

Cluster pine

Pinus pinaster Ait.

Pine family (Pinaceae)

Post-Cook introduction

Large introduced narrow-leaf or needle-leaf evergreen tree of forest plantations, with paired long stout needles, clustered large brown cones remaining attached, and thick rough bark. To 80 ft (24 m) or more in height with long straight trunk 2½ ft (0.8 m) in trunk diameter, usually without branches except near top. Bark very thick, rough, deeply furrowed into long narrow ridges, blackish, in upper part or on smaller trees smoothish and gray. Branches horizontal, usually one tier or ring annually. Twigs light brown, hairless, becoming ridged and rough from bases of scale leaves. Winter buds large, ¾–1 inch (2–2.5 cm) long, long-pointed, with whitish-brown fringed spreading scales.

Leaves or needles two in cluster, dull gray green, stout, stiff, 4–8 inches (110–20 cm) long, flattened and more than ¼ inch (1.5 mm) wide, with many fine whitish lines on each surface, finely toothed edges, and blunt point. Sheath at base of leaves 1 inch (2.5 cm) long.

Cones 1 to several clustered in ring, egg-shaped, 3–5 inches (7.5–13 cm) long, shiny brown, symmetrical or nearly so, nearly stalkless, spreading or bent down, maturing in 2 years, opening or sometimes closed, remaining attached. Cone-scales with exposed end four-angled and bearing a stout blunt point. Seeds paired and exposed at base of cone-scales, with elliptical body ¾ inch (1 cm) long and wing 1–1½ inches (2.5–4 cm).

The wood is moderately heavy and hard, coarse-textured, and resinous. An increment core survey of wood density indicated that Hawaii-grown wood had a specific gravity of 0.49. It produces true annual rings in Hawaii. Sapwood pale yellow to whitish; heartwood reddish brown. Uses elsewhere include construction, boxes, mine timbers, utility poles, and railway crossties. Chiefly in western France, large forest areas are managed for production of oleoresins or naval stores by tapping operations. Resin is extracted also from stumps and waste wood by destructive distillation.

The trees thrive in sandy soils in warm climates and have served to reclaim large areas of sand dunes along coasts of France and Portugal.

This pine has been planted at Waihou Spring Forest Reserve, altitude 3800 ft (1158 m) and at the Kula For-

est Reserve at 6200 ft (1890 m) on Maui. It has also been planted on the leeward slopes of Molokai and Kauai as well as several locations on Hawaii. Trees have been severely damaged by the Eurasian pine adelgid (“aphid”) (*Pineus pini*) on Molokai, Maui, and the island of Hawaii, and are also very susceptible to a fungus (*Diplodia pinea*), which has killed many trees on Molokai. Because of these attacks and the relatively slow growth rate as compared to the southern pines, cluster pine will not be used in future plantings.

Champion

Height 90 ft (27.4 m), c.b.h. 9.9 ft (3.0 m), spread 54 ft (16.5 m). Waihou Springs Forest Reserve, Olinda, Maui (1968).

Range

Native of western Mediterranean region from Portugal, Spain, and Morocco east to southern France, Corsica, and eastern Italy, greatly extended beyond by cultivation.

Other common names

maritime pine, seaside pine



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Leafy twig (left), twig with male cones (right), and cone (below), 1 X.