

Acosmium panamense (Benth.) Yakovlev

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FABACEAE (BEAN FAMILY)

No synonyms

Bálsamo amarillo, cencerro, chakté, chichipate, corteza de Honduras, guayacán, huesillo, quina silvestre, yacti

Native to the tropical regions of America, *Acosmium panamense* is naturally distributed in southern Mexico and all of Central America. The species is part of the evergreen tropical forests (Standley and Steyermark 1946a).

Acosmium panamense is an evergreen tree that grows up to 40 m in height and 95 cm d.b.h. Its rate of growth is unknown. The trunk is straight and may have small spurs. Composed of rising branches, the crown is spread out, pyramidal, and sometimes flattened. Leaves are imparipinnate, 9 to 22 cm long, with 9 to 13 ovate to oblong-lanceolate leaflets 5 to 7 cm long. In the Yucatan Peninsula, the tree grows in calcareous soils with outcropping rocks, forming part of the tropical forest. The regions where the tree is found have an annual average temperature of 26 °C with a maximum temperature of 36.7 °C and a minimum temperature of 14.9 °C. The maximum temperatures correspond to the months of April and May, and the minimum temperatures to the months of December and January. Average annual precipitation is approximately 1288 mm, ranging from 900 to 1800 mm.

The wood has a specific gravity of 1.10 and a specific weight of 1.260. The wood is hard, heavy, strong, and resistant. It is used in rural areas for construction. In El Salvador, the bark is used to treat malaria (Dillon 1980, Pennington and Sarukhan 1968).

Acosmium panamense blooms September through November. The fragrant flowers are white, cream, or yellow; 6 mm long; and arranged in panicles. The fruits (legumes) ripen November through March. The legumes are oblong to elliptic oblong, narrowly alate, indehiscent, 5 to 9 cm long by 2 cm wide, laterally flattened, obtuse, mucronate, and acute at the base and have reticulate nervation. Each fruit contains one to four seeds (Pennington and Sarukhan 1968, Standley and Steyermark 1946a).

The fruits are collected January through April. They are gathered when their pericarp is dry and they are brown in color. The fruits are cut from the tree by using long, wood poles with metallic hooks. The gathered fruits are dried in the sun for 1 or 2 days to facilitate breaking. The fruits are placed in the sun inside boxes to prevent the wind from scattering them. The seeds are extracted by breaking the fruits by hand. Impurities are removed from the seeds in several ways. One method involves using sieves. Another involves using the air current of a fan. In this latter method, the seeds are placed in a vertical column separator of impurities through which a stream of air is passed. The materials that are lighter than the seeds are quickly removed. Clean seeds average 12,640 (Vega and others 1981) per kg. Seeds will remain viable naturally for 12 months. Seeds germinate 12 days after sowing, with germination at 7 percent (Vega and others 1981).

ADDITIONAL INFORMATION

The seed hilum is subbasal, elliptic, split, 1 mm long, and surrounded by a whitish hilar aril. The micropyle is punctiform and discernible under the microscope. The lens is elevated like a small protuberance, black, rhomboid, located near the hilum, on the trajectory of the vascular bundle, and opposite the micropyle. The endosperm is abundant, whole, located on the lateral surfaces of the embryo, vitreous, whitish, translucent, and gelatinous when it comes in contact with water. The yellow embryo has a straight axis and is almost bilaterally symmetrical. The cotyledons are shaped like the seed; they are whole, expanded, flat, pulpy, and independent of one another and have a cordate base. The plumule is rudimentary. The radicle is conical and partially covered by the cotyledons (Dillon 1980; Hutchinson 1964; Niembro 1982, 1983; Rudd 1972).

