



Tilia cordata Littleleaf Linden¹

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INTRODUCTION

Littleleaf Linden grows 80 feet tall and can spread 40 to 50 feet, but is normally seen 40 to 50 feet tall with a 35 to 40-foot-spread in most landscapes (Fig. 1). This tree has a slower growth rate than other Lindens but has a dense pyramidal to oval crown which casts deep shade. Architects enjoy using the tree due to its predictably symmetrical shape. Littleleaf Linden is a prolific bloomer, the small, fragrant flowers appearing in late June and into July. Many bees are attracted to the flowers, and the dried flowers persist on the tree for some time. Japanese beetles often skeletonize Linden foliage, in certain areas in the northern part of its range. Defoliation can be nearly total and mature trees can be killed by severe infestations. Planting Linden in areas with severe infestations of this pest may not be wise. However, at least one reference reports that defoliation by Japanese beetles is common, but control is seldom needed.

GENERAL INFORMATION

Scientific name: *Tilia cordata*

Pronunciation: TILL-ee-uh kor-DAY-tuh

Common name(s): Littleleaf Linden

Family: *Tiliaceae*

USDA hardiness zones: 4 through 7A (Fig. 2)

Origin: not native to North America

Uses: container or above-ground planter; hedge; large parking lot islands (> 200 square feet in size); wide tree lawns (>6 feet wide); medium-sized tree lawns (4-6 feet wide); recommended for buffer strips around parking lots or for median strip plantings in the

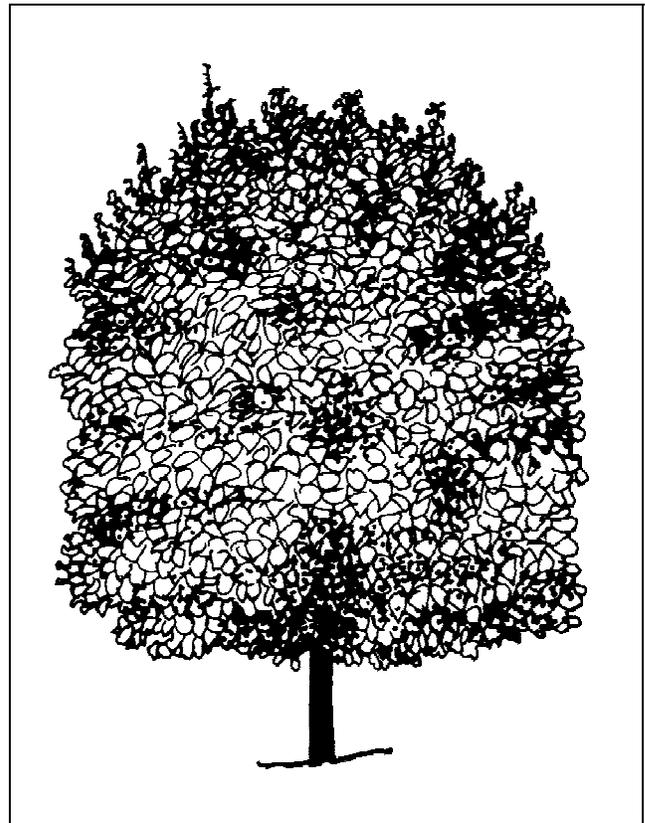


Figure 1. Middle-aged Littleleaf Linden.

highway; screen; shade tree; specimen; sidewalk cutout (tree pit); residential street tree; tree has been successfully grown in urban areas where air pollution, poor drainage, compacted soil, and/or drought are common
Availability: generally available in many areas within its hardiness range

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Figure 2. Shaded area represents potential planting range.

DESCRIPTION

Height: 60 to 70 feet
Spread: 35 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; pyramidal
Crown density: dense
Growth rate: medium
Texture: medium

Foliage

Leaf arrangement: alternate (Fig. 3)
Leaf type: simple
Leaf margin: serrate
Leaf shape: cordate; orbiculate
Leaf venation: pinnate
Leaf type and persistence: deciduous
Leaf blade length: 2 to 4 inches
Leaf color: green
Fall color: yellow
Fall characteristic: not showy

Flower

Flower color: yellow
Flower characteristics: pleasant fragrance; showy; summer flowering

Fruit

Fruit shape: round
Fruit length: < .5 inch
Fruit covering: dry or hard
Fruit color: brown; tan
Fruit characteristics: does not attract wildlife; no significant litter problem; persistent on the tree; showy

Trunk and Branches

Trunk/bark/branches: droop as the tree grows, and will require pruning for vehicular or pedestrian clearance beneath the canopy; not particularly showy; should be grown with a single leader; no thorns
Pruning requirement: requires pruning to develop strong structure
Breakage: resistant
Current year twig color: brown; green
Current year twig thickness: thin

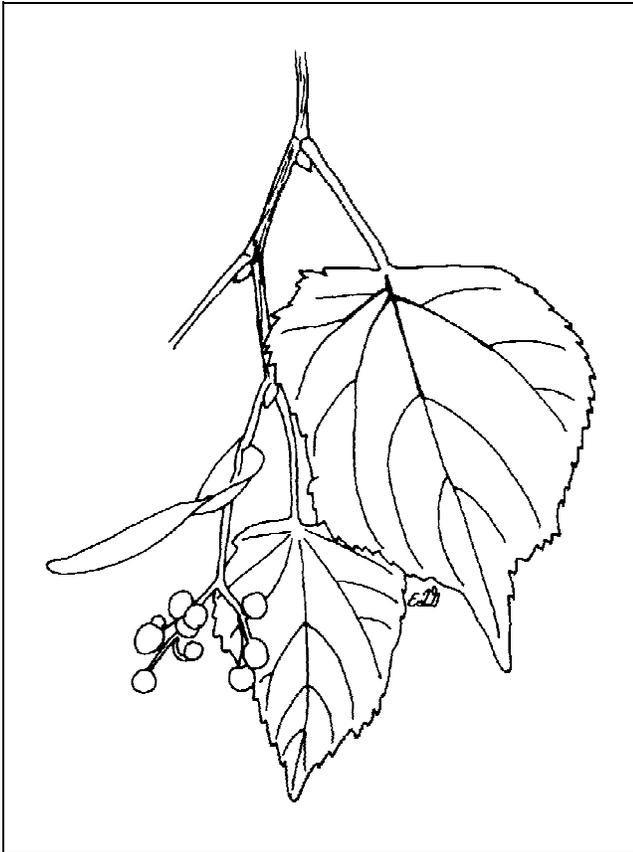


Figure 3. Foliage of Littleleaf Linden.

Culture

Light requirement: tree grows in part shade/part sun;
tree grows in full sun

Soil tolerances: clay; loam; sand; acidic;
occasionally wet; alkaline; 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: tolerant

Verticillium wilt susceptibility: susceptible

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

USE AND MANAGEMENT

Small lateral branches arise from the trunk in an upswept curve but quickly bend gracefully toward the ground. Multiple trunks and upright, large-diameter branches develop on some trees and they may be poorly attached to the trunk. These can initiate decay or, as with other trees with the same defect, they can fall from the tree. Be sure to purchase and train Linden to one central trunk with well-spaced, small-diameter lateral branches. The cultivars 'Glenleven', 'Greenspire' and 'June Bride' have been developed for their very straight trunk. Linden may sprout from the base and these sprouts will have to be removed from time to time.

The tree grows in sun or partial shade, will tolerate alkaline soil if it is moist, and it transplants well. It is not particularly tolerant of drought, scorching at the leaf margins in summer drought. But this apparently does little long-term harm. It is more tolerant of heat and compact soil than American Basswood. Many communities plant Linden along the streets due to its rapid growth rate and dense, symmetrical crown but littleleaf Linden is sensitive to road salt. There are a number of cultivars with a variety of habits.

The wood of Linden is clear white, soft and often used for drawer sides in inexpensive furniture. Though not as soft as balsa wood, it sands poorly and is difficult to finish.

There are several cultivars: 'Chancellor' - upright when young but becoming pyramidal, fast growth, with a straight, single trunk; 'Glenleven' - conical (pyramidal), fast growth, straight trunk, more open canopy than species; 'Greenspire' - straight trunk and radially produced branches-may be the least-maintenance cultivar; 'June Bride' - pyramidal, glossy leaves, very slow growing, profuse flowering; 'Pyramidalis' - widely pyramidal; 'Rancho' - narrow, upright growth habit, very small, fine textured leaf - a beautiful tree; 'Sterling' is supposed to resist Japanese beetles.

Pests

Despite susceptibility to various insects and diseases, control is usually not needed except for Japanese beetle.

Japanese beetles often skeletonize Linden foliage, in certain areas in the northern part of its range.

Defoliation can be nearly total and mature trees can be killed by severe infestations. Planting Linden in areas with severe infestations of this pest is not recommended.

Aphids can be a problem on Linden causing the production of honeydew. This is more of a nuisance than a life threatening problem.

Several caterpillars feed on Linden. Have the insect identified then apply the appropriate control, if needed. *Bacillus thuringiensis* will not be effective against sawfly larvae. Fall webworm nests can be pruned out when still small.

Lace bugs cause discoloration of the leaves. The insects are found on the undersides of the leaves, and can cause some early defoliation but are otherwise harmless.

Spider mites cause leaves to become stippled and yellowed. The mites are usually not discovered until there is a significant infestation.

Diseases

No diseases are usually serious.

Anthracnose caused by *Gnomonia tiliae* causes elongated light brown areas next to the veins. The spots may be anywhere on the leaf but are most often near the tip. The spots are bordered by a distinct black band. Severe infections defoliate the tree. The disease does not require chemical controls every year but repeated severe infections may justify spraying.

Leaf blight causes leaves to brown and fall. The early symptoms are round, brown spots with dark borders. The spots become numerous leading to leaf browning and drop.

Several fungi cause cankers and dieback on branches and trunks. Remove infected branches as they occur and avoid wounding the tree. Fertilizing infected trees may help.

Powdery mildew forms a white coating on the leaves but is usually not serious and does not require treatment.

Verticillium wilt causes dieback and death of individual branches or the entire tree. Keep trees healthy with a regular fertilizer program to help prevent the disease.