

# *Guaiacum sanctum*: Lignum Vitae<sup>1</sup>

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## Introduction

Lignum vitae is an extremely slow-growing broadleaf evergreen which ultimately reaches 30 feet in height and casts light shade, but few people have seen plants of this size because it is not grown in the trade. Most are seen 8 to 12 feet tall with a beautiful array of multiple trunks and a rounded canopy much like that of a mature crape-myrtle. The one to two-inch-long, leathery, dark green leaves are joined at many times throughout the year by the production of large clusters of bluish purple flowers, the old flowers fading to a light silvery-blue and creating a shimmering haze over the rounded canopy. These flowers are followed by small, heart-shaped, yellow orange berries, appearing on the tree at the same time as the bluish purple flowers and creating a lovely sight.

## General Information

**Scientific name:** *Guaiacum sanctum*

**Pronunciation:** GWY-uh-kum SANK-tum

**Common name(s):** Lignum vitae, holywood, tree of life

**Family:** *Zygophyllaceae*

**USDA hardiness zones:** 10B through 11 (Figure 2)



Figure 1. Full Form—*Guaiacum sanctum*: Lignum vitae

**Origin:** native to Florida, the West Indies, Mexico, and Central America

**UF/IFAS Invasive Assessment Status:** native

**Uses:** tree lawn 3–4 feet wide; tree lawn 4–6 feet wide; tree lawn > 6 ft wide; sidewalk cutout (tree pit); parking lot island < 100 sq ft; parking lot island 100–200 sq ft; parking lot island > 200 sq ft; container or planter; specimen; deck or patio; Bonsai; highway median

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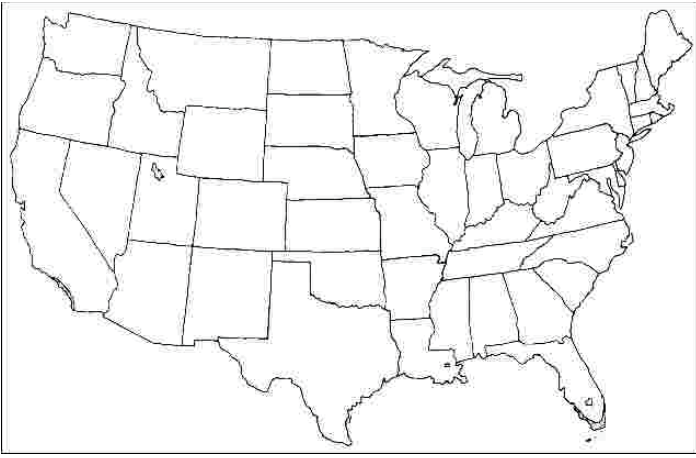


Figure 2. Range

## Description

**Height:** 10 to 30 feet

**Spread:** 8 to 12 feet

**Crown uniformity:** symmetrical

**Crown shape:** round, vase

**Crown density:** dense

**Growth rate:** slow

**Texture:** fine

## Foliage

**Leaf arrangement:** opposite/subopposite

**Leaf type:** even-pinnately compound; made up of 3-5 pairs of leaflets

**Leaf margin:** entire

**Leaf shape:** obovate, elliptic (oval)

**Leaf venation:** pinnate

**Leaf type and persistence:** evergreen

**Leaf blade length:** 1 to 2 inches

**Leaf color:** dark green

**Fall color:** no color change

**Fall characteristic:** not showy



Figure 3. Leaf—*Guaiacum sanctum*: Lignum vitae  
Credits: Marc S. Frank, University of Florida Herbarium

## Flower

**Flower color:** bluish purple

**Flower characteristics:** very showy; emerges in terminal clusters

**Flowering:** most abundant in spring, but also year-round



Figure 4. Flower—*Guaiacum sanctum*: Lignum vitae

## Fruit

**Fruit shape:** oval

**Fruit length:** ½ inch

**Fruit covering:** fleshy; 5-winged capsule

**Fruit color:** yellow orange



**Fruit characteristics:** does not attract wildlife; showy; fruit/leaves not a litter problem

**Fruiting:** most abundant in summer, but also year-round



Figure 5. Fruit—*Guaiacum sanctum*: *Lignum vitae*

## Trunk and Branches

**Trunk/branches:** branches droop; very showy; typically multi-trunked; no thorns

**Bark:** creamy white to gray, and peels in patches with age

**Pruning requirement:** needed for strong structure

**Breakage:** resistant

**Current year twig color:** gray

**Current year twig thickness:** thin

**Wood specific gravity:** 1.09



Figure 6. Bark—*Guaiacum sanctum*: *Lignum vitae*  
Credits: Gitta Hasing

## Culture

**Light requirement:** full sun to partial shade

**Soil tolerances:** clay; sand; loam; alkaline; acidic; well-drained

**Drought tolerance:** high

**Aerosol salt tolerance:** high

## Other

**Roots:** not a problem

**Winter interest:** yes

**Outstanding tree:** yes

**Ozone sensitivity:** unknown

**Verticillium wilt susceptibility:** unknown

**Pest resistance:** free of serious pests and diseases

## Use and Management

Underneath the smooth, beige/grey bark of *Lignum vitae* is some of the heaviest of all wood, sinking under its weight instead of floating in water. This dense wood was once popular for use in the manufacture of bowling balls and has also been used for propeller shafts on steamships, gears and for mallets. The picturesque crooked, typically multiple trunk, evergreen leaves, and beautiful flowers, and fruit would all combine to make *Lignum vitae* a popular choice for use as a container, patio, or specimen planting if it were widely available in a range of sizes. Unfortunately, like many other slow-growing trees, this one is not often grown in nurseries. One must travel to arboreta to view nice specimens of this tree.

*Lignum vitae* can be grown in full sun or partial shade on a wide variety of soils, including alkaline. Plants will easily tolerate wet or dry soil, wind, and salt, making it an ideal choice especially for seaside plantings.

*Guaiacum officinale* grows 10 to 30 feet tall, has blue or sometimes white flowers, and light to dark brown seeds.

Propagation is by seed.

## Pests and Diseases

No pests or diseases of concern.

## Reference

Koeser, A. K., Friedman, M. H., Hasing, G., Finley, H., Schelb, J. 2017. *Trees: South Florida and the Keys*. Gainesville: University of Florida Institute of Food and Agricultural Sciences.