Eucalyptus tereticornis Sm.

C.R. ALVARADO, C.A. ALVARADO, and O.O. MENDOZA
Jefe Programa Nacional de Viveros Forestales, Administración Forestal del Estado, Tegucigalpa, Honduras;
Jefe Departamento de Investigación Forestal, Escuela Nacional de Ciencias Forestales, Siguatepeque, Honduras; and
Gerenta General Semillas Tropicales, Siguatepeque, Honduras

MYRTACEAE (MYRTLE FAMILY)

Eucalyptus umbrellata (Gaertn) Domin.

Blue gum, eucalipto tereticornis, forest red gum, mountain gum, my sore gum, red iron gum

Eucalyptus tereticornis is located naturally in two areas. In New Guinea, the species grows between 6 and 10° latitude S, at elevations of 0 to 800 m. In Australia, it grows between 15 and 38° latitude S, from Victoria through New South Wales, and in northern Queensland at elevations of 30 to 1000 m. It has been introduced in many tropical and subtropical countries in Africa, Asia, and South America (Aguilar 1966).

Eucalyptus tereticornis is a fast-growing tree that can reach 30 to 45 m in height and 1 to 2 m in diameter. It has a straight shaft with a big crown that is moderately dense. The trunk has a straight base and cylindrical shaft. The smooth, whitish bark comes loose in thin laminas or long strips, producing whitish, gray, or bluish spots in patches and leaving an accumulation of old bark (dark gray, wrinkled) at the base. Leaves are first opposite then alternate, petiolate, narrow lanceolate, frequently curved, sharp-pointed apex, narrow at the base, slightly thick, shiny green on the right and back side, glabrous, with numerous fine veins at an acute angle to the central vein. The species grows in open forests or as scattered trees in alluvial plains and along streams, including brackish waters. It grows better in deep, well-drained, light-textured, neutral, or slightly acid soils. Outside its natural range, the tree has been planted in a great variety of places, including alluvial, muddy, and sandy clay soils (Aguilar 1966, Benitez and Montesinos 1988). It tolerates seasonal floods for short periods and can endure up to 15 freezes per year in the southern part of its natural range. In the South of China and Pakistan the species survives temperatures of -7 °C. The tree is planted amply in areas with summer rainfall and moderate to harsh dry seasons, although it does not tolerate long periods of drought. It thrives where annual precipitation is 800 mm to 1500 mm, but trees have been planted in areas with less rainfall (400 mm in India, 550 mm in Israel, and 580 mm in Zimbabwe) and in areas with considerably more rainfall (2180 mm in Colombia and 3500 mm in Papua New Guinea). It is found at elevations between 0 and 1000 m.

The reddish wood has a uniform texture and intercrossed grain and is difficult to work. With a caloricity of 22,100 kj per kg (5,280 kcal per kg), it makes excellent firewood and charcoal. Because it is hard and heavy (0.75 to 1.0), the wood is used in construction, mining stanchions and posts, drawers, particle boards, fiberboards, railroad ties, and pulp for paper. The wood is immune to termites and dry rot and is, therefore, one of the most durable and valuable woods for construction, especially underground. The trees are also used in the restoration and immobilization of dunes, to control erosion by wind, and as hedges. The species has also been used for the extraction of tannins and oils. The leaves are used for obtaining essential oils, and the flowers, for the production of pollen and honey. In agroforestry, *E. tereticornis* has been used in combination with crops. In Pakistan it has been used in combination with corn, especially during the first 6 to 12 months, and in India, with tapioca (yucca) during the first 2 years. The species is used a lot in forestation and reforestation in India, from the coastal plains to the Himalaya Mountains, and in Western Africa, especially in Zaire.

Each year the tree yields small racemes of white flowers, but only every third or fourth year in spring and summer does it yield abundant florescence. It has simple flowers at the base of the leaves. Each umbel has from 5 to 12 white flowers, scat-

tered over an equal number of pedicels. The floral buds have a semirounded base and a thin, elongated, conical-shaped cover, similar to a horn. It is recognized by the conical, elongated operculum that encloses the fruits before they ripen. The fruits are in numerous seminal capsules, jutting out and curving inward. Each fruit contains numerous small, thin seeds that are approximately 1 mm in diameter and shiny dark brown to black. Seeds average 285,000 to 800,000 per kg with more than 70 to 80 percent viability (Jimenez 1997).

Seeds can be stored for several years at approximately 4 ^{o}C temperature and 60-percent relative humidity. The seeds are placed in plastic bags, which are then placed in metallic or glass fiber containers that are well sealed or hermetic.

Seeds do not require pretreatment to germinate; however, natural seeds, in Australia and Papua New Guinea, may need cold and wet stratification to germinate well (Centro Agronómico Tropical de Investigación y Enseñza 1984b). The substrate commonly used for germination is sterilized, fine, river sand. Under controlled conditions, seeds germinate well at alternating temperatures of 20 to 30 ^{o}C with 8 hours of light. Excess moisture in the substrate should be avoided to prevent attacks by fungi and bacteria during the germination process. Regeneration by sprouting has been used and can be done three or four times in 10-year shifts (Aguilar 1966).

ADDITIONAL INFORMATION

Yield depends upon humidity. The highest yields have been reported on the borders of canals and under conditions of irrigation. In irrigated plantations in Africa under good conditions, the tree will yield 20 to 25 m^3 per ha per year during the first 15 years; the yield then decreases to 10 to 15 m^3 per ha per year unless the trees are cut down for sprouting.


1cm