

American Red Maple - *Acer rubrum*

General Information: Also called Swamp Maple, *A. rubrum* in nature is a tree, 60 to 75 feet tall. Young trees are often pyramidal or elliptical and are fast growers with strong wood. Older trees develop ascending branches, resulting in an ovoid or rounded crown. A common tree of mixed hardwood and floodplain forests. It is best to select trees for a specific area that have been grown from seed collected there. There is ample evidence to suggest that trees native to a specific area are more likely to be hardy there. Tolerates ozone and is somewhat tolerant of sulfur dioxide, making it a good tree for urban areas.

Leaves are opposite, 2 to 4 inches, quite variable in shape, 3-5 lobes, dullish green, with (usually) reddish leafstalk. They turn brilliant red, orange and yellow in fall. In N. Florida there is a variety with consistently 1.5 inch leaves that is mostly 3-lobed (possibly trilobum variant) and has a generally dull yellow leaf color in fall. The leaves appear in late spring, as the maple seeds mature.

Small, showy red flowers begin to bloom in late winter or *early* spring (second week in February in northern Florida) and bloom through March. Fruits and seeds are winged and often, but not always, red. They occur in great profusion in late spring and early summer.

Family: *Aceraceae*

Lighting: Full sun to part shade.

Temperature: Hardy to zones 4-9.

Watering: *A. rubrum* prefers wet to moist soils. Stream and pond banks, mesic forests, swamps and (sometimes) drier uplands. Water copiously during the warm months, especially if the soil does not hold water. In hot climates (and especially in the arid west) keeping the tree in a shallow tray of water may be necessary.

Feeding: Fertilize weekly, beginning in early spring; bi-weekly in fall until leaves begin to turn. Use a well-balanced fertilizer (10-10-10).

Pruning and wiring: *A. rubrum* can be styled as informal upright, slanting, clump, group and forest. I have never grown *A. rubrum* as a cascade or root-over-rock, since neither represents its "natural" growing habitat.

The bark of *A. rubrum* (as other maples) is tender and scars easily. On the rare occasion that I *do* wire, I use unstripped aluminum wire. Since the natural growth habit of *A. rubrum* is to have ascending branches, forming a generally oval shape with a rounded top, wiring to pull down branches is not necessary.

Wires must be watched carefully. Even rubber-coated aluminum wire will scar before a summer has passed.

Pruning is the primary means of shaping *A. rubrum*. Pruning and leaf

trimming can be used to increase the ramification of twigs, to induce branches to grow where none grow now, and to create valuable open spaces.

Trim new growth by allowing one or two nodes to grow, then pinching back to one. The more frequent and more severe the pinching back, the shorter the distance between the leaves and new branch nodes.

Major pruning should (as always) be undertaken with care. A branch, once removed, is difficult to replace. Although you might be able to induce sprouting at the site of the scar, the resulting branch will be thin and awkward looking. In the case of major branch removal, *A. rubrum* will repair pruning scars quite well if the cut is made flush with the trunk. I seldom use anything to seal the cuts.

A. rubrum will endure leaf stripping (complete removal of leaves), but leave the leaf stem attached (it will fall off when new leaves appear). You also may cut leaves in half. I have seen no benefit from partial leaf stripping (stripping leaves from selected areas of the tree in an attempt to develop better twig and branch structure).

Propagation: Seed - 25-60% germination, according to "authorities." Based on the seedlings that appear in *my* yard each summer, 60% is the rule. They also propagate easily from cuttings. I have never tried to air layer one. Most of mine are from seedlings transplanted from the "wild" (underfoot).

Repotting: Small specimens may be bare rooted for transplant. Larger specimens must be balled and burlapped in order to be moved.

Potting and root pruning should be done in spring, as leaf buds turn a brighter red. This tree, when mature, is quite hardy and will suffer severe root pruning to no disadvantage that I can see. (However, I would not strip leaves in the same year as the severe root pruning.) Since this is a tree of usually wet to damp soils, the tap root is not well developed.

Root pruning probably should be done every other year on a mature maple, but the amount of annual root growth will vary, depending on conditions, the pot, fertilization schedule, watering regime, and the individual tree. Younger trees and seedlings-in-training may be root pruned annually.

Being a wetland tree by preference, the red maple will survive in (and may even prefer) a heavier, more water-retaining soil than other trees (or other maples). I use a similar organic compost mix (no gravel) for *A. rubrum* as for *T. distichum*. They will, however, do quite well in a "normal" bonsai soil -- although in hot climates they may as a result require more frequent watering than other trees, or may need to be placed in a shallow tray of water.

Normally, I do not keep red maples in water except during the hottest (above 95 degrees F) part of the summer. *A. rubrum* tolerates many different soils, but prefers slightly acidic, moist soil. Highly acidic soils cause chlorosis due to high levels of manganese.

Maples in general seem to want more root underneath them than some other deciduous trees. *A. rubrum* is no exception. Peter Adams in *The Art of Bonsai* notes that maples "must have root run," which I interpret to mean a slightly larger-than-normal (i.e. deeper) pot for a tree of a given height or girth.

Dark, unglazed earth-tone pots are acceptable, but I prefer a white- or blue-glazed pot. Shape--oval or rectangle, depending on the styling of the tree. Here, though, your own tastes are paramount.

Pests and diseases: 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. 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. 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.

Bibliography:

Stowell's *The Beginner's Guide to American Bonsai*

Petrides' *A Field Guide to Trees and Shrubs* for a typical silhouette of the red maple.

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