



# *Liriodendron tulipifera* Tuliptree<sup>1</sup>

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## INTRODUCTION

Tuliptree grows 80 to 100 feet tall and maintains a fairly narrow oval crown, even as it grows older (Fig. 1). Trunks become massive in old age, becoming deeply furrowed with thick bark. The tree maintains a straight trunk and generally does not form double or multiple leaders. Older trees have several large-diameter major limbs in the top half of the crown. Tuliptree has a moderate to rapid (on good sites) growth rate at first but slows down with age. The soft wood reportedly is subject to storm damage but the trees held up remarkably well in the south during hurricane 'Hugo'. It is probably stronger than given credit for. The largest trees in the east are in the Joyce Kilmer Forest in NC, some reaching more than 150 feet with seven-foot diameter trunks. The fall color is gold to yellow being more pronounced in the northern part of its range. The scented, tulip-like, greenish-yellow flowers appear in mid-spring but are not as ornamental as those of other flowering trees because they are far from view.

## GENERAL INFORMATION

**Scientific name:** *Liriodendron tulipifera*

**Pronunciation:** leer-ee-oh-DEN-drawn  
too-lih-PIFF-er-uh

**Common name(s):** Tuliptree, Tulip-Poplar,  
Yellow-Poplar

**Family:** *Magnoliaceae*

**USDA hardiness zones:** 5 through 9A (Fig. 2)

**Origin:** native to North America

**Uses:** shade tree; no proven urban tolerance

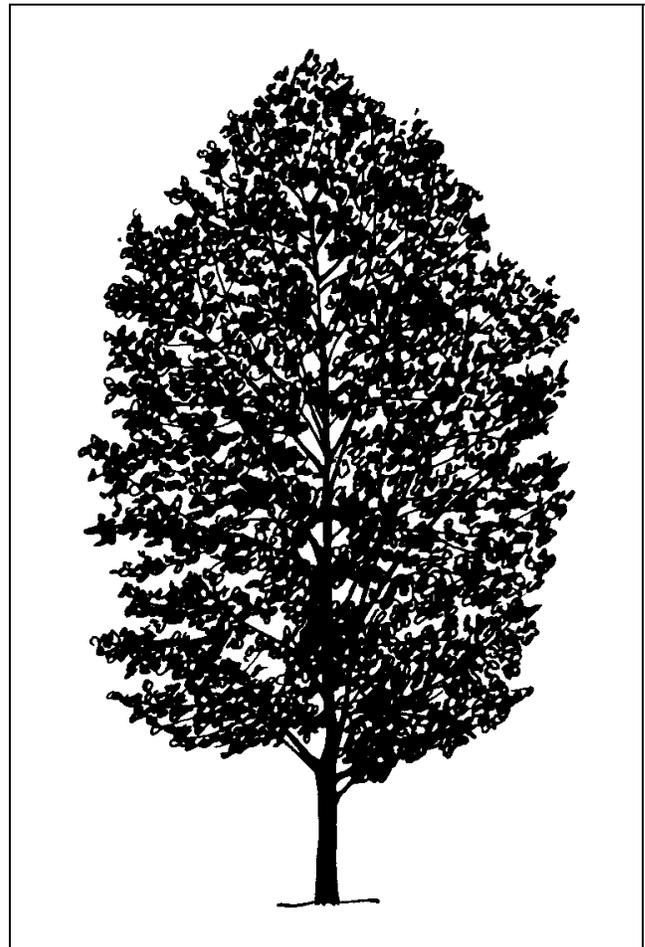


Figure 1. Middle-aged Tuliptree.

**Availability:** generally available in many areas within its hardiness range

1. This document is adapted from Fact Sheet ST-363, a series of the Environmental Horticulture Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Publication date: November 1993.
2. Edward F. Gilman, associate professor, Environmental Horticulture Department; Dennis G. Watson, associate professor, Agricultural Engineering Department, Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville FL 32611.



Figure 2. Shaded area represents potential planting range.

## DESCRIPTION

**Height:** 80 to 100 feet

**Spread:** 30 to 50 feet

**Crown uniformity:** symmetrical canopy with a regular (or smooth) outline, and individuals have more or less identical crown forms

**Crown shape:** oval

**Crown density:** moderate

**Growth rate:** medium

**Texture:** coarse

## Foliage

**Leaf arrangement:** alternate (Fig. 3)

**Leaf type:** simple

**Leaf margin:** lobed; entire

**Leaf shape:** orbiculate

**Leaf venation:** pinnate

**Leaf type and persistence:** deciduous

**Leaf blade length:** 4 to 8 inches

**Leaf color:** green

**Fall color:** yellow

**Fall characteristic:** showy

## Flower

**Flower color:** green; yellow

**Flower characteristics:** pleasant fragrance; showy; spring flowering

## Fruit

**Fruit shape:** elongated

**Fruit length:** 1 to 3 inches

**Fruit covering:** dry or hard

**Fruit color:** brown

**Fruit characteristics:** attracts birds; inconspicuous and not showy; fruit, twigs, or foliage cause significant litter

## Trunk and Branches

**Trunk/bark/branches:** grow mostly upright and will not droop; showy trunk; should be grown with a single leader; no thorns

**Pruning requirement:** needs little pruning to develop a strong structure

**Breakage:** resistant

**Current year twig color:** brown

**Current year twig thickness:** medium

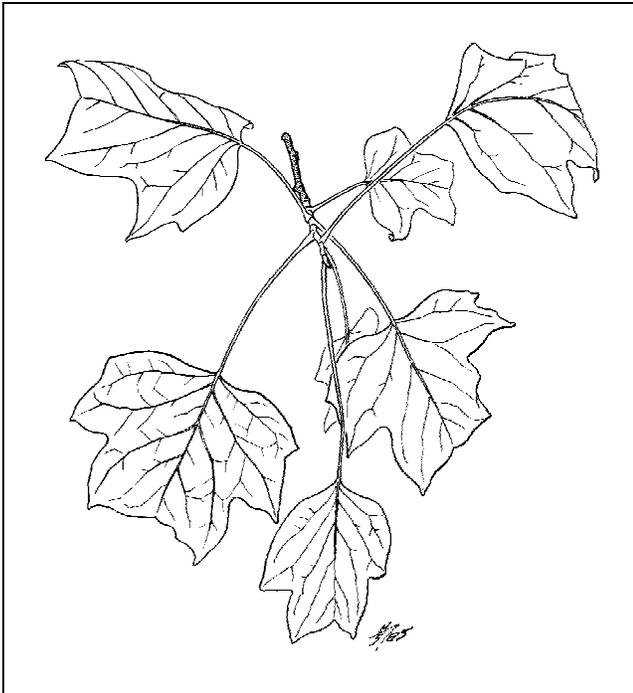


Figure 3. Foliage of Tuliptree.

**Wood specific gravity:** 0.42

### Culture

**Light requirement:** tree grows in full sun

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

**Drought tolerance:** moderate

**Aerosol salt tolerance:** none

**Soil salt tolerance:** poor

### Other

**Roots:** surface roots are usually not a problem

**Winter interest:** no special winter interest

**Outstanding tree:** not particularly outstanding

**Invasive potential:** little, if any, potential at this time

**Ozone sensitivity:** sensitive or moderately tolerant

**Verticillium wilt susceptibility:** susceptible

**Pest resistance:** long-term health usually not affected by pests

## USE AND MANAGEMENT

Although a rather large tree, Tulip-Poplar could be used along residential streets with very large lots and plenty of soil for root growth if set back 10 or 15 feet. Not generally planted in large numbers and probably best for a specimen or for lining commercial entrances with lots of soil space. Trees can be planted from containers at any time in the south but transplanting

from a field nursery should be done in spring, followed by faithful watering. Plants prefer well-drained, acid soil. Drought conditions in summer can cause premature defoliation of interior leaves which turn bright yellow and fall to the ground, especially on newly-transplanted trees. The tree may be short-lived in parts of USDA hardiness zone 9, although there are a number of young specimens about two feet in diameter in the southern part of USDA hardiness zone 8b. It is usually recommended only for moist sites in many parts of Texas, including Dallas, but has grown in an open area with plenty of soil space for root expansion near Auburn and Charlotte without irrigation where the trees are vigorous and look nice.

There are several cultivars: 'Aureo-maculatum' -- leaves with yellow blotches, 'Aureo-marginatum' -- leaves edged with yellow, 'Fastigiatum' -- columnar growth, 'Pyramidale' -- narrow growth habit. None are commonly available.

### Pests

Aphids, particularly Tuliptree aphid, can build up to large numbers, leaving heavy deposits of honeydew on lower leaves, cars, and other hard surfaces below. A black, sooty mold may grow on the honeydew. Although this does little permanent damage to the tree, the honeydew and sooty mold can be annoying.

Tuliptree scales are brown, oval and may be first seen on lower branches. Scales deposit honeydew which supports the growth of sooty mold. Use horticultural oil sprays in spring before plant growth begins.

Tuliptree is considered resistant to gypsy moth.

### Diseases

Tuliptree is attacked by several cankers. Infected, girdled branches dieback from the tip to the point of infection. Keep trees healthy and prune out infected branches.

Leaf spots are usually not serious enough to warrant chemical controls. Once leaves are heavily infected the opportunity for chemical control is lost. Rake up and dispose of infected leaves. Leaves often fall during summer and litter the ground with yellow, spotted leaves.

Powdery mildew causes a white coating on the leaves and is not usually harmful.

Sooty mold makes a black coating on leaves and stems. The fungus grows on the honeydew left by insects, particularly aphids. Control sooty mold by preventing the build up of insects populations.

Verticillium wilt causes wilting and death of leaves on infected branches. Severe infections kill trees. Keep trees vigorous with a regular maintenance program, including fertilizer.

During hot, dry weather interior leaves turn yellow and fall off. This condition is due to the weather and is not a disease. The problem is most common on newly transplanted trees, but also develops frequently on established trees. Yellowing may be preceded by small, angular, brown spots on the leaves.