

Therapeutic and Health Benefits of Jamun

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Jamun or *Syzygium cuminii* is an important indigenous fruit of the family Myrtaceae. Large, evergreen tree with approx height of 30-40 m and it's widely distributed in different agro-climatic conditions in South Asia but remains underutilized. The ripe fruits are purplish black in colour due to the presence of anthocyanins. Fruits are rich in minerals and have high antioxidant property which contributes to many health benefits. Jamun is highly perishable; therefore, very difficult to store and market at distant places Jamun seeds are used in traditional medicine. The ripe fruits are used for health drinks, making preserves, squashes, jellies and wine. (Warrier *et al.* 1996).

It's a fruit that has been used in Ayurvedic treatments and medications since ancient times. Jamun is known to treat many health conditions such as heart problems, diabetes, skin issues, infections, asthma, stomach pain, flatulence, and a lot of other medical problems. It can be consumed in fruit form, made as a juice, or even used in powder form. It can be used in many healthy recipes like salads, and smoothies as it aids in weight loss.

Jamun is a very nutritious summer fruit that has a wide range of health benefits. The fruit is commonly called the Indian blackberry, Java plum, or black plum. There are two types of jamuns - one variety is the white flesh Jamun, while the other is the purple flesh variety. The white flesh jamun comes with a higher amount of pectin and the purple flesh variety has a lower amount. Pectin is a substance that acts as a thickening agent when preparing jellies and jams.



Jamun has many medicinal properties as well and is strongly recommended in Ayurveda for treating many health conditions. It helps in cases like stomach pain, arthritis, heart issues, flatulence, asthma, dysentery, and stomach spasm.

The black plum can be consumed raw or even enjoyed as a juice. The fruit is used in a variety of recipes such as smoothies and salads, while the seed can be consumed in powder form. Today, the leaves, bark, and fruit are used to make health supplements that are available in capsule and tablet form.

Harvesting

The ripe fruits are available during summer and disappear with onset of the monsoon. A Common method of harvesting is by shaking the tree and collecting the fruits by holding a big piece of cloth or canvas under the tree. The fruits cannot remain on the tree in the ripe stage and start dropping to the ground immediately after ripening. As a result, a considerable amount of fruit is damaged and become unfit for fresh consumption. It is unfortunate that no proper technique for harvesting jamuns has yet been developed.

Therapeutic value of Jamun seed

- Seeds contain an alkaloid Jambosine and glycoside jambolin or antimellin which halts the

diastatic conversion of starch into sugar (Morton, 1987).

- Seed extract has been reported to lower blood pressure by 34.60 per cent due to the presence of ellagic acid (Morton, 1987).
- Seeds are also rich in flavonoids and are well known antioxidants (Ravi *et al.*, 2004).
- Seeds are fairly rich in protein, calcium and other minerals also (Ayyanar and Babu, 2012).

Table 1: Average Nutritional composition (per 100g) of Jamun fruit

Carbohydrate	14.00 %
Protein	0.15-0.30 g
Fibre	0.30-0.90 %
Calcium	8.30-15.00 mg
Potassium	55.00mg
Magnesium	35.00mg
Phosphorus	15-16.20mg
Iron	1.20-1.60mg
Folic acid	3.00mcg

Table 2 : Physico-chemical composition of different types of Jamun

Parameter	Large seeded	Small seeded
Weight (g)	9.50	3.30
Seed (G)	18.58	36.36
Edible portion (%)	81.42	63.64
Juice (%)	57.75	49.42
TSS (°B)	15.00	11.42
Acidity (%)	1.44	01.60
Total Sugar (%)	013.16	08.40
Total anthocyanins (mg/100g)	179.00	242.5
Total tannins (mg/100g)	297.5	428.75

Table 3: Composition of Jamun seeds

Parameters	Quantity dry weight basis
Moisture (%)	40.86
Crude protein (%)	04.16
Extractable fat (%)	01.55
Ash (%)	02.16
Crude fiber (%)	01.28
Total carbohydrate (%)	90.85
Energy (Kcal/100g)	393.96
Starch (%)	29.20
Total dietary fiber (%)	40.38
Polyphone (mg/100g)	40.38

Health benefits of Jamun fruit

Jamun tree has a special mention in ancient Indian medicare system 'Ayurveda'. Different local folks are using its fruits, leaves and other parts of the tree to cure digestive, urinal

and other numerous ailments from ancient ages.

Power pack of nutrients

Jamun fruits are rich source of Iron, Vitamin C, Vitamins Bs, Magnesium, Calcium, Potassium and fructose. It is also rich in antioxidants and other beneficial alkaloids.

Boon for Diabetics

Jamun fruits are prescribed as a curative medicine for Diabetes Melitus and its complications. The Seed powder contains Jambolin which effectively lowers the blood sugar level and stimulate insulin formation. Therefore, in addition to ripe fruits, diabetic patients are suggested to take a spoonful powder of seed, leaf and bark mixture.

Diarrhoea and Gastric disorders

Local people use Jamun juice and Jamun Vinegar in folk medicines since time immemorial to cure gastric disorders particularly diarrhoea. It also solves problem of gastric ulcers and Spleen enlargement. Increases blood haemoglobin content as Jamun fruits are rich in anthocyanin, they supply Iron to our body which helps in haemoglobin formation.

Improves our immunity

Jamun is packed with different vitamins and micronutrients such as iron zinc, calcium and thus helps in overall strengthening of our immune system.



Improves skin health and prevents ageing

Jamun fruits are rich in Vitamin C which helps to boost skin health and thus reduces wrinkles and ageing

Helps in weight loss

Jamun is power packed nutritional fruit low in calories but rich in fibre. Thus, it strengthens our digestive system and ultimately helps in weight loss.

Rich in antioxidants

Jamun Fruits are rich in antioxidants, the compounds which help in protecting our cells.

Antioxidants remove free radicals from our body which disturbs the normal activities of our cell.

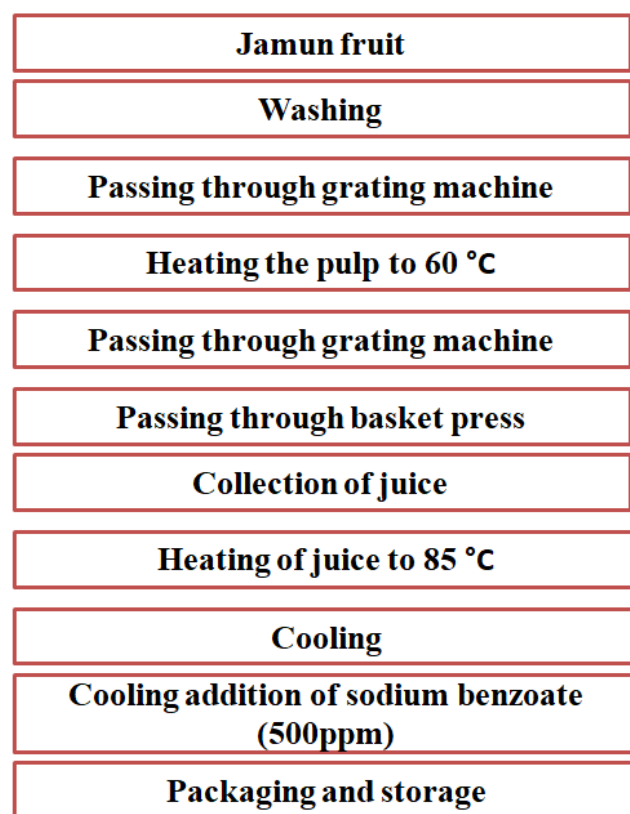
Jamun fruit and products

Jamun fruits are sweet in taste with slight astringent flavour. It is highly relished and fetches good price in market but lacks organized orchard production.

Extraction of Jamun juice

A method of extraction of Jamun juice with high level of anthocyanins and other soluble constituents has been standardized.

Fig 1: Process flow chart Jamun juice



Utilization of Jamun Juice

- Jamun juice can be processed into different types of beverages like RTS, nectar, syrup etc.
- A method of concentration of Jamun juice on lab scale has been standardized by Ramanjaneya (1985)
- Concentrate can be used by the beverage industries.

Conclusion

Jamun is traditionally used for the treatment of various diseases especially diabetes and related complications. With regard to the antineoplastic activities studies suggest that Jamun is selective in its

action in breast cancer cells. The effect of Jamun and its phyto-chemicals should also be investigated for its chemo preventive effects in other models of carcinogens, that includes chemical, radiation and viral carcinogenesis models.

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