

MINNESOTA TREE LINE

Agricultural Extension Service
University of Minnesota

Shade Trees for Northeast Minnesota

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No. 14-1978

Northeast Minnesota, where the great forests of the state once grew, is the native home of many tree species, both evergreen and deciduous. Communities in the counties from Chisago to Cook to Koochiching to Mille Lacs often have landscape trees remaining from the natural woodlands in addition to native trees that have been transplanted from the wild. Commercial nurseries grow both native trees and new species and cultivars (cultivated varieties) introduced into the region. Northern nurseries may also offer some native species not widely available elsewhere. Showy and American Mountainash, Blue Beech, Canada Plum, Serviceberry (Juneberry), Pin Cherry, and several Hawthorns are examples of the useful and attractive wild species that can contribute to a northern community's landscape plantings.

However, planting trees in a region of natural forests does not mean that local differences in soil, exposure, moisture, and zones of winter hardiness can be ignored (see map). Trees discussed in this publication are generally suited to Northeast Minnesota, but choices must be made for particular sites. Some of the recommended trees are more suitable for parks and large grounds than for street plantings. Winter hardiness, soil and moisture requirements, heat tolerance, mature size and shape, quality of summer foliage, and resistance to disease and insects are essential considerations. Showy blossoms, attractive fruits, interesting bark, and winter silhouette are important extras.

Careful planting, regular watering, mulching, staking, fertilizing, corrective pruning and pest protection are essential for successful community-wide tree programs. Newly planted trees and species with smooth thin bark are susceptible to sunscald. Trunks of maples, mountainash, flowering crabapples and lindens may have to be wrapped for five to seven winters until outer bark becomes rough and heavy. Planting thin-barked species in places where trunks are shaded from the west and south helps to avoid sunscald damage. Several kinds of trees must be included in community planting plans to lessen chances of pest epidemics that devastate a single species. Mixed plantings also help to avoid wholesale losses from severe weather occurring at a critical time for a particular species.

A good way for you to begin your new planting plans is to take a critical tour of your own community to identify successful trees. Other suggestions are available from Agricultural Extension Service publications, the Minnesota Landscape Arboretum, your County Extension office, local foresters, and experienced nurserymen.

Red Maple (*Acer rubrum*). Red Maple, native to Northeast Minnesota, blooms with conspicuous red flowers in early spring and colors red, yellow, or orange in early fall. Summer color is green. Red Maple grows best on moist, slightly acid sites and, because of its thin bark when young, must be carefully protected from sunscald for several winters. Mature trees are medium-sized, possibly reaching 50 feet in height on favorable sites. The greatest difficulty with Red Maple for shade trees in Minnesota is in finding nursery-grown material from northern seed stock. Varieties developed in other sections of the United States may not be hardy in Minnesota conditions. Propagation experiments are now underway at the Minnesota Landscape Arboretum to increase the supply of Red Maple from Minnesota collected selections.

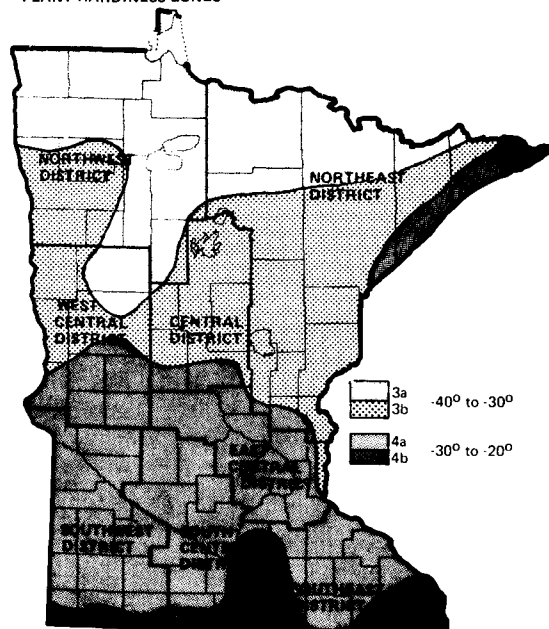
Sugar Maple (*Acer saccharum*). Sugar Maple is a native Minnesota maple, popular for its strong round-headed shape, attractive

summer foliage, and yellow, orange, or red autumn color. Sugar Maples are suitable for street and boulevard planting on fertile, moist, well-drained soil. Careful site selection, watering, and fertilizing will adapt this species to many Minnesota communities. Fertilizer and water also help to keep lawns growing under maple shade. Trees are winter hardy but need protection from sunscald by wrapping young trunks. Verticillium wilt may kill trees under stress, thus good maintenance is important.

Ohio Buckeye (*Aesculus glabra*) is winter hardy in Minnesota, and tolerant of droughty soils. It is a good choice for public or private properties because of its medium height—25 to 50 feet—strong rounded shape, and deep root system. Ohio Buckeye has showy cream-colored blossoms in spring, interesting light green compound leaves during the growing season, and yellow to apricot autumn color. The large shiny brown buckeye seeds enclosed in a leathery hull mature in fall. Not all trees fruit heavily. Ohio Buckeye may be planted from seed, but are sold by nurserymen as balled and burlapped specimens or in containers. The long tap root makes bare-root transplanting difficult.

Hackberry (*Celtis occidentalis*). Hackberry is a sturdy, oval-crowned tree with a strong central trunk. Since leaves are similar in appearance to elm foliage, Hackberry has been used as a replacement for American Elm in street plantings for many years. Hackberry leaves are light green in summer, clear yellow in fall. Its small purple fruit mature in late summer. These trees are winter hardy—if grown from northern seed stocks—drought resistant, and suited to most Minnesota soils. However, Hackberries may become established slowly after transplanting. They are best planted as small trees, 1½ to 2 inch caliper (diameter 6 inches above ground) or smaller. Newly planted Hackberries should be staked, especially in windy locations. Leaf galls and clusters of small branches (witches' brooms) are caused by psyllid insects and eriophyid mites, but this damage is not serious. Psyllids, however, may be annoying to people for a short time in late summer.

PLANT HARDINESS ZONES



Green Ash (*Fraxinus pennsylvanica*) and its cultivars, Marshall's Seedless and Summit Ash. Green Ash is the most widely planted shade and street tree replacement in Minnesota at present, but should not be used to the exclusion of other species in a neighborhood or community. Green Ash has a strong central trunk

and a sturdy opposite branching habit. These trees are not suitable for pruning to an arching shape; attempts to shape boulevard ash trees to resemble elms results in weak and broken limbs.

Green Ash leaves are compound, smooth, and green on both surfaces. Fall color is brilliant yellow. Summit Ash is a straight-trunked erect form, usually seedless, and nurserymen report it may be hardiest for locations in Zone 3A (see map). Marshall's Seedless Ash is broader than other Green Ash, and has darker green, glossier leaves, which are especially clean and attractive throughout the growing season. Marshall's Seedless Ash is a male, budded selection and does not produce the winged seeds of female Green Ash trees. The seeds do, however, provide food for some winter birds and add some visual interest to the landscape during leafless months.

Green Ash transplant easily and are tolerant of poor, droughty soils, although they are more vigorous on better sites. Their rather open shade allows good lawn growth beneath. Ash plant bugs or aphids can cause distorted and discolored foliage, but do not seriously damage trees. Sometimes developing male flowers are attacked by mites and the resulting flower galls harden and turn black in the fall. These trees are seldom damaged by the galls, although green foliage can be reduced. Young ash trees may be sprayed to protect against all of these pests if noticeable infestations occur.

Flame and Red Splendor Flowering Crabapples (*Malus* hybrids). These two varieties of Flowering Crabapples grow to a height of 25 feet, and are large enough to serve as small shade trees. Flame blooms white in spring, Red Splendor is purplish-pink. Fruit of both is bright red, but Flame produces a larger crabapple than does Red Splendor, whose small red apples hang through the winter until eaten by birds. Fruits of the Flame Crabapple drop in the fall, thus it should not be planted near a sidewalk.

When used as shade trees, Flowering Crabapples should be interspersed with other species to reduce the risk of fireblight infection, cankerworms and other apple pests. Cultural practices to reduce damage from diseases and insects affecting apples should be followed. Young crabapple trees must also be protected from sunscald and animal damage.

Ironwood or Hop Hornbeam (*Ostrya virginiana*). Ironwood is a medium-sized tree native to most of Minnesota. It matures to 40 feet, with medium green foliage similar in appearance to elm. Fall color is golden yellow, fruits are hoplike. Ironwood is extremely pest resistant, and adapts to many kinds of soils and sites. However, it is sensitive to salt and should not be planted adjacent to heavily salted streets. It is attractive when grown either as a single specimen or in clump form. Ironwood is not as yet available in large numbers in Minnesota nurseries, but transplanting small trees from the wild is a possibility.

Showy Mountainash (*Sorbus decora*). Showy Mountainash is native to the North Shore of Lake Superior. The tree reaches medium height—25 to 35 feet—often growing with multiple stems. Large clusters of white flowers appear in spring, followed by bright red fruit—the tree's most striking feature. Fruit colors in August and usually persists into the winter until eaten by birds. Mountainash succeeds best on cool, moist, slightly acid sites. Trunks must be protected from sunscald. Fire blight, a bacterial disease affecting apples and crabapples as well, is the most serious pest of mountainash. Because of the danger of spread infection, mountainash and flowering crabapples should

not be planted in large numbers or without an intermixture of non-susceptible species. For further information about fire blight and its control, see Plant Pathology Fact Sheet No. 17, [Fire Blight](#).

Japanese Tree Lilac (*Syringa reticulata*, formerly *Syringa amurensis japonica*). Japanese Tree Lilac matures to a height of 25 feet and is usually grown in clump form. Pruning lower branches allows the tree to be used near sidewalks, and it is low enough to be grown under utility wires. Japanese Tree Lilac is winter-hardy in Minnesota and adapted to soils with high lime content. It has no serious pests. Summer foliage is clean, medium green, with large trusses of cream-white flowers appearing early in the season. Seed pods persist through winter months, and their bright brown color contrasts with the shiny black bark of trunks and larger branches.

American Linden, Basswood (*Tilia americana*). American Linden is a winter-hardy, native tree, growing to a mature height of 50 to 75 feet. American Linden may develop with several stems, or single trunk specimens can be maintained by pruning when young. Mature American Linden are often strongly columnar in shape. Leaves are large, heart-shaped, deep green in summer, turning gold in autumn.



American Linden prefers moist, fertile soil, but adapts to most locations in Minnesota, given reasonable care. Young trees must be protected from sunscald. Cankerworms and spiny elm caterpillars are common insect pests. Neither causes substantial harm, although cankerworms can cause spring defoliation. In hot, dry summers, leaf scorch is common on landscape trees.

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 55108. The University of Minnesota, including the Agricultural Extension Service, is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, creed, color, sex, national origin, or handicap.