

# Liquidambar styraciflua: Sweetgum<sup>1</sup>

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## Introduction

Sweetgum grows in a narrow pyramid to a height of 75 feet and may spread to 50 feet. The beautifully glossy, star-shaped leaves turn bright red, purple, yellow or orange in the fall (USDA hardiness zones 6 and 7) and early winter (USDA hardiness zones 8 and 9). On some trees, particularly in the northern part of its range, branches are covered with characteristic corky projections. The trunk is normally straight and does not divide into double or multiple leaders and side branches are small in diameter on young trees, creating a pyramidal form. The bark becomes deeply ridged at about 25-years-old. Sweetgum makes a nice conical park, campus or residential shade tree for large properties when it is young, developing a more oval or rounded canopy as it grows older as several branches become dominant and grow in diameter.

## General Information

**Scientific name:** *Liquidambar styraciflua*

**Pronunciation:** lick-wid-AM-bar sty-rass-ih-FLOO-uh

**Common name(s):** sweetgum

**Family:** *Altingiaceae*

**USDA hardiness zones:** 5B through 10A (Fig. 6)

**Origin:** native to North and Central America

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



Figure 1. Full Form - *Liquidambar styraciflua*: sweetgum  
Credits: UF/IFAS

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**Uses:** tree lawn > 6 ft wide; shade; street without sidewalk; specimen; reclamation; parking lot island > 200 sq ft

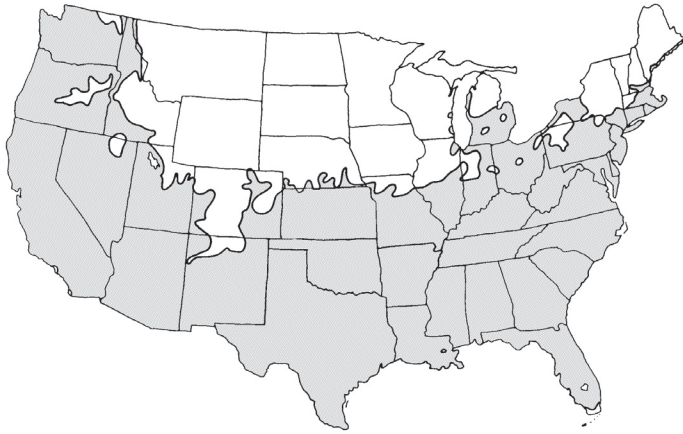


Figure 2. Range

## Description

**Height:** 60 to 75 feet  
**Spread:** 35 to 50 feet  
**Crown uniformity:** symmetrical  
**Crown shape:** pyramidal, oval  
**Crown density:** moderate  
**Growth rate:** moderate  
**Texture:** coarse

## Foliage

**Leaf arrangement:** alternate (Figure 2)  
**Leaf type:** simple  
**Leaf margin:** serrate  
**Leaf shape:** star-shaped



Figure 3. Leaf - *Liquidambar styraciflua*: sweetgum  
Credits: UF/IFAS

**Leaf venation:** palmate

**Leaf type and persistence:** deciduous

**Leaf blade length:** 4 to 6 inches

**Leaf color:** dark green and shiny on top, whitish green underneath

**Fall color:** yellow, orange, red, burgundy

**Fall characteristic:** showy

## Flower

**Flower color:** yellow green or tinged with red

**Flower characteristics:** not showy; male – emerges in clusters on a 3-4" long, upright raceme; female – emerges in clusters on a ½" long, globose head that hangs from a thin stalk

**Flowering:** early to mid-spring



Figure 4. Fruit, Young - *Liquidambar styraciflua*: sweetgum  
Credits: UF/IFAS



Figure 5. Fruit, Mature - *Liquidambar styraciflua*: sweetgum  
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## Fruit

**Fruit shape:** round (Fig. 8)

**Fruit length:** 1 to 1 ½ inches

**Fruit covering:** dry or hard; spiny, spherical cluster of beaked capsules

**Fruit color:** brown

**Fruit characteristics:** attracts birds; showy; fruit/leaves a litter problem

## Trunk and Branches

**Trunk/branches:** branches droop; not showy; typically one trunk; no thorns

**Bark:** grayish brown, deeply furrowed, with rough, interlacing ridges that become almost white with age

**Pruning requirement:** little required

**Breakage:** resistant

**Current year twig color:** reddish, brown

**Current year twig thickness:** medium

**Wood specific gravity:** 0.52

## Culture

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

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

**Drought tolerance:** moderate

**Aerosol salt tolerance:** moderate

**Other**

**Roots:** can form large surface roots

**Winter interest:** yes

**Outstanding tree:** no

**Ozone sensitivity:** sensitive

**Verticillium wilt susceptibility:** resistant

**Pest resistance:** resistant to pests/diseases

## Use and Management

Be careful when locating Sweetgum as a street tree since its large, aggressive roots may lift curbs and sidewalks. Plant trees 8 to 10 feet or more from curbs. Some communities have large numbers of Sweetgum planted as street trees. Much of the root system is shallow (particularly in its native, moist habitat), but there are deep vertical roots directly beneath the trunk in well-drained and in some other soils. The fruit may be a litter nuisance to some in the fall, but this is usually only noticeable on hard surfaces, such as roads, patios, and sidewalks, where people could slip and fall on the fruit. The cultivar 'Rotundiloba' is fruitless. The tree should be planted only in soil with a pH of 7 or less. The seeds provide food for wildlife and will often readily germinate in shrub and groundcover beds, requiring their removal to maintain a neat landscape appearance. Tree thickets form in this manner, creating dense monocultures of Sweetgum.



Figure 6. Bark - *Liquidambar styraciflua*: sweetgum  
Credits: Gitta Hasing, UF/IFAS

Although it grows at a moderate pace, Sweetgum is rarely attacked by pests, and tolerates wet soils, but chlorosis is often seen in alkaline soils. Trees grow well in deep soil, poorly in shallow, droughty soil. It is difficult to transplant and should be planted from containers or transplanted in the spring when young since it develops deep roots on well-drained soil. It is native to bottomlands and moist soils and tolerates only some (if any) drought. Existing trees often die-back near the top of the crown, apparently due to extreme sensitivity to construction injury to the root system, or drought injury. The tree leafs out early in the spring and is sometimes damaged by frost.

Cultivars have been selected for their fall color, leaf shape, or growth habit: 'Burgundy' - beautiful, glossy green leaves, burgundy red fall color, holds leaves late into fall, narrow pyramid, less cold hardy, more adapted to the southern part of its range; 'Festival' - narrow upright growth habit, peach-colored fall foliage, less cold hardy, more adapted to the southern part of the range; 'Moraine' is reputed to be the most cold hardy; 'Palo Alto' - pyramidal, symmetrical growth, bright orange fall color; 'Rotundiloba' - round leaf tips, no fruit production, narrow pyramidal form. *Liquidambar formosana* has a broader spreading crown.

## Pests

Bagworm makes sacks by webbing together pieces of leaves. The insects live in the sacks while they feed. Small numbers of insects may be picked off by hand.

Fall webworm webs over portions of large branches or may completely cover small branches. The insects feed on leaves inside the nest. If practical, nests can be pruned out while small and when the insects are inside. A few nests in large trees are not serious.

Leaf miner causes brown blotches on leaves. If injury is caused by leaf miner the browned upper and lower leaf surfaces will be completely separate when the leaf is torn in two.

Cottony-cushion scale, Sweetgum scale, and walnut scale can infest the branches. Use horticultural oil in the spring to help provide control.

Tent caterpillars make nests to live in but leave the nests to feed. Prune out nests at the tips of small branches. Do not burn the nest while it is still in the tree because you will injure the tree.

## Diseases

Sweetgum may be attacked by canker diseases. These diseases cause sunken areas on the trunk and some cause profuse "bleeding". Infected bark and sapwood will be brown and dead. There is no chemical control for canker diseases. Severely infected trees will die. Prune cankers out of lightly infected trees. Maintain tree health by watering and fertilizing.

Leaf spots of various types may attack Sweetgum, causing premature defoliation, but are not serious. Rake up and destroy infected leaves to help control if there are no adjacent Sweetgum to add inoculum.

Leader dieback on established trees in the southern U.S. may be due to lack of moisture and/or construction injury.

## Reference

Koeser, A. K., Hasing, G., Friedman, M. H., and Irving, R. B. 2015. Trees: North & Central Florida. University of Florida Institute of Food and Agricultural Sciences.