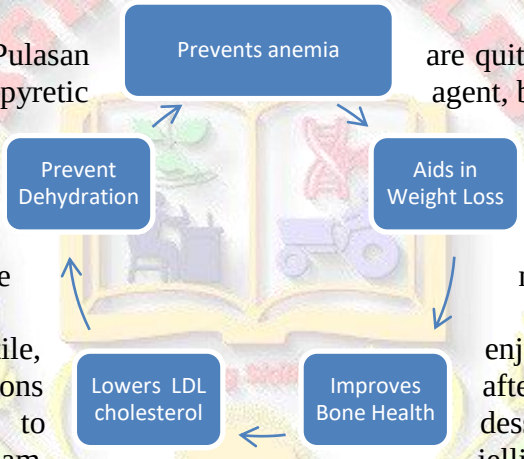
Agri Articles
(e-Magazine for Agricultural Articles)
Volume: 03, Issue: 06 (NOV-DEC, 2023)
Available online at http://www.agriarticles.com
©Agri Articles, ISSN: 2582-9882

Pulasan: The Exotic Jewel of Tropical Fruits

(*Arti Dhakad)
Asst. Professor, Institute of Agriculture Science, SAGE University, Indore
*Corresponding Author's email: artidhakad0123@gmail.com

Pulasan, scientifically known as Nephelium mutabile, is an exotic fruit closely related to the rambutan and lychee. Native to Malaysia, Thailand, and other Southeast Asian regions, it shares similarities in appearance with the rambutan but has thicker skin covered in hairy spines. The fruit's flesh is translucent, sweet, and juicy, with a flavor often likened to a combination of grapes and lychees. Pulasan trees thrive in tropical climates and are cultivated for their delectable fruits, although they're not as widely grown or commercially popular as some other tropical fruits.

Health Benefits



The health benefits of Pulasan are quite impressive. It acts as an anti-diabetic and anti-pyretic agent, boosts the immune system, aids in reducing fat, and contributes to hydration. Its richness in antioxidants like flavonoids and polyphenols helps combat chronic diseases, while the leaves and roots hold more medicinal properties compared to the fruits.

Pulasan is versatile, enjoyed fresh or utilized in various culinary applications after freezing or drying. It adds a delightful flavor to desserts such as ice cream, puddings, preserves, jam, jellies, and sauces. The seeds contain edible oils used for a cocoa-like beverage, and the extracted seed oil finds uses in lamps and soaps, showcasing the plant's multi-purpose utility.

Botany

A different structure and the ovule displays a form of curved line. In addition, the fruit of the pulasan tree appears similar to that of the rambutan, though it is generally larger, measuring around 4-7 cm in diameter. The fruit's exterior skin exhibits a bright green to yellowish-brown color, covered with soft spines or tubercles. Upon ripening, the skin becomes reddish, and the spines soften, revealing the delicious, sweet, and translucent flesh inside, encompassing the seed.The pulasan's fruit is distinct in its round to ovoid shape, measuring around 5-7.5 cm in length. Its textured peel, often red, purple, or yellow, contributes to its unique appearance. The inner pulp, typically white or slightly yellowish, boasts a translucent quality, offering a juicy, sweet, and fragrant taste experience. This delightful combination of attributes—size, colorful peel, and flavorful pulp—makes the pulasan fruit visually appealing and a delectable treat for those who enjoy its juicy

sweetness.This detailed description provides insight into the pulasan tree's botanical characteristics, including its size, leaf structure, flower morphology, reproductive system, and fruit appearance. It showcases the uniqueness of pulasan in its growth, reproduction, and fruit development, highlighting similarities and differences with related plants like the rambutan.

Ecophysiological Requirements

Pulasan thrives in tropical climates, specifically in highly humid areas situated at elevations ranging from 360 to 1,150 feet. Interestingly, in the region of Malaya, it's believed that the tree yields its highest abundance of fruit after a prolonged drought. However, it's important to note that it's sensitive to extreme high temperatures typical of some tropical regions.For optimal growth, the soil pH should ideally range between 5 and 6, with a rich organic matter content. Adequate annual rainfall of at least 200 cm is required to support the pulasan tree's growth and fruit production. These ecophysiological requirements underline the specific environmental conditions necessary for cultivating pulasan successfully.

Pollination

Pulasan trees are typically pollinated by insects, especially bees. Their flowers rely on these insects to transfer pollen between the male and female parts of the flower, allowing the fruit to develop. The process is quite similar to that of other tropical fruit trees like rambutan or litchi.

Nutrient Management

Nursery beds for rootstock/seedlings; Use 20:2:20 N, P_2O_5, K_2O, micronutrients. Weekly 1g/L foliar and soil application. Polybags for transplanting 20:2:20 N,P_2O_5, K_2O, micronutrients, 10g every 2 months.

Irrigation

Regularly water young plants trees until established. Mature trees in dry western climates need deep watering every 1-2 weeks. Mulch around trees to maintain soil moisture.

Harvesting and Yield

The primary and secondary fruiting seasons are from July to November and March to July respectively. The fruit bunch is picked in bunches when the majority of fruits have changed from green to red or yellow. Fruit yield is around 150kg/tree.

References

1. Aruoma O.I. Free radicals, oxidative stress, and antioxidants in human health and disease. *J. Am. Oil Chem. Soc.* 1998;75:199–212. doi: 10.1007/s11746-998-0032-9.
2. Chunglok W., Utaipan T., Somchit N., Lertcanawanichakul M., Sudjaroen Y. Antioxidant and Antiproliferative Activities of Non-Edible Parts of Selected Tropical Fruits. *Sains Malays.* 2014;43:689–696.
3. Ascacio-Valdés J., Mendez-Flores A., Hérnandez-Almanza A., Sáenz-Galindo A., Morlett-Chávez J., Aguilar C.N. Ultrasound-assisted extraction of antioxidant polyphenolic compounds from *Nephelium lappaceum* L. (Mexican variety) husk. *Asian Pac. J. Trop. Med.* 2018;11:676. doi: 10.4103/1995-7645.248339.
4. Augustin M.A., Chua B.C. Composition of Rambutan Seed. *Pertanika.* 1998;11:211–215.
5. Manaf Y.N., Marikkar N., Long K., Ghazali H. Physico-Chemical Characterisation of the Fat from Red-Skin Rambutan (*Nephellium lappaceum* L.) Seed. *J. Oleo Sci.* 2013;62:335–343. doi: 10.5650/jos.62.335.