

**Casuarina cunninghamiana****Casuarinaceae****Eastern Australia**

**COMMON NAMES:** **English:** River oak, River she-oak.

**DESCRIPTION:** An evergreen tree to 30 m, pyramidal in shape when young, the base wide when mature and a shady crown. **BARK:** Grey-black, much cracked with age. Thin **branchlets** have taken over leaf function in this family—leaves are minute scales at each joint. The grey-green branchlets are **9–20 cm long, on upturned branches**. **FLOWERS:** Inconspicuous. Male flowers are seen as yellow pollen-bearing tips to branchlets and female flowers are tiny heads with hairy red stigmas on woody branches. **FRUIT:** In dense clusters, **prickly brown** and cone-like, **1 cm long**. They ripen and shed hundreds of winged seed, pale in colour and smaller than *C. equisetifolia*.

**ECOLOGY:** Introduced to Kenya and many other tropical areas from Australia, where it is found along freshwater streams and rivers. Common in Nairobi where it is grown as an ornamental. It prefers well-drained soils. It can grow from warm subhumid to warm semi-arid climates, 0–2,200 m. Agroclimatic Zones I–IV. In Nairobi in full flower in May.

**USES:** Firewood, charcoal, timber, poles, posts, fodder, shade, ornamental, mulch, nitrogen-fixing, river-bank stabilization, soil conservation, windbreak.

**PROPAGATION:** Seedlings. Nursery soil where *Casuarina* are to be raised may need inoculation by addition of soil from beneath mature trees.

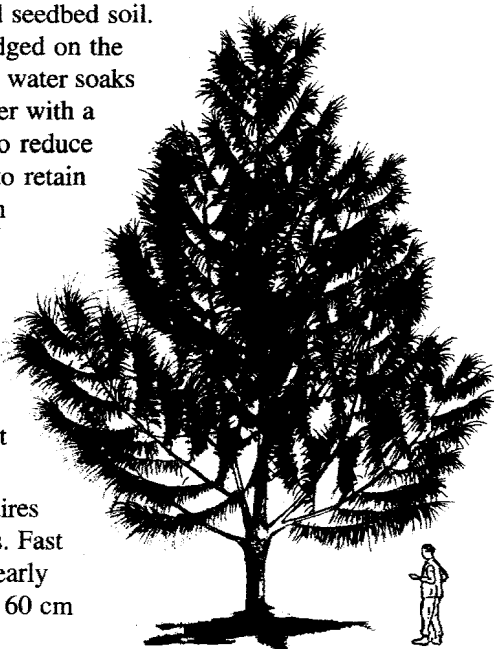
**SEED:** On average 1,800,000 seeds per kg. Collect cones at maturity, just before they open to release seed. Then dry cones on a cement floor or plastic sheet so seeds are released. Move around for cones to release seed, then remove cones and collect seed. Good germination rate, 55–70%. Sow seed in seedbeds and prick out soon after germination. Street nurseries in Nairobi germinate these trees in the following way. Water the seedbed and put the desired quantity of the small seeds in water. Pour this mix on the humid seedbed soil.

Seeds become lodged on the soil surface as the water soaks into the soil. Cover with a polythene sheet to reduce evaporation and to retain heat. Germination occurs after a few days.

**treatment:** Not necessary.

**storage:** Seed can be stored for long periods; best in darkness.

**MANAGEMENT:** Requires well-drained soils. Fast growing even at early stage. May attain 60 cm



within first 4 months. Faster growing than *C. equisetifolia* at higher elevation; coppices when young.

**REMARKS:** This is the largest of all casuarinas. It has spreading roots good for holding the soil together, hence valued in soil-erosion control. Casuarinas are graceful multipurpose trees adaptable to strong winds and relatively dry conditions. Few plants grow underneath them, however, and therefore some farmers maintain that they poison the soil and are not good for cropland in spite of their nitrogen-fixing ability. In Australia, leaves are used as fodder when nothing else is available ('beefwood'). The wood is very hard and is difficult to work. Termites may damage seedlings as well as young trees.

**FURTHER READING:** <http://www.worldagroforestrycentre.org/Sites/TreeDBS/AFT/AFT.htm>; Bein et al., 1996; Bekele-Tesemma et al., 1993; Dharani, 2002; Mbuya et al., 1994; Noad and Birnie, 1989; Pinyopusarek and House, 1993; Turnbull, 1986.

