

# *Calophyllum inophyllum* L.

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## CLUSIACEAE (MANGOSTEEN FAMILY)

*No synonyms*

Alexandrian laurel, beauty leaf, kamani (Little and Skolmen 1989)

*Calophyllum inophyllum* is in a genus of about 110 species that are pantropical in distribution but most common in tropical Asia (Gentry 1993, Liberty Hyde Bailey Hortorium 1976, Wagner and others 1990). Native from east Africa to Australia and Malesia, *C. inophyllum* has been widely planted throughout the tropics, including many south and central Pacific islands, the Hawaiian Islands, and the Caribbean islands.

*Calophyllum inophyllum* is a low-branching evergreen tree with a broad, spreading crown of irregular, gnarled branches. It typically attains 8 to 20 m in height and 0.5 to 1.0 m d.b.h. It is generally described as slow-growing. *Calophyllum inophyllum* is primarily a tree of the seashore and adjacent lowland forests, although it occasionally grows at higher elevations and has been successfully planted in inland areas (e.g., Uganda; Streets 1962). It grows in areas with annual rainfall ranging from about 1000 to 5000 mm. The tree grows in a wide variety of soils, from nearly pure coastal sands to clay, and is capable of growth on degraded and poorly drained sites. It can be found right at the edge of the sea, where it may be exposed to high winds, sea spray, and brackish water tables.

Descriptions of *C. inophyllum* often emphasize its value as an ornamental because it has attractive leaves, fragrant flowers, and a pleasing form. Indeed, it is probably planted more for ornamental purposes than for other uses. The species is commonly planted along streets and in parks in Hawaii and Puerto Rico and in urban areas throughout its native range. The wood is hard, strong, moderately durable, and often highly figured and has a specific gravity of about 0.60 to 0.64. It has been used in general construction and boatbuilding and for flooring, furniture, musical instruments, handicrafts, and a variety of other purposes (Kraemer 1951, Little and Skolmen 1989). The thick, dark green oil extracted from the seeds is used in a number of products, including oil for lighting, medicines, and body and hair grease (Little and Skolmen 1989,

Neal 1965). The tree is regarded as sacred in some parts of the Pacific and is commonly featured in chants and other folklore of the region.

The white flowers are about 25 mm wide and occur in axillary, racemose, or panicle inflorescences consisting of 4 to 15 flowers. Although some flowering may occur throughout the year (Foxworthy 1927), in most regions two distinct flowering periods occur—one in the late spring/early summer and another in late fall. The fruit (a drupe) is green, round, and typically 2 to 4 cm in diameter including a thin (3 to 5 mm) layer of pulp, the shell, and the single large seed. Fully mature fruits are yellow- or red-brown and wrinkled.

Seeds can be collected from trees by picking individual fruits or lopping off branches with pruning poles, but it is generally more practical to collect them after the fruits fall to the ground. In Hawaii, seeds are most readily available April through June and October through December.

The thick, hard shells (endocarps) of the fruit can cause long delays in germination; therefore shelling the seed before germination is recommended. The shells are relatively easy to open by tapping lightly with a piece of wood or a wooden mallet (Parras 1939) or by cracking with pliers or similar tool. In one study, seeds with intact shells germinated in an average of 57 days, compared with 38 days for seeds with cracked shells and 22 for seeds with shells completely removed (Parras 1939). Seeds of a related species (*C. calaba* L.) reportedly maintain their viability well, with fair germination occurring after seeds were stored in a dry room for 1 year (Weaver 1990); however, Foxworthy (1927, p. 134) states that *C. inophyllum* seed “does not maintain its vitality very long.” Seeds average about 100 to 210 per kg (Sastry 1990).

Shelled seeds may have a germination rate greater than 90 percent (Allen 1997, Parras 1939); therefore sowing seed directly into containers is the most efficient method. Small

dibble tubes can be used when the seed is extracted from the shell; otherwise use of larger tubes ( more than 6 cm diameter) or small pots or sowing in seedbeds followed by transplanting is recommended. Seedlings can be moved safely into full sunlight 1 to 2 months after germination. Seedlings should be hardened in full sunlight for 4 months before outplanting

(Philippine Council for Agriculture, Forestry and Natural Resources Research and Development 1994). They develop rapidly in the nursery and may reach a height of 1 m within their first year. Direct seeding is also effective in establishing this species. Seeds should be sowed approximately 2.5 cm deep. Planting in areas with light shade may improve success.

