

Podocarpus montanus (Humb. & Bonpl. ex Willd.) Lodd.

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PODOCARPACEAE (PODOCARPUS FAMILY)

Nageia montana, *Podocarpus taxifolia*, *Prumnopitys montana*, *Stachycarpus montana*, *Taxus montana*

Pino de montaña, pino de pacho, pino hayuelo, pino romerón

Podocarpus montanus is a very slow-growing tree that reaches 15 m in height and 30 cm d.b.h. The crown is semi-round and not very dense; the bark is purple to blackish, scaly, and covered with shoots. The evergreen leaves are alternate, narrow, coriaceous, bluish in the lower part, inserted in spiral but stretched out in two series on a plane, 12 to 22 mm long by 2.5 to 3 mm wide, with a groove over the prominent central vein. The tree adapts to poor soils with good drainage, acid pH, and loose clayey texture. It grows at elevations from 1900 to 3000 m with an average annual temperature of 8 to 16 °C and annual precipitation of 600 to 3000 mm. It tolerates short frosts. It adapts to the life zones of the Low Mountainous dry forest (bs-MB), Low Mountainous wet forest (bh-MB), Low Mountainous very wet forest (bmh-MB), Mountainous wet forest (bh-M), and Mountainous very wet forest (bmh-M).

The wood of *P. montanus* is used for veneer, furniture, lath, posts, wood shaving boards, and in cabinet-making. It is also used as pulp for paper and in pencils (Corporacion de Los Andes 1974, Lamprecht and Liscano 1957, Marin 1998).

The strobiles are dioecious. The masculine flowers are elongated, cylindrical, and numerous; 1 to 5 cm long; and sessile or on a short peduncle. The feminine flowers are very small and isolated at the tips of the branches. The cones (fruits) are globose, 1 to 2 cm long, 0.8 to 1 cm wide, smooth, soft, and shiny dark green when not ripe. They turn orange-

yellow when ripe. Clean seeds are 8 mm long and 5 mm wide (Marin 1998).

The cones are collected from the tree or the ground. Old cones or seeds are not collected because the seeds are frequently attacked by a borer on the ground. Seeds are stored at 3 to 4 °C. Seed purity percentage is 99 percent. Germination is epigeal. Germination percentage is 45 to 60 percent, and seeds germinate in 3 months.

Podocarpus montanus is propagated through its seeds. Because the seeds are relatively large, they can be planted in bags. The planting hole should be 2 cm deep and separated from other holes by 20 cm. The seeds are covered with fine, well packed soil, watered abundantly, and shaded during the first 6 months.

Plantules are lifted in two stages, with an interval of 2 to 3 months. Periodically (4 to 6 weeks), the ground is pricked to maintain a good physical condition, and weeds are eliminated. When the plantules are 25 to 40 cm high, they are outplanted. The planting site should be relatively clean; however, excessive cleaning can promote the growth of an underbrush that suffocates arboreal vegetation.

Planting distances vary. For conservation of germplasm, a semiregular spacing of 1 by 1 m between plants is used. To produce a forest, distances of 3 to 5 m can be used.