Spondias mombin

L.

Anacardiaceae

LOCAL NAMES
Creole (gwo momben,gran monben,monben,monben fran); Dutch (hoeboe); English (mombin plum,yellow mombin,hog plum,yellow spanish plum); French (grand mombin,gros mombin,mombin jaune,prunier mombin,mombin franc); Fula (chali,chaleh,tali); Indonesian (kedongdong cina,kedongdong cucuk,kedongdong sabrang); Mandinka (ninkongo,ninkon,ningo,nemkoo); Portuguese (cajá,cajarana,caja-mirim,pau da tapera,taperreba,acaiba); Spanish (jojobán,circuela,ciruela,ciruelo,ciurela amarilla,balá,hobo,jobito,jobo blanco,jobo colorado,jobo corronchoso,jobo de puerco,jobo vano,ubo,jobo gusanero); Wolof (nimkom,nimkoum,ninkon,ninkong)

BOTANIC DESCRIPTION
Spondias mombin is a tree to 30 m high; bark greyish-brown, thick, rough, often deeply grooved, with blunt, spinelike projections; trunk with branches 2-10 m above ground level to form a spreading crown up to 15 m in diameter and forming an open or densely closed canopy, depending on the vigour of the individual; seedlings with deep taproot, probably persisting in mature tree, which also possesses a shallower root system near the surface.

Leaves alternate, once pinnate with an odd terminal leaflet; stipules absent; rachis 30-70 cm long; leaflets 5-10 pairs, elliptic, 5-11 x 2-5 cm; apex long acuminate, asymmetric, truncate or cuneate; margins entire, glabrous or thinly puberulous.

Inflorescence a branched, terminal panicle with male, female and hermaphrodite flowers; sepals 5, shortly deltoid, 0.5-1 cm long; petals 5, white or yellow, oblong, 3 mm long, valvate in bud, becoming reflexed; stamens 10, inserted beneath a fleshy disc; ovary superior, 1-2 mm long; styles 4, short, erect.

Fruit an ovoid or ellipsoid drupe, 3-4 x 2-2.5 cm in diameter; dull light orange to yellow or brown; in clusters of 1-20; epicarp thin, enclosing a juicy orange or yellow mesocarp 3-6 mm thick; endocarp large, with a soft, fibrous, grooved coat surrounding 4-5 small seeds.

BIOLOGY
Flowering occurs during the dry season; some ripe fruit can be found on the tree most of the year. Fruiting usually starts at about 5 years of age, although well-kept cuttings may produce earlier.

Spondias mombin slash (Joris de Wolf, Patrick Van Damme, Diego Van Meersschaut)

Spondias mombin foliage (Joris de Wolf, Patrick Van Damme, Diego Van Meersschaut)

Spondias mombin foliage (Joris de Wolf, Patrick Van Damme, Diego Van Meersschaut)

ECOLOGY
S. mombin occurs in a great variety of humid tropical climates, often in secondary vegetation derived from evergreen lowland forest or semi-deciduous forest. It has been introduced to most tropical locations and performs well under varied conditions. The tree is tolerant of most soil types and rainfall patterns. S. mombin is severely damaged by freezing temperatures. It is generally found in the terra firma forests; trees may be found in drier areas as well as along high fertile floodplains, where they are waterlogged for 2 or 3 months of the year.

BIOPHYSICAL LIMITS
Mean annual rainfall: over 1 500 mm

Soil type: Does well in a great variety of soils, such as sandy soils, gravelly or heavy clays, but best results are obtained in rich, moist, relatively heavy soil.

DOCUMENTED SPECIES DISTRIBUTION

Native: Argentina, Bolivia, Chile, Colombia, Ecuador, French Guiana, Guatemala, Guyana, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Surinam, Uruguay, Venezuela

Exotic: Central African Republic, Congo, Democratic Republic of Congo, Gabon, Gambia, India

The map above shows countries where the species has been planted. It does neither suggest that the species can be planted in every ecological zone within that country, nor that the species can not be planted in other countries than those depicted. Since some tree species are invasive, you need to follow biosafety procedures that apply to your planting site.

PRODUCTS
Food: The pulp of the fruit is sometimes eaten directly, especially when found in the forest, but is too acid to be considered attractive; it can also be boiled or dried. It is especially used for syrup, ice cream, drinks and jellies. Juices improve with keeping overnight as the mild astringency of the fresh fruit disappears. Fermented products are also good. About half of the fruit weight is pulp, which is 8% water, 10% sugars, 1-8% fibre, and 0.4% ash. The sugars give about 40 calories/100 g. The fruit is a good source of vitamins A and C; vitamin C quantities vary between 34 and 54 mg/g, and carotenoids are presumably present in reasonable concentrations. There is great variation in fruit quality from region to region, some being sweet and pleasant and others quite disagreeable in flavour.

When fresh water is unavailable, water from the roots of S. mombin can be drunk. The shoot tastes like cassava and can be eaten raw or boiled. The seeds can also be eaten.

Fodder: Pigs eat the whole fruit as it falls to the ground. Leaves can be fed to cattle.

Apiculture: A useful melliferous tree.

Fuel: The wood is suitable for firewood.

Fibre: Its hardness, density and light colour make it useful for wood pulp. The resulting paper has good resistance to tension and tearing but a poor reaction to folding.

Timber: The heartwood is cream to buff in colour and is not distinguishable from the sapwood. Lustre is medium; texture medium to coarse; grain straight to slightly irregular. The wood is easy to work and generally finishes smoothly; fuzzy grain may develop in some operations. The trunks are occasionally used for dugouts and the stems for posts, boxes, matches, general carpentry, tool handles, millwork, utility plywood, and furniture components. Logs need to be promptly processed to minimize deterioration from insect attack.

Medicine: Both bark and flowers are used in folk medicine to make cure-all teas for digestive tract ailments, lower back pain, rheumatism, angina, sore throat, malarial fever, congestion, diarrhoea, urethritis, metrorrhagia, and as contraceptive. Plant extracts exhibit antibacterial properties, and a decoction of the bark or root bark is considered antiseptic. The roots are regarded as febrifugal, and leaf decoctions used for colds, fevers and gonorrhoea.

Other products: Ashes from the roots have been used in making soap.

SERVICES
Shade or shelter: The spreading crown and large leaves make S. mombin a suitable shade tree.

Boundary or barrier or support: Trees can be planted close together to make live fences.

TREE MANAGEMENT
Planting distance should be 7.5-9 m each way. Growth is good in fertile soils, and trees can reach up to 7 m in less than 5 years. Large trees may yield well over 100 kg of fruit. Trees on poor Amazon Oxisols respond well to fertilizer. In many countries, the fruits are attacked by insect larvae, so precautionary spraying is recommended.

GERMPLASM MANAGEMENT
Seed have orthodox storage behaviour; 50% germination after 27 months in air-dry storage at 2-5 deg. C.

PESTS AND DISEASES
S. mombin is particularly sensitive to attack, especially by termites and blue stain fungi. In Costa Rica, a leaf-cutting ant (Atta cephalotes) attacks the tree. In Puerto Rico, fruit flies (Anastrepha mombinpraeoptans, Drosiphila ampelophila, D. repleta) infect the fruit. Some trees appear to suffer from root rot.

FURTHER READNG

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SUGGESTED CITATION

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