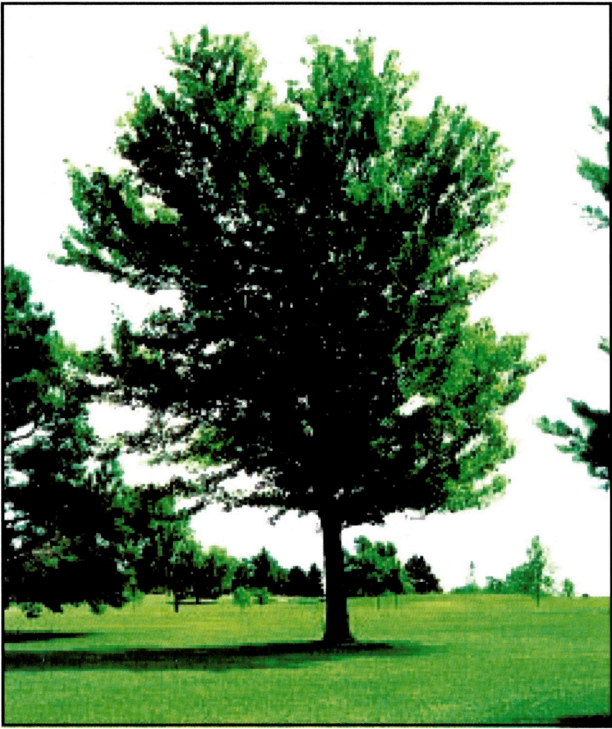


**Silver Maple**



# Silver Maple (*Acer saccharinum*)

## General Description

A medium to large tree with spreading branches forming a variably rounded to informally spreading crown. A fast-growing tree subject to iron and manganese chlorosis on high pH soils which may cause dieback or eventual death. Often called soft maple because the wood is the softest of the maples used for lumber. The largest tree in North Dakota is 66 feet tall with a canopy spread of 72 feet.

### Leaves and Buds

Bud Arrangement - Opposite.

Bud Color - Red to reddish-brown; male flattened, ovoid; female clustered.

Bud Size - 1/8 inch long.

Leaf Type and Shape - Simple, five-lobed with deep sinuses.

Leaf Margins - Ends of lobes sometimes deeply and doubly-acuminate lobed.

Leaf Surface - Smooth, glabrescent below.

Leaf Length - 3 to 6 inches.

Leaf Width - 2½ to 5 inches.

Leaf Color - Medium-green above, silver-white beneath; yellow fall color.

### Flowers and Fruits

Flower Type - Borne in dense clusters.

Flower Color - Greenish-yellow to deep orangish.

Fruit Type - Double-winged samara (schizocarp).

Fruit Color - Brownish-tan.

### Form

Growth Habit - Upright with strong spreading branches, with semi-pendulous branches which turn up at the ends.

Texture - Medium-coarse, summer; medium-coarse, winter.

Crown Height - 40 to 65 feet.

Crown Width - 30 to 50 feet.

Bark Color - Gray to gray-brown.

Root System - Shallow, vigorous, grass-feeding root system can cause sidewalks to heave and buckle.

## Environmental Requirements

### Soils

Soil Texture - Performs poorly on tight clay soils.

Soil pH - 4.5 to 7.0. Not adapted to saline/alkaline soils.

Windbreak Suitability Group - 1, 3.

### Cold Hardiness

USDA Zone 3.

### Water

Susceptibility to drought, winter stem dieback, sunscald injury and chlorosis affected by genetic variability and original seed source.

### Light

Full sun.

## Uses

### Conservation/Windbreaks

Tall tree for farmstead windbreaks and riparian plantings in eastern third of North Dakota.

### Wildlife

Browsed by deer and rabbits, seeds eaten by squirrels, fair cover for songbirds.

### Agroforestry Products

Wood - Rough lumber, furniture and firewood. Pulpwood production. Twigs boiled to make a black dye by Native Americans.

Food - Sap may be used for maple syrup.

Medicinal - Extracts of some *Acer* species are used in cancer research.

### Urban/Recreational

Useful in parks and large landscape areas with moist soils. Not recommended for streets because of high maintenance from limb breakage.

## Cultivated Varieties

Beebe, Skinner and Wier's Cutleaf Maples (*Acer saccharinum* 'Beebe', 'Skinner' and 'Wieri') - Three cultivars with cutleaf foliage, slightly thinner stems and semi-pendulous branches.

Blair Maple (*A. saccharinum* 'Blair') - Reported to be stronger branched.

Northline Maple (*A. saccharinum* 'Northline') - Hardier selection introduced at the Morden Research Station, Manitoba.

Silver Cloud Maple (*A. saccharinum* 'Silver Cloud'). New hardy introduction from Manitoba; more compact and upright than 'Northline.'

Silver Queen Maple (*A. saccharinum* 'Silver Queen') - More upright in habit than the species and reported to be essentially seedless.

## Related Species

Black Maple (*A. saccharum* var. *nigrum*) - Hardy, including cultivar 'Green Column'.

Boxelder (*Acer negundo*)

Norway Maple (*A. platanoides*) and cultivars - Borderline to non-hardy.

Sugar Maple (*A. saccharum*) - Hardy, but prefers neutral to acid soil pH's and adequate moisture.

## Pests

Very subject to iron and manganese chlorosis in alkaline soils. Sensitive to phenoxy herbicides. Extracts of some *Acer* species exhibit toxic effects on insect pests.

## SILVER MAPLE

*Acer saccharinum* L.

Plant Symbol = ACSA2

Contributed by: Kansas State University Forestry Research and USDA NRCS Plant Materials Center Manhattan, Kansas



Figure 1 Silver maple foliage.  
Photo by Paul Wray, Iowa State University

### Alternate Names

soft maple, silverleaf maple, white maple, river maple, swamp maple, water maple

### Uses

**Biofuels:** The species is one of only a few that has the growth rate for serious consideration for biofuel production. Though shrub willow and poplar hybrids are currently receiving greater attention, silver maple has been tested for this use in the Midwest.

**Forest Buffers:** Silver maple is ideal for riparian forest buffer installations due to its common presence in such sites. It should be planted because of its rapid growth and early maturity. Where silver maple is present in nearby stands, it should not be planted because it produces a prolific quantity of seed. In any planting, it is preferred over box elder.

**Ornamental:** Its use should be limited as it becomes a liability with age.

**Wildlife:** Silver maple is not notable for its attractiveness to wildlife, but as a source of fast shading, large woody debris, and litter in streams the species has few rivals. It seems to be a preferred nesting species for Baltimore orioles.

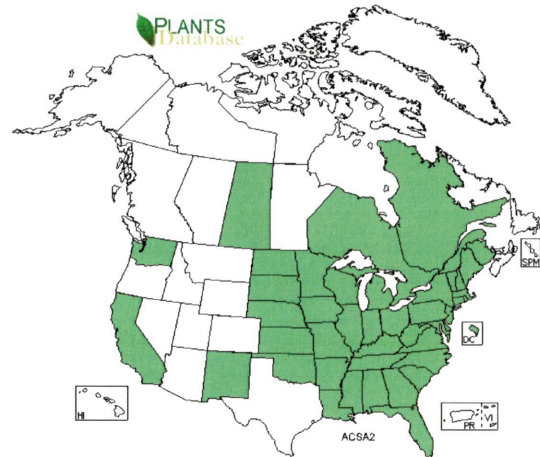
### Status

Please consult the PLANTS Web site and your State Department of Natural Resources for this plant's current status (e.g. threatened or endangered species, state noxious status, and wetland indicator values).

### Description and Adaptation

*Acer saccharinum* L., silver maple is one of the fastest growing deciduous trees of the eastern and mid-western forests. It can grow 3-7 feet per year. Silver maple shares many of its sites with red maple, but the two species are easily distinguished. Silver maple is typically a much larger tree with a much larger fruit (called a samara), but the two species are the only native maples with spring seed dispersal. The leaves of silver maple are often larger and more deeply fissured between lobes than those of red maple. Leaves are simple, opposite, deciduous, deeply lobed, narrow, and angled.

Silver maple is adapted wherever adequate moisture is assured, but grows best on well drained but moist river bottom soils. It cannot generally compete with other species in an upland environment (Gabriel 2009). The brittle nature of its wood limits the longevity of the species where high winds or heavy ice accumulations are common. As a pioneer species, silver maple is shade intolerant.



Silver maple distribution from USDA-NRCS-PLANTS Database.

### Establishment

Silver maple is among the easiest of trees to establish from seed or transplants. Its rapid growth competes well with other plants, although grass and weed control will improve survival and allow for even

better growth. The seed germinates rapidly, and streambanks underneath mature trees are often covered with seedlings shortly after seed dispersal in the late spring, especially along the waterline. The rapid growth means that seedlings are almost always out-planted as 1-0 stock.

### **Management**

In buffer plantings the only management needed is grass and weed control and livestock exclusion. Silver maple is not usually damaged by deer browsing, and is not a preferred target of gypsy moth caterpillars.

On sites where natural regeneration produces too many saplings thinning should be carried out to allow other species to survive.

### **Pests and Potential Problems**

Like other maples, silver maple is susceptible to a wide range of insect and disease problems. Gray mold spot is a foliage disease. A host of root and trunk rots attack silver maple. Because of its brittle wood properties, it is highly susceptible to ice damage.

### **Cultivars, Improved, and Selected Materials (and area of origin)**

There are 58 cultivar names listed on the U.S. National Cultivated Plants list.

A few horticultural selections may exist in the market, but for conservation plantings seedlings from regional wild sources should be utilized.

### **Prepared By:**

*Wayne A. Geyer, Professor  
Forestry Division, Kansas State University  
Manhattan, KS 66506*

*John Dickerson, retired  
USDA NRCS, Plant Materials Specialist*

*John M. Row, Plant Materials Specialist  
NRCS Plant Materials Center,  
Manhattan, Kansas 66502*

### **Citation**

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For more information about this and other plants, please contact your local NRCS field office or Conservation District, and visit the

PLANTS Web site <<http://plants.usda.gov>> or the Plant Materials Program Web site <<http://Plant-Materials.nrcs.usda.gov>>

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