

Arboretum Review



MN 2000 ARR-4

ARBORETUM NO. 4-1971

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SEP 25 1987

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Hardy and nonhardy maples

Minnesota is famed for its autumn coloration. Our native maples contribute greatly to this autumn spectacle. Fall colors range from yellow to red. Yellow colors predominate but individual plants of the sugar, red, and mountain maples develop brilliant shades of red and orange red. Soil and weather also can influence the fall colors. The sugar maple is the source of maple syrup and maple sugar. The maple syrup industry is important and could be much larger.

The arboretum has a fine display of maples with about 50 species and cultivars under observation. The size of these ranges from low, compact shrubs to large trees. Hardiness varies greatly. Hardy arboretum trees are discussed in some detail. Trees of tender or borderline hardiness are listed separately so you can avoid spending money on likely unsatisfactory plants.

Hardy Arboretum Maples

Acer ginnala (Amur Maple)—One of our hardiest shrub maples, this tree can be grown either as a shrub or a small tree. It is excellent when grown as a clump tree. Fall color varies from yellow to brilliant red. We selected and are growing a red-fruited form. Several dwarf forms are on the market. 'Durand Dwarf,' the smallest, forms a dense mound. 'Compacta,' the J. V. Bailey Nursery dwarf tree, is more upright and probably will be five to six feet tall at maturity.

Acer negundo (Boxelder)—This native tree is very hardy but is not too suited for landscape use.

Acer pensylvanicum (Striped Maple)—This shade-tolerant species, native of the eastern United States, has interesting, white-striped bark that adds winter interest. This species appears to be hardy in sheltered locations. It is not suitable as a lawn specimen.

Acer platanoides (Norway Maple)—This species and its cultivars commonly are planted in this area. A European native, this species is hardy in the Twin Cities area and southward. North of the Twin Cities, especially on sandy soils, these trees suffer from dieback. The ease of establishment and its adaptability to a wide variety of soils account for its popularity. At maturity, the tree is rather large and casts a dense shadow, making it difficult to maintain a lawn underneath the trees. Sunscald can be a problem on this species and its cultivars. Young trees should be wrapped with a tree wrap each fall. The normal yellow autumn color does not develop until late in the season. The improved cultivars should be planted where a specific effect is desired. The following cultivars have been tested:

- 'Charles F. Irish'—good form, green leaves
- 'Cleveland'—oval, upright with green leaves, fast grower
- 'Crimson King'—deep red leaves all season
- 'Cucullatum'—crinkled green leaves
- 'Emerald Queen'—deep green leaves

- 'Fassen's Red Leaf'—similar to Crimson King
- 'Globosum'—a small, round-headed tree
- 'Royal Red'—a new red-leaved cultivar
- 'Schwedleri'—leaves red in spring, turning green
- 'Summershade'—green leaves, rapid grower
- 'Variegatum'—white margined leaves

Acer rubrum (Red Maple) and cultivars—This species is native from Florida to Canada. With such a wide range, the seed source becomes especially important. For this area, plant trees of northern origin. Red flowers in the spring and red to yellow autumn coloration are outstanding features of this species. A number of cultivars have been introduced and some of these



Acer platanoides 'Variegatum,' Variegated Norway Maple

show promise. Since most of these cultivars are of eastern origin, they must be evaluated under our conditions. All of the red maples prefer a moist site and a slightly acid soil. We are testing the following cultivars:

- 'Armstrong'—narrow, upright
- 'Autumn Flame'—a good fall color but further testing needed to determine hardiness
- 'Bowhall'—pyramidal
- 'Columnare'—vase-shaped
- 'Gerling'—cone-shaped
- 'Red Sunset'—new in our trials
- 'Scanlon'—upright, good fall color
- 'Schlesingeri'—selected for fall color, not outstanding in our trials

Acer saccharinum (Silver Maple)—This species has an even wider distribution than Acer rubrum. It becomes a very large tree and may suffer wind damage. It is widely planted because of its fast growth. It is a beautiful tree, but as it matures it is

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too large for most yards. Several cut-leaved cultivars are available and are more ornamental than the species. These include:

- 'Blair'—strong branches
- 'Beebe'—deeply cut-leaved
- 'Pyramidale'—narrow, upright

Acer saccharum (Sugar Maple) and cultivars—This is native throughout the arboretum and its fall color, more than that of any other species, probably attracts most arboretum visitors. The sugar maple requires a fertile, moisture-retentive soil and should be planted only in proper soil conditions. It supplies the syrup for our maple syrup industry. Unfortunately, we have few sugar maple cultivars. Several local selections are under observation for possible introduction. The two upright cultivars on the market are:

- 'Newton Sentry'—narrow upright
- 'Temple's Upright'—narrow upright

Acer spicatum (Mountain Maple)—This is native in Northern Minnesota on acid soils. We have had difficulty in establishing this species in the open. It is useful in shade on acid soils and has a good fall color.

Acer tataricum (Tatarian Maple)—This is very similar to Amur Maple and can be used in the same way. This large shrub can be trained as a small tree. The bright red fruits and the orange to red autumn color are desirable features.

Nonhardy Maples

Acer barbatum floridanum (Florida Maple)—Even though two specimens planted in 1961 are still living, this species cannot be considered hardy. Severe dieback occurred most winters.

Acer buergerianum (Trident Maple)—Five trees planted in 1961 died indicating a lack of hardiness.

Acer campestre (Hedge Maple)—This European native is of borderline hardiness. In Europe, it is used for a clipped hedge because of its dense growth. Two plants out of ten planted in 1959 are in good health and may prove hardy. We plan to propagate these and test them further.

Acer circinatum (Vine Maple)—This beautiful native of the Pacific Northwest has brilliant red foliage in the fall. After several attempts to establish this species, we now have one specimen growing. We need further observation of this species and we should try inland seed sources. If a hardy strain can be found, it would be a valuable addition to our small trees.

Acer crataegifolium—This Japanese native has been a slow grower and has shown some dieback. Based on our observation to date, this species cannot be recommended.

Acer davidii (David Maple)—This small tree with white stripes on the bark has not proven hardy. Trees planted in 1962 have finally died after killing back each winter.

Acer diabolicum (Devil Maple)—This Japanese native is of questionable hardiness. Two plants out of four planted in 1961 are still living, but these have shown varying degrees of dieback.

Acer griseum (Paperbark Maple)—This beautiful paperbark maple is probably of borderline hardiness. A single specimen planted in 1959 is still living but has shown varying degrees of dieback.

Acer grosseri hersii—This variety, native to central China, has not been dependably hardy.

Acer heldreichii macropterum—This is a tree from southeastern Europe with deeply lobed leaves. Trees planted in 1961 are still alive but dieback occurs most years.

Acer japonicum (Fullmoon Maple)—This small tree, a Japanese native, is often called Japanese Maple, a name properly belonging to Acer palmatum. The fullmoon maple apparently is harder than the true Japanese Maple. One specimen, planted in 1961 is still living but it was planted in a sheltered location. It is worthy of trial in a sheltered location.

Acer mayri (Mayrs Maple)—All plants of this species, except one, have killed to the snowline each winter. We will check the identity of the one plant that has survived without injury.

Acer miyabei (Miyabe Maple)—This Japanese native has shown varying degrees of dieback.

Acer nikoense (Nikko Maple)—This maple has compound leaves similar to the native boxelder. The fall color is brilliant red to purple. We planted our trees in a sheltered location where competition from established trees limited growth. This species should be tested under a variety of conditions.

Acer pseudoplatanus (Sycamore Maple)—This native of western Asia and Europe has not been hardy in our trials.

Acer triflorum (Threeflower Maple)—This trifoliate maple is native to Manchuria and Korea. A single specimen planted in 1961 is still living. Further tests are needed.

Acer truncatum—This is a small, round-headed tree from north China. Five small plants set out in 1965 are doing well.

Issued in furtherance of cooperative extension work in agriculture and home economics, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Roland H. Abraham, Director of Agricultural Extension Service, University of Minnesota, St. Paul, Minnesota 55101

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