Cupressus lusitanica

Mill.

cypress

Cupressaceae

LOCAL NAMES
Amharic (yeferenji-tid); English (cypress,cedar of Goa,Mexican cypress,Kenya cypress); French (cyprés,cyprés de Mexico,cyprès de Goa); German (Mexikanische Zypresse,blaugrüne Zypresse); Spanish (ciprés Mexicano,ciprés de Portugal,ciprés); Swahili (msanduku); Tigrigna (tsehdiferenji); Trade name (cypress)

BOTANIC DESCRIPTION
Cupressus lusitanica is an evergreen tree, 35 m high, with a dense, conical crown. Branches spread out widely but terminate in pendulous branchlets. Trunk short, 70 cm in diameter. Bark on trunk is reddish-brown, exfoliating in long, narrow strips, eventually becoming roughened by the development of many short cracks. Branchlets covered with small, decussate, adpressed, acute, sessile, scale leaves with flexed tips.

The distinctly bluish-green foliage is ovate, closely pressed, usually with long, pointed apex.

Male flowers small, oblong or cylindrical; female subglobose, very small, composed of 6-14 fertile decussate scales with several ovules each.

Cones ellipsoid; bluish-green when young turning reddish-brown when mature; 13-25 mm in diameter; composed of 6-12 woody, shieldlike scales, each bearing 8-10 seeds; male cones appear to be fat tips to branchlets and produce clouds of yellow pollen; female cones rounded, scales with central pointed projections. Seeds brown, with resin glands, up to 4 mm long, with a narrow wing.

The Latin name ‘Cupresssus’ comes from the Greek ‘kuparissos’, which commemorates a youth of that name who was turned into a cypress tree by Apollo. The specific name is derived from Lusitania, Portugal, where the tree was introduced in the 17th century.

BIOLOGY
Trees 1st bear fruit at 6-9 years, or later on unfavourable sites. Flowering takes place at the driest time of the year, with male and female flowers arising at different points on the crown (monosexual). Cones develop within 6 months after wind pollination and take 2 years to mature.

C. lusitanica windbreaks in dairy pasture, Volcan Barba, Costa Rica. (David Boshier)

C. lusitanica unthinned plantation, Cartago, Costa Rica. (David Boshier)

C. lusitanica young seedlings in nursery. (David Boshier)

ECOLOGY
C. lusitanica is found in seasonally moist to permanently moist climates, with annual precipitation typically between 1000 and 1500 mm and a dry season lasting not more than 2-3 months. It also occurs in very moist climates with annual precipitation up to 4000 mm. It is not generally damaged by occasional snow or brief periods of frost, but there are significant differences in this among provenances. It cannot withstand waterlogging. Associated species in its natural habitat include Abies guatemalensis, Litsea glaucescens, Pinus montezumae and Prunus brachybotrya.

BIOPHYSICAL LIMITS
Altitude: 1 000-4 000 m, Mean annual temperature: 12-30 deg. C, Mean annual rainfall: 800-1 500 mm

Soil type: C. lusitanica flourishes in deep, moist, well-drained, fertile loams of neutral to slightly acidic reaction.

DOCUMENTED SPECIES DISTRIBUTION

Native: Belize, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, United States of America

Exotic: Eritrea, Ethiopia, Kenya, Portugal, South Africa, Spain, Tanzania, Uganda

The map above shows countries where the species has been planted. It does neither suggest that the species can be planted in every ecological zone within that country, nor that the species can not be planted in other countries than those depicted. Since some tree species are invasive, you need to follow biosafety procedures that apply to your planting site.

PRODUCTS
Fuel: C. lusitanica is a good source of firewood.

Timber: The white wood saws cleanly and has straight fine grain; it is a source of construction wood and pulp wood and is used for furniture, poles and posts.

SERVICES
Shade or shelter: Trees are suitable as windbreaks.

Ornamental: The beautiful tree can be planted in amenity areas.

Boundary or barrier or support: It is grown as a live fence.

TREE MANAGEMENT
The fast-growing conifers are planted on land that has been cleared by burning, to improve rooting conditions and eliminate potential competitors. In general, the seedlings should be planted at 2 x 2 or 3 x 3 m; close spacing is preferable to prevent strong branches from developing. As C. lusitanica gives only limited protection against soil erosion, pure stands on slopes or erosion-prone sites should be underplanted with other suitable species. Weeding is an absolute must during the 1st years.

Pruning is practised so that trees yield high-quality, knot-free sawlogs. Pruning should be done when trees are 3 years old, with 3 further prunings at 6, 9 and 13 years of age in a 25-30 year rotation. Trees grown for high-quality timber should be pruned to 30% of their stem height every 3 years without diminishing volume growth. Thinning is prescribed before each pruning.

In early years, individual trees should show an annual height increment of 1.2-1.5 m (2 m in exceptional cases). Trees produce poles after 10 years and general-purpose timber after 20 years. They need to be protected from fire and rodent attack.

GERMPLASM MANAGEMENT
After extraction, the seeds are dried in the sun to 6-10% mc before they are stored. Long-term seed storage behaviour is orthodox. Germination rate for seeds in hermitic storage for 21 years at 5 deg. C with less than 10% mc is 10%; viability can be maintained in hermitic storage at 3 deg. C with 6-10% mc. With normal dry storage, 75% germination can be maintained for 1 year and for several years if seeds are refrigerated at 4 deg. C. Seed weight varies with provenance, ranging from 170 000 to 320 000 seeds/kg.

PESTS AND DISEASES
Trees are susceptible to insect pests Acheta assimilis, Agrotis spp., Atta spp., Captotermes crassus, Exophthalmus spp., Phytophaga spp., Platypus spp. and Pypselonotus aratus. The pest most widely known is the timber borer Oemida gahani, which gains entry through surface wounds such as those created by pruning and degrades timber; pruning before trees are 7 years old could contain the problem. The cypress aphid Cinara cupressi attacks trees of the Cupressaceae family in south and central Africa and is fast advancing to Tanzania and Uganda. Pests are controlled using insecticides and biological control techniques, by planting resistant varieties and by legislation prohibiting entry of plant material from infested areas.

The most serious diseases are those affecting cambial function and other tissues. In misty and wet weather, trees are susceptible to fungal attack by Monochoetia unicornis. It infects stems of young plants and young shoots of older trees and appears as cankers and local disorganization of newly formed bark, cambial and cortical tissues. Armillaria root rot caused by Armillaria mellea attacks roots and butts of trees and causes rotting, which eventually kills the trees. Pathogens that attack trees include Cercospora seqoiae, Colletotrichum spp., Fusarium spp., Seridium cardinale and Verticillium.

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