

Shade Tolerant Trees and Shrubs

Iowa State University

by Richard Jauron, Department of Horticulture

The previous issue of the Horticulture and Home Pest News contained a list of perennials that perform well in partial to heavy shade. A number of trees and shrubs can also be successfully grown in partial shade.

Trees and Shrubs Adapted to Partial Shade

Common Name	Scientific Name	Height	Comments
Five-Leaf Aralia	<i>Acanthopanax sieboldianus</i>	3-6 feet	Has prickly stems, makes good barrier plant.
Serviceberry	<i>Amelanchier spp.</i>	10-25 feet White flowers in spring, good fall color.	
Mentor Barberry	<i>Berberis x mentorensis</i>	3-6 feet	Thorny stems, excellent hedge plant. Hardiness zone 5.
American Hornbeam	<i>Carpinus caroliniana</i>	20-25 feet	Large, multi-stemmed shrub or small tree.
Eastern Redbud	<i>Cercis canadensis</i>	20-25 feet	Small tree that produces flowers in spring. Hardiness zone 5.
Pagoda Dogwood	<i>Cornus alternifolia</i>	15-25 feet	Small, native tree with branching habit. Yellow-white flowers.
Gray Dogwood	<i>Cornus racemosa</i>	8-10 feet	Suckering shrub.
Common Witchhazel	<i>Hamamelis virginiana</i>	12-15 feet	Small, yellow flowers and foliage in fall.
Smooth Hydrangea	<i>Hydrangea arborescens</i>	3-5 feet Large flower clusters in summer.	
Japanese Kerria	<i>Kerria japonica</i>	3-6 feet	Upright arching shrub, yellow June. Hardiness zone 5.
Russian Cypress	<i>Microbiota decussata</i>	12 inches	Low, spreading evergreen. Foliage resembles arborvitae.
Ironwood	<i>Ostrya virginiana</i>	25-40 feet	Small, slow-growing tree. Can be difficult to establish.
Rhododendron	<i>Rhododendron spp.</i>	Variable	Good choices for Iowa include 'PMJ,' 'Aglo,' and 'Olga Mezitt.'
Black Jetbead	<i>Rhodotypos scandens</i>	4-6 feet	Not showy, but a tough, durable shrub. Hardiness zone 5.
Alpine Currant	<i>Ribes alpinum</i>	3-6 feet	Good hedge plant, tolerates pruning well.
Snowberry	<i>Symphoricarpos spp.</i>	3-6 feet	Plants produce white, pink, or purple fruit.
Canadian Hemlock	<i>Tsuga canadensis</i>	40-50 feet	Attractive, graceful tree. Prefers moist, well-drained soils. Dislikes hot, dry sites.
Yew	<i>Taxus spp.</i>	Variable	Most shade tolerant evergreen. Adapts well to pruning.
Arrowwood	<i>Viburnum dentatum</i>	6-8 feet	Hardy, adaptable shrub. Produces white flowers in spring and blue fruit in fall.
Viburnum			
Blackhaw	<i>Viburnum prunifolium</i>	12-15 feet	Large, multi-stemmed shrub or small, rounded tree.
Viburnum			

Unless noted, all of the above trees and shrubs are hardy throughout Iowa.

Trees and Shrubs Adapted to Partial Shade

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Some individuals consider shady sites to be problem areas in the home landscape. However, shady areas actually provide opportunities for home gardeners. Wise plant selection can turn a shady site into an attractive landscape area. A number of trees and shrubs can be successfully grown in partial shade. (Partially shaded sites receive 3 to 4 hours of direct sun, but are in shade the rest of the day.)

Below is a list and brief description of trees and shrubs adapted to partial shade.

Serviceberries (*Amelanchier spp.*) are native to Iowa and are often found in open areas in woodlands. Other common names include Juneberry, shadbush, or sarvis-tree. Serviceberries are large, multi-stemmed shrubs or small trees that reach a height of 10 to 25 feet. Ornamental characteristics include white flowers in mid to late April and colorful fall foliage. Fall foliage varies from yellow to orange to red. (Fall color is generally best in full sun.) Serviceberries also produce small, berry-like fruit which usually ripen in June, hence the common name Juneberry. The ripe fruit are excellent in pies and muffins. The birds also love the fruit and

usually devour most of the fruit before they can be picked. Excellent cultivars for the home landscape include 'Autumn Brilliance,' 'Princess Diana,' 'Cumulus,' and 'Strata.'

American hornbeam (*Carpinus caroliniana*) and ironwood (*Ostrya virginiana*), also known as American hophornbeam, are slow growing, native trees that should be used more in the home landscape. The mature heights of the American hornbeam and ironwood are 20 to 25 feet and 25 to 40 feet, respectively. Their use in the landscape has been limited by the fact that both are somewhat difficult to transplant. However, once established they develop into small, attractive trees.

The **eastern redbud** (*Cercis canadensis*) is native to much of the eastern United States, including southern Iowa. It reaches a height of 20 to 25 feet. Redbuds are cherished for their pinkish-purple flowers that appear in late April or early May. (There are also a small number of white flowering cultivars.) Mature trees possess a handsome flat-topped to rounded appearance. When purchasing a redbud, select a tree grown from a northern seed source. Redbuds grown from a northern seed source are more likely to be cold hardy in Iowa. They perform best in moist, well-drained soils.

The **pagoda dogwood** (*Cornus alternifolia*) is a large shrub or small tree. Its mature height and spread is 15 to 25 feet. Ornamental characteristics include a horizontal branching habit, yellowish white flowers in late spring, and reddish purple fall foliage. The pagoda dogwood requires a cool site and moist, well-drained soils. Protected sites and eastern exposures are generally the best planting sites.

Another large shrub or small tree is **common witchhazel** (*Hamamelis virginiana*). Its mature height is 12 to 15 feet. The flowering habit of common witchhazel is unique. It blooms in the fall (October to December). The yellow, strap-like petals unfold on warm days and curl up on cold days. In fall, the leaves turn a bright yellow. Common witchhazel develops a rounded, open habit in shady sites, but has a more dense, fuller habit in full sun.

Several deciduous shrubs also do well in partial shade. **Gray dogwood** (*Cornus racemosa*) is our most common native dogwood. It is an adaptable shrub which tolerates wet or dry soils, full shade or sun. Gray dogwood reaches a height of 8 to 10 feet. It produces whitish flowers in late spring which are followed by small white berries. The use of gray dogwood in the home landscape is limited somewhat by its suckering habit.

Another shade tolerant, native shrub is the **arrowwood viburnum** (*Viburnum dentatum*). It is an adaptable shrub which grows well in sun or shade and tolerates most soils. Arrowwood viburnum grows about 6 to 8 feet tall. Plants produce creamy white flowers in spring followed by blue fruit in the fall.

Alpine currant (*Ribes alpinum*) is an extremely hardy shrub. Its mature height is 3 to 6 feet. Alpine currant is one of the first shrubs to leaf out in the spring. It tolerates pruning well and makes an excellent formal hedge.

Other shade tolerant deciduous shrubs include

- **five-leaf aralia** (*Acanthopanax sieboldianus*)
- **summersweet clethra** (*Clethra alnifolia*)
- **smooth hydrangea** (*Hydrangea arborescens*)
- **black jetbead** (*Rhodotypos scandens*)
- **snowberry** (*Symphoricarpos spp.*)

Only a limited number of evergreens do well in shady areas. **Yews** (*Taxus spp.*) are evergreen shrubs that do well in sun or shade. However, they do require well-drained soils. Yews often die in wet, poorly drained soils. They are also prone to winter injury when planted in windy, exposed sites. Yews tolerate pruning well and are often pruned into formal hedges.

The **Canadian hemlock** (*Tsuga canadensis*) is an attractive, graceful tree. Hemlocks perform best in cool sites with well-drained, moist soils. Avoid windy, exposed sites and hot, dry locations. Hemlocks may eventually attain a height of 40 to 50 feet when grown in favorable sites. In Iowa, Canadian hemlocks grow best in the eastern portion of the state.

Rhododendrons (*Rhododendron spp.*) are broadleaf evergreens that do well in partial shade. However, only a small number of rhododendrons can be successfully grown in Iowa. 'PJM' (lavender-pink flowers), 'Aglo' (light pink flowers with dark pink throats), and 'Olga Mezitt' (pink flowers) are three hardy cultivars which can tolerate our harsh winter weather. When planting rhododendrons, site selection is extremely important. Rhododendrons perform best in protected sites in partial shade. An area that receives morning sun and afternoon shade would be a good site for rhododendrons. Windy and exposed sites should be avoided. Rhododendrons also require well-drained, acid soils. An excellent way for home gardeners to lower their soil pH is to incorporate Canadian sphagnum peat into the soil prior to planting.

Selecting and planting shade tolerant trees and shrubs, along with suitable annuals and perennials, can transform bare shady areas into attractive landscape sites.

Trees and Shrubs for Wet Soils

Byline:

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Many trees and shrubs thrive in Iowa's fertile, well-drained soils. Most trees and shrubs, however, don't like wet soils. Fortunately, there are plants that tolerate wet soils better than others. The following trees and shrubs are good choices for wet sites.

Trees

The silver maple (*Acer saccharinum*) is commonly found along the banks of rivers and streams throughout Iowa. It is one of our largest native trees, growing up to 100 feet tall. Silver maples have been widely planted in the past because they transplant well, grow fast, and adapt to a wide range of site and soil conditions. Unfortunately, silver maples are weak-wooded trees. They often become liabilities in home landscapes because of their tendency to break apart in ice and windstorms. While the silver maple is a poor choice for the home landscape, it is suitable for windbreaks and natural areas.

River birch (*Betula nigra*) tolerates heat and drought better than the white-barked birches. It is also resistant to the bronze birch borer. The river birch is native to much of the eastern third of Iowa. It is typically found in moist to wet areas along rivers, hence the common name river birch. The exfoliating bark varies from gray-brown to reddish brown. The cultivar 'Heritage' has a salmon-white bark. River birches are often planted as multi-stemmed specimens or "clumps." It grows 50 to 60 feet tall. River birches perform best in acid soils. Their foliage often turns a sickly yellow-green in alkaline soils.

The American hornbeam (*Carpinus caroliniana*) is native to woodlands in eastern Iowa. It is noted for its hard, tough wood. The American hornbeam is also referred to as ironwood, musclewood, and blue beech. The small, shrubby tree grows slowly to a height of 20 to 30 feet. It does well in heavy shade and wet soils, but will tolerate sunnier and drier sites. In the fall, the foliage turns yellow to orange red.

Another large, native tree is the hackberry (*Celtis occidentalis*). Though it can be found in a wide range of habitats, it is most often found in the floodplains of rivers and streams. Although hackberries don't possess any outstanding ornamental feature, they are adaptable. They tolerate acid or alkaline soils, wet or dry sites, and harsh urban conditions. Hackberries usually grow 50 to 60 feet tall, but can grow 100 feet tall.

The green ash (*Fraxinus pennsylvanica*) is one of our most common native trees. It is also widely planted because of its adaptability and fast growth rate. The green ash grows well in both wet and dry soils. Its mature height is approximately 50 to 60 feet tall. Unfortunately, it is weak-wooded and susceptible to storm damage. Seedless cultivars, such as 'Patmore' and 'Bergeson,' are preferred for home landscapes. Another excellent cultivar is 'Summit.' 'Summit' has an upright growth habit, but does produce a few seeds.

One of our most distinctive native trees is the sycamore (*Platanus occidentalis*). Its large maple-like leaves, persistent seedballs, exfoliating bark, and huge size make it easy to identify. The sycamore is not a tree for a small yard as it may eventually reach a height of 75 to 100 feet. It is best suited to parks and other large open areas. Anthracnose (a fungal disease) is a problem in cool, wet springs. Severe anthracnose infestations cause heavy leaf drop in late spring.

Swamp white oak (*Quercus bicolor*) is a large, slow growing oak which may eventually attain a height and spread of 60 feet. While difficult to locate in nurseries, it is sturdy, drought tolerant, and makes a handsome shade tree. The swamp white oak performs best in moist, acid soils.

Originally found only in southeastern Iowa, the pin oak (*Quercus palustris*) has been widely planted across the state because of its pyramidal habit and ease of transplanting. Unfortunately, iron chlorosis is a serious problem in alkaline soils. Chlorotic foliage is a sickly yellow-green. The pin oak is not a good street tree because of its drooping lower branches. Fall color varies from bronze to red. It grows 60 to 70 feet tall.

Bald cypress (*Taxodium distichum*) is a deciduous conifer. Native to swamps in the southeastern United States, it does surprisingly well in the north. In Iowa, it performs best in the southern portion of the state. The foliage is an attractive yellow-green in the spring and turns to russet in the fall. The bald cypress possesses a pyramidal growth habit and may eventually reach a height of 50 feet.

Other trees that do well in wet soils include the cottonwood (*Populus deltoides*), alders (*Alnus* species), and willows (*Salix* species).

Shrubs

Red chokeberry (*Aronia arbutifolia*) is an upright, suckering, multi-stemmed shrub that grows 6 to 8 feet tall. Red chokeberry is noted for its red fruit in late summer and fall. Leaves turn a reddish purple in fall. The variety 'Brilliantissima' produces excellent fall foliage color (scarlet) and a large crop of glossy red fruit.

A native shrub, buttonbush (*Cephalanthus occidentalis*) is typically found along stream banks, lake shores, and other wet areas. The shrub has glossy green foliage and produces creamy- white flowers in globular heads in August. Its mature height is about 6 feet, though it can grow up to 12 to 15 feet in southern areas of the United States.

Although not widely planted, summersweet clethra (*Clethra alnifolia*) is an excellent shrub for the home landscape. It is native to wet areas and will grow in full sun or heavy shade. Summersweet clethra produces small, white, fragrant flowers on spike-like structures. The flowers appear in mid-summer and remain attractive for 3 to 4 weeks. Bees and butterflies find the flowers irresistible. The foliage of summersweet clethra is a lustrous, dark green. In the fall, the leaves turn to a pale yellow or golden brown. Plant size is variable and determined by soil and moisture conditions. Summersweet clethra can grow to 3 to 8 feet tall and 4 to 6 feet wide. The cultivar 'Rosea' produces pink flowers which fade to pinkish white. 'Pink Spires' produces rose- pink flower buds which open to soft pink.

Silky dogwood (*Cornus amomum*) is a native shrub commonly found along streambanks, wet prairies, and at the edges of bottomland woods. Silky dogwood produces flat- topped clusters of yellowish white flowers. Fruit is bluish with white blotches. Silky dogwood is a rounded shrub which grows approximately 6 to 10 feet tall with a similar spread. Another native dogwood is redosier dogwood (*Cornus sericea*). It grows about 6 to 8 feet tall. The redosier dogwood is noted for its red-colored twigs in winter. Several varieties are available. 'Cardinal' is an introduction from the University of Minnesota Landscape Arboretum. Its twigs are bright red in winter. 'Isanti' and 'Kelseyi' are compact, red-stemmed shrubs. 'Flaviramea' has yellow stems.

Winterberry (*Ilex verticillata*) is a deciduous holly. The deep green leaves drop off in the fall revealing bright red fruit. The shrub attains a height of 6 to 10 feet. Hollies are dioecious. Male and female flowers are produced on separate plants. The cultivars 'Sparkleberry,' 'Winter Red,' and 'Christmas Cheer' produce abundant bright red berries. A male cultivar, such as 'Southern Gentleman' or 'Jim Dandy,' is required for pollination. Winterberries do require acid soils.

Purpleosier willow (*Salix purpurea*) is an 8 to 10 foot shrub. 'Nana' is a compact form which grows about 4 feet tall. 'Streamco' is a Soil Conservation Service, USDA introduction which was developed to prevent soil erosion along stream banks. The purpleosier willow is one of many willows that grow well in wet soils.

American elder (*Sambucus canadensis*) is a native suckering shrub that produces large clusters of purple-black fruit in late summer. The ripened fruit are good for jellies, preserves, and wines. The fruit are also attractive to birds. Its mature height is 6 to 10 feet. 'Aurea' and 'Laciniata' are two cultivars which have greater landscape potential than the species. 'Aurea' has golden-yellow foliage and red fruit, while 'Laciniata' has cutleaf foliage.

Virginia sweetspire (*Itea virginica*) and common sweetshrub (*Calycanthus floridus*) are two additional shrubs that do well in moist to wet soils.

When selecting trees and shrubs for the home landscape, gardeners should select plants suitable for the site. Wet sites can be a challenge. However, the aforementioned trees and shrubs will perform well in wet soils.