

Acer saccharinum Silver Maple¹

Edward F. Gilman and Dennis G. Watson²

INTRODUCTION

Silver Maple has a vase shape and is a rapidly-growing, fairly weak-wooded tree which reaches a height of 80 to 100 feet with a 5 to 6 foot diameter trunk on a moist site (Fig. 1). The tree is useful in wet areas, transplants easily and can grow where few others can. It should be saved for planting in wet areas or where nothing else will thrive. Roots often grow on the surface of the soil making mowing grass difficult under the canopy. They also are aggressive, growing into septic tank drain fields and into broken water and sewer pipes. It is also hard to plant shrubs and other plants beneath the branches due to the dense root system.

GENERAL INFORMATION

Scientific name: *Acer saccharinum*

Pronunciation: AY-ser sack-uh-RYE-num

Common name(s): Silver Maple

Family: *Aceraceae*

USDA hardiness zones: 3 through 9 (Fig. 2)

Origin: native to North America

Uses: reclamation plant; shade 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

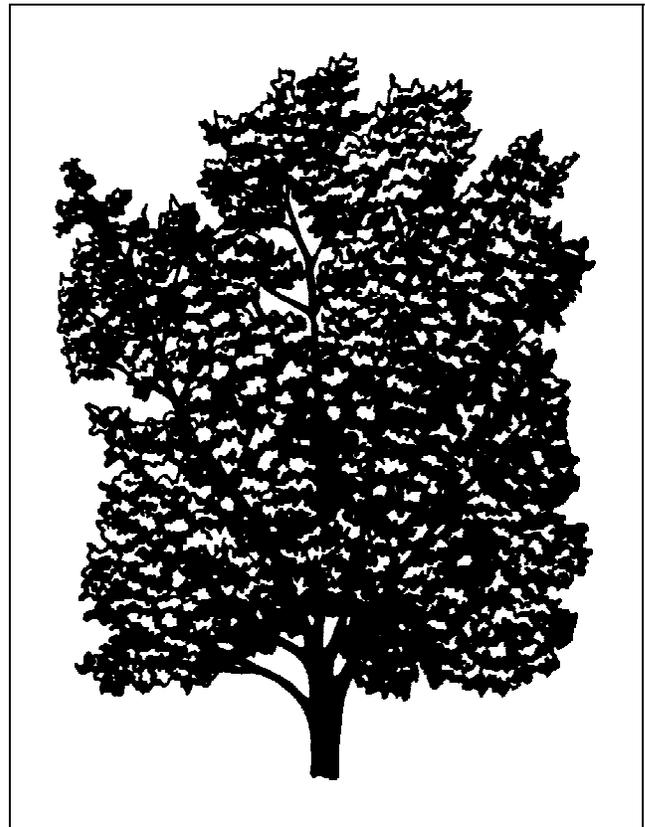


Figure 1. Middle-aged Silver Maple.

DESCRIPTION

Height: 60 to 80 feet

Spread: 40 to 60 feet

Crown uniformity: irregular outline or silhouette

Crown shape: vase shape

Crown density: moderate

Growth rate: fast

1. This document is adapted from Fact Sheet ST-48, 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.

Texture: medium

Foliage

Leaf arrangement: opposite/subopposite (Fig. 3)

Leaf type: simple

Leaf margin: incised; parted

Leaf shape: star-shaped

Leaf venation: palmate

Leaf type and persistence: deciduous

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

Leaf color: green

Fall color: yellow

Fall characteristic: showy

Flower

Flower color: red

Flower characteristics: showy; spring flowering

Fruit

Fruit shape: elongated

Fruit length: 1 to 3 inches

Fruit covering: dry or hard

Fruit color: brown; green

Fruit characteristics: does not attract wildlife; fruit, twigs, or foliage cause significant litter; showy

Trunk and Branches

Trunk/bark/branches: bark is thin and easily damaged from mechanical impact; 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: susceptible to breakage either at the crotch due to poor collar formation, or the wood itself is weak and tends to break

Current year twig color: brown; reddish

Current year twig thickness: medium; thin

Wood specific gravity: 0.47

Culture

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

Soil tolerances: clay; loam; sand; acidic; extended flooding; well-drained



Figure 3. Foliage of Silver Maple.

Drought tolerance: high

Aerosol salt tolerance: moderate

Soil salt tolerance: moderate

Other

Roots: surface roots can lift sidewalks or interfere with mowing

Winter interest: no special winter interest

Outstanding tree: not particularly outstanding

Invasive potential: seeds itself into the landscape

Ozone sensitivity: tolerant

Verticillium wilt susceptibility: susceptible

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

USE AND MANAGEMENT

Silver Maple will grow in areas which have standing water for several weeks at a time. It grows best on acid soil which remains moist, but adapts to very dry, alkaline soil. Leaves may scorch in areas with restricted soil space during dry spells in the summer but will tolerate drought if roots can grow unrestricted into a large soil volume.

Branches tend to droop, almost weep, forming a graceful canopy outline as it grows older. The bright yellow fall color can attract attention in early fall but you will pay the price with the abundant number of leaves to rake. To develop a stronger, more durable

tree, prune so that major limbs remain smaller than half the diameter of the trunk.

Silver Maple can be a prolific seed producer giving rise to many volunteer trees. It often sends up sprouts from the trunk and branches producing an unkempt appearance. Branches often form poor attachments with trunk resulting in branch failure in old, mature specimens. Frequent pruning is required to develop a strong branch structure. Ice and snow loads can cause branch failure in younger trees. Like many other large trees, it will lift sidewalks if improperly located too close to sidewalks. There are numerous insect and disease problems. There are too many other superior trees to warrant wide use of this species but it does have its place in tough sites away from buildings and people. It grows extremely fast so creates almost instant shade, making this a popular tree among homeowners throughout its hardiness range.

Trees are susceptible to many pest problems but none so serious to warrant control.

There are a few cultivars but these also have weak wood: 'Pyramidale' - narrow crown; 'Silver Queen' - bright green leaves with lower leaf surfaces silvery; 'Skinneri' - somewhat weeping, pyramidal form, dissected leaves with a better branching habit; 'Weiri' - cutleaved form with pendulous branches. There is a recently introduced (1987) hybrid cross between Red and Silver Maple called Hybrid Maple (*Acer x fremanii*). Cultivars of this hybrid include 'Armstrong Two' with a narrow columnar crown to 35 feet tall, 'Autumn Blaze' with an oval crown to 50 feet tall, 'Celebration' with a narrow upright crown and a strong central leader to 50 or 60 feet tall, 'Celzam' with a narrow oval crown to 50 feet tall, and 'Scarlet Sentenial' with great fall color, and oval crown to 40 feet tall. The culture of these trees is probably similar to Red Maple.

Trees are propagated from seeds and from cuttings. Cultivars are best produced from cuttings.

Pests

Leaf stalk borer and petiole-borer cause the same type of injury. Both insects bore into the leaf stalk just below the leaf blade. The leaf stalk shrivels, turns black, and the leaf blade falls off. The leaf drop may appear heavy but serious injury to a healthy tree is rare.

Gall mites stimulate the formation of growths or galls on the leaves. The galls are small but can be so numerous that individual leaves curl up. The most common gall is bladder gall mite found on silver maple. The galls are round and at first green but later turn red, then black, then dry up. Galls of other shapes are seen less frequently on other types of maples. Galls are not serious, so chemical controls are not needed.

Crimson erineum mite is usually found on silver maple and causes the formation of red fuzzy patches on the lower leaf surfaces. The problem is not serious so control measures are not suggested.

Aphids infest maples, usually Norway Maple, and may be numerous at times. High populations can cause leaf drop. Another sign of heavy aphid infestation is honey dew on lower leaves and objects beneath the tree. Aphids are controlled by spraying or they may be left alone. If not sprayed, predatory insects will bring the aphid population under control.

Scales are an occasional problem on maples. Perhaps the most common is cottony maple scale. The insect forms a cottony mass on the lower sides of branches. Scales are usually controlled with horticultural oil sprays. Scales may also be controlled with well-timed sprays to kill the crawlers.

If borers become a problem it is an indication the tree is not growing well. Controlling borers involves keeping trees healthy. Chemical controls of existing infestations are more difficult. Proper control involves identification of the borer infesting the tree then applying insecticides at the proper time.

Diseases

Anthracnose is more of a problem in rainy seasons. The disease resembles, and may be confused with, a physiological problem called scorch. The disease causes light brown or tan areas on the leaves. Anthracnose may be controlled by fungicides sprayed on as leaves open in the spring. Two additional sprays at two-week intervals will be needed. The disease is most common on sugar and silver maples and boxelder. Other maples may not be affected as severely. Sprays may need to be applied by a commercial applicator having proper spray equipment.

Verticillium wilt symptoms are wilting and death of branches. Infected sapwood will be stained a dark or olive green but staining can't always be found. If

staining can not be found do not assume the problem is not verticillium wilt. Severely infected trees probably can't be saved. Lightly infected trees showing only a few wilted branches may be pulled through. Fertilize and prune lightly infected trees. This treatment will not cure the problem but may allow the tree to outgrow the infection. Girdling roots will cause symptoms which mimic verticillium wilt.

Tar spot and a variety of leaf spots cause some concern among homeowners but are rarely serious enough for control.