

**LOCAL NAMES**

English (silvertop, shining gum)

**BOTANIC DESCRIPTION**

*Eucalyptus nitens* is a tall forest tree, commonly 40-70 m in height and occasionally up to 90 m, with a diameter at breast height of 1-2 m or more; typically has a good shape and a straight bole, which may be 1/2 or 2/3 of the tree height; bark smooth throughout, greyish, decorticating in long ribbons, sometimes with a relatively thin basal stocking of rough bark for a few metres; saplings and young trees characteristically green barked.

Leaves of seedlings and juvenile trees are opposite, sessile, amplexicaul, ovate, glaucous, bluish, discolourous; seedlings 4-10 x 2-4 cm, juveniles 8.5-17 x 4.5-8 cm; adult leaves alternate, petiolate, lanceolate to narrow-lanceolate, 13-24 x 1.5-2.5 cm, green, concolorous.

Inflorescence simple, axillary, 7 flowered; peduncles angular to somewhat flattened; pedicels usually absent, occasionally very short; buds cylindrical or ovoid, often angular or ribbed, 6-7 x 3 mm; opercula conical.

Fruits sessile, ovoid, often fairly ribbed, 4-7 x 4-6 mm, with a glossy surface; disk narrow, descending; valves 3 or 4, about rim level or slightly exserted.

The genus *Eucalyptus* was described and named in 1788 by the French botanist l'Héritier. The flowers of the various *Eucalyptus* species are protected by an operculum, hence the generic name, which comes from the Greek words 'eu' (well), and 'calyptos' (covered). 'Nitens' is a Latin word for 'shining', 'polished' or 'bright', and refers to the leaves, buds, fruits and bark. The fruits in particular have a distinctive, glossy, varnished appearance.

**BIOLOGY**

A high degree of selfing is suspected. *E. nitens* is a late and light seed producer.

**ECOLOGY**

*E. nitens* occurs in the hills and valleys in mountain areas, sometimes as small pure stands and often forming part of a mosaic of *Eucalyptus* species. In its natural habitat, the climate is cool to warm, or humid to subhumid, with the mild summers rarely having very high temperatures. It is one of the most frost-tolerant of the fast-growing commercial *Eucalyptus* species and is moderately drought resistant.

**BIOPHYSICAL LIMITS**

Altitude: 600-1600 m, Mean annual temperature: -5 to 2-21 to 26 deg. C, Mean annual rainfall: 750-1750 mm

Soil type: Best growth is on well-drained, deep, rich, moist loamy soils over clay, but it will grow satisfactorily on a wide range of moderately fertile soils.

**DOCUMENTED SPECIES DISTRIBUTION**

Native: Australia

Exotic: Argentina, Brazil, Chile, India, New Zealand, South Africa, United Kingdom, United States of America, Zimbabwe



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: A suitable fuelwood, and is popular for this in New Zealand.

Fibre: Wood from *E. nitens* is widely used for pulp and paper.

Timber: The heartwood is straw coloured or pale pink, straight grained, tough but relatively easy to work, and not durable. It has a density of 670-720 kg/cubic m. It is used for general building construction, flooring, joinery, panelling and furniture. The wood is suitable for sawing and is used for general construction and, in a round form, for building and transmission poles.

Essential oil: The essential oil from *E. nitens* is monoterpenoid in nature and is characterized by large amounts of alpha-pinene (10-17%) and 1,8-cineole (18-70%), the latter being a principle constituent of medicinal oils.

**TREE MANAGEMENT**

*E. nitens* is an evergreen, fast-growing tree with very good vigour and volume growth. The lower branches of trees on young plantations tend to stand out at right angles to the trunk and do not shed as well as those of most *Eucalyptus* species. *E. nitens* can be coppiced. It is very sensitive to fire and is killed even by light wild fire. But if sufficient seed is available, the regeneration is prolific, and regrowth develops rapidly on the resulting ash beds.

It is estimated that *E. globulus* and *E. nitens* can grow at 40 cubic m/ha per year. Rotations of 8-10 years are envisaged for pulpwood production, and up to 25 years for timber production.

**GERMPLASM MANAGEMENT**

Seed storage behaviour is orthodox. Hermetic storage at 4-6% mc and subzero temperatures is recommended. There are approximately 260 000 viable seeds/kg.

**PESTS AND DISEASES**

The juvenile leaves of *E. nitens* are unpalatable to many pests, in some cases even to the leaf-cutting atta ants of Brazil and to the Australian opossums that in New Zealand eat the foliage. The pests attack the adult leaves.

**FURTHER READNG**

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Hong TD, Linington S, Ellis RH. 1996. Seed storage behaviour: a compendium. Handbooks for Genebanks: No. 4. IPGRI.

**SUGGESTED CITATION**

Orwa C, A Mutua, Kindt R , Jamnadass R, S Anthony. 2009 Agroforestry Database:a tree reference and selection guide version 4.0 (<http://www.worldagroforestry.org/sites/treedbs/treedatabases.asp>)