Crescentia cujete L.

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BIGNONIACEAE (BIGONIA FAMILY)

No synonyms

Arbol de las calabazas, ayale, cirián, cuautecomate, güiro, jícara, jícaro, luch, morro, taparo, tecomate, totumo

Native to the tropical and subtropical regions of America, the place of origin of *Crescentia cujete* is unknown because the species has been cultivated in the Yucatan Peninsula since pre-Hispanic times. It may have been cultivated for more than 600 years. Currently, it is observed as a backyard tree in several countries. The species grows on the Caribbean islands and from Mexico through Central America to northern South America. Recently, the tree has been cultivated in the tropical regions of the Old World.

Crescentia cujete is a fast-growing evergreen tree that can reach 10 m in height and 25 cm d.b.h. The short trunk is straight and the open crown consists of twisted, horizontal, or rising branches. The leaves are simple, grouped in bundles, obovate, or spatulate; they have an obtuse apex and an attenuate base. The tree grows in clayey soils with deficient drainage subject to frequent floods. It grows at elevations from sea level to 800 m, in areas with an average annual precipitation between 1500 to 1300 mm and an average annual temperature of 26 °C.

Crescentia cujete is frequently cultivated as an ornamental. The ripe fruits, once dry and clean inside, are used as containers to hold water. When the dry, clean fruits are cut in half, they have a variety of domestic uses, especially as containers to store salt and tortillas. They are valued in the manufacture of handicrafts and musical instruments. The fruit pulp is used as a laxative, emollient, expectorant, and fever reducer. Fresh seeds are ground and mixed with water to make a refreshing drink. The drink has a sweet and pleasant taste. The wood has a specific gravity of 0.6 to 0.8. It is strong, flexible, moderately hard, and heavy. It is used for firewood and construction in rural areas and in the manufacture of handles for agricultural implements (Jarquin and Cervantes 1980, Little and others 1967, Martinez 1959, Niembro 1986, Rico-Gray and others 1991).

Crescentia cujete blooms during the month of June. The flowers are isolated, white or cream colored, and sometimes purple with burdock nervation and a fetid scent. The fruit is a globose, spherical, or ovoid-elliptic capsule; 8 to 20 cm in diameter; and indehiscent; with a hard, and smooth cover and abundant carnose pulp. The fruits grow and ripen slowly, remaining on the tree for 6 or 7 months. Afterwards, they fall to the ground and degrade with time. As fruits ripen, the color changes from green to yellow. When they are over-ripe, their pericarp becomes reddish yellow and their pulp loses moisture. Each fruit contains numerous seeds (Gentry 1982, Little and others 1967, Pennington and Sarukhan 1968). The seeds are obovate, with an emarginate apex, laterally flattened, 7.0 to 7.5 mm long, 5.4 to 7.0 mm wide, and 1.0 to 2.0 mm thick. The seedcoat is dark brown, furrowed with dots, opaque, and coriaceous.

Generally, the fruits are gathered when their yellow color begins to turn reddish yellow. Gathering time is scheduled during the dry season (December through May) when the soils are not flooded and collectors can access the trees. Because the trees are not tall, climbing the trees to gather the fruits is frequently unnecessary. Using a pole with metal hooks while standing on the ground facilitates fruit collection. Because the peel of the fruit is very hard, a hammer is used to break the fruit and extract the seeds. When the fruits are used for handicrafts, the peel is broken delicately using a sharp knife or a hand or electric saw. The fruits themselves are not soaked. The pulp, along with its content of seeds, is soaked for 1 hour to hydrate the seeds and facilitate seed removal. Seeds are removed by hand-squeezing the pulp while washing it with cool water. This process facilitates the loosening of the seeds, which are collected in a strainer. Next, the seeds are washed vigorously under a stream of water to eliminate impurities. In the final step the seeds are dried in the sun for 1 hour or longer, depending on the lighting conditions.

Seeds germinate without any problems 10 to 15 days after sowing. *Crescentia cujete* is easily propagated by seeding and stem cutting. It has a deep radicular system and is very resistant to drought (Hoyos 1979).

ADDITIONAL INFORMATION

The generic name of this plant commemorates Pietro de Crescenzi (1230-1321), a farmer born in Bologna.

The hilum is basal, on one of the lateral surfaces, elliptic, and sometimes surrounded by funicular tissue. The micropyle is indiscernible. The tegmen is light brown, membranous, opaque, and smooth, and firmly adheres to the embryo. There are no endosperm. The white or cream embryo has a straight axis and is almost bilaterally symmetrical. The cotyledons are shaped like the seed, slightly emarginate at the apex, whole, expanded, plano-convex in cross section, pulpy, and independent of one another, with an auriculate base. The plumule is undifferentiated. The radicle is globose and partially covered by the cotyledons (Niembro 1982, 1983, 1989).