PLANT FACT SHEET

Borassus flabellifer L.

GENUS *Borassus* **FAMILY** Arecaceae

COMMON NAMES Wine palm, Palmyra Palm

EDIBLE PARTS AND USES

Edible parts: Sap, Seeds, Cabbage, Flower spikes, Fruit, Palm heart, Stem - starch

The flesh and the water of the fruit are edible. They can be eaten fresh or made into ice-cream.
Edible starch can be extracted from the stem. The palm heart is edible.
The palm can be tapped for sugary sap. This can be drunk, boiled and concentrated or fermented.
The seeds are germinated and the young shoots eaten. The swollen storage leaf is eaten either as flour or boiled and dried.
CAUTION: The palm hearts have been shown to be toxic to rats even when cooked.

DESCRIPTION

A small evergreen palm. It grows to 10-20 m tall. It can be 40 m high. It spreads to 5 m across. The stem is stout and it may be 1 m across. It is often swollen at the base. It has a crown of leaves shaped like the fingers on a hand or spreading out like a fan. There can be 30-40 of the fan like leaves at the crown. The leaves are large with short stout leaf stalks. There can be 80 slender leaflets which are pointed, folded and rich green. Younger trees are covered with dead leaves or leaf bases. Leaves can be 1-2 m across. The flowers occur in flower stalks up to 1.5 m long. The male and female flowers occur in different trees. The females spikes are larger and have a boat shaped spathe. The fruit are borne in bunches like coconuts. The fruit are 10-12.5 cm across and slightly flattened at the ends. They have dark purple skin. Green bracts occur at the base. Each fruit has 3 seeds. The flesh resembles the flesh of a coconut.

HABITAT

A tropical plant. It prefers a well drained soil. It needs a protected sunny position. It is drought and frost tender. Seed need to have a temperature of 24-29°C to grow. Trees need a temperature above 15-18°C. It does better in the drier tropics than in the humid tropics. It grows in seasonally wet and dry areas up to 500 m above sea level. Trees are very sensitive to cold. In Townsville palmetum. It suits hardiness zones 11-12.

PRODUCTION

Cultivation

Plants are grown from seed. Seed take 2-6 months to germinate. Seedlings are difficult to transplant so seed should be sown where they are to grow. To extract the sap, male flower stalks give more sap than female. The unopened flower stalk is tied with a string then banged with a mallet for short times over 3 days before the end being sliced off and the sap collected. A small slither is cut off the end each day to keep the sap flowing.

Harvesting and Seed Production

One flower stalk can yield 2 litres per day of sap. One person can tap 30 trees per day. Each flowering stalk will yield for about 3 months. Tapping normally begins when a palm is 20 years old but then may continue for 30 years. A single palm can yield 100,000 litres of palm wine over a 40 year lifespan. The fruit matures in 120 days.

NOTES

There are 7-10 Borassus species.

PICTURES



Credit: Food Plants International (Bruce French)



Credit: Food Plants International (Bruce French)



Credit: Food Plants International (Bruce French)



Credit: Food Plants International (Bruce French)

REFERENCES

Ambasta, S.P. (Ed.), 2000, The Useful Plants of India. CSIR India. p 77

Anderson, E. F., 1993, Plants and people of the Golden Triangle. Dioscorides Press. p 204

Arinathan, V., et al, 2007, Wild edibles used by Palliyars of the western Ghats, Tamil Nadu. Indian Journal of Traditional Knowledge. 6(1) pp 163-168

Arora, R. K., 2014, Diversity in Underutilized Plant Species - An Asia-Pacific Perspective. Bioversity International. p 101

Ashton, M. S., et al 1997, A Field Guide to the Common Trees and Shrubs of Sri Lanka. WHT Publications Ltd. p 78

Bajpai, O., et al, 2015, Tree species of the Himalayan Terai region of Uttar Pradesh, India: a checklist. Check List 11(4): 1718

Balick, M.J. and Beck, H.T., (Ed.), 1990, Useful palms of the World. A Synoptic Bibliography. Colombia p 79, 121, 189, 246, 315, 464, 511, 515, 562, 614,

Balick, M.J. and Beck, H.T., (Ed.), 1990, Useful palms of the World. A Synoptic Bibliography. Colombia p 215, 216, (As Borassus sundaicus)

Bandyopadhyay, S. et al, 2009, Wild edible plants of Koch Bihar district, West Bengal. Natural Products Radiance 8(1) 64-72

Bandyopadhyay, S., et al, 2012, A Census of Wild Edible Plants from Howrah District, West Bengal, India. Proceedings of UGC sponsored National Seminar 2012

Bayton, R. P., 2007, A Revision of Borassus L. (Arecaceae) Kew Bulletin, Vol. 62, No. 4, pp. 561-585

Bircher, A. G. & Bircher, W. H., 2000, Encyclopedia of Fruit Trees and Edible Flowering Plants in Egypt and the Subtropics. AUC Press. p 61

Blench, R., 2004, Fruits and Arboriculture in the Indo-Pacific Region. Indo-Pacific Prehistory Association Bulletin 24. (Taipei Papers Volume 2) p 35

Bodkin, F., 1991, Encyclopedia Botanica. Cornstalk publishing, p 154

Bole, P.V., & Yaghani, Y., 1985, Field Guide to the Common Trees of India. OUP p 85

Bouri, T. & Ganguly, S., 2016, Documentation of traditional knowledge on edible wild plants of forests in Burdwan district, West Bengal (India). Journal of Medicinal Plants Studies 2016; 4(5): 35-38

Brickell, C. (Ed.), 1999, The Royal Horticultural Society A-Z Encyclopedia of Garden Plants. Convent Garden Books. p 183

Brouk, B., 1975, Plants Consumed by Man. Academic Press, London. p 203, 365

Burkill, I.H., 1966, A Dictionary of the Economic Products of the Malay Peninsula. Ministry of Agriculture and Cooperatives, Kuala Lumpur, Malaysia. Vol 1 (A-H) p 350

Chakraborty, S. & Chaturbedi, H. P., 2014, Some Wild Edible Fruits of Tripura- A Survey. Indian Journal of Applied research. (4) 9

Chandewar, N.G. & Chandewar, R., 2023, Exploration, Documentation and Ethno-botanical Studies of Wild Edible Plants of Mogarkasa Conservation Reserve (MCR) of Nagpur District, Maharashtra State. International Advanced Research Journal in Science, Engineering and Technology Vol. 10, Issue 5 May 2023

Chiang Mai University Vol. 4 , 1964, bio1080uu, Table 6 p 84

Chauhan, S. H., et al, 2018, Consumption patterns of wild edibles by the Vasavas: a case study from Gujarat,
India. Journal of Ethnobiology and Ethnomedicine (2018) 14:57

Chin, H.F., & Yong, H.S., 1996, Malaysian Fruits in Colour. Tropical press, Kuala Lumpur p 41

Chowdery, T., et al, 2014, Wild edible plants of Uttar Dinajpur District, West Bengal. Life Science Leaflets. 47:pp 20-36
http://lifesciencesleaflets.ning.com

Chowdhury, M. & Mukherjee, R., 2012, Wild Edible Plants Consumed by Local Communities of Maldah of West Bengal, India. Indian J.Sci.Res.3(2) : 163-170

Coronel, R.E., 1982, Fruit Collections in the Philippines. IBPGR Newsletter p 9

Cowie, I, 2006, A Survey of Flora and vegetation of the proposed Jaco-Tutuala-Lore National Park. Timor-Lests (East Timor) www.territorystories.nt/gov.au p 43

Cruz-Garcia, G. S., & Price, L. L., 2011, Ethnobotanical investigation of 'wild' food plants used by rice farmers in Kalasin, Northeast Thailand. Journal of Ethnobiology and Ethnomedicine 7:33

Cundall, P., (ed.), 2004, Gardening Australia: flora: the gardener's bible. ABC Books. p 243

Cundall, P., (ed.), 2004, Gardening Australia: flora: the gardener's bible. ABC Books. p 243 (As Borassus sundaicus)

Das, S. and De, B., 2013, Evaluation of Angiotension I-Converting Enzyme (ACE) inhibitory potential of some underutilized indigenous fruits of West Bengal using an in vitro model. Fruits, Vol. 68:499-506

Dobriyal, M. J. R. & Dobriyal, R., 2014, Non Wood Forest Produce an Option for Ethnic Food and Nutritional Security in India. Int. J. of Usuf. Mngt. 15(1):17-37

Dransfield, J., 1976, Palm sugar in East Madura. Principes 20(30):83-90 (As Borassus sundaicus)

Etherington, K., & Imwold, D., (Eds), 2001, Botanica's Trees & Shrubs. The illustrated A-Z of over 8500 trees and shrubs. Random House, Australia. p 134

Etherington, K., & Imwold, D., (Eds), 2001, Botanica's Trees & Shrubs. The illustrated A-Z of over 8500 trees and shrubs. Random House, Australia. p 134 (As Borassus sundaicus)

Facciola, S., 1998, Cornucopia 2: a Source Book of Edible Plants. Kampong Publications, p 27

Flora of Pakistan. www.eFloras.org

Full reference list (66 more) at https://www.echocommunity.org/en/resources/c4a31e81-6b53-4413-adbe-cd7108589fc9

PROVIDED BY **Food Plants International**

French, B.R. & Maynard, A.R. Food Plants International Database. Food Plants International

LICENCE CC BY-NC-SA 3.0

ONLINE FACT SHEET https://www.echocommunity.org/en/resources/c4a31e81-6b53-4413-adbe-cd7108589fc9