

# Pomegranate

## Punica granatum



Pomegranate botanical name *Punica granatum* is a fruit-bearing deciduous shrub or small tree in the family Lythraceae growing between 6 to 10 m (20 to 33 ft.) tall. Pomegranate comes from the words 'pōmum grānātum' in Medieval Latin, that mean 'apple with many seeds'. Apart from Pomegranate it is also known as Punic apple, granatapfel, Granada, grenade, melograno and melagrana. Ruby red, delicious and nutrient rich pomegranates pack a mighty punch in safeguarding your health. Scaly Bark Tree Form Pomegranate, Russian Pomegranate, Plantation Sweet Pomegranate, Grenada Pomegranate, Goliath Pomegranate, Dwarf Pomegranate, Babylonian White Pomegranate, Nana Pomegranate, Eight Ball Pomegranate, State Fair Pomegranate, Granada Pomegranate, Wonderful Pomegranate, Angel Red Pomegranate are few of the popular varieties of pomegranate that are grown worldwide. Pomegranate is a one of the most popular nutritious fruit, its flavor and qualities makes it different to taste and it has some medicinal properties too. It is a very good and smart choice for your dietary plans, as the nutritional benefits of pomegranate are amazing. The pomegranate arils make a perfect garnish for salads and other dishes also. Its juice is used in soups, jellies, sauces and different other types of cakes and its juice also add natural sweetness to the dishes with a unique flavor. It is said that daily intake of pomegranate makes your skin glow like its color inside.

## Plant

Pomegranate is a deciduous, much-branched, small tree or shrub that grows between 6 to 10 m (20 to 33 ft.) tall. It is primarily grown in mild-temperate to subtropical and naturally adapted to regions with cool winters and hot summers, but can also be grown in warm tropical areas. It does not flower and fruit well in very humid and wet climates. It is adaptable to a wide range of soil types including soils on which other fruit species will not grow. It thrives on calcareous soil, alkaline soil, and gravelly soil and on deep, acidic loams. For commercial cultivation well-drained, heavy, light and medium soils are preferred although it can withstand seasonal waterlogging. Pomegranate has multiple spiny branches and is extremely long-lived, with some specimens in France surviving for 200 years.

The trunk is covered by a red-brown bark which later becomes gray. Branches are stiff, angular and often spiny. There is a strong tendency to sucker from the base. Pomegranates are also long-lived. There are specimens in Europe that are known to be over 200 years of age. The strength of a pomegranate declines after about 15 years, however.



## Leaves

Leaves are opposite, glabrous, coriaceous, glossy green, entire, simple, oblong-lanceolate to obovate or elliptic, 19–35(–50) × 8–12 (–15) mm, sub petiolate, apex sub-acute to obtuse.

## Flowers

The attractive scarlet, white or variegated flowers are over an inch across and have 5 to 8 crumpled petals and a red, fleshy, tubular calyx which persists on the fruit. The flowers may be solitary or grouped in twos and threes at the ends of the branches. Calyx is campanulate, reddish or purplish with six triangular, persistent lobes, Petals 6, broadly obovate, wrinkled, alternating with the sepal lobes, stamens numerous, multi seriate, persistent, inserted on flower tube, Ovary is sub globose, inferior with three cells in two-series, style one thick, reddish, stigma simple slightly bi lobed. The pomegranate is self-pollinated as well as cross-pollinated by insects. Cross-pollination increases the fruit set. Wind pollination is insignificant.



## Fruit

**Fruit** is a berry intermediate in size between a [lemon](#) and a [grapefruit](#), 5–12 cm (2.0–4.7 in) in diameter with a rounded shape. The tough, leathery skin or rind is typically yellow overlaid with light or deep pink or rich red. The interior is separated by membranous walls and white, spongy, bitter tissue into compartments packed with sacs filled with sweetly acid, juicy, red, pink or whitish pulp or aril. In each sac there is one white, pink or red angular, soft or hard seed 10–13 mm long. Single fruit normally weights about 200 gm. High temperatures are essential during the fruiting period to get the best flavor. The pomegranate may begin

to bear in 1 year after planting out, but 2-1/2 to 3 years is more common. Under suitable conditions the fruit should mature some 5 to 7 months after bloom.

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## **History**

Pomegranate tree is native from the Middle East to the Himalayas in northern India. It has been cultivated and naturalized since ancient times throughout the Mediterranean region of Asia, Caucasus, northern Africa and Europe. The fruit has various uses as it is today and was featured in Egyptian mythology and art, in the Old Testament of the Bible and in the Babylonian Talmud. From its native range, it was introduced to central and southern India and Southeast Asia.

It was reported growing in Indonesia in 1416. It was introduced into Latin America and California by the Spanish in 1796; it is now grown in California and Arizona. It has been widely cultivated throughout India and drier parts of Southeast Asia and tropical Africa. The most important growing regions are Egypt, China, Afghanistan, Turkey, Syria, Pakistan, Bangladesh, Iran, Iraq, India, Myanmar and Saudi Arabia. There are some commercial orchards in Israel on the coastal plain and in the Jordan Valley.

Over 764 cultivars of Iranian pomegranate have been collected in a germplasm collection in the cities of Yazd and Saveh. All of the cultivars possess specific fruit characteristics, including size, color, taste, time of ripening, and disease resistance.

## **Health benefits of Pomegranate**

Whenever people think about these small red seeds they think of the high power of anti-oxidants. The bottom line is, anti-oxidants

are essential simply because they provide electrons to free-radicals (body pollution) so that they don't need to commit the crime of robbing from healthy cells within our bodies. Numerous recent reports have demonstrated substantial possible health advantages from consuming and also consuming fresh pomegranate fruit. Here are some of the well-known health benefits of pomegranate:

## **1. Impressive Anti-Inflammatory Effects**

Long-lasting inflammation is one of the leading drivers of many killer diseases like heart disease, cancer, type 2 diabetes, Alzheimer's disease and even obesity.

Pomegranate has strong anti-inflammatory properties, which are mostly mediated by the antioxidant properties of the punicalagins. Test tube research has shown that it can reduce inflammatory activity in the digestive tract, as well as in breast cancer and colon cancer cells.

Research in diabetics found that 250 ml of pomegranate juice per day for 12 weeks lowered the inflammatory markers CRP and interleukin-6 by 32% and 30%, respectively. Thus we can conclude that including pomegranate in our diet is quite beneficial for anti-inflammatory problems.



## **2. Help Fight Prostate Cancer**

Prostate cancer is the most common type of cancer in men. Laboratory research has shown that pomegranate extract help to slow down cancer cell reproduction, and even induce apoptosis (cell death) in cancer cells. The PSA (prostate specific antigen) is a blood marker for prostate cancer.

Men whose PSA levels double in a short period of time are at increased risk of death from prostate cancer. Remarkably, a human research found that 237 ml (8 oz.) of [pomegranate juice](#) per day increased the PSA doubling time from 15 months to 54 months, which is huge. A follow-up research found similar improvements using a type of pomegranate extract called POMx,

## **3. Relieve Stress**

Regular consumption of pomegranate juice is one of the best options to relieve stress.

In a research, it was noticed a significant fall in the stress hormone cortisol in the people who were served with pomegranate juice. Thus people suffering from stress can consume juice for a few days. You will see significant result with a week.

## **4. Lower Blood Pressure**

High blood pressure (hypertension) is one of the leading causes of heart attacks and strokes.

In one research, people with high blood pressure had a substantial reduction after consuming 150 ml (5 oz.) of pomegranate juice daily for 2 weeks.

Other research has found similar effects, particularly for systolic blood pressure (the higher number in a blood pressure reading).

## **5. Anemia**

Regular consumption of pomegranate in any form helps to maintain healthy blood flow in the body. Pomegranate supplies

iron to the blood, therefore helping to decrease symptoms of anemia, including exhaustion, dizziness, weakness, and hearing loss.

## **6. Lower Risk of Heart Disease**

Heart disease is presently the world's most common cause of premature death. It is a complicated disease, driven by several different factors. Punicic acid, the main fatty acid in pomegranate, may help protect against several steps in the heart disease process.

Research in 51 people with high cholesterol and triglycerides, 800 milligrams of [pomegranate seed oil](#) per day for 4 weeks was shown to considerably lower triglycerides and improves the triglyceride: HDL ratio.

Another research looked at the effects of pomegranate juice in people with type 2 diabetes and high cholesterol. They noted significant reductions in LDL cholesterol, as well as other improvements.

Pomegranate juice has also been shown, in both animal and human researches, to protect the LDL cholesterol particles from oxidation, one of the key steps in the pathway towards heart disease.

## **7. Dental Care**

One of the best benefits of pomegranates is that their juice, together with its antibacterial and antiviral properties, helps to reduce the effects of dental plaque and safeguards against various oral diseases.

## **8. Help Treat Erectile Dysfunction**

Oxidative damage can impair blood flow in all areas of the body, including erectile tissue. Pomegranate juice has been shown to be helpful in increasing blood flow and erectile response in rabbits.

In a research of 53 men with erectile dysfunction, pomegranate seemed to have some benefit, but it was not statistically substantial.

## **9. Diabetes**

For diabetic patients, consuming pomegranate juice can reduce the risk of various coronary diseases. Along with this, there is a reduction in the hardening of the arteries, which can prevent the development of various heart diseases.

## **10. Help Fight Bacterial and Fungal Infections**

Compounds in pomegranate help to fight harmful microorganisms. They have been shown to be beneficial against some types of bacteria, as well as the yeast *Candida albicans*.

The anti-bacterial and anti-fungal effects may also be protective against infections and inflammation in the mouth. This includes conditions like gingivitis, periodontitis and denture stomatitis.

## **11. Help Improve Memory**

Some evidence proves that pomegranate can improve memory. In one research in surgical patients, 2 grams of pomegranate extract prevented shortfalls in memory after the surgery.

Another research in 28 elderly individuals with memory complaints found that 237 ml (8 oz.) of pomegranate juice per day considerably improved markers of verbal and visual memory.

There is also some proof from studies in mice that pomegranate can help fight Alzheimer's disease.

## **12. May Improve Exercise Performance**

Pomegranate is a wonderful source of dietary nitrates, which have been shown to improve exercise performance.



In a research of 19 athletes running on a treadmill, 1 gram of pomegranate extract 30 minutes before exercise considerably enhanced blood flow. This led to a delay in the start of fatigue, and an increase in exercise efficiency.

However more research is needed, but it seems like pomegranate may be useful for physical performance, similar to [beetroot juice](#).

### **13. Ageing**

Ageing is a common problem which is increasing among people living in urban cities because of stress, pollution, UV radiation and lack of nutrition. These are the most common problem that leads to the production of free radicals in the body. But antioxidants help to neutralize these free radicals and protect skin from ageing. Pomegranates are not only effective in protecting from ageing, but it also nourishes the skin.

### **14. Help Fight Arthritis and Joint Pain**

Arthritis is a common problem in Western countries as well as throughout the world. There are many different types, but most of them include some form of inflammation in the joints.

Given that the plant compounds in pomegranate have anti-inflammatory effects, it makes sense that they could help treat arthritis.

Remarkably, laboratory researches have shown that pomegranate extract can block enzymes that are known to damage joints in people with osteoarthritis. It has also been shown to be beneficial against arthritis in mice, but there is very little evidence in humans so far.