

Liquidambar formosana: Formosa Sweetgum¹

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Introduction

Formosa Sweetgum has a wide, pyramidal shape when young but eventually grows to a rounded or irregular form, reaching 40 to 60 feet in height with a 35 to 45-foot spread. Young specimens may vary in form and be somewhat irregular. It has a more rounded crown than native Sweetgum. The large, three-lobed leaves, purplish-red when young, are dark green through the growing season and in fall turn a beautiful yellow-red color in the south or red in



Figure 1. Middle-aged *Liquidambar formosana*: Formosa Sweetgum
Credits: Ed Gilman

the north. Branches are covered with characteristic corky projections. Formosa Sweetgum makes a nice park, campus or residential shade tree for large properties.

General Information

Scientific name: *Liquidambar formosana*

Pronunciation: lick-wid-AM-bar for-moe-SAY-nuh

Common name(s): Formosa Sweetgum, Chinese Sweetgum

Family: *Hamamelidaceae*

USDA hardiness zones: 7A through 9B (Fig. 2)

Origin: not native to North America

Uses: shade; street without sidewalk; tree lawn > 6 ft wide; Bonsai

Availability: somewhat available, may have to go out of the region to find the tree



Figure 2. Range

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Description

Height: 40 to 60 feet

Spread: 35 to 45 feet

Crown uniformity: irregular

Crown shape: pyramidal, oval

Crown density: moderate

Growth rate: moderate

Texture: coarse

Foliage

Leaf arrangement: alternate (Fig. 3)

Leaf type: simple

Leaf margin: serrate

Leaf shape: star-shaped

Leaf venation: palmate

Leaf type and persistence: deciduous

Leaf blade length: 2 to 4 inches, 4 to 8 inches

Leaf color: green

Fall color: yellow, red

Fall characteristic: showy

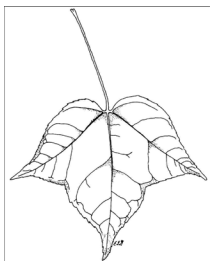


Figure 3. Foliage

Flower

Flower color: green

Flower characteristics: not showy

Fruit

Fruit shape: round

Fruit length: 1 to 3 inches

Fruit covering: dry or hard

Fruit color: brown

Fruit characteristics: attracts birds; not showy; fruit/leaves a litter problem

Trunk and Branches

Trunk/bark/branches: branches don't droop; not showy; typically one trunk; thorns

Pruning requirement: needed for strong structure

Breakage: resistant

Current year twig color: gray, brown

Current year twig thickness: thick

Wood specific gravity: unknown

Culture

Light requirement: full sun

Soil tolerances: clay; sand; loam; acidic; occasionally wet; well-drained

Drought tolerance: moderate

Aerosol salt tolerance: unknown

Other

Roots: can form large surface roots

Winter interest: no

Outstanding tree: no

Invasive potential: little invasive potential

Ozone sensitivity: unknown

Verticillium wilt susceptibility: unknown

Pest resistance: resistant to pests/diseases

Use and Management

Be careful when locating Formosa Sweetgum as a street tree since its large, aggressive roots may eventually lift curbs and sidewalks. Plant trees 8 to 10 feet or more away. 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. Fruit is softer than *Liquidambar styraciflua* and probably is less of a nuisance.

Although it grows at a moderate pace, Formosa Sweetgum requires continually-moist soils. It is recommended only for acidic soils since chlorosis develops on soils with a pH over 7.5. It grows very well in clay soils which hold moisture, and tolerates wet soil. Formosa Sweetgum is difficult to transplant in the fall from the field due to a coarse, deep root system on well-drained soil and should be planted from containers or transplanted when young. Grows well as a street tree in confined soil spaces due to its ability to tolerate poorly aerated soil, but only when supplied with adequate moisture. This tree should be tested further for adaptability to urban sites. *Liquidambar* spp. grow very well for several years after transplanting in Texas and in other areas with a high pH subsoil but chlorosis often develops as some roots establish themselves in the alkaline subsoil. The tree is very susceptible to *Endothia* canker infection and, in some areas of the country, has devastated the tree.

The cultivar 'Afterglow' has lavender purple new growth and rose-red fall color. *Liquidambar styraciflua* 'Rotundiloba' does not set fruit and could be a superior tree.

Propagation is by seeds which may not germinate until the second year.

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. Trees do not die from infestations of fall webworms.

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.

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 since this will injure the tree and could start an uncontrolled fire.

Diseases

Formosa 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.

Endothia gyrosa has devastated Formosa Sweetgum in some areas of USDA hardiness zone 8.

Leaf spots of various types may attack Formosa Sweetgum but are not serious. Rake up infected leaves.