

PLANT HEALTH CARE REPORT



Silver Maple

Silver maple (*Acer saccharinum*) is a large shade tree popular in many northern landscapes. During the summer, it has medium-green leaves that change to brilliant yellow and orange in the fall. Silver maple will grow to a height of 80 to 90 feet and has a rounded crown.

Silver maple is fast-growing, adding over 3 feet of height each year, but tends to develop weak branch attachments that lead to failures later in life. Cultivars of Freeman's maple, a hybrid of silver and red maple, provide stronger branch attachments, less susceptibility to pH problems, and desirable color and compact forms.

While silver maple grows well where there is ample space, it does not tolerate restricted sites. It performs best in loose, moderately moist, slightly acidic soils (pH of 5.5 to 6.8) with adequate levels of organic matter (>3.5%). Because of its vigorous root system, silver maple can be an excellent choice for poor, disturbed soils where few other species will survive. Those same root system features may also make it a liability in confined settings as aggressive roots may damage infrastructure, such as sidewalks.

Any limitation to water uptake can severely damage silver maple. Salt in the soil or in spray from traffic or ocean will result in twig dieback, marginal leaf browning (necrosis), and a general decline of the tree. Drought also leads to



Acer saccharinum

Photo courtesy of Jim Robbins



Acer × freemanii 'Autumn Blaze' in fall

decline, and occasionally, physiological leaf scorch visible as marginal leaf browning during the summer. Mulching trees will aid in conserving soil moisture and modifying the soil pH and organic matter levels to suit the tree needs.

Yellowing between the veins of leaves (interveinal chlorosis) is a symptom of manganese deficiency. This problem occurs in soils with high pH, low manganese levels, or poor drainage. Also, trees with root disorders are more prone to nutrient deficiency. When soil pH is greater than 7, manganese is converted to forms that are not available to the plant, increasing the likelihood of chlorosis.

Silver maple is susceptible to storm damage. Regular pruning when the plant is young will help develop a strong structure that resists storm damage. As the plant matures, regular inspections are important to detect weakly attached branches and other defects that could lead to failure. Mature silver maples frequently need structural support cables and crown reduction pruning to reduce the risk of failures.

Silver maple is susceptible to a number of leaf spot diseases that may disfigure leaves and cause early defoliation. Cankers, diseases of the bark and sapwood, occur mainly after severe winters or extended droughts. They cause branch dieback and can kill the tree if they progress into the stem. Root and wilt diseases caused by *Verticillium*, *Phytophthora*, and *Armillaria* can cause dieback of the crown and eventual death. Silver maple is susceptible to several important decay fungi that attack the wood. These fungi enter through improper pruning cuts and other injuries

Monitoring and Treatment Considerations for Silver Maple

Early to mid-winter

On exposed sites, protect young trees from sunscald. Inspect young trees for deer browse; apply repellent treatment and fencing as needed.

Late winter

Remove dead, dying, diseased, and broken branches. Reduce or remove branches to promote appropriate structure. Expose and inspect root collar for problems; add mulch as needed but ensure mulch is not piled against the stem. Sample soil for nutrient and pH levels.

Early spring

Apply dormant treatment to suppress overwintering insects and mites if problems were noted in the previous season.

Mid-spring

Apply fungicide treatment to prevent anthracnose and leaf spot disease, if needed. *Inject flare roots to treat manganese deficiency or adjust soil pH as needed on a 3-year schedule.

Late spring

Monitor leaf-feeding insects and scales; treat as needed. Take soil and foliar nutrient sample if micronutrient

to the stem and branches. Decay can structurally weaken the stem, increasing the potential for tree failure.

Numerous insects and mites attack silver maple. Leaf-feeding caterpillars include spongy moth (*Lymantria dispar*), tent caterpillar (*Malacosoma distria*), and cankerworms. Eriophyid mites can cause leaf tissue to swell and become discolored. White coatings on twigs are caused by the cottony maple scale (*Pulvinaria innumerabilis*). Less visible scales include gloomy and cottony maple leaf. Aphids and scale siphon off the nutrient-filled sap, reducing vitality and producing honeydew that encourages black sooty mold growth.

Sapsuckers, deer, and squirrels also feed eat on the sweet sap. These wounds may girdle the stem and provide entry for canker fungi.

deficiency is suspected. Repeat soil pH treatment as needed.

Early summer

Repeat fungicide treatments to prevent anthracnose and leaf spot as needed. Monitor leaf-feeding and scales; treat as needed.

Mid to late summer

Monitor irrigation and soil moisture to minimize water stress, especially on newly planted trees.

Fall

If sucking insects were problematic this past growing season, consider treating with an appropriately timed systemic product. Fertilize, adjust pH, and amend soil according to soil analysis. *Inject flare roots to treat manganese deficiency or adjust soil pH as needed on a 3-year schedule. Inspect young trees for deer browse; apply repellent treatment and fencing as needed.

*Systemic injections are available to treat manganese deficiency. This treatment can be applied at any time except when the tree is frozen, during drought, or on trees with severe root damage. Fall treatment rates are higher than spring. Treatment should not be repeated more than once every three years.