

MAPLES OFFER VARIETY, COLOR IN ELEVEN IMPORTANT SPECIES

by Douglass Chapman, Horticulturist, Dow Gardens, Midland, MI



The genera *Acer* is a most-widely used and well-known group of shade and/or street trees. The maples differ greatly when considering maintenance requirements (pruning, site and soil adaptation, insect and disease resistance, and tolerance to pollutants (ozone, sulfur dioxide, etc.) and highway salt (chloride). We shall discuss eleven important *Acer* species and their cultivars.

Hedge Maple (*Acer campestre*), an introduction from Europe, is effective when used as a hedge, low-branched specimen, or street tree. This dense, rounded tree often reaches 30 ft. in height. Its dark green summer leaf holds color late into the fall, seldom being blemished by insects, disease, or drought (leaf scorch). When Hedge Maple does develop fall color, which is rare, it is a clear yellow. This small, tolerant tree is one of the lowest maintenance trees and should be used more extensively as an urban landscape or street tree. It requires little pruning, tolerates poor sites, grows well under street tree conditions with no major insect or disease problems.

Amur maple (*A. ginnala*) is effective as a multiple-stemmed shrub or small tree. In Central



Bark of Paperback Maple (top) is an attractive addition to a landscape.

Japanese Maple (right) has unique branching and red foliage (insert above).

Striped Maple (insert right) is an exciting understory plant.



Michigan this round-headed tree normally reaches 18 to 25 ft. in height. The grayish bark helps to accent the rich green summer fall foliage as well as the yellow to scarlet color. Amur maple is perfectly winter hardy as far north as Traverse City, MI. It should be grown in moist, well-drained soil. There are no major insect problems, but verticillium wilt is a major disease and should limit slightly the use of this outstanding small tree.

Paperback Maple (*A. griseum*), a native of China, is an outstanding small tree but borderline hardy in Central Michigan. This 25 to 30-ft. oval tree, with its cinnamon colored exfoliative bark which develops on three- to five-year-old plants, is a real addition to the year-round landscape. Paperback Maple can make the winter landscape more tolerable. It should be used as a specimen in protected sites and planted in fertile, well-drained soil. Fall color, which is a reddish-bonze, develops so late it is seldom effective. Although the plant requires little maintenance and shows tolerance to most insect and disease problems, it should be used sparingly. It is scarcely found in the trade because of its difficulty to propagate from seed.

Boxelder (*A. negundo*) which grows under the most adverse conditions is seldom used because of boxelder bug and soft wood. This round-headed tree, reaching 35 to 40 feet, can be grown as a low branched specimen or limbed up. If a male cultivar acceptable were developed, this plant could be used as a street tree, remembering it is somewhat shortlived (30 to 40 years). When the bright yellow fall color contrasts the relatively dark bark, this plant is breathtaking.

Japanese Maple (*A. palmatum*) is valuable for its unique branching, green-striped bark when young and gray bark at maturity, and unique leaf shape (varying from medium to fine texture). This round-headed 15- to 20-ft. plant is borderline hardy as far north as Central Michigan. Japanese Maple, grown as a specimen tree in a sheltered location with northeast exposure or part shade, can be a dependable plant.

Two outstanding cultivars are available in the trade. *A.p.* 'Atropurpureum,' the hardiest of the cultivars, has a light red foliage throughout the growing season 'Oshio-beni' is in demand for its rapid rate of growth and brilliant red foliage, but one should realize it is not as hardy. Many selections are available but are usually so confusing in the trade that simply asking for Japanese Maple is probably the best course to follow.

Striped Maple (*A. pensylvanicum*) is a northern native which must be grown in moist, well-drained soil. This 15 to 20-ft. small tree is an exciting understory plant or in a tree border. The large red buds and stems with green and white striped bark are outstanding winter characteristics. The yellow fall color can accent this uniquely branched plant. When in full bloom, this plant is outstanding with a somewhat weeping chain-like yellow flower. This

plant should be utilized in tree borders or mass plantings and not as a specimen tree.

Norway Maple (*A. platanoides*), a native of Europe, is outstanding when used as a street or park tree. Its upright, oval crown often reaches 50 to 55-ft. in height. Norway Maple is frequently used in the urban landscape, some suggest too frequently, but it is tolerant of salt, air pollutants (ozone, sulfur dioxide), heavy, poorly-drained soils, and rarely shows leaf scorch. Further, Norway Maple grows rapidly, is relatively free of insect and disease problems, needs little pruning, and has many outstanding cultivars available in the trade.

The main detractant of Norway Maple is the recent increase in reported deaths due to verticillium wilt. This plant rarely develops fall color, but when it does, as it did in 1979, it is an exciting clear yellow.

There are many outstanding cultivars of Norway Maple. 'Cleveland' Norway Maple has dark green summer foliage, showing little or no leaf scorch. This 40-ft. tree is almost perfectly oval at maturity and is good as a shade, specimen or street plant. 'Summershade' is a rapid growing cultivar which maintains a good central leader. This cultivar shows exceptional heat tolerance, making it outstanding as a street tree.

'Crimson King' is the most vigorous of all the red-leaved forms. It maintains the red leaf color all summer, is heat tolerant, and is effective as a specimen or street tree.

'Schwedleri' was one of the first of the maroon types. It has bright maroon leaves during the spring which contrast the light green flowers. The summer foliage is dark green. The silhouette of 'Schwedleri' is wide and spreading, almost perfectly round. 'Columnare' Norway Maple is outstanding as a border specimen or street tree. This narrow, upright selection reaches 60-ft. in height with only 20-ft. in width. It has demonstrated good heat tolerance.

Planetree Maple (*A. pseudoplatanus*) has a round habit of growth, reaching 40 to 60-ft. in height. Its unique leaf shape makes it an outstanding specimen plant. It thrives on well-drained soils in full sun, thus limiting it to a landscape or park tree.

Red Maple (*A. rubrum*) is outstanding as a specimen or street tree. This 65 to 75-ft. upright, oval tree tolerates heavy, poorly-drained soil and has a range from northern Florida to Michigan's Upper Peninsula. The gray bark, accented by brilliant scarlet fall color, is reason enough to use this tree. It does require frequent pruning and shows little tolerance to air pollution. It is not a good selection for downtown urban conditions. There are many outstanding cultivars of this tree, but in recent years, graft incompatibility is limiting its use. Since it can be propagated by cuttage, the industry should actively look at trees grown on their own root system and develop cultivars adapted to sec-



Sugar Maple becomes rounded at maturity at a height of 70 feet.

tions of the country, e.g. Great Lakes. The ability to propagate by cuttage and work with known, hardy selections should greatly increase the use of this highly qualified plant.

Some of the selections available in the trade include 'October Glory' and 'Red Sunset', both displaying outstanding fall color. 'Columnare' ('Bowhall') is a good narrow, pyramidally-shaped tree with bright red fall color that has received high ratings from the Shade Tree Evaluation Tests in Wooster, OH.

Silver Maple (*A. saccharinum*) is a native fast growing specimen, usually 50 to 70-ft. in height, becoming oval to round as the plant matures. The interesting gray bark, deeply serrated leaf, rapid rate of growth, tolerance to poorly drained sites, make this plant ideal as a specimen or street tree.

Some selections of this plant can have exciting yellow fall color.

Silver Maple is a high maintenance plant which requires continuous corrective pruning (every three to four years) with wood susceptible to decay, e.g. forms a poor compartment, further compounding the need for continuous pruning (branches under two in.) If this plant is grown correctly in the nursery, (grown for two years, cut off, and regrown as a single stem, high-branch plant) it can effectively be used in urban landscapes. One must understand its limitations to be excited about the plant.

Sugar Maple (*A. saccharum*) is a 65 to 70-ft. specimen plant with a somewhat rounded habit of growth. When young, the branching is somewhat upright to oval, becoming more rounded at maturity. Leaf color is usually a medium green in summer, changing to brilliant yellow-orange or scarlet in the fall. Although this plant does not require pruning, it is not tolerant of salt, heavy soils, or restrictive urban conditions. It should be grown in open, well-drained fertile sites (parks).

Black Maple (*A. s. nigrum*), a sub-species of Sugar Maple, thrives in lowland conditions, is extremely heat tolerant, and requires little pruning. This 75-ft. rounded tree can be used equally as well as a street or specimen tree. The summer foliage is a dark green leaf with little fall color developing. If fall color does develop, it is usually a darker uniform yellow.

When considering maintenance requirements or tolerance to environmental stress, the maples are rather easy to rank. If pruning and low maintenance are main criteria, the order of ranking would be Norway, Hedge, Sugar, Amur, Planetree, Japanese, Red, Boxelder, and Sugar Maple.

When considering site adaptation or tolerance to urban conditions, the plants would rank (from high to low) Hedge, Norway, Boxelder, Silver, Red, Amur, Sugar, and Japanese.

If the plants are near where highway salts (sodium or calcium chloride) are regularly applied, then their ability to withstand these conditions would rank (from tolerant to intolerant) Norway, Hedge, Boxelder, Red, Silver, Amur, Japanese, Planetree, and Sugar Maple.

In making this decision, air pollutants should also be considered if sulfur dioxide is a problem. The tolerant to intolerant rating goes from Norway Maple being very tolerant to Planetree, Hedge, Silver, Sugar, Red, Boxelder, Japanese Maple showing little tolerance. The air pollutant ozone is becoming more common and affects the maples differentially with Norway Maple being most tolerant and Sugar, Boxelder, and Red Maple being least tolerant.

It is clear to see that several of the maples are outstanding in almost every category but in certain situations, each one of the eleven would be the prime tree to use. The main consideration should include selecting the maple that is best adapted to the conditions and the level of maintenance one is able to provide with an eye toward diversity.

WTT



NOW PLANT
**Husky Young
TREES**
AT
Wholesale Prices

Colorado Blue Spruce plus 26 other evergreen varieties; Black Walnut plus 28 other deciduous trees including many hardwoods. Ideal for forestation, windbreaks, wildlife shelter and food, soil conservation . . . increase property value. Low quantity prices.

Send for Free Catalog

VANS PINES INC.



Box 768, West Olive, Mich. 49460

Phone 616-399-1620

Circle 160 on free information card
WEEDS TREES & TURF/FEBRUARY 1980