

Burmese grape (*Baccaurea ramiflora*) of Tripura: A hidden gem of northeast India's exotic fruit diversity

In the diverse landscape of Indian agriculture, one can find a myriad of fruits that tantalize the taste buds and reflect the country's rich biodiversity. Among these, Burmese grape (*Baccaurea ramiflora*), an underutilized and underexploited valuable fruit crop, stands out as a lesser-known yet fascinating addition. Locally known as 'Lotkon,' 'Bubi' or 'Kusumai,' the Burmese grape has found a niche in Tripura, noteworthy for its abundant natural bioactive compounds that offer diverse health benefits. It is known for its sweet taste, juicy pulp, and high-water content. In Tripura, the Burmese grape holds significant economic, nutritional, and cultural value, playing a vital role in the region's agricultural landscape.

Origin and distribution

The Burmese grape, also known as *Mafai* in Hindi and other regional languages, belongs to the family Phyllanthaceae and is native to Southeast Asia, including Myanmar (Burma). It is distributed along the sub-Himalayan tract, mainly from Nepal to Sikkim, Darjeeling hills, Arunachal Pradesh, Assam, Tripura, Manipur, Nagaland, Bhutan, Peninsular Malaysia, Tibet, and the Andaman and Nicobar Islands, chiefly in the moist tropical forests. In Tripura, most of the cultivation of Burmese grapes is done in backyard plantations or as a forest crop. However, the climate and soil conditions of Tripura are favourable to its growth, providing the necessary warmth and moisture for the fruit to thrive, allowing it to be cultivated on a larger scale. It is extensively found in all the eight districts of Tripura and has a high demand in the local market due to its unique flavour and taste. Although there is no organised plantation of this fruit, it holds great potential to serve as a remunerative option for the growers of the state.

Flowering and fruiting

Baccaurea ramiflora has a cauliflory-bearing habit, and its flowers appear in clusters. The flowers are yellowish, small, dioecious, apetalous,

and arranged in raceme panicles. Flowering starts in mid-March and continues until April. In Tripura, fruiting starts in mid-April. Immature or young fruits are green in colour. On maturity, fruits are round to oval in shape, yellow or yellowish-brown in colour, and velvety with a leathery pericarp. Fruits are available in the market from June to August.

Appearance and flavour

Visually, the Burmese grape resembles a cluster of small, round fruits that grow in bunches similar to grapes, hence its name. The fruit is a berry with a white, leathery pericarp that turns yellow-orange when ripe. The edible portion is the aril, containing 3-4 seeds embedded within pinkish-white pulp. The fruit has a diameter of 2-3 cm. Its flavour is a delightful blend of sweet and slightly tangy, often compared to a mix of mango and grape, with a hint of tartness that enhances its appeal.



Cauliflorous bearing of Burmese grape fruits found in backyards of Tripura

Nutritional value

Nutritionally, the Burmese grape offers a range of health benefits. The fruits are eaten raw when ripe or fermented to make wine. The fruit has an appropriate ratio of sodium and potassium, along with vitamin C, which can help



Cross section of Burmese grape of Tripura

in the prevention of several non-communicable diseases. It is also rich in iron, which can help reduce anaemia, a condition with a high prevalence in India. The presence of a higher amount of magnesium in the fruit can help maintain nerve electrical impulses and also act as an activator for several enzymes. However, this important underutilized fruit crop remains largely unexplored for commercial cultivation, and standardization for its scientific cultivation is still lacking. Additionally, the leaves, bark, roots, and seeds all have health benefits, making the entire plant therapeutic. Moreover, its dietary fibre content aids digestion, making it a wholesome addition to the diet.

Culinary uses and regional delicacies

In Tripura, the Burmese grape is used in various culinary preparations. It is commonly consumed fresh as a refreshing snack, especially during the fruiting season. Locals also use it to make jams, preserves, and fruit juices, harnessing its natural sweetness and unique flavour profile. In some regions of Nagaland, the fruit is even fermented to produce a local alcoholic beverage known as 'zu' or 'zutho', adding to its cultural significance.

Cultural and economic impact

Beyond its culinary appeal, the Burmese grape holds cultural significance in local traditions and festivities. Its cultivation provides livelihood opportunities for farmers in the northeastern states, contributing to rural economies and promoting sustainable agricultural practices. Moreover, the fruit serves as a symbol of biodiversity conservation efforts, highlighting the importance of preserving native



Fresh fruits of Burmese grape being sold in railway platforms and local markets of Tripura

species in the face of environmental challenges. In Tripura, these fruits are available in the market from the onset of the monsoon, sold at a minimum price of ₹100 per kg.

Challenges and future prospects

Despite its popularity in certain regions, the Burmese grape faces challenges such as limited awareness outside its native areas and vulnerability to pests and diseases. Efforts are underway to promote its cultivation and introduce it to wider markets within India and beyond, aiming to elevate its status from a regional specialty to a recognized exotic fruit. This crop can become an important part of the primary sector in Tripura, contributing to the growth of the state's economy.

SUMMARY

The Burmese grape enriches India's agricultural diversity with its distinctive flavour, nutritional benefits, and cultural significance. As awareness grows and efforts to promote its cultivation expand, this exotic fruit promises to carve out a niche in the global market, offering a taste of India's rich natural heritage to enthusiasts worldwide. Whether enjoyed fresh, used in culinary creations, or featured in traditional festivities, the Burmese grape continues to captivate and inspire, embodying the essence of India's agricultural tapestry.

For further interaction, please write to:

Dr Panchaal Bhattacharjee (Agriculture Officer), Department of Agriculture and Farmers' Welfare, Government of Tripura.
*Corresponding author email: panchaal94@gmail.com

Movable screens in rose production

- Use movable screen, an important tool for rose cultivation.
- It can help growers manipulate environment conditions — lowers temperature, changes humidity and influences production numbers.
- The movable screens can be used year-round and in a variety of climates — from the Netherlands to India.