

Improved Varieties of Jamun (*Syzygium cuminii* Skeels)

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The jamun (*Syzygium cuminii* Skeels), a member of family Myrtaceae, is one of the most important potential fruits widely distributed throughout the tropics and subtropics. It is native to India or East Indies. In India, the maximum number of jamun trees is found scattered throughout the tropical and subtropical regions. It has gained tremendous importance and recognition in recent past not only because of its hardy nature but also for its incomparable medicinal and nutritional properties. Jamun has been attributed in the Indian folklore

medicine system to possess several medicinal properties (Inamdar, 2000). Its ripe fruits are eaten fresh and can be processed into various beverages like jelly, jam, squash, wine, vinegar, and pickles. Jamun fruit, with its spicy flavor, is a refreshing drink for summer. Its extracts have various pharmacological properties, including antibacterial, antifungal, antiviral, anti-inflammatory, cardioprotective, anti-allergic, anticancer, chemopreventive, radioprotective, free radical scavenging, antioxidant, hepatoprotective, anti-diarrheal, hypoglycemic, and antidiabetic effects.

Table 1. Species Distribution in The Country

| SN | Species | Common name | Distribution |
|-----|------------------------|---|---|
| 1. | <i>S. amottlanum</i> | Fruits edible | Western Ghats, The Nilgris, Palani and Anamalai hills |
| 2. | <i>S. aquem</i> | Watery Rose-apple, fruits edible | A small tree distributed in Assam and Meghalaya |
| 3. | <i>S. aromaticum</i> | Clove, dried flower buds commercially important | Evergreen trees cultivated in Tamil Nadu and Kerala |
| 4. | <i>S. claviflorum</i> | Fruits edible | The Andamans |
| 5. | <i>S. fruticosum</i> | Wild jamun | Avenue tree |
| 6. | <i>S. jambos</i> | Rose-apple | Many parts of India |
| 7. | <i>S. mappaceum</i> | Ornamental plant | Assam, Meghalaya, Arunachal Pradesh and Tamil Nadu |
| 8. | <i>S. samarangense</i> | Wax Jambu, Fruits edible | The Andamans and many parts of India |
| 9. | <i>S. zeylanicum</i> | Fruits edible | Maharashtra, Karnataka, Orissa, Kerala and Andamans |
| 10. | <i>S. javanica</i> | Water apple | South India and West Bengal |
| 11. | <i>S. zeylanicum</i> | Fruits edible | Western Ghats of India. |

***Syzygium cuminii* (Java plum, Jamun):** Large, evergreen beautiful tree of the Indian subcontinent but has also naturalized throughout Southeast Asia and the Pacific Islands. It is widely cultivated in Haryana as well as the rest of the Indo-Gangetic plains on a large scale. Fruits are generally ovoid to oblong in shape, deep purple or bluish in colour, having juicy, sweet pulp and a small stone.

***Syzygium jambos* (Rose apple):** Trees are medium, evergreen and grown in Assam, Bihar, Andhra Pradesh, Tamil Nadu, West Bengal, coastal areas of Maharashtra and Gujarat. Leaves have very small

petiole and calyx persistent. Fruits are light yellow-white in colour, rose scented and seeds are polyembryonic.

***Syzygium fruticosum*:** Trees are suitable for windbreak and have straight growth habit. Fruits are edible and small.

***Syzygium densiflora*:** Suitable for use as rootstock for *Syzygium cuminii*. It is resistant to termite's attack.

***Syzygium uniflora* (Surinam cherry/Pitanga cherry):** A small tree and bears small-sized fruits having bright red colour and aromatic flavor in south India.

CISH J-37: A superior accession selected at Central Institute for Subtropical Horticulture, Lucknow derived from the mother tree with a height of 12 – 15m, trunk girth 1.95 m, canopy spread E – W 14.10 m and N – S 12.70 m, yield 200 – 300 kg plant⁻¹ (about 45 years old) and mid-season maturity during the second week of June. The fruit is oblong and has average weight 24.05 g, length 3.90 cm, diameter 3.03 cm, pulp 92.26 per cent, TSS 16.4 °Brix, ascorbic acid 49.88 mg/100g and total antioxidant value 38.30 mg AEAC/g (Anon, 2007).

CISH J-42: Seedless accession selected by Central Institute for Subtropical Horticulture, Lucknow during 2008 from Chandauli district of U.P. It was multiplied by vegetative propagation and established in the field gene bank. The mother tree has a tree height 10 – 11.5 m, trunk girth 1.50 m, canopy spread E – W 10.20 m and N – S 11.70 m, yield 180 – 250 kg tree⁻¹ (about 65 years old tree) and mid-season maturity during the second week of June. The fruit is round shaped and has average weight 6.87 g, length 2.57 cm, pulp 97.9 per cent, TSS 14.7 °Brix, ascorbic acid 34.14 mg/100g and total antioxidant value 15.54 mg AEAC/g and has better shelf life (Anon, 2007).

Jamun GJ-2: It was collected from Ode village in Anand district of Gujarat. Peak period of flowering is in the month of March. It is an early type, matures in the fourth week of May; fruits are oblong shaped with an average 20.0 g fruit weight, 85.00 per cent pulp, 18.0 °Brix TSS, 0.38 per cent acidity, 12.50 per cent total sugars and 45.43 mg/100g ascorbic acid. Fruit yield per plant was 28.00 kg at seventh year of age.

Jamun GJ-8: The accession was collected from Ode village of Anand, Gujarat. The peak period of flowering is in the month of March. It is also an early type, fruit is oblong in shape and matures in the first week of June having 17.0 g average weight, 83.33 per cent pulp, 16.0 °Brix TSS, 0.40 per cent acidity, 11.20 per cent total sugars and 47.12 mg/100g vitamin C. The observed fruit yield per plant was 12.00 kg at sixth year of age.

Rajamun: It bears large-sized (length 2.5-3.5cm), oblong, deep purple fruits having purple pink, juicy and sweet pulp and small seed. Fruit matures in June-July.

A seedling selection Paras: It is a seedling selection which yields sweet fruits. Considerable tree variation exists in Pune and Ahmednagar districts of

Maharashtra. Extracts of stems, leaves, buds and flowers possess moderate antibiotic activity against *Micrococcus*.

Konkan Bahadoli: It is a seedling selection identified by RFRS, Vengurla. The average weight of fruit is 14 to 16 g with 16 °Brix TSS.

Thar Kranti: Thar Kranti, was developed at Central Horticultural Experiment Station, Vejalpur (Godhra), Gujarat, and released by Central Institute for Arid Horticulture, Bikaner in 2016. semi-spreading growth habit and is precocious bearer which starts flowering during third year. It is early maturing with high pulp and TSS content and suitable for high-density planting.

Goma Priyanka: high yield, high pulp content, and small stature, making it ideal for high-density planting. Goma Priyanka, a popular variety among farmers, is known for its high yield (50-70kg/tree 10th year onwards, high pulp content (85-90%), less seed weight, prolific and regular bearer comparatively small in stature, making it ideal for high-density planting. It has expanded beyond Gujarat to Rajasthan, Karnataka, Madhya Pradesh, Chhattisgarh, Tamil Nadu, Maharashtra, Haryana, Punjab, Uttar Pradesh, and Andhra Pradesh.

AGJ-85: AJG-85 was developed at the **Kittur Rani Channamma College of Horticulture, Arabhavi, Karnataka, India**. AJG-85 has oblong, round fruits that are deep purple or bluish in color. The fruits are juicy with sweet pulp and contain a single seed. This variety has shown a high pulp-seed ratio, with the pulp content being around 89.18%. The fruit weight is approximately 15.44 grams, with a pulp weight of 13.23 grams

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