

# *Juglans neotropica* Diels

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## JUGLANDACEAE (WALNUT FAMILY)

*Juglans andina* Triana & Cortés, *Juglans colombiensis* Dode, *Juglans honorei* Dode

Cedro negro, cedro nogal, nogal, nogal bogotano

*Juglans neotropica* is a slow-growing tree 25 m in height and 40 cm d.b.h. The trunk has a bark with grooves. The crown is oval with light green foliage. The compound leaves are 40 cm long, grouped at the end of branches, and alternate with a serrated border. The species grows in soils of loose texture, muddy, loose-sandy (loose soils), with a neutral to slightly acid pH. It does not tolerate low pH or calcareous soils and needs deep and fertile soils. It has low growth in poor, shallow, and flooded soils. *Juglans neotropica* develops well at an altitude of 1600 to 2500 m, with an average temperature that ranges between 14 and 22 °C and an annual precipitation of 1000 to 3000 mm that is distributed throughout the year (Acero 1985, Venegas 1978). The species has a wide ranging ecological distribution; it grows in the Pre-Mountainous wet forest (bh-PM), very wet Pre-Mountainous forest (bmh-PM), Low-Mountainous dry forest (bs-MB), Low-Mountainous wet forest (bh-MB), and Low Mountainous very wet forest (bmh-MB) (Venegas 1978).

The wood of *J. neotropica* is used in decorative veneer, fine cabinetmaking, interior carpentry, turned utensils, and decoration. It is also used in packing boxes and construction and for tri-plex. It is a medicinal species. The seeds are edible, the bark is used for tanning hides, the unripened fruits make yellow dyes, and the ripe fruits make very fine black dyes (Escobar and Rodriguez 1993).

The cream-colored masculine (1 cm) and feminine (2 cm) flowers grow separately on the same tree. The fruit is green, becoming yellowish-green when ripe. It is pulpy, with an almond-type seed, and rich in oil.

The fruits are collected from the ground or from the crown when they have turned yellowish. Gloves must be worn to prevent staining hands. The fruits are soaked in water for 24 to 48 hours but not allowed to ferment; then the loosened pulp

is removed manually. Seeds average 50 to 200 per kg. They are stored at 4 to 6 °C.

The recommended pregermination treatment consists of scarifying the seeds with sandpaper or placing them in moist sand for 4 months at 2 to 6 °C. Purity percentage is 100 percent. Germination percentage is 40 to 80 percent. Germination is hypogeous. Untreated seeds germinate in 1 to 3 months.

The seeds can be planted directly in bags. If a germinator is used, the planted seeds must be 1 cm apart; the tip must be planted deeply, and covered with 2 to 3 cm of soil and sand. The germination period is 36 days. The species requires medium light for germination (Barreto and others 1990, Montero and Estevez 1983).

In the growing/threshing floors, bags 20 by 30 cm in flat dimension are used; when the plantules are 20 to 40 cm high they are outplanted. The substrate of the growing/threshing floor must have a sandy texture, with fertile soil. Organic and chemical fertilizers may be needed. Seeds can also be planted directly at the site, placing one or two seeds per hole. The tree can also be planted bare root in the form of small, defoliated shoots; the leaves and roots are cut at 25 cm.

The planting site must have optimal edaphoclimatic conditions and available water. Grass and thickets must be removed completely. If the trees are planted far apart the area under the crown must be cleaned. If the trees are planted in a continuous line, a strip about 1 m wide must be cleaned and weeded. To produce a forest, a spacing of 3 by 3 m or 5 by 5 m is recommended (Barreto and others 1990).

## ADDITIONAL INFORMATION

This species is very susceptible to fire. It hosts the borer of the cedar species, and its use is restricted in some agroforestry combinations due to allelopathic danger.

