Ulmus mexicana (Liebm.) Planch.

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ULMACEAE (ELM FAMILY)

Chaetopetelea mexican L. (Carpio 1992, Pennington and Sarukhan 1968)

Cenizo, chuchum, cuerillo, ilite, itza, mezcal, nuculpat, olmo, palo de baqueta, patalillo, pepelote chaperno, sacpacche, sacpucte, tiacaciahuitt, tirra o ira blanco, tzapasnaca, zempoalehuati (Niembro 1986, Pennington and Sarukhan 1968)

Ulmus mexicana grows in wet forests and on very wet mountains and premountains from Mexico, through Central America, to Panama (Niembro 1986, Pennington and Sarukhan 1968).

Ulmus mexicana is a medium-sized tree with a straight, cylindrical trunk and buttress. The tree usually grows to 20 to 40 m in height; however, in Mexico, it can reach 84 m in height and 1.5 to 2.5 m d.b.h. (Niembro 1986). The species grows in volvanic, calcareous, and metamorphic soils. It may grow on slopes between 15 and 60° in well-drained and rocky soils. *Ulmus mexicana* grows at elevations of 800 to 2200 m in zones where annual precipitation is 1900 to 3800 mm and median temperatures are 16 to 20 °C (Burger 1970, Standley 1938).

Considered a timber tree, the wood is hard and heavy (specific gravity 0.55). The sapwood and heartwood are clearly defined and growth rings are visible after drying. The wood is difficult to dry and twists and collapses during the process. It is easy to work and preserve and has excellent natural durability. The wood's silica content of 0.35 can damage tools (Carpio 1992, Ritcher 1971). The wood is used for farming tools, floors, railroad ties, wharfs, cupboards, interior decorations, furniture, tool handles, wood, and coal (Carpio 1992, Moreira and others 1992). Cattle eat the branches and foliage (Niembro 1986). *Ulmus mexicano* is planted as a shade and ornamental tree.

The tree flowers November through January. Each raceme contains nine inflorescences, and every inflorescence has 40 flowers. Every umbel is formed by four flowers with a reddish-gray calyx. Its perianth is dark green and 10.2 cm long. The fruits (samara) are 0.89 cm long and 0.23 cm wide and have numerous trichomes. The seeds are beige. Seed production is abundant and seed predators have not been observed. Seeds are dispersed by the wind; however, strong winds have resulted in the loss of whole harvests (Arnáez and Moreira 1992, Moreira and others 1992). Natural regeneration is poor (Hartshorn and Poveda 1983).

Green or yellowish-brown fruits are collected February through April. Collectors climb the tree and use an extension pruner to remove the fruit. In an alternative method, a rope is thrown over a branch and the branch is shaken, releasing the fruits which are collected on a blanket placed under the tree. The seeds can be separated manually or dried in the sun, and then shaken into a sack to separate them from the fruits. Seeds average 727 per kg. They should be planted immediately. When seeds are stored at 5 °C, viability can be lost quickly (Moreira and others 1992).

This species does not require pregermination treatment; however, soaking seeds in water at 22 °C for 24 hours improves germination, which is 90 percent 12 days after planting. The planting mix should be a substrate of 50 percent loose soil and 50 percent previously sterilized sand (Moreira and others 1992).

Four weeks after sowing, seedlings should be transplanted into plastic bags and placed in the shade. Seedlings are hardened at 3 months and growth then accelerates. Weed control and protection from the wind and sun improve plant development. Incidences of plagues and diseases have not been detected (Moreira and others 1992).


2cm