

# *Alfaroa costaricensis* Standl.

E. ARNÁEZ and I. MOREIRA  
Technological Institute of Costa Rica, Cartago, Costa Rica

## JUGLANDACEAE (WALNUT FAMILY)

*No synonyms*

Campano chile, chiciscua, gaulín, gavilancillo (Burger 1977)

All seven species of the genus *Alfaroa* in America grow primarily in the mountainous tropical regions from Mexico to Colombia. Because species within the genus have not been reported farther north, Veracruz is probably the latitudinal northern limit of the genus (Navare 1983). Costa Rica is the center of diversity because three of the four species reported (*A. costaricensis*, *A. maningii* León, and *A. williamsii* A. Molina R.) are found within a 50-km radius of San Jose. *Alfaroa costaricensis* grows in temperate woodlands in the central region of Colombia.

*Alfaroa costaricensis* is a slow-growing, medium-sized tree that can reach 15 to 27 m in height and 30 to 60 cm d.b.h. Its bark is flat with small scarifications. It regenerates easily in lawns (Arnáez and Moreira 1992). Although it normally grows in cloudy areas, *A. costaricensis* requires light when it grows deep in the canopy of the forest. The species grows in well-drained soils on slopes of 5 percent or more. It grows at elevations between 600 and 2220 m in areas that annually receive 1500 to 2500 mm of precipitation and sustain temperatures of 15 to 20 °C (Moreira and others 1992).

Considered a timber tree, *A. costaricensis* has attractive wood with a fine pink fiber. It has smooth tension and is difficult to saw and finish. It is used for furniture, posts, coal, and building lumber (Arnáez and Moreira 1992, Burger 1977, Janzen 1983).

The species flowers from November through February. The male inflorescences are widespread in alternate aments 16 cm long. Ten aments on a branch form a panicle terminal.

The female flowers are 5 to 6 mm long and 1 to 1.5 mm wide. The fruits measure 1.6 to 2.5 cm long and 1.4 to 1.6 cm in diameter. The pericarp is hard, thick, and brown and it protects the seed. Even though rodents consume many nuts, natural regeneration does not appear to suffer.

January through April, the fruits are collected directly from the ground or from the trees. Collectors use a pruner with an extension to remove the fruits from the tree or climb the tree. The fruits are placed in sacks for transport. In Costa Rica, fruits average 274 per kg and the weight of 1,000 fruits is 3.65 kg. Seed storage is not recommended, and seeds should be planted immediately. Seeds are not viable 3 months after harvest (Arnáez and Moreira 1992). During maturation, the pericarp adheres to the cover of the seed.

The fruits are given a preemergent treatment by soaking in water at 22 °C for 24 hours. Seeds sown in different substrates of sand, moss, and humid soils germinate in 12 days; 50 to 70 percent of them germinate (Moreira and others 1992). Germination is hypogeal. Seeds will germinate in trays or bags kept at room temperature if they are planted in a loose substrate of organic matter and soil that is kept wet (Moreira and others 1992).

Initial growth is slow, and shade is recommended in the first stages. Plantules may be transplanted 7 weeks after sowing and grow best in the sun. When the seedlings reach 20 cm in height, they may be outplanted. Seedling development is slow in height and diameter (Moreira and others 1992), but plagues and diseases have not been detected.

