

Pachira aquatica Aubl.

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BOMBACACEAE (KAPOK-TREE FAMILY)

No synonyms

Cacao de monte, castaño del chocó, ceiba, ceibón de agua, chila blanca, noli, pumpunjuche, saba, sunzapote, zapote bobo, zapote de agua, zapotolongo, zapotón (Pérez 1956)

Pachira aquatica is native to tropical America (Sánchez and others 1985).

Pachira aquatica is a small to medium-sized deciduous tree that can reach 17 m in height and 90 cm d.b.h. (Encarnación 1983). It has a thick trunk, a cylindrical shaft, and verticillate monopodial ramification in young trees that becomes sympodial in adult trees. The gray external bark is slightly cracked longitudinally with no lenticels, prickles, green areas, or rhytidome. Internal bark is up to 1.5 cm thick and creamy-white and has a heterogeneous texture laminar next to the alburnum followed by an external layer of bundles of fibers that alternate with parenchymatous zones, crossed by numerous orange-colored inclusions. At 25 years, trees are conical and average 11 m in height, 9.2 m in crown diameter. The tree possesses well-developed aletas in specimens described in Mexico (Pennington 1968). It shows digitate, alternate leaves, generally with 4 to 7 folioles of up to 22 by 6 cm, elliptic shape, and jointed petiolules of up to 15 cm in length. The tree grows well in fertile soils (Tokura and others 1996). It grows from sea level to 1300 m with average temperatures of 24 °C or higher and annual precipitation between 1000 and 2000 mm.

Pachira aquatica is used in hedges; it is an excellent ornamental species that flowers, even as a shrub. Tasting similar to European chestnuts (Pérez 1956), the toasted seeds are eaten (Tokura and others 1996). Toasted seeds can also be ground and prepared as a chocolate that tastes good but smells repulsive. The chocolate is nourishing and is used as a tonic. It also contains an edible oil. The young leaves are edible and are soaked in water to produce a liquid used for protection against poisoning and as an antidote for the bites of poisonous animals (Ophidia) (García 1992).

Trees can flower the first time at 3.5 years, and fruits can

be harvested when trees are about 4 years. Flowers appear in March and April and September through December (Sanchez and others 1985). The striking, olive green flowers are up to 31 cm long, with five petals, and are exquisitely velvety; the staminal column is subdivided into numerous stamens that resemble a brush. The olive-yellow fruit is elliptic to subglobose and up to 21 by 12 cm, with five valves that have a pulpy consistency and no internal fibers. Robyns (1963) describes the fruit as having seeds wrapped in fibers (kapok). However, Cuatrecasas (1954) and Kroll and Ríos (1992) note that the interior part of the valves (including the seedcoat) has a pulpy consistency. The capsular fruit is similar to the cocoa bean (Tokura and others 1996). The 2.5 by 2 cm seeds have a subglobose shape and a dark brown color (Kroll and Ríos 1992).

The fruits are collected January through March and July through September (Sanchez and others 1985). At 8 years, the tree will yield 127 fruits; at 25 years, 250 fruits (Sanchez and others 1985). The dehiscent fruits release the seeds at maturity, and the seeds are collected directly from the ground. Seeds average 1,900 per kg.

After 25 days and with a purity of 100 percent, germination is 52 percent (Tokura and others 1996). However, precocious germination at 11 days, without pretreatments, has been reported (Sanchez and others 1985).

The seeds are germinated in nurseries and manually transplanted to bags. Plantules reach 30 to 40 cm in about 53 days and are outplanted with 7 by 7-m spacing (Sanchez and others 1985). Plantules should be outplanted in ground that has been plowed and raked. The seedlings require basic care such as adequate watering, fertile ground, and removal of overgrowth. Mature trees do not require special treatment and show good production after 25 years (Sanchez and others 1985).

