



Hidden Treasure of Horticulture -The Underutilized Fruit Crops

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Under-utilized fruit crops represent a hidden treasure within horticulture, possessing immense potential for nutritional security, climate resilience and rural livelihood management. Despite their nutritional composition, medicinal value and adaptability to marginal environments, many indigenous and lesser-known fruit species remain neglected in mainstream production and marketing systems. Fruits such as Bael, Jamun, Phalsa, Karonda, Wood apple, Passion fruit and Barbados cherry are rich sources of vitamins, antioxidants, minerals and bioactive compounds that contribute significantly to human health. Many of these fruits have been part of indigenous food system for centuries supporting rural communities with food and health security. While fruits like mango, banana, and citrus dominate our orchards, several lesser-known fruit crops remain hidden treasures of horticulture. These underutilized fruits are rich in nutrients, climate resilient and economically promising. Promoting the cultivation, conservation and commercialization of underutilized fruit crops can strengthen food, nutritional security. Furthermore, value addition and processing of these fruits can create employment opportunities and strengthen rural economies. The following underutilized fruit crops hold immense potential in horticulture and deserve greater attention due to their nutritional richness, adaptability and economic prospects.

- Barbados cherry
- Bael
- Jamun
- Passion fruit

Barbados cherry: Nature's vitamin C powerhouse

Barbados cherry or West Indian Cherry or Acerola, botanically known as (*Malpighia emarginata* DC.) belongs to the family Malpighiaceae, and native of West Indies and parts of Central and South America. In India it is grown in Tamil Nadu and Kerala. The fruits are small, weighs about 4-5g/ fruit, contain high percentage of vitamin C (4515mg/100g) compared to commonly cultivated fruits. Fruit contains vitamin A, iron, calcium and rich in antioxidants & anthocyanins. It acts as natural antioxidant and protecting cells from damage. The fresh ripe fruits are used for making jams, murabbas, candies, syrups, juices and pickles. Barbados cherry is a bushy shrub which reaches about 2-4m and it is also grown as ornamental plant by regular pruning. The flowers are small and pink to white in colour, having five petals. Flowering can occur throughout the year. Fruits are round to obovate, cherry like but with 3 lobes. Fruits are bright red in colour rarely yellow orange. The pulp is juicy, sweet and sour in taste. It is suitable for tropical and subtropical climates. Barbados cherry propagated through seeds, cuttings and air-layering. By compact growth and early bearing make the plant grown for terrace gardens and small spaces. Barbados cherry stands as true jewel of the underutilized fruit crops by its richness of vitamin C. With increasing awareness about immunity and natural health boosters, barbados cherry is emerging as a

promising functional fruit crops for future. Promoting its cultivation not only strengthens nutritional security but also opens new avenue for sustainable horticultural development.



Bael: Sacred fruit with healing power

Bael is botanically called as *Aegle marmelos* belongs to family Rutaceae, originated in India and commonly known as Indian quince, sirphal and stone apple. Bael is one of the most valuable yet underutilized fruit crops of India. Bael is deeply associated with Indian culture and is considered sacred to Lord Shiva, as its leaves (bilvapatra) are traditionally offered in temples. It can perform well in tropical and subtropical conditions and thrives well in dry and arid areas where many other fruit crops fail. States like Uttar Pradesh, Bihar, Madhya Pradesh, and parts of South India cultivate it on a commercial scale. Bael is a medium-sized, deciduous and hardy tree with trifoliate aromatic leaves. The fruits are round to oval shape with a hard woody shell. The pulp inside is yellow to orange, sweet, aromatic. Bael fruit is rich in vitamin C, A, and minerals like calcium and phosphorus. Bael leaves are useful to cure jaundice and the treatment of wounds. It is well known in traditional medicine systems like ayurveda for treating digestive disorders diarrhoea and dysentery. Bael species act as a climate purifier by absorbing poisonous gas from the atmosphere. It is propagated through seeds, budding, or grafting. Bael is processed into juice, squash, sherbet, jam, candy and toffee. Bael stands as shining example that our indigenous fruits are powerful guardians of health and wellness.



Jamun: The purple superfruit of India

Jamun (*Syzygium cumini*), also known as Indian blackberry or Java plum, is a nutritious and medicinally important fruit crop of India. It belongs to the family Myrtaceae and is widely grown in tropical and subtropical regions. Jamun is native to India and Southeast Asia. It grows widely across states such as Uttar Pradesh, Maharashtra, Tamil Nadu, Karnataka, and Andhra Pradesh. In India jamun grown as avenue tree. It is tall and evergreen tree with height of 25m. The tree is hardy and commonly seen along roadsides, in forests, and in homesteads. Fruits are oblong berries, deep purple to black when ripe. Jamun is deeply rooted in Indian culture and is mentioned in ancient texts and traditional medicine systems like Ayurveda. Jamun is rich in iron, vitamin C and A, calcium antioxidants and anthocyanins (which give the purple colour). Every part of the tree such as fruit, seed, bark, and leaves have medicinal

value. Big fruited jamuns are used for table purpose whereas small fruited ones are used for processing as they have more acrid taste, tannin content and also anthocyanin pigment. Helps in managing blood sugar levels, improves digestion, purifies blood, useful in curing anaemia due to high iron content. Jamun seeds are also used in traditional medicine for their anti-diabetic properties. Jamun fruits are used in fresh consumption, juice, squash, wine and jam. Jamun stands as a good example of how our traditional fruits are true treasure of nutrition.



Passion Fruit: The aromatic superfruit of tropics

Passion fruit (*Passiflora edulis*) is a fast growing tropical vine known for its exotic aroma, refreshing taste and good nutritional value. It belongs to the family Passifloraceae, grown mostly in tropical and sub-tropical regions. In India passion fruit is cultivated in Munnar and Waynad regions of Kerala, Nilgiri hills and Kodaikanal area in Tamil Nadu and in Kodagu region of Karnataka. Nowadays its cultivation is rapidly spreading in Mizoram, Nagaland, Manipur and Sikkim. It is a perennial, woody climbing vine that bears round to oval fruits. The fruits have a thick, smooth, waxy rind that may be dark purple or yellow, often marked with tiny white speckles. Inside, the fruit contains bright orange, juicy pulp filled with numerous small, hard, dark brown to black seeds. Known for its distinctive flavour and pleasant aroma, the fruit is highly valued for its nutritional richness and medicinal benefits. Passion fruit is rich in Vitamin C, A and antioxidants which protect against cellular damage. Its pulp has a unique sweet-tangy flavour that makes it highly desirable for juices and desserts. Consumption of passion fruit strengthens immunity, improves digestion, supports heart health and promotes healthy skin. The fruit is increasingly recognized as a functional food due to its antioxidant and anti-inflammatory properties. Passion fruit has high demand in juice and beverage industries. With increasing consumer preference for exotic and nutritious fruits, passion fruit is emerging as a promising crop for diversification and income generation.

