



Jamun Cultivation: A Promising Fruit Crop for Health, Nutrition and Sustainable Farming

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Jamun (*Syzygium cumini* L.), commonly known as Indian blackberry, Java plum or black plum, is an important tropical and subtropical fruit crop belonging to the family Myrtaceae. It is widely grown in India and other South Asian countries. . The ripe fruits are used to prepare squashes, juices, jam, jelly, pickles and wine, etc. It is known for its anti diabatic properties. A little quantity of fruit syrup is much useful for curing the diarrhoea. The vinegar prepared from juice extracted from slightly unripe fruit is stomachic, carminative and diuretic, apart from having cooling and digestive properties.

Nutritional and medicinal importance

Jamun fruits are rich in carbohydrates, vitamins and minerals. Jamun possess a range of medicinal properties such as antibacterial, antifungal, antiviral, anti-genotoxic, anti-inflammatory, anti-ulcerogenic, cardioprotective, anti-allergic, anticancer, chemopreventive, radioprotective, free radical scavenging, antioxidant, hepatoprotective, anti-diarrheal, hypoglycemic and antidiabetic effects . The presences of anthocyanins, fibres and ellagitannins which are present in the pulp are important in reducing the oxidative stress-induced diseases. Jamun seeds and bark have been prescribed in Ayurvedic medicine for the treatment of diabetes and are also used as anti-inflammatory, antipyretic, astringent, and antidiarrheal agents.

Area and production

It is assumed that India is largest producer in global jamun production but the statistics is totally obscure. In India, Maharashtra is major jamun producer followed by Uttar Pradesh, Tamil Nadu, Gujarat and Assam. The jamun cultivation getting popularity in last one decade with release of new varieties and increased demand for various medicinal purposes.

Climate and Soil

Jamun can be grown successfully under tropical and subtropical climates. It is hardy and can tolerate both short periods of drought as well as heavy rainfall and can also withstand floods. It tolerates sodic and saline soils and can also be grown in ravines and degraded lands. Plants are reported to survive even in alkali soils up to pH10.5.

Varieties

Some of them are seedless, Round the year, PGR-9, BRH-1 etc. Most of the old plantations of jamun are seedling trees.

Main varieties with their salient characteristics

Konkan Bahadol: Fruits are large (25 to 28 g), pulp content(83.3%). On average per kg weight has 40 to 50 fruits.

Goma Priyanka: It is semi-dwarf, spreading growth habit, dense foliage with drooping branches, early, fruit weight 19.86 g, pulp-85.06 %, 16.8 Brix TSS.

Dhoopdal: Jamun variety from Belgaum district, selected for its large-sized sweet fruits.

Rajendra Jamun -1: Early , high yielding, TSS 18.200 Brix, acidity 0.31%, fruit weight 12.86 g with 88.40% pulp.

Narendra Jamun-6: oblong type, higher fruit weight and higher pulp: seed ratio

Propagation

Vegetative propagation is becoming popular in Jamun due is early fruiting and lower vigour of the plants and uniform fruit quality. Soft wood grafting is post popular.

Land preparation and Planting

It is usually spaced at 8 x 8 m or 6 x 6m in square system. The pits of 90 x 90 x 90 cm size are usually dug during summer months. Planting is done during the rainy season. The best time of planting is July-August.

Manures and fertilizers

Annual application of about 20 kg farmyard manure per tree during the pre-bearing period and 50 - 80 kg per tree to bearing trees is considered beneficial. For ten years and above Jamun plants are manured with FYM 50 kg/plant and 1250:500:500 ration of NPK are recommended.

Canopy management

Two systems of initial training, i.e., open centre, palmette system and Y shape, have been are under evaluation. The pruning of the trees at 7.5 and 10 ft height during October resulted higher yield of jamun under Maharashtra conditions.

Weed management

Intercropping and mulching may also be followed to control weeds and additional income.

Water management

Irrigation should be given sparingly and withholding water during the months of September-October and February - March. It helps in promoting fruit bud formation, blossoming and fruit setting.

Flowering, pollination and fruit set

The floral buds assumed a club shaped appearance by the first week of March, and the flowering started from the last week of March and continued up to the last week of April. The maximum fruit set (32.6 to 36.0%) was obtained when pollination was done one day after anthesis and thereafter, a sharp decline was observed in fruit set.

Fruit maturity and Harvesting

The fruits ripen in the month of June -July depending upon the variety and climate. The fruits are delicate and picked singly by hand and care should be taken to avoid any possible damages to fruits.

Post-harvest handling, Storage and processing

Jamun fruits can be stored up to 20 days at low temperature (4°C). Fruits are normally packed in bamboo baskets for transport to local markets. In high end markets, uniform fruits are organized into one kg cardboard paper boxes. Physiological loss in weight (PLW), shrivelling, discolouration and rotting were minimum when packed in bamboo baskets using green leaves as liner. Jamun fruits can be processed into jelly, jam, juice, squash, powder, dates/raisins, vinegar and wine. Jamun juice is highly acidic and cannot be consumed as such. A ready to serve beverage having up to 25 per cent juice can be prepared. Juice may also be either concentrated in open pan evaporator to 30°Brix or in a vacuum concentrator.