

Nutritional Importance and Medicinal Properties of Burmese Grapes

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Abstract

The goal of this article is to examine the underutilized Burmese grape (*Baccaurea ramiflora*), which is an excellent food crop cultivated in the northeast of India. In spite of having these berries is used in a variety of culinary dishes and regional specialties. It stands out for having a wealth of naturally occurring bioactive compounds that have a variety of health advantages. These naturally occurring compounds have shown cytotoxic, anti-inflammatory in nature anti-obesity, and antidiabetic effects. Due to the fruit's high mineral content and antioxidant qualities, many non-communicable diseases can be effectively eradicated at a relatively low cost. Omega-9 fatty acids and other commercially significant fatty acids are present in seed oil. Therefore, it is necessary to draw attention to and promote the economic potential of this underappreciated fruit. Through research and development, it can help create wealth and reduce poverty in areas with abundant biodiversity.

Introduction

Burmese grape (*Baccaurea ramiflora* Lour.) is an underutilized fruit crop growing primarily in backyard plantations and as a forest plant in the Euphorbiaceae family (Raghavan and Ramjan 2018). *B. ramiflora* is grown in the foothills of the Himalayas (Nepal to Sikkim), the northeastern states of India (Assam, Tripura, and Arunachal Pradesh), and the southern part of the country (the Andaman and Nicobar Islands). It is also found in neighboring nations, mostly in tropical moist forests, such as Bhutan, Tibet, Burma, Thailand, Peninsular Malaysia, Vietnam, Laos, and Cambodia. (Sundriyal & Sundriyal, 2003). The hard, long-lasting timber of *B. ramiflora* is frequently used to make furniture, and its fruit is one of the most valuable nutritional sources for humans. It is a short to medium-sized, evergreen plant

with slow growth. The fruit is referred to locally as "Latka," "Latkan," "Lotko," or "Notko." It is primarily consumed as fresh fruit and has a mild acidity. The tree is an evergreen, dioecious plant that prefers shady situations.

Its approximate contents are as follows: 35.6% water, 51.9% carbohydrates, 5.58% protein, and 20.4% fibre. For every 100g of fruit pulp, the fruit contains an abundance of magnesium (504 mg), potassium (730 mg), phosphorous (132 mg), and iron (100 mg). It contains a significant amount of ascorbic acid, which contributes to its antioxidant properties.

Health Benefits of Burmese grapes

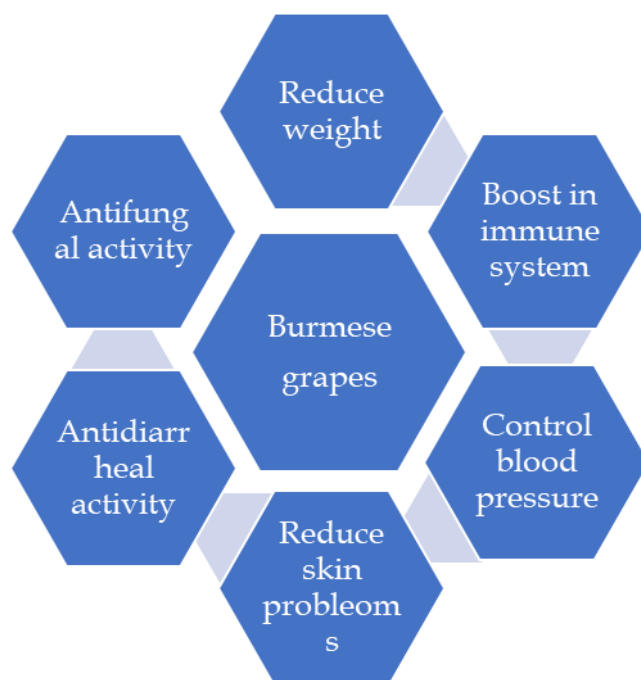


Fig 1: Health benefits of Burmese grapes

1. Boost immune system: It has excellent antioxidant qualities and is abundant in different phytochemical substances, such as phenolic compounds. By lowering low-density lipids (LDL) and raising high-density lipids (HDL) cholesterol, which help prevent the buildup of plaque in arteries that can result in a heart attack or stroke, omega-9 fatty acids can help lower the

chance of cardiovascular disease and stroke. The fruit



are rich in ascorbic acid.

Fig 2 & 3: Fruit of B. Grapes and Seed of B. Grapes

2. Control blood pressure: *B. ramiflora* is a rich source of numerous vital macro- and micronutrients that support and sustain a typical, healthy lifestyle. Potassium contains a significant mineral in a very high concentration (730 mg). Clinical studies have shown that potassium is a very useful mineral for reducing blood pressure and managing heart-related issues like cardiac arrest (Rohilla, S. 2023).

3. Glowing skin: Burmese grapes are incredibly high in vitamin C content. Fruits naturally contain acid. One of the most potent antioxidants is vitamin C. These goods give you really glossy skin.

4. Reduce weight loss: Burmese grapes are low in calories and can help people lose weight. It reduces the urge to eat and makes your stomach feel fuller. To treat baldness, apply leaf juice to the scalp for 21 days. The plant's leaf juice works wonders for treating febrifuge, edema, alopecia, and subacute liver enlargement cases.

5. Antifungal activity: After three picrotoxin sesquiterpenes were extracted from the berries, antifungal activity was demonstrated by all three compounds, with the lowest inhibitory concentrations being 12.5, 12.5, and 50 mg/ml. (Pan *et al.*, 2015). This fruit's pulp has a good amount of vitamin C (178 mg/100 g), which is well-known for its antifungal and anti-browning properties (Haque *et al.*, 1970).

6. Antidiarrheal activity: Burmese grape seeds and pulp can lower the test animal's risk of diarrhoea by 63.03% and 59.7%, respectively, of the extracts. Over the course of four hours, there is a decrease in the test animals' feces.

Conclusions

Fruit pulp has a sour and sweet combination that the food processing and brewing industries can market. The fruit is high in minerals and a good source of vitamin C, which has been shown to have antioxidant properties. These qualities can help eradicate many non-communicable diseases in a very economical manner. Seed oil can also be extracted and commercially exploited due to the presence of omega-9 fatty acids as well as other commercially important fatty acids in it. As a result, it is necessary to promote and highlight the economic potential of this underutilized fruit, as well as to aid in the conservation of bio resources.

Future prospects

Burmese grapes are very nutritious underutilized fruit and rich in bioactive compounds. These fruits are highly potential to medicinal properties. In future development of a proper package and practices of fruits because North eastern region is rich in diversity and very valuable fruit crops.

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