

Acer rubrum: Red Maple¹

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Introduction

Red maple has an oval shape and is a fast grower with strong wood, reaching a height of 75 feet. Unless irrigated or on a wet site, Red maple is best used north of USDA hardiness zone 9. Trees are often much shorter in the southern part of its range unless growing next to a stream or on a wet site. This tree is preferred over Silver maple or Boxelder when a fast growing maple is needed. When planting the species *Acer rubrum*, select only those which have been grown from seed sources in your area. The newly emerging leaves and red flowers and fruits signal that spring has come. They appear in December and January in Florida, later in the northern part of its range. The seeds of Red maple are quite popular with squirrels and birds. This tree is sometimes confused with red-leaved cultivars of Norway maple.

General Information

Scientific name: *Acer rubrum*

Pronunciation: AY-ser ROO-brum

Common name(s): red maple, swamp maple

Family: sapindaceae

USDA hardiness zones: 4A through 9B (Figure 2)

Origin: native to the Eastern United States, neighboring Canadian provinces, and Newfoundland

UF/IFAS Invasive Assessment Status: native



Figure 1. Full Form - *Acer rubrum*: red maple
Credits: Gitta Hasing, UF/IFAS

Uses: reclamation; highway median; screen; shade; street without sidewalk; deck or patio; tree lawn 4–6 feet wide; tree lawn > 6 ft. wide; bonsai

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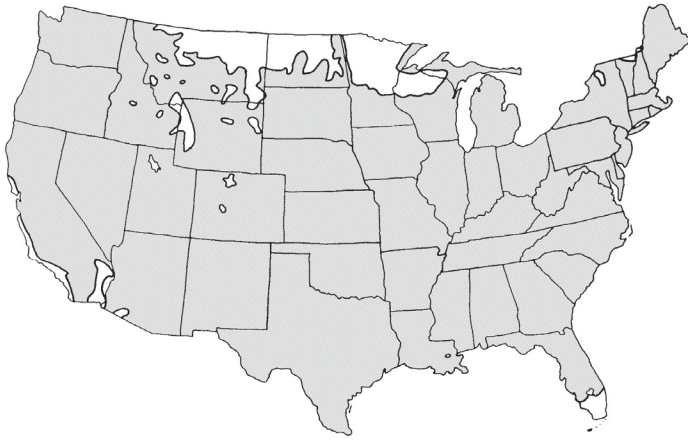


Figure 2. Range

Description

Height: 60 to 75 feet

Spread: 25 to 35 feet

Crown uniformity: irregular

Crown shape: oval, round, upright/erect

Crown density: moderate

Growth rate: fast

Texture: medium

Foliage

Leaf arrangement: opposite/subopposite (Figure 3)

Leaf type: simple

Leaf margin: incised, serrate, lobed

Leaf shape: ovate

Leaf venation: palmate

Leaf type and persistence: deciduous

Leaf blade length: 2 to 5 inches

Leaf color: medium to dark green on top; grayish to silver underneath

Fall color: yellow, red, purple

Fall characteristic: showy



Figure 3. Leaf - *Acer rubrum*: red maple
Credits: Gitta Hasing, UF/IFAS

Flower

Flower color: red or pink

Flower characteristics: showy; emerges in clusters

Flowering: late winter to early spring, before new leaves emerge



Figure 4. Flower - *Acer rubrum*: red maple
Credits: Gitta Hasing, UF/IFAS

Fruit

Fruit shape: elongated 2-winged samara

Fruit length: $\frac{3}{4}$ to 1 inch

Fruit covering: dry or hard

Fruit color: pinkish to reddish

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

Fruiting: spring

Trunk and Branches

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

Bark: light gray and smooth, becoming dark gray, rough, ridged, and furrowed with age

Pruning requirement: needed for strong structure

Breakage: susceptible to breakage

Current year twig color: gray, reddish

Current year twig thickness: medium

Wood specific gravity: 0.54



Figure 5. Fruit - *Acer rubrum*: red maple
Credits: Gitta Hasing, UF/IFAS

Culture

Light requirement: full sun, partial sun or partial shade
Soil tolerances: clay; sand; loam; acidic; extended flooding; well-drained

Drought tolerance: moderate

Aerosol salt tolerance: low

Other

Roots: can form large surface roots

Winter interest: yes

Outstanding tree: no

Ozone sensitivity: tolerant

Verticillium wilt susceptibility: susceptible

Pest resistance: resistant to pests/diseases

Use and Management

The outstanding ornamental characteristic of Red maple is red, orange, or yellow fall color (sometimes on the same tree) lasting several weeks. Red maple is often one of the first trees to color up in autumn, and it puts on one of the most brilliant displays of any tree, but trees vary greatly in fall color and intensity. Cultivars are more consistently colored.

The tree makes the best growth in wet places and has no other particular soil preference, except chlorosis may develop on alkaline soil where it also grows poorly. It is well suited as a street tree in northern and mid-south climates in residential and other suburban areas, but the bark is thin and easily damaged by mowers. Irrigation is often needed to support street tree plantings in well-drained soil in the south. Roots can raise sidewalks as silver maples can, but they have a less aggressive root system and so they make a good street tree. Surface roots beneath the canopy can make mowing difficult.

Red maple is easily transplanted and usually develops surface roots in soil ranging from well-drained sand to clay. It is not especially drought-tolerant, particularly in the southern part of the range, but selected individual trees can be found growing on dry sites. This trait shows the wide range of genetic diversity in the species. Branches often grow upright through the crown, forming poor attachments to the trunk. These should be removed in the nursery or after planting in the landscape to help prevent branch failure in older trees during storms. Select branches with a wide angle from the trunk and prevent branches from growing larger than half the diameter of the trunk.



Figure 6. Bark - *Acer rubrum*: red maple
Credits: Gitta Hasing, UF/IFAS

A number of cultivars are listed. Due to graft-incompatibility problems that cause the tree to break apart, preference should be given to cultivars produced on their own roots. In the northern and southern end of the range, choose cultivars with regional adaptation. The cultivars are 'Armstrong'—upright growth habit, almost columnar, somewhat prone to splitting branches due to tight crotches, 50 feet tall; 'Autumn Flame'—45 feet tall, round, above average fall color; 'Bowhall'—upright growth habit, branches form embedded bark, graft incompatibility on grafted trees; 'Gerling'—densely branched, broadly pyramidal, about 35 feet tall when mature; 'October Glory'—above average fall color, excellent tree, retains leaves late, 60 feet tall; 'Red Sunset'—above average orange to red fall color, does well in the south in USDA hardiness zone 8, probably the best cultivar for the deep south, oval, 50 feet tall; 'Scanlon'—upright growth habit; 'Schlesinger'—good fall color, rapid growth rate; 'Tilford'—globe-shaped crown. Variety *drummondii* suitable in USDA hardiness zone 8.

There is a recently introduced hybrid cross between red and silver maple called hybrid maple (x). Cultivars of this hybrid include 'Armstrong' 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 Sentinel' with great fall color, and oval crown to 40 feet tall. The culture of these trees is probably similar to Red maple.

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.

Twig borers can cause die-back of the terminal 8 to 12 inches of small-diameter branches. This is usually not serious and does not require control measures, but it can be a problem on young trees in the nursery.

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.

Scorch may occur during periods of high temperatures accompanied by wind. Trees with diseased or inadequate root systems will also show scorching. When trees do not get enough water they scorch. Scorch symptoms are light brown or tan dead areas between leaf veins. The symptoms are on all parts of the tree or only on the side exposed to sun and wind. Scorching due to dry soil may be overcome by watering. If scorching is due to an inadequate or diseased root system, watering may have no effect.

Nutrient deficiency symptoms are yellow or yellowish-green leaves with darker green veins. The most commonly deficient nutrient on maple is manganese. Implanting capsules containing a manganese source in the trunk will

alleviate the symptoms. Test soil samples to determine if the soil pH is too high for best manganese availability. Plants exposed to weed killers may also show similar symptoms.

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

Additionally, girdling roots (a defect, not a disease) can cause issues. Girdling roots grow around the base of the trunk rather than growing away from it. As both root and trunk increase in size, the root chokes the trunk. Girdling roots are detected by examining the base of the trunk. The lack of trunk flare at ground level is a symptom. The portion of the trunk above a girdling root does not grow as rapidly as the rest so may be slightly depressed. The offending root may be on the surface or may be just below the sod. The tree crown shows premature fall coloration and death of parts of the tree in more serious cases. If large portions of the tree have died it may not be worth saving. Girdling roots are functional roots so when removed a portion of the tree may die. When the girdling root is large the treatment is as harmful as the problem. After root removal, follow-up treatment includes watering during dry weather. The best treatment for girdling roots is prevention by removing or cutting circling roots at planting or as soon as they are detected on young trees.

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.