PLANT FACT SHEET

Morinda citrifolia L.

GENUS *Morinda* **FAMILY** Rubiaceae

COMMON NAMES Indian mulberry, Noni

EDIBLE PARTS AND USES

Edible parts: Fruit, Leaves, Vegetable

The young leaves are cooked as a vegetable or pot herb. They are also blanched and eaten raw.
The ripe fruit can be eaten raw or cooked. It is often eaten with salt. Green fruit are curried.
The ripe fruit are made into a drink with sugar and syrup. It is also used in marinades, sauces and dressings.
The seeds of some forms are roasted and eaten.
(Red, yellow and brown non edible dyes are obtained from the root.)

DESCRIPTION

A small evergreen tree. It grows 4-10 m tall and spreads 2-6 m wide. The branches are thick and somewhat 4 angled. It has large oval leaves which grow opposite each other along a four sided shiny branch. The leaves have a small leaf like appendage at the base of the leaf stem which is fused into a type of sheath. The leaves are 12.5-31 cm long by 6.2-15 cm wide. The stalks are 0.6-2.5 cm long. The flowers are numerous. They are 1.5 cm across. They grow in clusters in the axils of leaves. The fruit are rounded and small each with two 1-seeded nutlet. The fruit are yellowish white when mature, with warty looking lumps. They are about 6 cm across. The fruit is a little like soursop and has an unpleasant smell when ripe.

HABITAT

A tropical plant. They are common along the seashores throughout the Philippines. The trees grow wild in coastal areas and are also planted. They suit dry areas because of high drought tolerance. It is part of the coastal vegetation behind the beach. They can grow on sand and have salt tolerance. Seeds can float easily in salt water. Trees can grow up to about 1500 m altitude in the tropics. They are usually in areas with temperatures between 20-35°C and rainfall of 250-4000 mm per year. Trees cannot stand frost. They can grow in a very wide range of soils. It grows 19° N and S of the equator. At MARDI. At ECHO.

PRODUCTION

Cultivation

Trees are grown from seeds. Seeds remain viable for at least 6 months. Seeds are planted in a nursery. They germinate in 3-9 weeks after sowing. Within 6 months trees grow to 1.5 m. Flowering and fruiting start in the third year. Trees last for up to 25 years. Trees can be grown from cuttings.

Harvesting and Seed Production

They have a moderate growth rate. They can grow 0.75-1.5 m per year. Yields of 80,000 kg of fruit per hectare per year are possible.

Planting instructions

Indian Mulberry

Morinda citrifolia

What is the plant like?

The Indian mulberry tree is a small tree up to 4 or 5 metres high.

The leaves are produced opposite each other and leaves can often be 25 to 30 cm long, They are thick, shiny and dark green.

The white flowers are in a round head and only one flower is in bloom at a time. It has 5 white petals on the end of a green tube.

The fruit is about 5 to 10 cm long. It is made up of several small fruit fused together to give an appearance a little like the divisions on the skin of a pineapple. The fruit starts off green but becomes white when ripe. Mostly the edible flesh surrounds a large number of kernels. The ripe fruit develops a bad smell.

Where do Indian Mulberries grow?

In Papua New Guinea, these trees grow wild in the bush, at least along the Northern Coast of New Guinea in the Sepik and New Britain areas. Mostly self sown plants, they are near sea level and up to about 30 meteres altitude.

But they are also grown as fruit trees and can be cultivated up to 500 meteres altitude.

They do well in areas with limestone rocks. They need to grow in well drained soil and often do well in dry places.

The tree grows in countries from the Pacific to India.

How do you grow Indian mulberry ?

Trees often grow naturally from seed. Seed float easily in water and often grow along foreshores.

Fruit is produced year round.

Use

The green fruits can be used as a vegetable.

The ripe fruit can be eaten raw. It is usually collected after it falls from the tree.

A drink can be made from the juice.

The young leaves can be cooked, or eaten raw. They can be used as a wrapping to cook food in, and then the wrapping leaves eaten as well.

The bark of the tree yields a red dye, the root a yellow dye.

It is not a popular or important food but is used in times of scarcity.

NOTES

The fruit is considered to be a medicine. There are about 80 Morinda species. They grow in the tropics. Morinda has been shown to reduce the bacteria related to tuberculosis and control some forms of cancer.

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

Ali, R. M., et al, (Eds.), 2010, ASEAN Herbal and Medicinal Plants. Forestry research Institute Malaysia. p 67

Ambasta, S.P. (Ed.), 2000, The Useful Plants of India. CSIR India. p 380

Anderson, E. F., 1993, Plants and people of the Golden Triangle. Dioscorides Press. p 216

Andrare, G. M. M., et al, 2023, Plantas Alimenticias Nao Convencionais (PANC) Nos Levantamentos Etnobotanicos do Brazil. Novos Cadernos NAEA v. 25 No. 2 p 220

Arora, R. K., 2014, Diversity in Underutilized Plant Species - An Asia-Pacific Perspective. Bioversity International. p 78

Ashton, M. S., et al 1997, A Field Guide to the Common Trees and Shrubs of Sri Lanka. WHT Publications Ltd. pdf p 335

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

Barwick, M., 2004, Tropical and Subtropical Trees. A Worldwide Encyclopedic Guide. Thames and Hudson p 282

Blench, R., 2004, Fruits and Arboriculture in the Indo-Pacific Region. Indo-Pacific Prehistory Association Bulletin 24. (Taipei Papers Volume 2) p 38

Bodkin, F., 1991, Encyclopedia Botanica. Cornstalk publishing, p 708

Borrell, O.W., 1989, An Annotated Checklist of the Flora of Kairiru Island, New Guinea. Marcellin College, Victoria Australia. p 124

Brock, J., 1993, Native Plants of Northern Australia, Reed. p 260

Burkill, I.H., 1935, A Dictionary of the Economic Products of the Malay Peninsula. p 1518

Cabalion, P. and Morat, P., 1983, Introduction le vegetation, la flore et aux noms vernaculaires de l'ile de Pentcoste (Vanuatu), In: Journal d'agriculture traditionnelle et de botanique appliquee JATBA Vol. 30, 3-4

Calvert, G., 2010, The Burdekin Delta Tree Guide. Lower Burdekin Landcare Association., Inc., Ayr p 133

Chandrashekara, U. M., 2009, Tree species yielding edible fruit in the coffee-based homegardens of Kerala, India: their diversity, uses and management. Food Sec. 1:361-370

Cherikoff V. & Isaacs, J., The Bush Food Handbook. How to gather, grow, process and cook Australian Wild Foods. Ti Tree Press, Australia p 187, 200

Chiang Mai University Vol. 4 , 1964, bio1080uu, Table 6 p 92

Chin, H.F., & Yong, H.S., 1996, Malaysian Fruits in Colour. Tropical press, Kuala Lumpur p 83

CHOCK,

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

Clarke, W.C. & Thaman, R.R., 1993, Agroforestry in the Pacific Islands: Systems for sustainability. United Nations University Press. New York. p 246

Cooper W & Cooper W T, 1994, Fruits of the Rain Forest. RD Press p 194

Cooper, W. and Cooper, W., 2004, Fruits of the Australian Tropical Rainforest. Nokomis Editions, Victoria, Australia. p 445

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 52

Cribb, A.B. & J.W., 1976, Wild Food in Australia, Fontana. p 43

CURREY,

D'Ambrosio, U., & Puri, R. K., 2016, Foodways in transition: food plants, diet and local perceptions of change in a Costa Rican Ngäbe community. Journal of Ethnobiology and Ethnomedicine (2016) 12:3 p 27

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

Duarte, M. C., et al, 2022, Diversity of Useful Plants in Cabo Verde Islands: A Biogeographic and Conservation Perspective. Plants 2022, 11, 1313 p 16

Elevitch, C.R.(ed.), 2006, Traditional Trees of the Pacific Islands: Their Culture, Environment and Use. Permanent Agriculture Resources, Holualoa, Hawaii. p 513

Elliot, W.R., & Jones, D.L., 1993, Encyclopedia of Australian Plants suitable for cultivation. Vol 6. Lothian. p 447

Facciola, S., 1998, Cornucopia 2: a Source Book of Edible Plants. Kampong Publications, p 213

FAO, 2024, Compendium of forgotten foods in Africa – A companion publication for Integrating Africa's forgotten foods for better nutrition. Accra. https://doi.org/10.4060/cc5044en p 80

Fell, D.G. & Stanton, D.J., 2015: The vegetation and flora of Mabuyag, Torres Strait, Queensland. Memoirs of the Queensland Museum – Culture 8(1):1-33. Brisbane. ISSN 1440-4788.

Flora of Pakistan. www.eFloras.org

Franklin, J., Keppel, G., & Whistler, W., 2008, The vegetation and flora of Lakeba, Nayau and Aiwa Islands, Central Lau Group, Fiji. Micronesica 40(1/2): 169–225, 2008

French, B.R., 1986, Food Plants of Papua New Guinea, A Compendium. Asia Pacific Science Foundation p 272

French, B.R., 2010, Food Plants of Solomon Islands. A Compendium. Food Plants International Inc. p 264

Friday, J. B., 2005, Forestry and Agroforestry Trees of East Timor. http://www.ctahr.hawaii.edu/forestry/data/Timor/Timor trees.html

Garde, M., et al, 2003, A Preliminary List of Kundedjnjenghmi Plant Names. Northern Land Council. (Arnhem Land, Australia)

Groenendijk, J.J., in Plant Resources of SE Asia a Selection p

HANDY, (As Morinda citrifolia var. potteri)

Full reference list (106 more) at https://www.echocommunity.org/en/resources/2eb73b9c-466e-4a80-8f6b-5bf6da40ce92

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/2eb73b9c-466e-4a80-8f6b-5bf6da40ce92