow to the eye, Vitamin C in Mangosteen is effective against cataracts. 1000mg Vitamin C per day is said to be effective in curbing cataracts and improving vision.

456

#### 5. REDUCES CHOLESTEROL

Diet abundant in Mangosteen is helpful in reducing the level of cholesterol in the human body. It also helps to control the level of triglycerides to take care of the proper working of the human heart.

#### 6. TUBERCULOSIS

Mangosteen fruit contains strong **antibacterial and antifungal properties besides being highly effective in boosting weak immune systems**. Its inhibitory action against harmful bacteria is useful for patients suffering from tuberculosis.

#### 7. CANCER

The antioxidants found in Mangosteen help to prevent cancer and other cardiovascular diseases. It is a powerful and effective antioxidant that protects our body from free radicals that cause oxidative stress, or" cellular rust" that can lead to a host of severe medical conditions.

#### 8. BLOOD PRESSURE

Mangosteen also contains high amounts of **minerals like copper, manganese, and magnesium**. Potassium protects against strokes and coronary heart diseases as it is an essential component of cell and body fluids and controls heart rate and blood pressure.

#### 9. ANTI-INFLAMMATORY

Mangosteen contains **anti-inflammatory** properties which are highly beneficial for people who suffer from sciatica pains which cannot be controlled by drug treatment. Consuming Mangosteen two to three times a day will help to relieve pain through its anti-inflammatory and cox-2 inhibitor effects.

#### 10. ALZHEIMER'S

One of the significant health benefits of Mangosteen is its effectiveness in treating **Alzheimer's Disease**. This disease is accompanied by symptoms like confusion and perplexity and difficulty in remembering things.

457

Not just Mangosteen Fruit, Mangosteen Rinds, and other parts also contain many health benefits.

- While the dried powder of Mangosteen Rind is used in the treatment of dysentery, its paste can be used to treat eczema and some other skin disorders.
- ❖ A decoction made of Mangosteen Rind can be used to treat diarrhea, whereas a decoction made of Mangosteen Roots is used for regulating menstruation.
- ❖ A decoction made of Mangosteen Leaves and bark is beneficial in bringing down body temperature and also to treat thrush and urinary disorders.

## **BENEFITS OF MANGOSTEEN FOR SKIN**

## **11. ACNE**

Mangosteen has natural antibacterial properties and antimicrobial compounds, which are highly effective in treating many common skin problems. The consumption of Mangosteen can cure Acne, skin blemishes, oily skin, and dry skin.

#### 12. REPAIRS CELLS

Xanthone compounds present in this fruit's surface are the highest when compared to other fruits. These can cure skin diseases, repair the damaged cells in your body and protect them.

### 13. BODY WEIGHT

Intake of Mangosteen is a widely used orthodox method for losing weight. Mangosteen helps in the prevention of weight gain, by burning down fat. Xanthones included in the Mangosteen Peel help to aid weight loss.

#### 14. GUM DISEASE

Mangosteen acts as a weapon to fight against the gum disease known as periodontitis. The gel of Mangosteen helps to cure gum problems. 458

#### 15. MENSTRUATION

Mangosteen can be very useful in reducing premenstrual symptoms like **dizziness**, **mood swings**, **hypertension**, etc. In Malaysia, a Mangosteen Root decoction is consumed to regulate menstruation.

#### 16. STOMACH DISORDERS

In the state of Philippines, the Mangosteen is widely cultivated. They use its leaves and barks for treating **diarrhea**, **dysentery**, **treat thrush and urinary disorders**.

### 17. ANTI - AGEING

Aging comes about due to oxidation. Mangosteen is filled with **antioxidants such as catechin** (*the antioxidant found in green tea*). This helps in fighting free radicals. Hence, start consuming Mangosteen to look younger forever.

#### 18. BOOSTS YOUR ENERGY

This fruit can help you feel refreshed and energized all day long. Its nutrients will help you look more refreshed and youthful. It provides a boost of energy.

#### 19. VIRAL INFECTIONS

**Xanthones** present in Mangosteen have the natural ability to attack fungal and viral infections. They even help to get rid of certain carcinogens from attacking your skin.

## **SOME ESSENTIAL TIPS FOR YOU:**

- Juice made out of the Mangosteen Peel can make your skin feel tighter.
- Pregnant women should avoid consuming this since it can be harmful to the fetus.
- ❖ Wash the Mangosteen Fruit thoroughly under running water and wipe it with a soft towel to clean it.
- Mangosteens are available fresh during the summer months.
- Injury to the fruit can make the whole fruit bitter and inedible.
- Always buy fresh fruits that feel heavy and have a bright purple colored skin. Dry and blotched skin indicates an old stock.

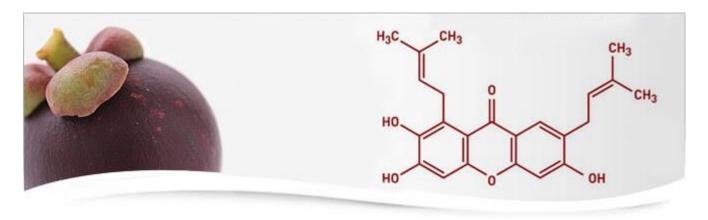
\* Ripe fruits should be placed in a cool and dry place. They can even be stored in the refrigerator.

More prolonged exposure to warm conditions can cause the skin of the fruit to become dry and hard.

## **MANGOSTEEN NUTRITIONAL VALUE**

Mangosteen fruit is beneficial because of its high nutritional value. Besides having a delicious taste, it is a rich source of fibers and carbohydrates. It also has high contents of vitamin A and vitamin C as well as iron, calcium, and potassium. This fruit is a cheap source of B-complex vitamins such as thiamin, niacin, and folates. These vitamins act as cofactors which help the body to metabolize carbohydrates, protein, and fats. Most importantly Mangosteen fruit is an excellent source of xanthones. A one-cup serving of canned Mangosteen has 143 calories.

## XANTHONES IN MANGOSTEEN



Our immune system tries to keep trillions of cells in our bodies protected from disease-causing toxins, free radicals, viruses, bacteria, fungi, and other harmful agents.

At times, though, our immune system gets overwhelmed. Our bodies get sick, often because of free radical damage.

A free radical is an unstable atom with an unpaired electron. When a free radical comes in contact with a stable molecule, it steals the electron it needs from the stable atom. This leaves the once stable particle irreparably damaged and prone to succumb to the disease.

460

Antioxidants counteract free radicals. They have an extra electron that they can share with free radicals. Because of this ability, they can prevent free radicals from attacking healthy atoms or cells.

Mangosteen contains powerful antioxidants and immune system boosters called Xanthones, natural chemical compounds which were proven to possess a variety of potent medicinal properties.

Xanthones occupy a special place in the Mangosteen's arsenal of healing compounds. They have been shown to have more potent antioxidant activity than vitamin E, one of nature's most powerful known antioxidants.

A laboratory test is known as ORAC (Oxygen Radical Absorbance Capacity), for example, showed that an ounce of Mangosteen juice provides 20 to 30 times more capacity to absorb free radicals than an ounce of most fruits and vegetables.

### MANGOSTEEN'S OTHER NATURAL COMPOUNDS

Mangosteen also contains other potent natural compounds like catechins, polysaccharides, quinones, stilbenes, and polyphenols.

Catechins were discovered to be five times more potent as antioxidants than vitamin C.

Polysaccharides are highly potent anti-cancer and anti-bacterial plant compounds. They help block a mutated cell's ability to stick to healthy cells to help stop the spread of cancer and are especially effective against intracellular bacteria.

Quinones are known for their anti-bacterial properties and also are strong oxidants.

Stilbenes in plants defend these plants against fungi. Interestingly, stilbenes also maintain their anti-fungal properties even when ingested. They also are potent antioxidants.

Polyphenols were found to be far more potent as antioxidants than vitamin E, considered one of the most powerful known antioxidants.

461

## **LONG LIST OF MANGOSTEEN HEALING PROPERTIES**

To sum it all up, here's a partial list of the 200-plus, mind-boggling Mangosteen medicinal benefits and properties from the catalog of prominent ethnobotanist, Dr. James Duke.

- Anti-aging helps prevent aging
- Anti-allergenic helps prevent allergic reactions
- Anti-arthritic helps prevent arthritis
- Anti-atherosclerotic helps prevent the hardening of the arteries
- Antibiotic prevents or modulates bacterial infections
- Anti-calculitic helps prevent kidney stones
- Anti-cataract helps prevent cataracts
- Antidepressant helps with depression
- Anti-diarrheal helps with diarrhea
- Anti-fatique helps relieve fatique
- Antifungal prevents or modulates fungal infections
- Anti-glaucomic helps prevent glaucoma
- Anti-Inflammatory helps with inflammation
- Anti-lipidemic helps lower blood fat
- Anti-neuralgic helps in nerve pain
- Anti-obesity helps in weight loss
- Anti-osteoporosis helps prevent the loss of bone mass
- Antioxidant-rich rich in antioxidants
- Anti-oxolytic anti-anxiety
- Anti-Parkinson helps with Parkinson's disease
- Anti-periodontic helps prevent gum disease
- Antipyretic helps lower fever
- Anti-tumor and cancer-preventive
- Anti-vertigo helps prevent dizziness
- Antiviral prevents or modulates viral infections
- Cardio-protective aids in the protection of the heart
- Hypoglycemic helps stabilize blood sugar
- Hypotensive maintains lower blood pressure
- Immunostimulant improves the immune system fight infection

## THE FINAL THOUGHT ABOUT MANGOSTEEN

This exotic fruit, used in traditional medicine for centuries, contains some of the most potent antioxidant, anti-inflammatory, antiviral, antibacterial and anti-fungal compounds in nature.

462

Independent scientific research studies and clinical experience all show the remarkable health benefits of Mangosteen.

Don't miss this great benefit of Mangosteen share this to your family and friends.

#### **REVIEWED BY**

### Dr. Geeta Dharmatti, RD

September 13, 2022 By <u>Swathi Handoo</u>, MSc (Biotechnology), Professional Certificate In Food, Nutrition & Health Evidence Based

Mangosteen is a tropical fruit predominantly found in Southeast Asia, especially in Vietnam and Thailand. It has a unique appearance and taste (1).

#### **BUT WHAT ARE THE BENEFITS OF MANGOSTEEN?**

Traditionally, this fruit was used to treat kidney ailments, diabetes, high blood pressure, and skin conditions ( $\underline{2}$ ). So why have Western countries banned the use or sale of Mangosteen? Keep reading to find out!

#### IN THIS ARTICLE

- What is Mangosteen?
- Why is Mangosteen Popular?
- What are the Health Benefits of Mangosteen?
- Nutrition Details of Mangosteen
- How to Eat Mangosteen
- How to Make Mangosteen Juice and Tea
- Simple and Quick Mangosteen Juice
- Tasty and Healthy Mangosteen Tea
- Are there any Side Effects of Mangosteen?
- Infographic: How to Eat Mangosteen
- Frequently Asked Questions

### WHAT IS MANGOSTEEN?

Mangosteen (*Garcinia mangostana*) is a tropical fruit cultivated mainly in Southeast Asia. It is now grown in the tropical areas of East Indies, India, China, and Sri Lanka as well  $(\underline{1})$ .

The Mangosteen Tree has **deep green leaves** and a **dark purple** berry-like fruit. The fruit has a  $1\frac{1}{2}$ -inch thick rind enclosing its flesh ( $\underline{2}$ ).

Its **flesh** is so **delicate** that it melts in your mouth almost like ice cream! The fruit's **pulp** is **white** or **yellowish**, with **crimson veins**. Mangosteen fruit produces a yellow latex-like juice that is uber-flavorful (1), (2).

For obvious reasons, locals enjoy this fruit. Mangosteen Juice and brewed tea are also equally popular. Wondering why? Find out in the next section.

## WHY IS MANGOSTEEN POPULAR?

Mangosteen is not only delicious but also extremely healthy. Traditional medicine uses its pulp, juice, and rind to treat **chronic inflammatory** disorders (2).

Recent scientific studies suggest that this fruit possesses strong **antioxidant**, **anti-cancer**, **anti-inflammatory**, and **antimicrobial** properties ( $\underline{3}$ ). The credit goes to its rich phytonutritional profile.

The active compounds in mangosteen play a crucial role in battling cancer, diabetes, heart, and brain diseases.

To know how Mangosteen treats such conditions, keep reading.

## WHAT ARE THE HEALTH BENEFITS OF MANGOSTEEN?

Mangosteen is effective against inflammatory conditions like diabetes, constipation, skin diseases, and potentially arthritis. Its antioxidant activity may help fight cancer.

## 1. CONTROLS DIABETES

**Oxidative stress** and **insulin resistance** can cause diabetes. **Hyperglycemia** (increased blood glucose levels) is often the result of **free radical damage**. Free radicals are **active chemical ions** that interfere with the functionality of your organs – in this case, the **pancreas** (4).

**Antioxidants** counter-attack free radicals. Consuming **antioxidant-rich foods** like mangosteen can boost the antioxidant levels in your body.

Mangosteen contains phytochemicals, including **xanthones** and **mangostins**. These are potent antioxidants that can **neutralize** free radical activity. Mice studies suggest that mangostins and xanthones can bring **down fasting** blood **glucose** levels (4), (5).

They can also improve the health of insulin-producing pancreatic cells ( $\beta$ -cells of the islets of Langerhans) in diabetic mice. Therefore, Mangosteen is a promising antidiabetic and anti-hyperglycemic agent (4), (5).

#### 2. TREATS ACNE AND MICROBIAL INFECTIONS

**Extracts of this tropical fruit possess excellent antimicrobial properties.** Bacterial strains, such as *Pseudomonas Aeruginosa, Salmonella Typhimurium, Propionibacterium acnes,* and *Bacillus subtilis,* are susceptible to Mangosteen phytochemicals (6), (7).

Mangosteen xanthones – **mangostin, gartanin**, and **isomangostin** – can **reduce** the **inflammation** caused by Propionibacterium acnes infection, which is commonly known as **acne** (6).

In a study conducted in Thailand, patients with acne applied Mangosteen Fruit rind extract on their face for **12 weeks**. Mangosteen fruit rind extract showed about **67% reduction** of comedonal skin-colored **bumps**, inflammatory **lesions**, and **scars** in these subjects (8).

The xanthones in this fruit also **inhibit** fungi from *Epidermophyton, Alternaria, Mucor, Rhizopus,* and *Aspergillus species* (6).

#### 3. HAS ANTI-INFLAMMATORY PROPERTIES

The principle bioactive compound in Mangosteen Fruit, alphamangostin, has potent anti-inflammatory effects. It inhibits the secretion of pro-inflammatory chemical messengers in your body (9).

Alpha-mangostin can interact with the **genes** producing these compounds (such as **interleukins and nitric oxide**) in your body and control the severity of chronic inflammatory diseases (9).

465

Mangosteen also has strong **anti-allergy** effects. You can apply Mangosteen-based products or extracts topically to control **eczema**. Eating this fruit may also help in reducing the severity of heart and **lung** diseases. It is also effective against diarrhea, **dysentery**, diabetes, **chronic ulcers**, and **neurodegenerative** conditions (3), (6).

#### 4. MAY PREVENT CANCER

Mangosteen xanthones have a variety of biological activities. The most studied property is its **anticancer** effect. Alpha-Mangostin, Beta-Mangostin, and Gamma-Mangostin were effective on various human cancer cells (10).

These xanthones have been proven to induce **programmed cell death** (apoptosis) in **cancerous cells**. They have also shown preventive effects against **breast, prostate,** and **colon** cancers in laboratory experiments (11), (12).

Mangosteen xanthones employ several **cell signaling pathways** to stop cancer progression. However, they need **in-depth research** to be applied to humans. It is best to observe **caution** before consuming Mangosteen products, especially if you are battling cancer  $(\underline{11})$ ,  $(\underline{13})$ .

#### **5. HELPS IN WEIGHT LOSS**

The production of pro-inflammatory compounds increases with an increase in fat deposition. These compounds cause collateral and chronic damage to vital organs, such as the heart, kidneys, brain, lungs, and liver  $(\underline{5})$ ,  $(\underline{14})$ .

East Asian medicine used native fruits like Mangosteen to treat obesity and related conditions. The active molecules in it, like Alpha-Mangostin, inhibit the pancreatic enzymes that are responsible for fat accumulation (5).

Various clinical trials investigated the role of Mangosteen in weight loss and inflammation. Along with decreasing total cholesterol and LDL levels, Mangosteen Extracts may also promote HDL (good cholesterol) levels in your body (5), (14).

## **6. MAKES SKIN LOOK YOUNGER AND HEALTHIER**

A build-up of free radicals in your **accelerates aging**. High level of oxidative stress affects most of your body's organs, including your **skin**. Your skin starts to show symptoms of aging, such as **fine lines, wrinkles**, and <u>pigmentation</u> (15).

Having a diet rich in **antioxidants** can maintain the appearance of your skin to an extent. Fruits like mangosteen have a strong antioxidant profile. Their active phytochemicals, such as xanthones, **scavenge** the **free radicals** from the skin cells (15), (16).

Mangosteen xanthones **inhibit** the accumulation of **collagen-inhibitory** compounds (like **pentosidine**) in your skin. This allows ample collagen to **boost the elasticity** and **moisture-holding capacity** of your skin (<u>16</u>).

#### 7. REGULATES BLOOD PRESSURE

The antioxidant and anti-inflammatory properties of Mangosteen may help in **regulating blood pressure**. It contains ample amounts of **potassium** that are crucial for **controlling heart rate** (<u>17</u>).

The xanthones in this tropical fruit also demonstrate cardioprotective effects. They fight **free radicals** and **cholesterol accumulation** in blood vessels  $(\underline{18})$ .

The antioxidant property of xanthones can bring down the risk of atherosclerosis **and ischemic heart attack**. This is why having Mangosteen may offer **protection** from **hypertension** and bleeding disorders (<u>18</u>).

### 8. A POTENT ANTIOXIDANT

The **pericarp**, **flesh**, and **peel** of Mangosteen contain varying amounts of xanthones. These biomolecules are potent antioxidants. **Protocatechuic** acid, **coumaric acid**, **caffeic acid**, and **ferulic acid** are the most abundant phenolic acids found in mangosteen peel (19), (15).

Anthocyanins, proanthocyanidins, epicatechin, xanthones, cyanidin-3-sophoroside, and cyanidin-3-glucoside are few of the flavonoids identified in it  $(\underline{15})$ .

Therefore, Mangosteen (and its extracts) is used extensively in food, pharmaceutical, and cosmetic industries. The antioxidants in it are responsible for its analgesic, anti-cancer, anti-aging, and antiobesity effects of Mangosteen Fruit  $(\underline{15})$ .

Does Mangosteen only contain xanthones? Are there no other nutrients in it? No! Like any other exotic fruit, Mangosteen has excellent nutritional value. Find out more details in the following section!

## **NUTRITION DETAILS OF MANGOSTEEN**

NUTRIENTS	UNIT	1 VALUE PER 100G	1.0 CUP, DRAINED 196G	1.0 CUP, 216G	
PROXIMATES					
Water	g	80.94	158.64	174.83	
Energy	kcal	73	143	158	
Protein	g	0.41	0.80	0.89	
Total lipid (fat)	g	0.58	1.14	1.25	
Carbohydrate, by difference	g	17.91	35.10	38.69	
Fiber, total dietary	g	1.8	3.5	3.9	
		MINERALS			
Calcium, Ca	mg	12	24	26	
Iron, Fe	mg	0.30	0.59	0.65	
Magnesium, Mg	mg	13	25	28	
Phosphorus, P	mg	8	16	17	
Potassium, K	mg	48	94	104	

Sodium, Na	mg	7	14	15
Zinc, Zn	mg	0.21	0.41	0.45
		VITAM	INS	
Vitamin C, total ascorbic acid	mg	2.9	5.7	6.3
Thiamin	mg	0.054	0.106	0.117
Riboflavin	mg	0.054	0.106	0.117
Niacin	mg	0.286	0.561	0.618
Vitamin B-6	mg	0.018	0.035	0.039
Folate, DFE	μg	31	61	67
Vitamin B-12	μg	0.00	0.00	0.00
Vitamin A, RAE	μg	2	4	4
Vitamin A, IU	IU	35	69	76
Vitamin D (D2 + D3)	μg	0.0	0.0	0.0
Vitamin D	IU	0	0	0
Lipids				
Cholesterol	mg	0	0	0

That's the profile of canned Mangosteen.

Eating whole fresh Mangosteens provides impressive phytonutrition. The flesh, pericarp, and skin of mangosteen contain xanthones, anthocyanins, and several flavonoids. It also contains phenolic acids like caffeic acid and ferulic acid.

All these active molecules in Mangosteen work cumulatively to bring about its health benefits.

Now, let's find out how to enjoy this fruit!

#### **HOW TO EAT MANGOSTEEN**

The Mangosteen Fruit is as big as a **tennis ball**. It has a beautiful dark violet peel. It has a **firm** and **fibrous shell** before it ripens. On ripening, it becomes **soft** and almost mushy.

To open a Mangosteen, you need to get rid of its shell with a **sharp knife**. Hold the Mangosteen in both hands and try to **pry** it open gently with your thumbs.

Once the rind cracks, you should be able to **pull** the **halves** apart easily. Be **careful** when you are opening the fruit. Its purple juice may **stain your clothes** or skin.

Inside, you will find its creamy white pulp arranged in equal segments. This part of the fruit is soft, **sweet, and sour, delicious**, and heavenly!

## WHY IS MANGOSTEEN BANNED?

Mangosteen is a fruit native to Southeast Asia. It attracts several species of Mediterranean **fruit flies.** 

Due to fear of **losing local crops** to these fruit flies, Western countries (in North America and Europe) **banned** the entry of this fruit.

However, **disinfected Mangosteens** are now being sold in American markets. **Irradiating** mangosteens kills the fruit flies **without affecting** their **viability** and **safety**.

Vendors from the East are now able to share this piece of paradise with the West by adhering to the strict guidelines laid by the local governments.

You can relish this exotic fruit in different ways. The most preferred preparation is **Mangosteen Juice**.

Want to know how to make it?

## **HOW TO MAKE MANGOSTEEN JUICE AND TEA**

Mangosteen Juice is a simple and flavorful drink enjoyed by locals and tourists in Southeast Asia. All you need to make it is Mangosteen Flesh. Here's how you can make it!

## SIMPLE AND QUICK MANGOSTEEN JUICE

## **WHAT YOU NEED**

- Mangosteen fruits
- Other fruits of your choice
- Sharp knife
- Electric juice blender/juicer
- Honey or sweetener (optional)
- Milk or water (for consistency)
- Ice cubes or crushed ice (optional)
- Apron (to avoid staining your clothes)

## **LET'S MAKE IT!**

- 1. Wash the fresh Mangosteens thoroughly by running them under water.
- 2. Get rid of the firm shells with the help of a sharp knife.
- 3. Carefully cut through the rind. Beware of staining your clothes!
- 4. Scoop out the white flesh from within.
- 5. To a blender, add the Mangosteen Flesh, honey, and other fruits of your choice.
- 6. Add milk (for a smoothie) or water to adjust the consistency. Blend until you get a smooth juice.
- 7. Pour the juice into serving glasses.
- 8. You can top the juice with crushed ice or ice cubes for a refreshing twist.

AND THERE YOU GO – your homemade Mangosteen Juice is done and waiting to refresh you!

This fruit's flesh is already mildly sweet. Taste the raw juice before adding honey/sweetener.

Another way of having Mangosteen is by brewing its tea.

## TASTY AND HEALTHY MANGOSTEEN TEA WHAT YOU NEED

- Mangosteen fruit or powder
- Sharp knife
- Boiling pot/teapot
- Food processor or dehydrator
- Drinking water
- Sugar/sweetener (optional)

#### LET'S MAKE IT!

- 1. Wash the fresh Mangosteen Fruit thoroughly under running water.
- 2. Get rid of the firm shell with a sharp knife.
- 3. Cut through the rind carefully. Don't stain your clothes!
- 4. Pull the skin apart using both your hands to separate the inner flesh from the purple rind.
- 5. If you want to go the **traditional way**, you can **sun-dry** these rinds. You can also use a food dehydrator or processor to speed up this step.
- 6. Collect the dried rind pieces and add to a pot of boiling water to purée them. You can also use a food processor for this step
- 7. Turn off the heat to cool the rind purée.
- 8. You can also use a food processor for this step to make the rind-purée
- 9. To a teapot, add the required amount of water and bring it to a boil.
- 10. Add the puréed rind and sugar/sweetener. Let it boil for 1-2 minutes.
- 11. Turn off the heat and let it steep.
- 12. Add juices/spices of your choice (optional).
- 13. Serve it warm or hot!

If you don't like tea and juice, you can try having Mangosteen Extract **capsules**. This way, you won't miss out on your daily fruit intake too! But is it safe to have Mangosteen every day? Will it trigger any side effects?

# FIND OUT IN THE NEXT SECTION ARE THERE ANY SIDE EFFECTS OF MANGOSTEEN?

Recent scientific literature claims that there are no side effects of having Mangosteen. However, there is **insufficient evidence for the same**  $(\underline{16})$ .

When used as a weight-loss supplement, Mangosteen supplements **did not** cause any **adverse effects**. They only brought down body weight and cholesterol levels (20).

But a study reports **drug interactions** with its extracts. A few Thai fruits, including Mangosteen, were able to **modify** the **liver enzymes** that are involved in **metabolizing** certain **drugs** (21).

If you are on **blood thinners** or heart-related medications, observe **caution**. You may need to avoid Mangosteen if advised (21).

Researchers are also **not sure** about the safety of Mangosteen during **pregnancy** or **lactation**.

However, these were small-scale and short-term studies.

The safety of Mangosteen can only be established based on more data collected over an extended period.

In any case, it is best to speak with your **Healthcare Provider** about the **safety** of Mangosteen.

## FREQUENTLY ASKED QUESTIONS IS MANGOSTEEN A SUPERFOOD?

Mangosteen is packed with powerful antioxidants that help treat many ailments. The presence of a wide variety of nutrients makes Mangosteen a superfood.

#### **HOW MANY MANGOSTEENS CAN I EAT IN A DAY?**

There is no specific recommended dosage of Mangosteen. However, intake of Mangosteen two to three times a day is considered safe.

#### **SOURCES**

Articles on StyleCraze are backed by verified information from peer-reviewed and academic research papers, reputed organizations, research institutions, and medical associations to ensure accuracy and relevance. Check out our editorial policy for further details.

- \* "Mangosteen" NewCROP, Department of Horticulture and Landscape Architecture, Purdue University https://hort.purdue.edu/newcrop/morton/mangosteen.html
- "Fruits of Tropical & Sub-Tropical Regions" Discoveries in Natural History & Exploration, University of California, Riverside <a href="https://faculty.ucr.edu/~legneref/botany/trofruit.htm">https://faculty.ucr.edu/~legneref/botany/trofruit.htm</a>
- \* "Daily consumption of a mangosteen-based drink improves in vivo antioxidant and anti-inflammatory biomarkers in healthy adults: a randomized, double-blind, placebo-controlled clinical trial" Food Science & Nutrition, US National Library of Medicine https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4534161/
- Antioxidant and antidiabetic activity of Garcinia mangostana L. pericarp extract in streptozotocin-induced diabetic mice, Bioscience Research, ResearchGate.

https://www.researchgate.net/publication/322151633\_Antioxidant\_and\_antidiabetic\_activity\_of\_Garcinia\_mangostana\_L\_pericarp\_extract\_in\_streptozotocin-induced\_diabetic\_mice 473

- \* "Mangosteen Extract Shows a Potent Insulin Sensitizing Effect in Obese Female Patients: A Prospective Randomized Controlled Pilot Study" Nutrients, US National Library of Medicine https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5986466/
- \* "Medicinal properties of mangosteen (Garcinia mangostana)" Food and Chemical Toxicology, Elsevier, CiteSeerX, The Pennsylvania State University
  - http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.464.2810&rep=rep1&type=pdf
- "Anti-acne-inducing bacterial activity of mangosteen fruit rind extracts."
   Medical Principles and Practice https://www.ncbi.nlm.nih.gov/pubmed/20516704
- \* "Clinical efficacy of 0.5% topical mangosteen extract in nanoparticle loaded gel in treatment of mild-to-moderate acne vulgaris: A 12-week, split-face, double-blinded, randomized, controlled trial." Journal of Cosmetic Dermatology, US National Library of Medicine <a href="https://www.ncbi.nlm.nih.gov/pubmed/30688020">https://www.ncbi.nlm.nih.gov/pubmed/30688020</a>
- "a-Mangostin: Anti-Inflammatory Activity and Metabolism by Human Cells" Author manuscript, HHS Public Access, US National Library of Medicine
  - https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3793015/
- \* "Anti-Cancer Effects of Xanthones from Pericarps of Mangosteen" International Journal of Molecular Sciences, US National Library of Medicine
  - https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2635669/
- Polyphenols from the mangosteen (Garcinia mangostana) fruit for breast and prostate cancer, Frontiers in pharmacology https://www.frontiersin.org/articles/10.3389/fphar.2013.00080/full
- \* "Southeast Asian Fruit May be Cure for Prostate Cancer" University of Illinois Cancer Center https://cancer.uillinois.edu/southeast-asian-fruit-may-be-cure-forprostate-cancer/
- \* "Mangosteen for the cancer patient: facts and myths." Journal of the Society of Integrative Oncology, US National Library of Medicine https://www.ncbi.nlm.nih.gov/pubmed/19442348
- \* "Evaluation of Mangosteen juice blend on biomarkers of inflammation in obese subjects: a pilot, dose finding study" Nutrition Journal, BioMed Central, CiteSeerX, The Pennsylvania State University http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.791.9313& rep=rep1&type=pdf
- \* "In vitro antioxidant properties of mangosteen peel extract" Journal of Food Science and Technology, US National Library of Medicine https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4252444/ 474

- \* "Mangosteen pericarp extract inhibits the formation of pentosidine and ameliorates skin elasticity" Journal of Clinical Biochemistry and Nutrition, US National Library of Medicine https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4512896/
- \* "Dangerous Interactions.- Mangosteen-Vitamins-Foods-Drugs-Supplements and Herbs." Academia https://www.academia.edu/25589343/Dangerous\_Interactions.-Mangosteen\_-Vitamins-Foods-Drugs-Supplements\_and\_Herbs
- \* "The Effects of MX3 Plus Food Supplement to the Health Condition of Select Respondents" Advancing Medical Technology Research, Academia https://www.academia.edu/24508537/The\_Effects\_of\_MX3\_Plus\_Food \_Supplement\_to\_the\_Health\_Condition\_of\_Select\_Respondents
- "Functional beverage of Garcinia mangostana (mangosteen) enhances plasma antioxidant capacity in healthy adults" Food Science & Nutrition, CiteSeerX, The Pennsylvania State University http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.790.5616& rep=rep1&type=pdf
- "New herbal supplement helps slim and trim without side effects, studies show" Newsroom, UCDavis Health, University of California, Davis https://health.ucdavis.edu/publish/news/newsroom/8035
- "Impact of six fruits-banana, guava, mangosteen, pineapple, ripe mango and ripe papaya-on murine hepatic cytochrome P450 activities." Journal of Applied Toxicity, US National Library of Medicine https://www.ncbi.nlm.nih.gov/pubmed/22499231