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Sour Sop – A Miracle Fruit

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Nowadays underutilized fruit crops are gaining popularity due to their nutritional and therapeutic properties. Sour sop is one such a fruit. It belongs to the family Annonaceae and originated in the American tropics. It is widely distributed in tropical and subtropical regions of the world. In India, its cultivation is limited to states like Tamil Nadu, Karnataka, Andhra Pradesh and Kerala. Sour sop cannot tolerate frost and grows well in well-drained and semidry soil. The optimal range of temperature is between 21 to 30°C. It grows up to an elevation of 300 MSL. Young trees in exposed areas can be damaged or killed even by slight frost. Sour sop is a small, upright, evergreen tree that can grow to about 10 m in height. The fruit is oval, dark green when unripe, and turns yellow-green on ripening. It measures 10–35 cm in length and typically weighs around 4 kg. The flesh is juicy, whitish, and acidic with a pineapple-like aroma. Immature fruits are mostly seedless, whereas mature fruits may contain up to 200 seeds.

Soursop is often regarded as a “super fruit” due to its rich nutritional composition and diverse therapeutic benefits, and it is gaining increasing popularity. Different parts of the soursop plant exhibit various medicinal properties. The seeds act against parasitic infections; the fruit is used in the treatment of arthritis, nervous disorders, and diarrhea; and the leaves are traditionally used to manage cystitis, headaches, insomnia, and cancer. The leaves contain bioactive compounds called acetogenins, which have shown inhibitory effects against various cancers, including lung, breast, colon, pancreatic, and kidney carcinomas. Additionally, leaf extracts of soursop and ramphal have demonstrated inhibitory activity against *Plasmodium falciparum*, the organism responsible for malaria. Apart from these properties, soursop is also rich in antioxidants, possesses antibacterial activity, and helps in reducing blood sugar levels and blood pressure.

Reduce Inflammation in the Body

Soursop is rich in antioxidants that help lower inflammation and promote overall health. Excess free radicals in the body can lead to oxidative stress, causing damage to lipids, proteins, and DNA. Antioxidants neutralize these free radicals, thereby reducing such damage. Soursop contains beneficial plant compounds such as sesquiterpenes, phenolic compounds, acetogenins, and alkaloids. Among these, phenolic compounds like coumaric acid are known for their strong antioxidant activity. Additionally, the fruit is a good source of vitamin C, which further enhances its antioxidant potential.

Exhibit Antibacterial Activity

Soursop may help combat harmful bacteria. Laboratory studies have shown that extracts from its leaves can inhibit bacteria such as *Streptococcus*, which is associated with oral infections. However, further research involving human subjects is necessary to confirm these findings.

Regulate Blood Pressure

The bioactive compounds present in soursop may assist in lowering blood pressure by inhibiting the angiotensin-converting enzyme (ACE), which plays a key role in blood

pressure regulation. Some studies suggest that regular consumption of soursop juice may reduce blood pressure levels, although more extensive research is needed to support this effect.

Blood Sugar Control

Soursop may contribute to maintaining healthy blood sugar levels. Certain studies indicate that its extracts can slow down the breakdown of carbohydrates into glucose, thereby reducing sugar absorption. However, most of the evidence is based on animal studies, and more human research is required.

Improve Digestion

Due to its high fiber content, soursop supports digestive health. It contains both soluble and insoluble fiber, which help regulate bowel movements and improve stool consistency. A fiber-rich diet is also linked to a lower risk of digestive disorders, including certain cancers.

Anticancer Properties

Soursop contains compounds such as acetogenins, alkaloids, and flavonoids, which may exhibit anticancer effects. Research from laboratory and animal studies suggests that these compounds can inhibit the growth of cancer cells. However, more clinical studies are needed to understand their role in cancer treatment.

Nutritional Value of Soursop

Soursop is a nutrient-rich fruit that provides carbohydrates, dietary fiber, and small amounts of protein with very low fat content. It is particularly high in vitamin C, copper, and potassium. Copper supports red blood cell formation and metabolism, while potassium is essential for muscle function and blood pressure control. Additionally, soursop contains other important nutrients such as iron, magnesium, and folate, which contribute to overall health.

Nutrient	Amount (per 100 g)
Calories	66 kcal
Protein	1 g
Carbohydrates	16.8 g
Fiber	3.3 g
Vitamin C	34% of RDI
Potassium	8% of RDI
Magnesium	5% of RDI
Thiamine (Vitamin B1)	5% of RDI