



Guide to Common Trees & Shrubs

of
Iowa



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Plants are amazing in their ability to adapt and prosper wherever they begin growing. This is especially true of woody plants, including trees and shrubs. They must endure remarkable extremes of temperature, wind, and moisture, and fend off attackers without the benefit of escape as an option.

Plants are smart, too. Many plants offer specific rewards to pollinators and other animals to help ensure their long-term prosperity. The foundation for entire ecosystems, trees support a vast variety of interconnected wildlife. Woody plants have historically provided humans with many benefits, including food, shelter and warmth.

We are integrating the powers of trees and shrubs in our communities in increasingly innovative ways. For instance, we recognize their ability to stabilize and restore landscapes, beautify roadsides, slow and treat runoff, reduce the heat island effect of urban areas, and reduce greenhouse gases by capturing and storing carbon.

Trees and shrubs fill our world with beauty. We appoint our homes, inside and out, with trees and shrubs, and products made from them. They inspire art and style, and symbolize traits we seek to emulate. A good example of this is the oak, widely regarded by cultures around the world as a symbol of strength, wisdom, and longevity. It is very fitting the oak is Iowa's state tree.

The Guide to Common Trees and Shrubs of Iowa was developed to help identify species that may be readily observed in the state. The guide features common terms and includes characteristics to help with field identification. Our goal was to develop a guide with easily accessible information that can be carried in the field. We hope the pages of your copy become well-worn.

Ash, Black

Fraxinus nigra



Black ash trees are not known as an outstanding ornamental tree although numerous cultivars have been developed to add some aesthetic value to the tree. Trees are cold tolerant and can survive in pollution-prone areas. Black ash trees are typically found on wet sites and can tolerate standing water for many weeks although they are also shallow rooted and are susceptible to wind damage. Black ash tends to perform poorly on dry, well-drained soils. Like other ash species, many nurseries have stopped stocking ash due to the threat of emerald ash borer looming just east of Iowa.



1

Look for:

TWIGS: Gray, stout, becoming hairless.

LEAVES: Opposite, pinnately compound, 7-11 leaflets paired except for end. Dark green above, paler beneath with tufts of rust-colored hairs along mid-vein; leaflets are smooth to the touch. When foliage is crushed, it smells like elderberry.

FRUIT: Broad oblong wing extending to base of flat body; hang in clusters.

WILDLIFE VALUE: Deer prefer the young trees to browse while the seeds are eaten by a variety of birds and small mammals.

SIMILAR IN APPEARANCE: Similar to other ash species, but can be distinguished by habitat preference of moist soils and broad seed with wing extending down entire seed. Also, black ash has stouter twigs than other ash. It also has softer bark, which feels soft and corky and often flakes when rubbed with the palm of the hand.

Habitat:

MOISTURE: Wet

SUN PREFERENCE: Part shade to full sun

NATIVE IOWA RANGE: East 1/2

MATURE HEIGHT: 50-75 feet

BLOOM MONTH: April

BLOOM COLOR: Inconspicuous

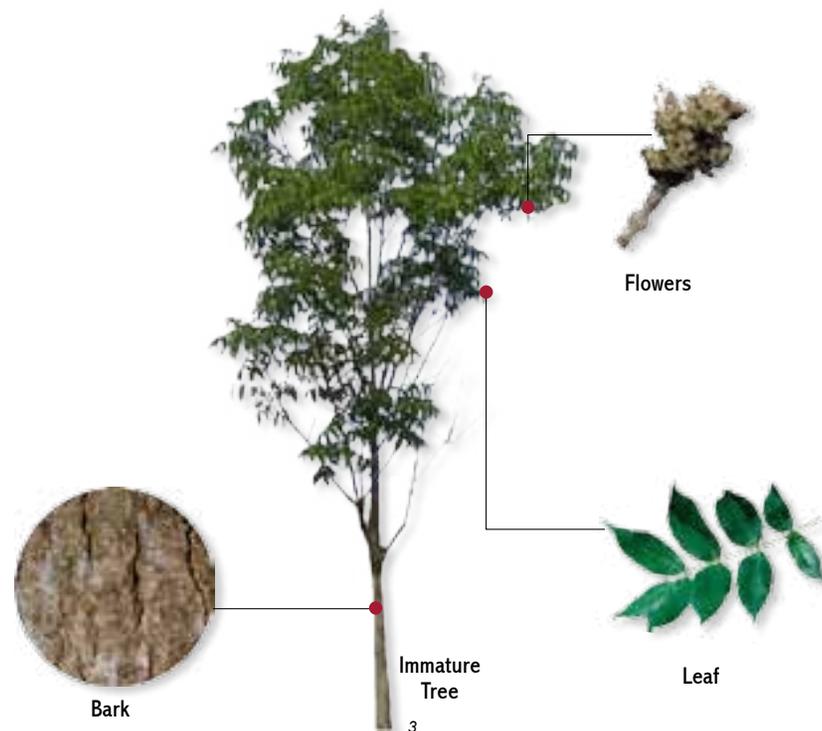
FALL COLOR: Burgundy-purple to brown

HARDINESS ZONES: 2-5



2

1 cm
Seed



Bark

Flowers

Immature
Tree

Leaf

3

Images provided by:

1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913

2- Steve Hurst@USDA-NRCS PLANTS Database

3- P. Bockenstedt- Stantec

Ash, Green

Fraxinus pennsylvanica

Hardy and fast-growing, green ash became the tree most widely planted to replace elms following the sweep of Dutch elm disease. Green ash are commonly planted in urban, roadside, and residential areas due to the fact these trees are widely tolerant of conditions such soil texture and moisture. Green ash trees are also extensively planted in windbreaks in the upper Midwest. Green ash wood is widely used for furniture and a variety of tool handles and sports equipment, including baseball bats. With the threat of emerald ash borer looming in the upper Midwest, many nurseries have stopped stocking this one-time mainstay of the landscaping industry.



Habitat:

MOISTURE: Mesic

SUN PREFERENCE: Part shade to full sun

NATIVE IOWA RANGE: Statewide

MATURE HEIGHT: 50-75 feet

BLOOM MONTH: April to May

BLOOM COLOR: Inconspicuous

FALL COLOR: Golden yellow

HARDINESS ZONES: 3-9a



1 cm

Seed

Images provided by:

1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913

2- Steve Hurst@USDA-NRCS PLANTS Database

3- Common Trees of the North Carolina Piedmont Identification, Descriptions, Illustrations, and Glossary

Look for:

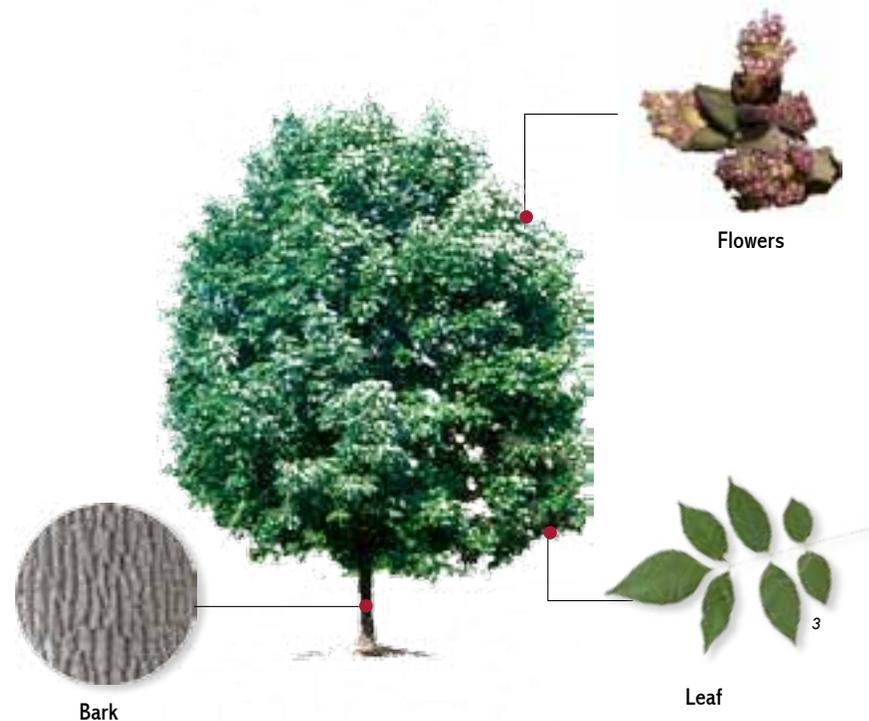
TWIGS: Brown to gray in color, smooth, and thick.

LEAVES: Opposite, pinnately compound, paired leaflets except at end; shiny green above, lightly paler below and slightly hairy beneath.

FRUIT: Yellowish in color, narrow wing extending nearly to base of narrow body.

WILDLIFE VALUE: Seeds are eaten by a variety of birds and small mammals while deer prefer to browse on the twigs and foliage.

SIMILAR IN APPEARANCE: Stout twigs are sometimes confused with those of black walnut. However, green ash lacks the chambered pith. Green ash may also be confused with white ash, however, the leaves of green ash are not lighter in color on the lower sides like those of white ash.



Flowers

Bark

Leaf

Ash, White

Fraxinus americana

Because of its potential to become large in stature, white ash is a good tree for open areas such as parks and residential lots. White ash is typically a large tree with straight trunk and dense, rounded crown of foliage with whitish lower surfaces. Will grow in all types of soil but prefers well drained-fertile sites and has a low tolerance for heavy clay soils, compacted soils and salt spray. Many cultivars have been developed - from seedless varieties to differing color varieties. Despite the good character of this tree, the threat of emerald ash borer has resulted in many nurseries no longer carrying this species in the upper Midwest.



Habitat:

MOISTURE: Mesic

SUN PREFERENCE: Part shade to full sun

NATIVE IOWA RANGE: Southeast 3/4

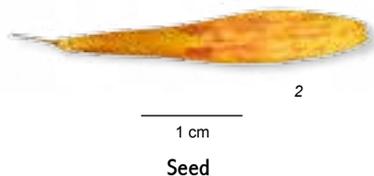
MATURE HEIGHT: 75-100 feet

BLOOM MONTH: April to May

BLOOM COLOR: Inconspicuous

FALL COLOR: Yellow to purple

HARDINESS ZONES: 3-9a



Images provided by:
1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913
2- Steve Hurst@USDA-NRCS PLANTS Database
3- Realworld Imagery, Inc.



Look for:

TWIGS: Stout, mostly hairless.

LEAVES: Opposite, pinnately compound, usually 7 (5 – 9) leaflets. Finely saw-toothed, dark green above, whitish below.

FRUIT: Hang in clusters, narrow wing not extending down cylindrical body

WILDLIFE VALUE: Wildlife including wood duck, purple finch and squirrel all eat the seeds of white ash trees.

SIMILAR IN APPEARANCE: Black ash can be distinguished by habitat preference of moist soils and broad seed with wing extending down entire seed. Black ash also has softer bark, which feels soft and corky and often flakes when rubbed with the palm of the hand. Green ash tends to have a crowded canopy, often with drooping branches, whereas white ash tends to have a more open canopy and branches that are held more upright.

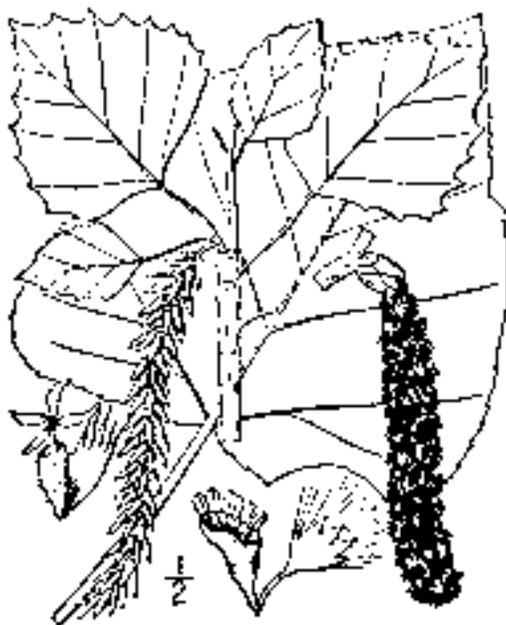


Aspen, Big-tooth

Populus grandidentata



Big-tooth aspen is a fast-growing, relatively short-lived tree, sometimes reaching a height of 75 feet and 24 inches or more in diameter. It tends to have a tall, straight trunk and is also known as large-toothed aspen. Big-tooth aspen is commonly found as regeneration stands in areas that have been clear cut or burned, or in formerly open woodland pastures or prairies. In regions where aspen occur in large, solid stands it is harvested primarily for pulpwood to make paper products and building materials such as particle board and oriented strand board.



Habitat:

MOISTURE: Mesic

SUN PREFERENCE: Full sun

NATIVE IOWA RANGE: Northeast 1/2

MATURE HEIGHT: 50-75 feet

BLOOM MONTH: April

BLOOM COLOR: Inconspicuous

FALL COLOR: Golden yellow

HARDINESS ZONES: 2b-5b

Images provided by:
1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913
2- Kuo, M. (2003 August) MushroomExpert.com
3- P. Bockenstedt- Stantec
4- Ohio Public Library Information Network- www.oplin.lib.oh.us
5- www.cas.vanderbilt.edu

Look for:

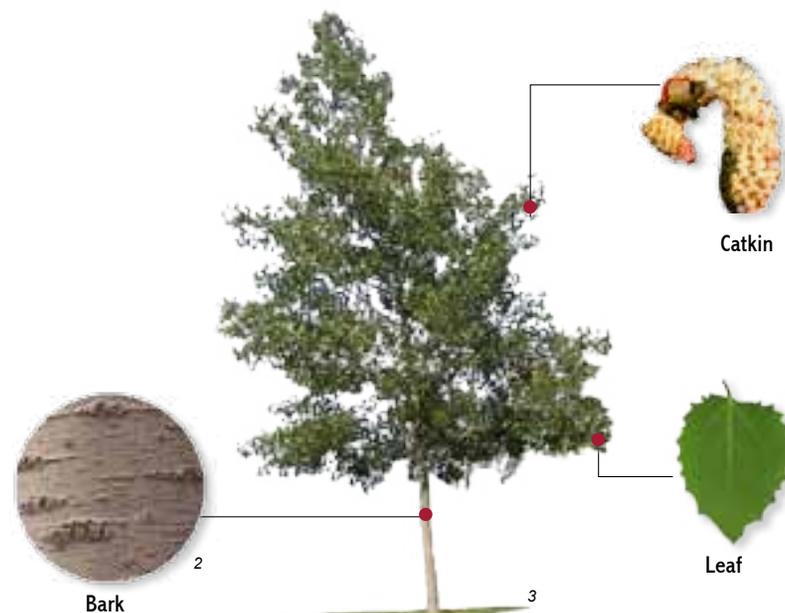
TWIGS: Light gray in color, hairless or slightly silky, buds covered by whitish pubescence.

LEAVES: Nearly round in shape, 2-3.5 inches long and 2-2.5 inches wide with coarse, rounded marginal teeth.

FRUIT: Catkins, 3-6 inches long, with small, dark colored capsules containing brown, fine, tufted seeds.

WILDLIFE VALUE: Big-tooth aspen is a favorite food source for deer, beaver, and grouse. The fast-growing, soft wood makes it a good cavity-producing tree for many birds and mammals.

SIMILAR IN APPEARANCE: Big-tooth aspen is similar in appearance to quaking aspen and cottonwood, although big-tooth aspen is easily differentiated from these two by its large toothed leaves and rounded leaf base. Leaves are also briefly covered with whitish hairs when opening in the spring and buds are covered with a whitish pubescence. Unlike the non-native white poplar (*Populus alba*), the pubescence in big-tooth aspen leaves diminishes through the growing season.



Aspen, Quaking

Populus tremuloides



Quaking aspen reach 50-60 feet height and 1-2 feet in diameter. Mature trees have a narrow, rounded crown made up of slender branches with grayish-white to cream-colored bark marked with black, warty patches. Leaves tend to tremble with the slightest breeze giving way to the tree's name. This motion is enabled by the leaf stems being long and flattened on one side. Aspen has the ability to form large clones and rapidly colonize areas such as open woodlands and prairie. In regions where aspen grows in large single species stands, aspen is harvested for pulp wood to make paper, as well as products such as oriented strand board.



1

Look for:

TWIGS: Slender branches

LEAVES: Simple, nearly round in shape, 1-3 inches in diameter, with small, rounded marginal teeth, and long, slender, flattened stems.

FRUIT: Flask-shaped capsules splitting when ripe to release seed.

WILDLIFE VALUE: Bark, leaves, buds, new sprouts, and twigs of quaking aspen provide a food source for a wide variety of wildlife, while the tree itself serves as cover for wildlife including birds and mammals.

SIMILAR IN APPEARANCE: Very similar in appearance to the big-tooth aspen with leaves being similar size and shape. Quaking aspen has smooth buds while the big-tooth aspen has buds that are minutely haired. Leaves of quaking aspen have smaller marginal teeth than big-tooth aspen.

Habitat:

MOISTURE: Mesic

SUN PREFERENCE: Full sun

NATIVE IOWA RANGE: Statewide

MATURE HEIGHT: 35-50 feet

BLOOM MONTH: March to April

BLOOM COLOR: Inconspicuous

FALL COLOR: Bright yellow to gold

HARDINESS ZONES: 1-7

Images provided by:

1- Britton, N.L. & A. Brown 1913, USDA-NRCS PLANTS Database/

2- Herman, D.E. 1996 USDA-NRCS PLANTS Database

3- Realworld Imagery, Inc.

4- www.bio.brandeis.edu

5- www.swcoloradowildflowers.com



Basswood (American Linden)

Tilia americana



Basswood is a large tree commonly growing to over 100 feet above the ground with a long trunk. It readily resprouts from damaged or cut stumps, frequently resulting in two or more stems. For trees that have been cut down, resprouts often form a circle on the perimeter at the base of the cut stump. The crown of basswood trees is typically dense, especially in protected/forest settings. Trees grown in open, dry environments tend to have more sparse canopies and a more spare structure.

Basswood is commonly planted as a shade or ornamental tree, along with the somewhat similar, but non-native littleleaf linden. Basswood is tolerant of partial shade and a common forest tree in Iowa, often occurring as a codominant canopy tree with sugar maple and/or several species of oak. Thin bark and shallow roots make basswood susceptible to fire damage, overcome by using the strategy of vigorous resprouting from the roots. Basswood grows quickly and will often outpace and overtop other hardwood tree species such as oaks when planted in mixed species reforestation efforts.



Habitat:

MOISTURE: Mesic

SUN PREFERENCE: Part shade

NATIVE IOWA RANGE: Statewide

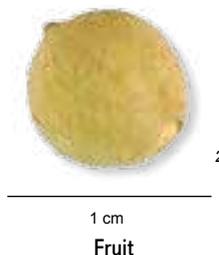
MATURE HEIGHT: 75-100 feet

BLOOM MONTH: June to July

BLOOM COLOR: Yellow

FALL COLOR: Golden yellow

HARDINESS ZONES: 3-8



Images provided by:
1- Britton, N.L. & A. Brown 1913, USDA-NRCS PLANTS Database/
2- Steve Hurst@USDA-NRCS PLANTS Database
3- Realworld Imagery, Inc.
4- <http://ledameredith.net>
5- Herman, D.E. 1996 USDA-NRCS PLANTS Database

Look for:

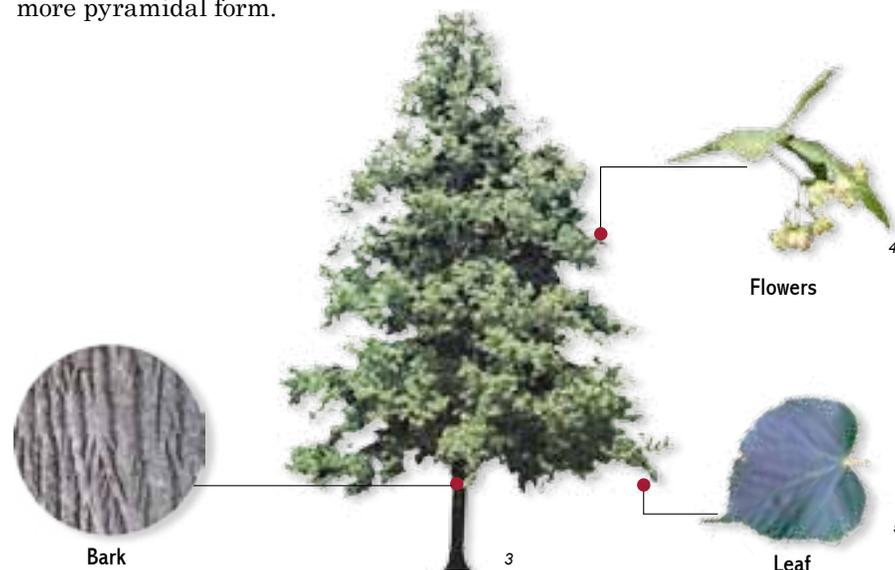
TWIGS: Reddish or green, slender, slightly zigzag, and hairless.

LEAVES: Large, heart-shaped, coarsely saw-toothed, alternate, petiolate, slightly leathery, smooth on both sides with long, slender leaf stalks.

FRUIT: 3/8 inches in diameter, nutlike, elliptical or rounded, gray in color, covered with fine hairs, hard, 1-2 seeds, maturing in late summer and autumn persisting into winter.

WILDLIFE VALUE: A good browse source for deer; buds are important for birds and deer in winter. Fruit is eaten by birds and small mammals. The soft wood makes this an important tree for cavity-nesting animals. Saplings are eaten by a variety of wildlife. Also known as the “Bee-tree” due to the fact that when flowering, the tree is favored by bees for the nectar produced.

SIMILAR IN APPEARANCE: Catalpa has a similar leaf shape. However, basswood leaves are smaller and have teeth on leaf margins. There are other cultivated, non-native members of the *Tilia* genus that are planted as ornamentals, such as littleleaf linden. These non-native species generally have smaller leaves with stems that point in a more upward manner than basswood, resulting in a more compact crown, crowded with leaves, and a more pyramidal form.



Birch, Paper (White Birch)

Betula papyrifera

Thanks to its waterproof nature, Native Americans used peeled sheets of bark from this tree to cover canoes. Sheets of bark were also used as paper, hence the Latin name “papyrifera.” Paper birch is resistant to many insect pests and tolerates a broader range in soil pH than its cousin, river birch. This tree is also somewhat tolerant of salt in soils. Paper birch is most prized as a landscape tree for its chalky white, peeling bark and fast growing nature. Despite this, paper birch does not perform well in hot, dry locations, or pollution-prone settings.



Habitat:

MOISTURE: Mesic

SUN PREFERENCE: Full sun, partial shade

NATIVE IOWA RANGE: Northeast 1/4

MATURE HEIGHT: 50-75 feet

BLOOM MONTH: April to May

BLOOM COLOR: Inconspicuous

FALL COLOR: Light yellow

HARDINESS ZONES: 2-6



2 mm
Seed

Look for:

TWIGS: Reddish-brown, slender, mostly hairless.

LEAVES: Triangular to egg-shaped, tapering to a point and rounded at the base. Coarsely, and doubly saw-toothed, with 5-9 veins. Dull, dark green above. Light yellow-green and nearly hairless with black glands beneath.

FRUIT: Narrowly cylindrical, brownish, hanging on slender stalk, with many two-winged nutlets.

WILDLIFE VALUE: White-tailed deer will browse paper birch twigs, while numerous birds and small mammals eat the buds, catkins and seeds.

SIMILAR IN APPEARANCE: Paper (white) birch may be confused with river birch in Iowa, particularly when the trees are young and it is difficult to distinguish differences through coarse appearance, such as bark. Look for black dots on the undersides of white birch leaves and the hairy twigs of river birch.



Images provided by:
1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913
2- Steve Hurst@USDA-NRCS PLANTS Database
3- Realworld Imagery, Inc.

Birch, River

Betula nigra

Known for having a balanced, well-formed growth habit, river birch offers visual interest throughout the year. The ability to thrive on moist sites makes the river birch useful for landscape, wildlife and erosion control plantings. The shiny, pinkish-brown or silvery-gray bark separates into papery scales, which become shaggy, adding to the character of this tree. Bark of older trees becomes black or reddish in color and develops peeling flakes (small scales). This species is shade intolerant. This tree is quite tolerant of acidic soils and sometimes used on mine reclamation sites with soil pH values as low as 2-4.



Habitat:

MOISTURE: Wet to mesic

SUN PREFERENCE: Full sun

NATIVE IOWA RANGE: Northeast 1/2

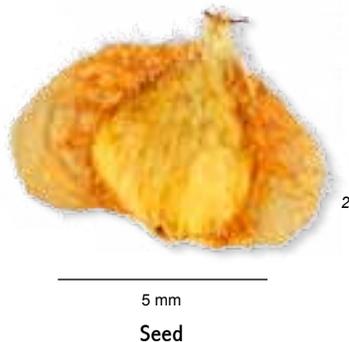
MATURE HEIGHT: 50-75 feet

BLOOM MONTH: April to May

BLOOM COLOR: Inconspicuous

FALL COLOR: Dull yellow

HARDINESS ZONES: 4-9a



Look for:

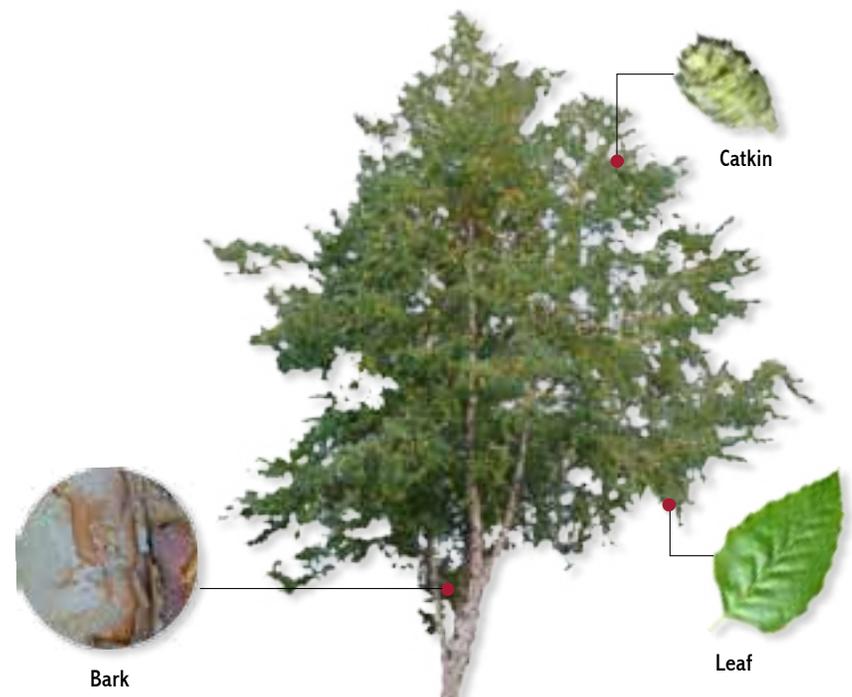
TWIGS: Reddish-brown, slender, and hairy.

LEAVES: Ovate or nearly four-sided (diamond-shaped) leaves, whitish and usually hairy beneath, and shiny dark green above, 7-9 veins on each side.

FRUIT: Cylindrical in shape, brownish in color with many hairy scales and hairy two-winged nutlets (bracts have three equally hairy lobes).

WILDLIFE VALUE: River birch is valuable to wildlife due to its spring-ripening fruit. Species including white-tailed deer browse on the young twigs, buds and foliage, while the seeds are a valuable food source for birds and rodents.

SIMILAR IN APPEARANCE: River birch may be confused with paper birch in Iowa, particularly when the trees are young and it is difficult to distinguish differences through coarse appearance, such as bark. Look for black dots on the undersides of white birch leaves and the hairy twigs of river birch. Also, river birch is the only spring-fruiting birch in Iowa.



Images provided by:

1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913

2- Steve Hurst@USDA-NRCS PLANTS Database

Buckeye, Ohio

Aesculus glabra



The Ohio buckeye is a short-trunked tree with low branching structure resulting in an oval canopy. Buckeye trees can reach heights of 50 feet with a canopy width of 40 feet. Flowers give off an unpleasant odor in spring and the twigs and leaves give off an unpleasant odor when crushed. This fragrance serves as a warning as these parts are poisonous. Buckeyes are also susceptible to a blight that causes leaf margins to turn brown. Although the Ohio buckeye is one of the first trees to shed its leaves in fall, they put on a brilliant show, while it lasts.



1

Habitat:

MOISTURE: Mesic

SUN PREFERENCE: Partial sun

NATIVE IOWA RANGE: Southern 1/2

MATURE HEIGHT: 35-50 feet

BLOOM MONTH: May

BLOOM COLOR: Pale yellow to greenish-yellow

FALL COLOR: Orange to red

HARDINESS ZONES: 4-7a



2

1 cm
Nut

Look for:

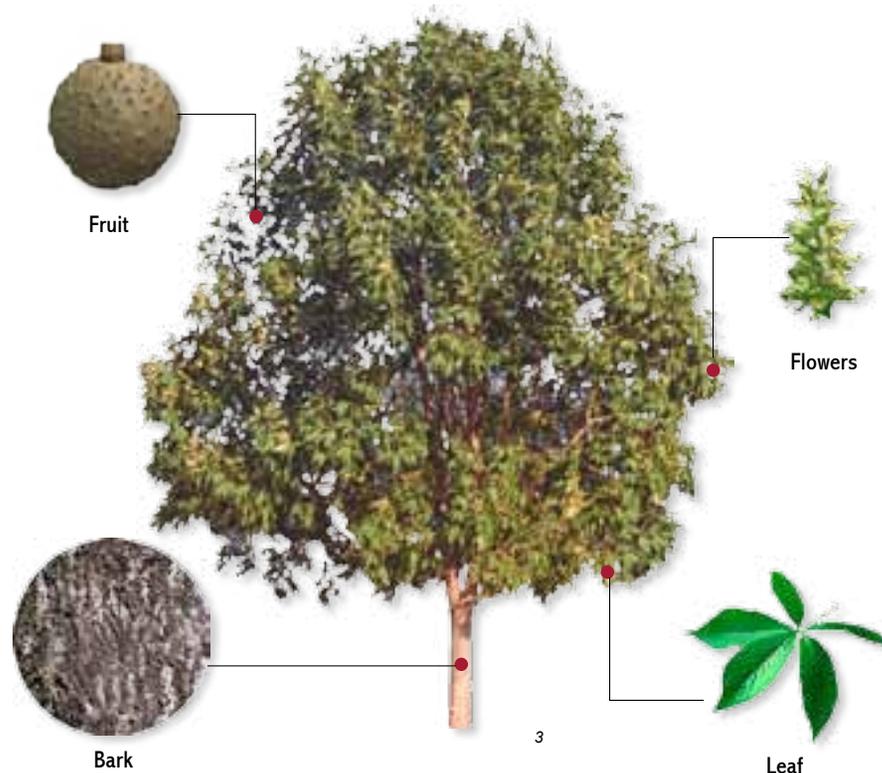
TWIGS: Reddish-brown, stout, becoming hairless.

LEAVES: Opposite, palmately compound with slender leaf stalks. Elliptical, unevenly saw-toothed, nearly stalkless. Leaves are yellow-green above, paler and often hairy beneath.

FRUIT: Poisonous seed located within a pale brown, spiny capsule.

WILDLIFE VALUE: Fruit attracts squirrels and other wildlife.

SIMILAR IN APPEARANCE: The buckeye has a relatively unique leaf, flowers, and fruit, although the tree may be confused at a distance with others such as the linden, particularly during the dormant season. The palmately compound leaf is relatively unique among trees of the upper Midwest.



Images provided by:
1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913
2- Steve Hurst@USDA-NRCS PLANTS Database
3- Realworld Imagery, Inc.

Cedar, Red

Juniperus virginiana



Red cedar is a coniferous tree that grows into a pyramidal shape. Its distinctive reddish-brown bark shreds into thin ribbons. The trees are often used in screen plantings and windbreaks. Cedars are tolerant of salt and drought, provide year-long color, and are attractive to wildlife. Although they are native to Iowa, eastern red cedar often poses challenges for maintaining quality prairie and savanna areas, due to their ability to withstand grazing, drought, and fire. Although eastern red cedar will grow in a wide variety of soils, they tend to prefer calcareous soils.



Habitat:

MOISTURE: Dry

SUN PREFERENCE: Full sun

NATIVE IOWA RANGE: Statewide

MATURE HEIGHT: 50-75 feet

BLOOM MONTH: May

BLOOM COLOR: Inconspicuous

FALL COLOR: Maroon purple

HARDINESS ZONES: 2-9



5 mm

Seed

Look for:

TWIGS: Slender, brown to green in color.

LEAVES: Evergreen, opposite in 4 rows, scale-like and dark green in color. New foliage near tips of branches is pointed and prickly.

FRUIT: Berry-like, blue in color often with a grayish, waxy cast.

WILDLIFE VALUE: Red cedar is reported to be utilized by over 60 species of wildlife for food and shelter. Juicy, bluish-colored berries serve as a good food source even during winter months. As an evergreen, it also provides vital winter protection for many species of wildlife.

SIMILAR IN APPEARANCE: As the only tall, tree-type juniper native to Iowa, the scales of eastern red cedar differentiate them from species of pine and spruce that are widely planted in Iowa, which have needles.



Images provided by:
1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913
2- Steve Hurst@USDA-NRCS PLANTS Database
3- USDA-NRCS PLANTS Database/ Herman, D.E., et al. 1996
4- <http://glenavalon.com>
5- P. Bockenstedt- Stantec

Cherry, Choke

Prunus virginiana



Choke cherry are often encountered as multiple-stem stands (clones). Mature choke cherry can reach heights of 30 feet or more. They tend to have an irregular crown shape, becoming 10-20 feet wide when mature.

Because choke cherry has the ability for form spreading clones, it can be valuable for erosion control purposes in select situations. Choke cherry has the ability to persist in moderately heavy shade and demonstrates impressive resilience under variable growing conditions. It performs best in slightly acidic and somewhat sandy soils. The fruit of choke cherry is readily eaten by birds and also consumed by humans with a tolerance for its aspirin-like taste. Generous amounts of sugar overcome this problem and is a prerequisite for the making of much-celebrated choke cherry jelly.



Habitat:

MOISTURE: Mesic

SUN PREFERENCE: Full sun to part shade

NATIVE IOWA RANGE: Statewide

MATURE HEIGHT: 15-30 feet

BLOOM MONTH: May

BLOOM COLOR: White

FALL COLOR: Yellow to orange

HARDINESS ZONES: 2-7



5 mm

Seed (Stone)

Look for:

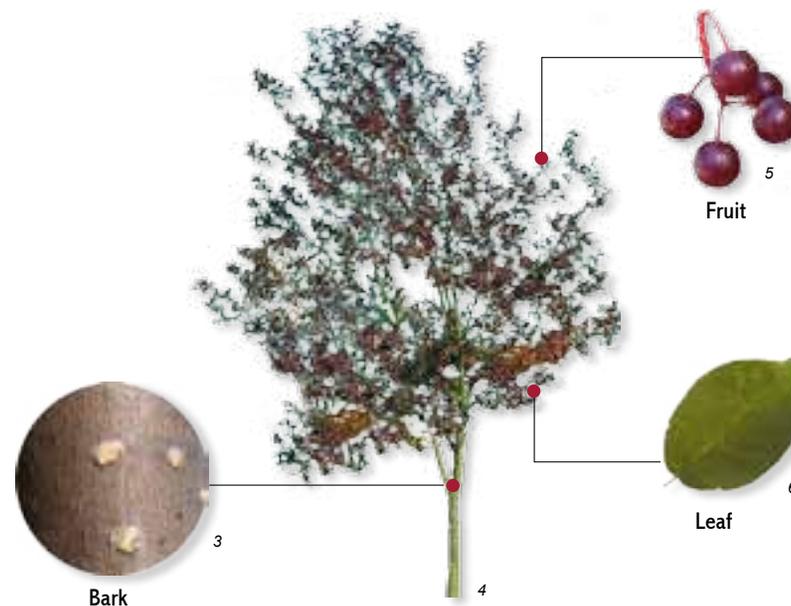
TWIGS: Smooth, reddish-brown, slender twigs with a disagreeable odor and bitter taste.

LEAVES: Alternate, simple blades. Oblong to oval in shape; finely and sharply toothed; green, smooth and shiny on the upper surface; pale and smooth, or with a few hairs, on the underside. Two glands at the tip of the leafstalk.

FRUIT: Clusters of shiny, dark-red to deep-purple berries with a bitter taste.

WILDLIFE VALUE: This tree provides food and cover for a variety of wildlife as well as nesting habitat for birds. Many species of wildlife seek out and eat the fruit and deer seek out and browse on the tree during the winter months. Many insects are attracted to the nectar-producing flowers that bloom in May.

SIMILAR IN APPEARANCE: Similar to wild black cherry although choke cherry has more sharply pointed teeth. Black cherry has glossy leaves and bark that is darker and peels in plates on trees that can be over 6 inches in diameter.



Images provided by:

1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913

2- Steve Hurst@USDA-NRCS PLANTS Database

3- UNBC & Aleza Lake Research Forest System Database <http://web.unbc.ca>

4- Trees of Reed <http://web.reed.edu>

5- www.malag.aes.oregonstate.edu

6- P. Bockenstedt- Stantec

Cherry, Wild Black

Prunus serotina



The common name comes from the blackened color of the fruit when ripe. Black cherry is commonly found in forest openings or as scattered individuals in mesic woods and along fence rows. Seeing black cherry as a canopy tree often indicates a previously more open setting. These trees may live to more than 250 years although most live to 80-100 years.

Black cherry trees have a shallow root system, making them susceptible to wind throw, while the fine twigs and somewhat fragile limbs are susceptible to ice damage.

Commonly found in second-growth areas that have recently been logged, or following a fire. Leaves contain hydrocyanic acid, which has the potential to poison livestock and other animals if eaten in large quantities. The wood of black cherry is prized by furniture and cabinet makers for its quality. The fruit is outstanding for jams and jellies, although the pit comprises a large part of the fruit.



Habitat:

MOISTURE: Mesic

SUN PREFERENCE: Part shade to full sun

NATIVE IOWA RANGE: Statewide

MATURE HEIGHT: 45-60 feet

BLOOM MONTH: May to June

BLOOM COLOR: White

FALL COLOR: Yellow to orange

HARDINESS ZONES: 3b-9a



5 mm

Seed (Stone)

Images provided by:
1- Steve Hurst@USDA-NRCS PLANTS Database
2- Will Cook- www.duke.edu
3- http://betterhardwoods.com
4 & 5 Will Cook- www.duke.edu

Look for:

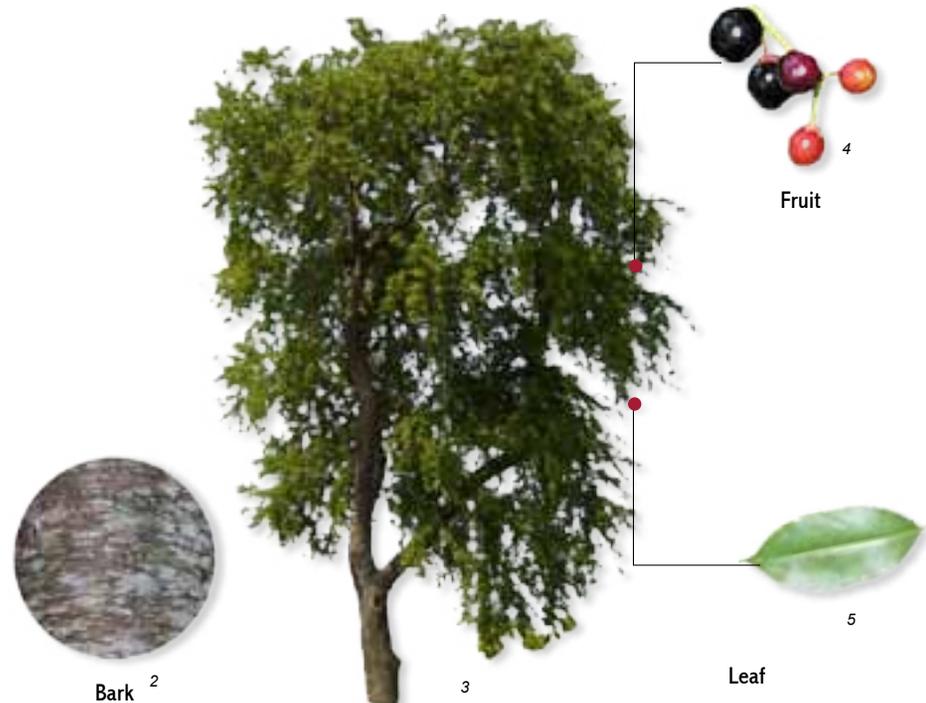
TWIGS: Brown in color, medium to thin in stature.

LEAVES: Alternate, simple, 2-6 inches long and 1-1 1/2 inches wide. Leaf shape is narrowly-oval to oblong lanceolate with fine marginal teeth and waxy appearance. Leaves also commonly have reddish hairs along midrib on the underside of the leaf, near the base.

FRUIT: Egg-shaped, berry-like fruit becomes black when ripe. Each fruit contains a single seed.

WILDLIFE VALUE: Many species of birds and mammals find the seeds as a good source of food. Seeds are commonly dispersed by birds and mammals. The germination rate of the seeds is increased after being consumed and then passed by birds.

SIMILAR IN APPEARANCE: Easily recognizable by fissured, scaly bark when mature. Also look for the reddish hairs along the mid-rib on the undersides of black cherry leaves.



Cottonwood

Populus deltoides



Cottonwood is a fast-growing tree that can reach heights of over 100 feet, and 4 feet in diameter. Cottonwood typically has weak branches and limbs, making the tree susceptible to wind and ice damage. Some cottonwood can live to be well over 100 years, although most live to be about 80 years of age. Trunks of cottonwoods become ashy-gray in color creating long, deep, interconnected furrows. Cottonwood prefers moist, well-drained soils of river floodplains and wetland margins although it will also perform well in somewhat drier conditions. A single cottonwood tree may produce several million seeds during a good year. Seed matures in early summer and large white drifts of cottonwood seed are often deposited along stream, river and wetland margins. These seeds readily germinate where there is bare ground, often resulting in lines of seedlings at high water marks.



Habitat:

MOISTURE: Wet mesic

SUN PREFERENCE: Part to full sun

NATIVE IOWA RANGE: Statewide

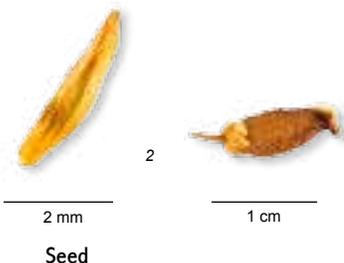
MATURE HEIGHT: 75-100 feet

BLOOM MONTH: April

BLOOM COLOR: Inconspicuous

FALL COLOR: Pale yellow

HARDINESS ZONES: 2-8



Images provided by:

1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913

2- Steve Hurst@USDA-NRCS PLANTS Database

3- Dave Hanson- www.mntca.org

4- Realworld Imagery, Inc.

5- <http://oregonstate.edu>

6- Robert H. Mohlenbrock@USDA-NRCS PLANTS Database/USDA NRCS, 1995

Look for:

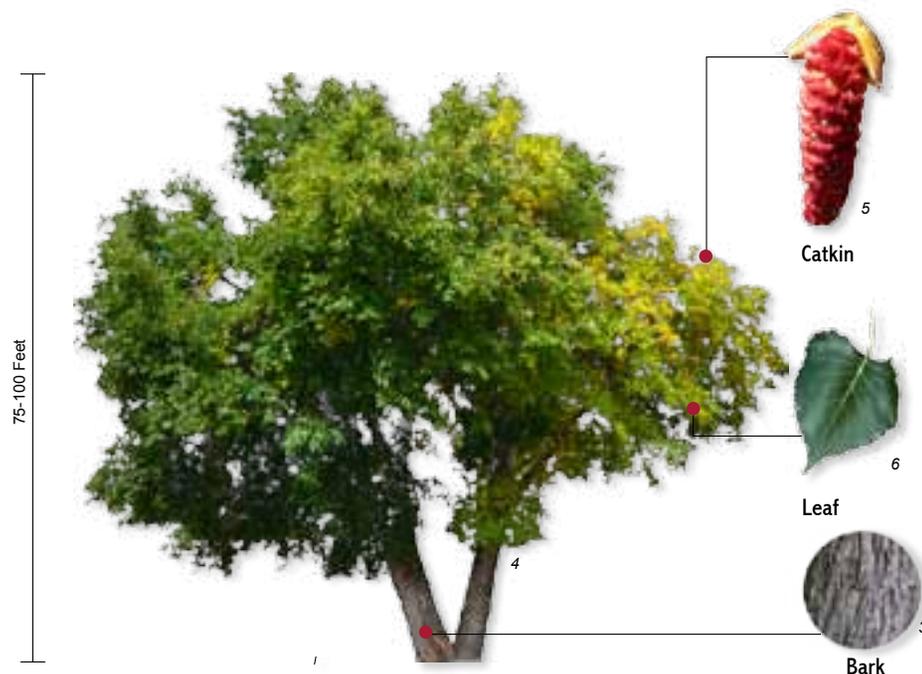
TWIGS: Stout twigs, brownish in color with large sticky buds.

LEAVES: Triangular (deltoid) in shape with a straight base, coarsely toothed. Leafstalk is long, thin and flattened.

FRUIT: Elliptical shaped capsules, light brown in color forming long linear catkins (narrow line of seed capsules arranged similar to a string of beads). Fruit matures in early summer producing many cotton-like seeds.

WILDLIFE VALUE: Young trees and seedlings serve as an important food source for deer and rabbits to browse. Baltimore orioles often choose cottonwood limbs to build nests on. Larger trees are valuable for cavity-nesting species, as well as bald eagles. The latter show an affinity for nesting in supercanopy cottonwoods-- those extending above surrounding trees.

SIMILAR IN APPEARANCE: Cottonwood can be confused with quaking aspen when small. Look for the flat leaf base and triangular leaf shape of cottonwood.



Elm, American

Ulmus americana

A large handsome tree, often with an enlarged base of buttressed roots. The graceful, upward spreading branches form a vase-shaped crown. Historically, elm was an important tree of floodplain terraces and moist forests throughout the eastern United States. Its adaptability to fluctuating moisture levels, compaction and siltation common to floodplains made it well-suited for urban settings. It was widely planted in single-species stands along boulevards, forming gracefully arching, cathedral-like spaces. Then, Dutch elm disease was introduced from Europe in the 1930s and spread by elm bark beetles, devastating native elms. In an effort to plant another elm species in urban settings after Dutch elm disease hit, Chinese elm was introduced and widely planted as a poor substitute for our stately native elm. Chinese elm has a remarkable ability to invade natural areas.

While native elm is still common, particularly as young, pioneering trees in open settings, few of these trees reach maturity before they are infected by Dutch elm disease. Remaining large trees are thought to either be isolated enough to not be exposed or fortunate enough to have some level of immunity from the disease. Universities and the landscape nursery industry have developed several promising new elm offerings in recent years that are resistant to Dutch Elm disease.

Habitat:

MOISTURE: Mesic

SUN PREFERENCE: Partial sun

NATIVE IOWA RANGE: Statewide

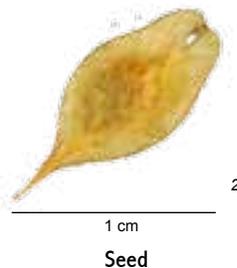
MATURE HEIGHT: 75-100 feet

BLOOM MONTH: April

BLOOM COLOR: Inconspicuous

FALL COLOR: Golden yellow

HARDINESS ZONES: 3a-8



Images provided by:
1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913
2- Steve Hurst@USDA-NRCS PLANTS Database
3- Realworld Imagery, Inc.
4- www.dof.virginia.gov
5- http://www.ohiodnr.gov/forestry/trees/elm_am



Look for:

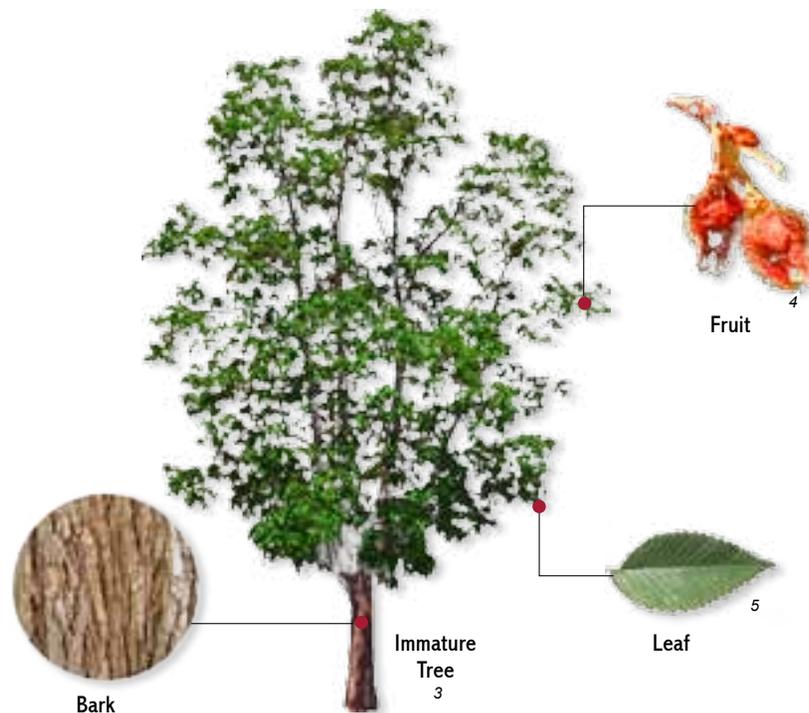
TWIGS: Brownish, slender, hairless

LEAVES: Elliptical, abruptly long pointed, base rounded with sides unequal, doubly saw-toothed, with many straight parallel side veins

FRUIT: Elliptical, flat, one-seeded samaras with wing; hairy on edges, deeply notched with points curved inward, long-stalked, maturing in early spring.

WILDLIFE VALUE: Fruit is eaten by birds and small mammals and the trees provide cover to a variety of birds and small mammals.

SIMILAR IN APPEARANCE: Native elms similar in appearance to the non-native Chinese elm, although American elm can be distinguished by its large leaves, strongly asymmetrical leaf bases, and doubly toothed leaf margins. Red elm is similar, but has solid red bark compared to the red and white striped bark of American elm. The upper leaf surface of red elm is also much rougher than that of American elm.



Elm, Red (Slippery)

Ulmus rubra



Red elm is a stately tree, often with a flat-topped crown. It is common to floodplain terraces and moist forests, or less frequently on rocky slopes. Although it can reach 80 feet in height, it is often of only moderate size. Red elm rapidly develops from seed making it an important pioneering tree. It also grows rapidly and is tolerant of a moderate amount of shade. These characteristics sometimes lead to new, nearly solid stands of red (and/or American) elm. This tree is also called slippery elm for its inner bark, which is moist and slick to the touch. Slippery elm is less susceptible to Dutch elm disease than American elm. Historically, red elm was used for a wide variety of lumber purposes and a wide variety of herbal medicines, including being used in some throat lozenges yet today.



Habitat:

MOISTURE: Dry-mesic to wet-mesic

SUN PREFERENCE: Full sun

NATIVE IOWA RANGE: Statewide

MATURE HEIGHT: 40-60 feet

BLOOM MONTH: April to May

BLOOM COLOR: Inconspicuous

FALL COLOR: Yellow-brown

HARDINESS ZONES: 3-9



Seed

Images provided by:
1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913
2- www.catnapin.com
3 - <http://biology.missouri.state.edu> 4- www.dof.virginia.gov
4- www.isrl.uiuc.edu
5- Robert H. Mohlenbrock@USDA-NRCS PLANTS Database

Look for:

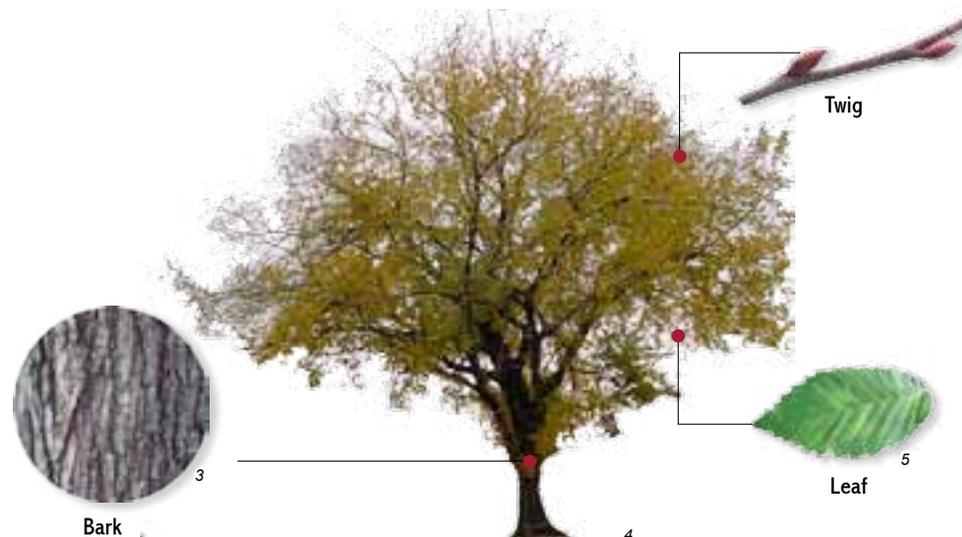
TWIGS: Often stouter than American elm, slightly zigzag, ashy gray to brownish-gray (often mottled), rough; mucilaginous (slippery) when chewed.

LEAVES: Leaves have an uneven base, doubly-toothed margin, 4-8 inches long. Shiny green and very rough on the upper surface.

FRUIT: Ripens in late spring. Round, papery samara grows from 3/4-1 inch across. The margin and surface of the seed wing is smooth while the surface of seed cavity is finely hairy.

WILDLIFE VALUE: Birds nest in the relatively thick foliage of red elm. Deer and rabbits browse the twigs, while songbirds, gamebirds and squirrels are reported to eat the seeds. The prevalence of Dutch elm disease also means that red and American elm provide substantial amount of cavity nesting sites and foraging opportunities for birds such as woodpeckers.

SIMILAR IN APPEARANCE: Red elm and American elm are similar in appearance. Red elm is distinguishable from other elms by its red, hairy buds, rough, hairy twigs and the very rough upper leaf surface. Also, the bark of red elm is red in cross section, while that of American elm is red and white striped.



Hackberry

Celtis occidentalis



This versatile tree is commonly planted as an ornamental and in windbreaks. Hackberry trees have an extensive root system that helps it survive periods of drought. These trees are adapted to a wide variety of sites and tolerant of urban conditions such as air pollution. Branches tend to droop in mature trees giving the tree a cylindrical appearance. Leaves often have small, rounded galls caused by tiny jumping insects. Fresh cut wood gives off a fruit-like fragrance. Although not highly sought, hackberry is used in the furniture industry for small pieces such as end tables, chairs, and cabinetry.



Habitat:

MOISTURE: Wet-mesic to dry-mesic

SUN PREFERENCE: Part to full sun

NATIVE IOWA RANGE: Statewide

MATURE HEIGHT: 75-100 feet

BLOOM MONTH: April to May

BLOOM COLOR: Inconspicuous

FALL COLOR: Pale yellow

HARDINESS ZONES: 2-9



2

5 mm

Dried Fruit

Images provided by:

1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913

2- Steve Hurst@USDA-NRCS PLANTS Database

Look for:

TWIGS: Light brown slender, mostly hairy, slightly zigzag.

LEAVES: Ovate, long-pointed, usually sharp-toothed except toward the unequal sided, rounded base. 2 1/2 to 4 inches long and 1 1/2 inches wide. Shiny green above with paler and often hairy veins below, sometimes having a rough texture.

FRUIT: Orange-red to dark-purple in color, slender-stalked at leaf base, fruit type is a drupe, with the seed thinly surrounded by sweet flesh.

WILDLIFE VALUE: Mature trees are used by a variety of birds for nesting cover. Fruit persists throughout the winter providing an important food source for birds and small mammals. Young stands provide good cover for deer, small mammals, and birds.

SIMILAR IN APPEARANCE: Easily identified by its light brown to gray, warty bark. Elm and similar species have less deeply furrowed bark. Hackberry leaves have three main veins, and are more sharply pointed than those of elms.



Hawthorn, Cockspur

Crataegus crus-galli

Cockspur hawthorn is a small tree capable of growing up to 30 feet tall with an aesthetically pleasing, wide-spreading growth form. They are fairly tolerant of drought and adaptable to poor soil conditions, although they prefer slightly acidic soils and do not tolerate poorly drained soils. Although most hawthorns are susceptible to fire blight, cockspur hawthorn is quite resistant to disease, and have no serious pest problems. Although covered with profuse blooms in spring, the flowers have a mildly unpleasant fragrance. The common wild variety has substantial thorns on branches. Choosing the thornless cultivated variety is recommended for most landscape settings.



Habitat:

MOISTURE: Wet-mesic to dry-mesic

SUN PREFERENCE: Full sun

NATIVE IOWA RANGE: South 1/2

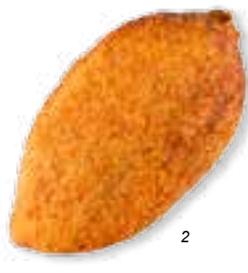
MATURE HEIGHT: 30 feet

BLOOM MONTH: Late spring to early summer

BLOOM COLOR: White

FALL COLOR: Orange to scarlet

HARDINESS ZONES: 3-6



5 mm
Seed

Images provided by:

1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913

2- Steve Hurst@USDA-NRCS PLANTS Database

3- Realworld Imagery, Inc.

Look for:

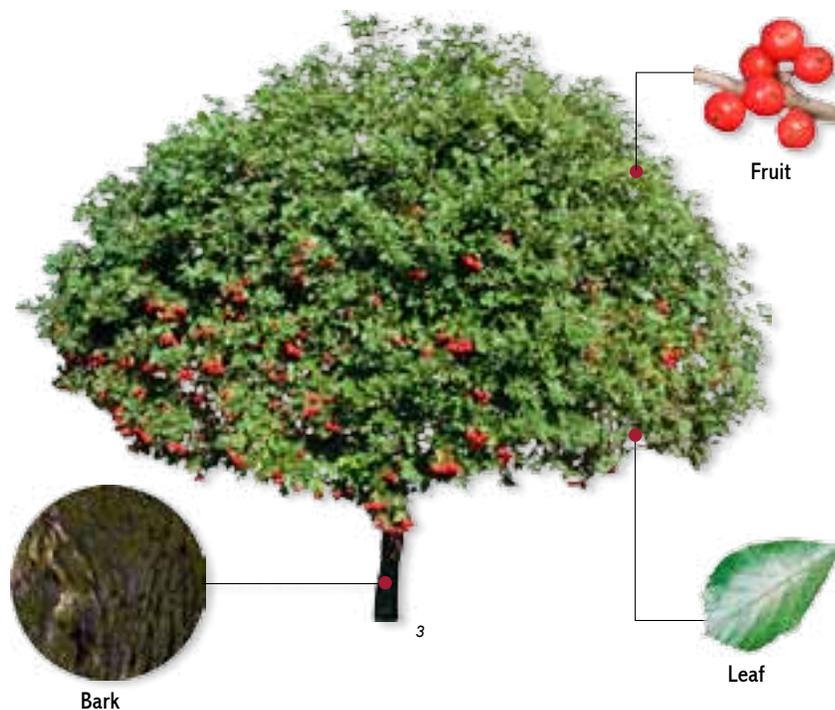
TWIGS: Hairless throughout; stout, long slender spines or thorns.

LEAVES: Spoon-shaped, short-pointed or rounded at tip, sharply saw-toothed, slightly thick and leathery.

FRUIT: Round in shape, greenish or dull, dark-red in color, hard pulp; matures in late autumn and persists until spring.

WILDLIFE VALUE: Trees serve as nesting habitat and cover for a variety of small birds. Fruit is eaten by several bird species including the cedar waxwing and also serves as a food source for several rodent species. Deer browse on the young twigs and leaves.

SIMILAR IN APPEARANCE: Similar to other hawthorns, although the long spines and shiny, dark-green, spoon-shaped leaves distinguish the cockspur hawthorn.



Hickory, Bitternut

Carya cordiformis



Bitternut hickory is a relatively fast-growing tree that tends to occur as a sub-dominant tree in oak forests and woodlands in Iowa. Although somewhat short-lived compared to species such as oaks, bitternut hickory can attain trunk diameters of 18 inches or more under the right conditions. The fruit contains high levels of tannin, which makes it bitter. Hickories are seldom selected as a landscape tree or used for wildlife/restoration plantings due to the difficulty with transplanting and sensitivity to winter salt spray from high-traffic roadways. The fallen nuts can be undesirable in some situations. For restoration plantings, direct sowing of nuts is a viable alternative to planting growing stock.



Habitat:

MOISTURE: Mesic

SUN PREFERENCE: Partial shade

NATIVE IOWA RANGE: Statewide

MATURE HEIGHT: 75-100 feet

BLOOM MONTH: May

BLOOM COLOR: Inconspicuous

FALL COLOR: Yellow

HARDINESS ZONES: 3-9

Images provided by:

1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913

2- Steve Hurst@USDA-NRCS PLANTS Database/

3- Will Cook- www.duke.edu

4- <http://project.bio.ia.state.edu/trees>

5- <http://project.bio.ia.state.edu>



Look for:

TWIGS: Slender, ending in bright yellow slightly flattened buds.

LEAVES: Pinnately compound, 7-9 leaflets, stalkless, and lance shaped, finely saw-toothed.

FRUIT: Round, approximately 1 1/4 inches in diameter with a thin, yellow-green husk with four ridges that extend about halfway around the nut. The meat of the nut is bitter.

WILDLIFE VALUE: Wildlife will eat the fruit, although it is not preferred and usually a last choice for most wildlife if other nuts and fruits are available. Small mammals will also occasionally feed on the bark of the trees.

SIMILAR IN APPEARANCE: Similar in appearance to shagbark hickory. With bitternut hickory, look for the smoother bark, yellow (mustard color) buds and the small nuts (about the size of a nickel) with thinner husks than shagbark hickory. Mockernut hickory (*Carya tomentosa*), found in southern Iowa, has larger nuts that are more prized by wildlife, and hairy twigs.



Hickory, Shagbark

Carya ovata

Named for its distinctive rough, light grey bark that peels off in long strips, shagbark hickory is a slow-growing, large tree attaining heights of up to 100 feet. The golden yellow fall color makes this tree a popular ornamental tree despite the large nuts that fall from the tree. Although the shagbark hickory is sensitive to salt spray, it is fairly tolerant of air pollution that comes with city conditions. Shagbark hickory is common as a co-dominant forest tree with oaks in the somewhat dry to mesic forests of northeast Iowa. Thanks to the ability of seedlings to tolerate a moderate amount of shade, shagbark hickory often colonizes canopy openings in formerly pastured savanna and woodland areas. The stout root system, even of young trees, make this a difficult tree to successfully transplant, and thus hard to find as landscape nursery stock.



Habitat:

MOISTURE: Mesic

SUN PREFERENCE: Part to full sun

NATIVE IOWA RANGE: Statewide

MATURE HEIGHT: 75-100 feet

BLOOM MONTH: May

BLOOM COLOR: Inconspicuous

FALL COLOR: Golden yellow brown

HARDINESS ZONES: 5-8a



Images provided by:

1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913

2- Steve Hurst@USDA-NRCS PLANTS Database

Look for:

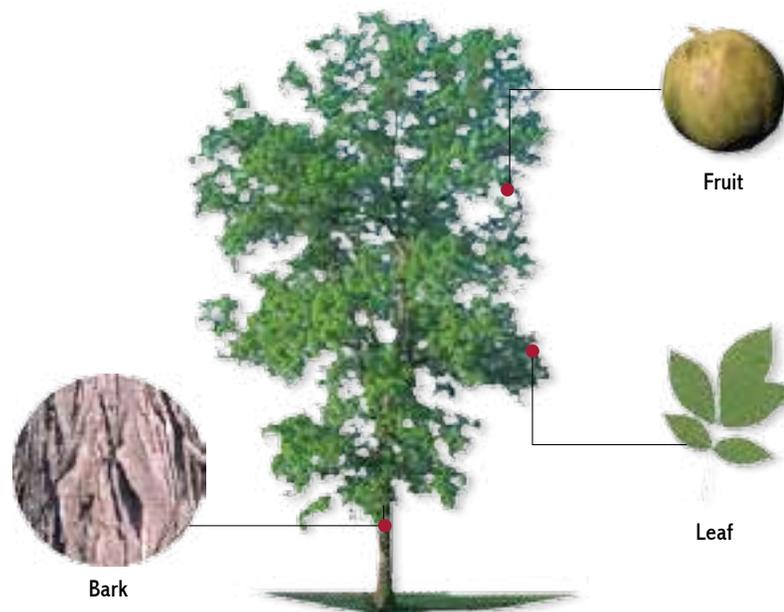
TWIGS: Brown, stout, ending in large brown hairy buds, often opening with a brilliant pink to red color and flower-like appearance in the spring.

LEAVES: Pinnately compound; 5 (rarely 7) elliptical or ovate leaflets, stalkless, finely saw-toothed and hairy, yellow-green above, paler (and hairy when young) beneath.

FRUIT: Nearly round, up to two inches in diameter, flattened at tip, with thick husk. Nut is slightly flattened and angled, and is edible.

WILDLIFE VALUE: The sweet, delicious nuts are prized by squirrels and other small mammals, as well as birds such as wood ducks and wild turkeys.

SIMILAR IN APPEARANCE: Similar to Bitternut hickory in appearance although the shagbark hickory has distinctive shaggy bark and sweet edible nuts. With bitternut hickory, look for the smooth bark, yellow (mustard color) buds and the small nuts (about the size of a nickel) with thinner husks than shagbark hickory. Mockernut hickory (*Carya tomentosa*), found in southern Iowa, has similar-sized nuts that are also prized by wildlife, but has hairy twigs.

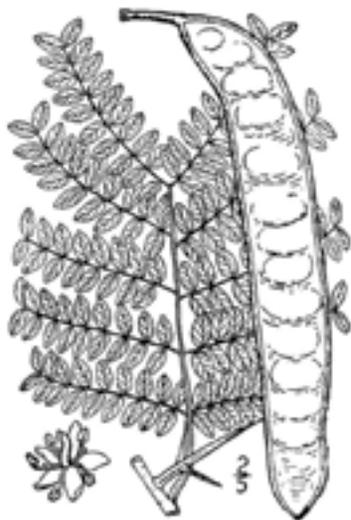


Honey Locust

Gleditsia triacanthos



Honey locust is a hardy, fast-growing tree commonly used as an ornamental tree. Like many other trees native to floodplain terrace settings, honey locusts are tolerant of the stressful conditions related to urban settings like parking lot islands and sidewalk tree squares. Honey locusts in natural areas are easily recognized by the large, branched spines on the trunk and the zigzag branching pattern. Trees bear large dark brown pods with heavy seed crops occurring every other year. Thornless and fruitless cultivated varieties have been developed and are highly recommended and widely used in landscape settings.



Habitat:

MOISTURE: Mesic

SUN PREFERENCE: Part to full sun

NATIVE IOWA RANGE: Statewide

MATURE HEIGHT: 50-75 feet

BLOOM MONTH: June

BLOOM COLOR: Inconspicuous

FALL COLOR: Yellow

HARDINESS ZONES: 3-8a

Images provided by:

1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913

2- Steve Hurst@USDA-NRCS PLANTS Database

3- Realworld Imagery, Inc.

4- S. Short- Stantec



1 cm
Seed

Seed Pod

Look for:

TWIGS: Shiny brown, stout, zigzag with long spines (except thornless variety).

LEAVES: Bi-pinnately compound, many small oblong leaflets, paired and stalkless, with finely wavy edges. Shiny, dark-green above, dull yellow-green beneath.

FRUIT: Flat pod, slightly curved and twisted, 6-16 inches in length, contains many beanlike, flattened dark-brown seeds

WILDLIFE VALUE: High. Wildlife consume the honey-like, sweet pulp of the pods. Soft bark of young trees is eaten by deer and rabbits during winter months.

SIMILAR IN APPEARANCE: Kentucky coffee tree is somewhat similar in appearance to the honey locust, although honey locust twigs are zigzag in appearance, the pods are longer and narrower, and the leaflets are smaller.



Ironwood (Hop Hornbeam)

Ostrya virginiana



A slow-growing tree reaching 50 feet in height, ironwood has a finely textured crown and attractive, grayish brown bark with a tendency to peel off in long, thin strips. Ironwood received its two most frequently coined common names by virtue of its wood and the hop-like fruit it bears. Although seldom planted as a landscape tree, ironwood is well-adapted to urban areas and can grow in areas that are full sun to full shade although the tree prefers to grow in areas that are partially shaded.



Look for:

TWIGS: Thin and brown.

LEAVES: Sharply, double-saw toothed, ovate to elliptical in shape with a short and hairy leaf stalk. Look for many nearly straight, parallel side veins.

FRUIT: Pinecone-shaped (catkins) hang in clusters, resembling those of the common hop vine. Fruit ripens in July and August.

WILDLIFE VALUE: Nutlets are consumed by a wide variety of wildlife, including birds, deer, and small mammals during winter months.

SIMILAR IN APPEARANCE: Perhaps most easily confused with American and red elm. The leaves of elms are generally larger, and more coarsely double-toothed. Ironwood leaves are smooth on the upper surface and may only be slightly hairy underneath. American elm leaves may be rough on the lower surface while red elm leaves are very rough on the upper surface. Also, the platy bark of ironwood remains thin, while the thicker bark of the elms in cross-section is red and white striped (American elm) or a solid, rusty red color (red elm).

Habitat:

MOISTURE: Mesic

SUN PREFERENCE: Part shade to full sun

NATIVE IOWA RANGE: Statewide

MATURE HEIGHT: 20-50 feet

BLOOM MONTH: April - May

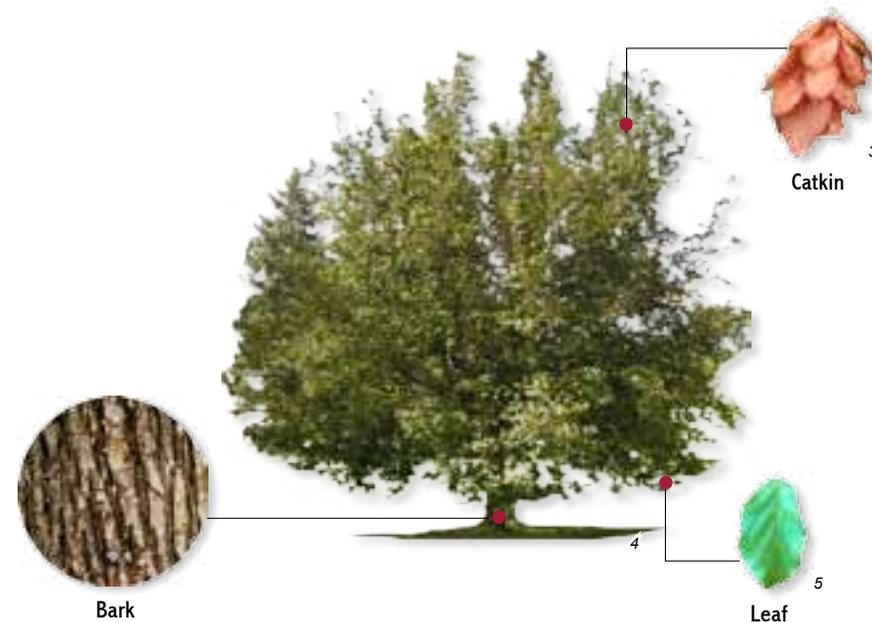
BLOOM COLOR: Inconspicuous

FALL COLOR: Yellow

HARDINESS ZONES: 3-9a



5 mm
Nutlet



Images provided by:
1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913
2- Steve Hurst@USDA-NRCS PLANTS Database
3- <http://oregonstate.edu/dept/dplants>
4- P. Bockenstedt- Stantec
5- bio.bd.psu.edu

Kentucky Coffee Tree

Gymnocladus dioicus



A short-trunked tree with stout branches and large, twice compound leaves, Kentucky coffee tree is commonly planted as an ornamental tree. Landscape qualities include the large leaves, stout twigs, and tolerance of a wide variety of conditions common to urban settings, including salt. The geographic range of this tree is thought to have been artificially extended through the trading by Native Americans of seeds, which were used as gaming pieces. This tree deserves a special note of CAUTION: the seeds and pods both contain a chemical known as alkaloid cystisine which is toxic to livestock, humans, and pets. Kentucky coffee tree seedlings need full sun for development.



Habitat:

MOISTURE: Wet-mesic

SUN PREFERENCE: Part shade to full sun

NATIVE IOWA RANGE: Statewide

MATURE HEIGHT: 75-100 feet

BLOOM MONTH: May to June

BLOOM COLOR: Inconspicuous

FALL COLOR: Yellow

HARDINESS ZONES: 3-8



Look for:

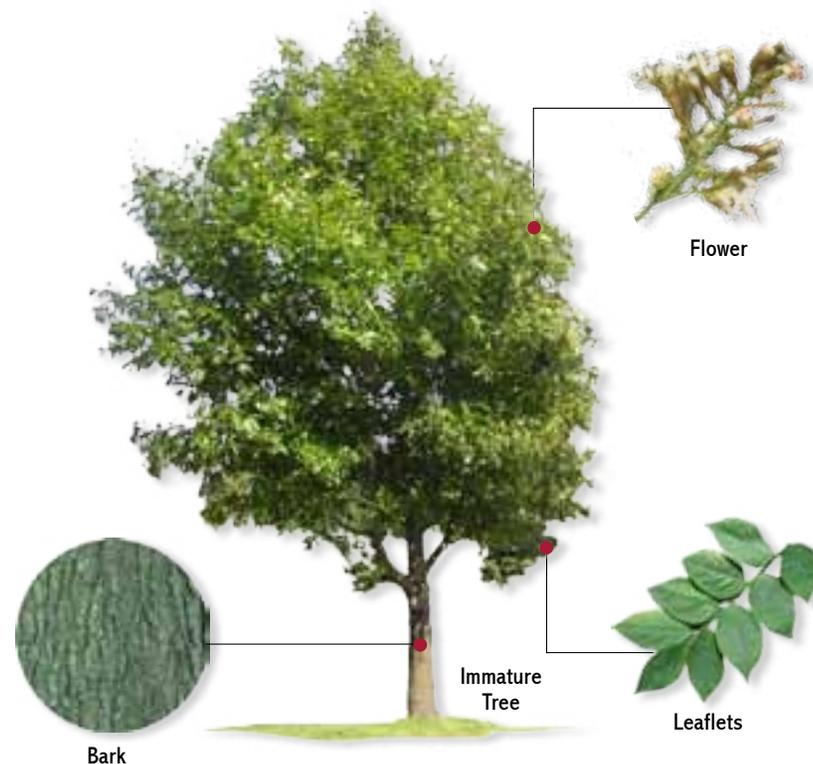
TWIGS: Brown, stout, few, hairy when young, thick brown pith.

LEAVES: Bi-pinnately compound (twice compound), dull green above and paler below, ovate in shape, lacking teeth

FRUIT: 4-7 inch red-brown pods with shiny dark-brown, bean-like seeds.

WILDLIFE VALUE: Low wildlife value due to the toxic parts of the plants, although some small birds use the tree for nesting.

SIMILAR IN APPEARANCE: Similar in appearance to the honey locust in the fact that both have bi-pinnately compound leaves and bean-like seeds and pods. However, Kentucky coffee tree has straighter, stouter twigs, larger leaves/leaflets, and pods that are shorter and wider than those of honey locust.



Images provided by:

1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913

2- Steve Hurst@USDA-NRCS PLANTS Database

Maple, Silver

Acer saccharinum

Silver maples grow at an extremely fast pace in relation to other trees. Limbs and branches are often brittle making the tree very susceptible to wind and ice damage. For landscape purposes, silver maples are hybridized with red maples to create a visually pleasing, fast growing ornamental tree (*Acer freemanii*). The dense, shallow root system makes this tree highly susceptible to wind damage.

Habitat:

MOISTURE: Wet-mesic

SUN PREFERENCE: Part shade to full sun

NATIVE IOWA RANGE: Statewide

MATURE HEIGHT: 75 -100 feet

BLOOM MONTH: March

BLOOM COLOR: Inconspicuous,
Greenish-yellow

FALL COLOR: Yellow-green to pale yellow,
rarely red

HARDINESS ZONES: 3-9



1 cm
Seed

Look for:

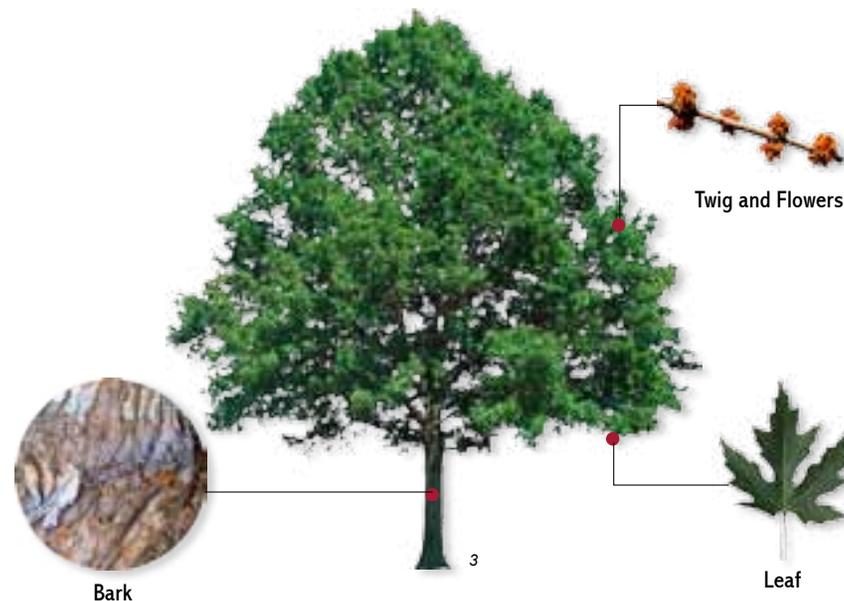
TWIGS: Pendulous branchlets turning up at the ends; twigs with slightly unpleasant odor when crushed.

LEAVES: Deeply five-lobed, long-pointed with V-shaped sinuses. Leaves are double-toothed, pale-green above and silvery-white below.

FRUIT: Fruit consists of winged nutlets 1 1/2-2 1/2 inches long, forming a wide-spreading pair with a long stalk.

WILDLIFE VALUE: Although not known high for its wildlife value, the seeds serve as an abundant food source for many birds and small animals. Squirrels have been known to eat the buds and seeds when other food sources are depleted, and beaver will also use the tree as a food source. Silver maples are noted as a preferred nesting tree for Baltimore orioles while cavity-nesting birds and mammals also find silver maples favorable.

SIMILAR IN APPEARANCE: Silver maples are similar in appearance to red maples but are easily distinguished by having a much larger fruit, and more deeply lobed leaves. Leaves of silver maples are also silver white in color on the underside.



Images provided by:
1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913
2- Steve Hurst@USDA-NRCS PLANTS Database
3- Realworld Imagery, Inc.

Maple, Sugar

Acer saccharum



Sugar maples tend to grow best on well drained, rich, loam soils. They are prized for their brilliant fall foliage, wood for furniture making, and sap which is gathered to produce syrup in the spring when air temperatures fluctuate between above and below freezing. This tree can tolerate some atmospheric pollution, however, they do not tolerate compaction and are sensitive to salt spray. They also tend to perform poorly in wide open settings where there is potential for drought or exposure to excessive wind.



Habitat:

MOISTURE: Mesic

SUN PREFERENCE: Full sun to part shade

NATIVE IOWA RANGE: East 1/2

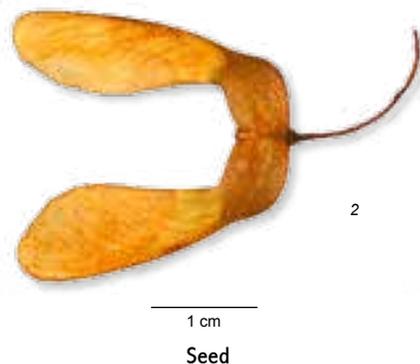
MATURE HEIGHT: 75-100 feet

BLOOM MONTH: April to May

BLOOM COLOR: Inconspicuous

FALL COLOR: Rich yellow, orange, bright red

HARDINESS ZONES: 4-8



1 cm
Seed

Look for:

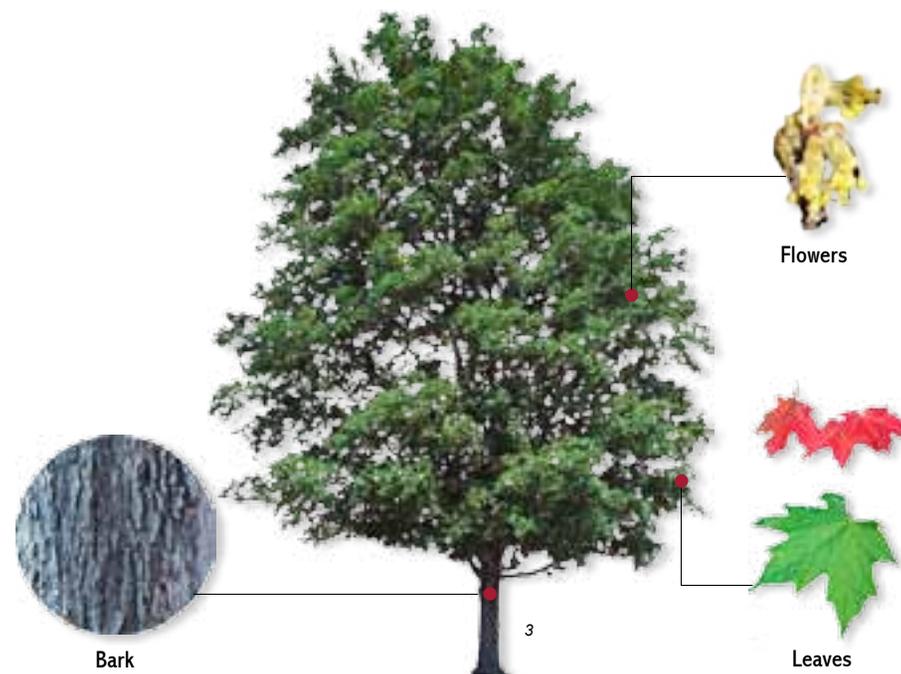
TWIGS: Slender with opposite branching.

LEAVES: Five (occasionally 7) palmate lobes extending half way in to the leaf, dull, dark green above, somewhat paler beneath. Leaves are set in opposite pairs on the shoot.

FRUIT: Seeds are samara often called “helicopters”. They are fused in pairs and hang in clusters. Seeds are round in shape and have wings which point forward. They mature in the late summer and fall months.

WILDLIFE VALUE: Along with other maples, sugar maples offer wildlife an abundant food source. Thanks to their longevity, sugar maples have the potential to provide cavities for birds and mammals as trees mature.

SIMILAR IN APPEARANCE: Sugar maple seeds mature in summer and fall, whereas red and silver maple seeds mature in spring and early summer. The non-native Norway maple is similar in appearance but gives off a milky sap from broken leaf stems and has flat seeds.



Images provided by:
1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913
2- Steve Hurst@USDA-NRCS PLANTS Database
3- Realworld Imagery, Inc.

Oak, Bur

Quercus macrocarpa



Bur oak is a handsome tree common to savannas and forests in Iowa. It is a long-lived tree and may survive 100-300 years in the right setting. It may occur as an open-grown tree in savanna or prairie settings, or be tall and straight in forests. Older, even-aged stands of bur oak can form great cathedral-like canopies.

Bur oak requires nearly full sun to establish. As a result, oak forests are often replaced in succession by trees with more shade tolerant seedlings such as maple and basswood. Although slow-growing and difficult to transplant, bur oak is tolerant of a wide variety of soil types and moisture levels as well as moderate levels of salt. These characteristics make bur oak a good choice for urban landscapes. Bur oak tends to produce heavy nut crops every other year and has the remarkable ability of synchronizing these mast crops across large geographic regions. Bur oak is one of the most stately tree species in the upper Midwest, leaving no doubt as to why oaks are viewed by cultures around the world as symbols of strength, wisdom and longevity.



Habitat:

MOISTURE: Dry-mesic to wet-mesic

SUN PREFERENCE: Full sun to part shade

NATIVE IOWA RANGE: Statewide

MATURE HEIGHT: 50-100 feet

BLOOM MONTH: May

BLOOM COLOR: Inconspicuous

FALL COLOR: Golden yellow-brown

HARDINESS ZONES: 3a-9a



Images provided by:
1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913
2- Steve Hurst@USDA-NRCS PLANTS Database

Look for:

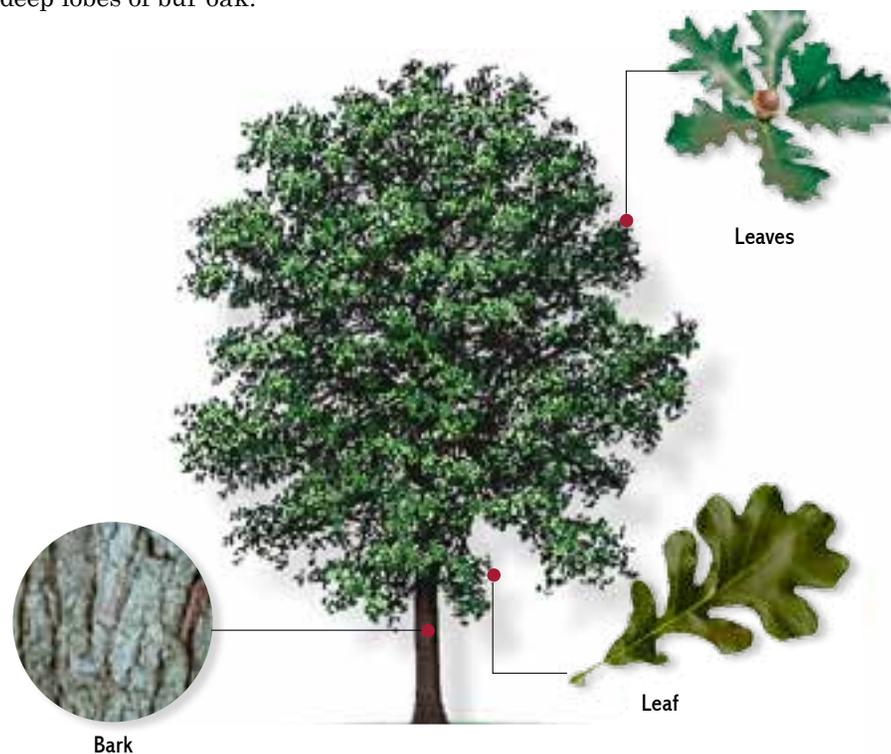
TWIGS: Stout twigs with alternate branching. Twigs may be smooth or have corky ridges.

LEAVES: Deeply lobed, alternately arranged on stems, fine hairs give whitish appearance to leaf undersides

FRUIT: Roundish to oblong acorn with gnarly cup extending half to over three quarters of the way around the nut.

WILDLIFE VALUE: Acorns are utilized by a wide variety of wildlife and preferred over those of red oaks thanks to lower levels of tannins, making them more mild-tasting.

SIMILAR IN APPEARANCE: In Iowa, bur oak is perhaps most easily confused with the less common swamp white oak, which has platy bark and is fuzzy on both the upper and lower leaf surfaces. Swamp white oak also lacks the deep lobes of bur oak.



Oak, Northern Pin (Hill's)

Quercus ellipsoidalis



A medium-height tree reaching 75 feet tall with a trunk diameter of 2 feet, Hill's oak typically has many small branches and a narrow crown. It is considered a drought tolerant tree species and commonly found on sandy soils and bluffs of sandstone bedrock. The lower limbs of Hill's oak tend to extend downward toward the ground. This characteristic makes the northern pin oak less desirable for landscape settings in most instances due to the fact that pruning of lower branches must continually extend up the trunk over time to keep lower limbs from hanging too close to the ground. Hills oak is an important tree for oak savanna restorations due to its high wildlife value and ability to withstand grassland and savanna fires better than most tree species. Of all the species of oak found in Iowa, it is among the most susceptible to "oak wilt" disease



Look for:

TWIGS: Slender, smooth at maturity, grayish-brown to reddish-brown in color, star-shaped pith in cross section,

LEAVES: Alternate, simple, elliptical, 5-7 bristle tipped lobes, sinuses "thumb shaped" cut nearly 3/4 of the way to the mid-vein.

FRUIT: Ripening the 2nd year, finely hairy cup enclosing 1/3 to 1/2 of acorn, very short stalks, longer than broad in shape.

WILDLIFE VALUE: High. Cavities in northern pin oak trees are important for cavity-nesting bird species including wood ducks. Acorns are eaten by a wide variety of wildlife species.

SIMILAR IN APPEARANCE: Similar in appearance to pin oak although acorns of pin oak trees are more round in shape and the leaves persist on the tree into winter. Northern pin oak leaves typically drop in autumn. Northern pin oak typically grows in dry, upland settings while pin oak is tolerant of some periodic standing water and thrives in rich soils.

Habitat:

MOISTURE: Dry

SUN PREFERENCE: Full sun to part shade

NATIVE IOWA RANGE: Northeast

MATURE HEIGHT: 50-75 feet

BLOOM MONTH: May

BLOOM COLOR: Inconspicuous

FALL COLOR: Scarlet red

HARDINESS ZONES: 4-6

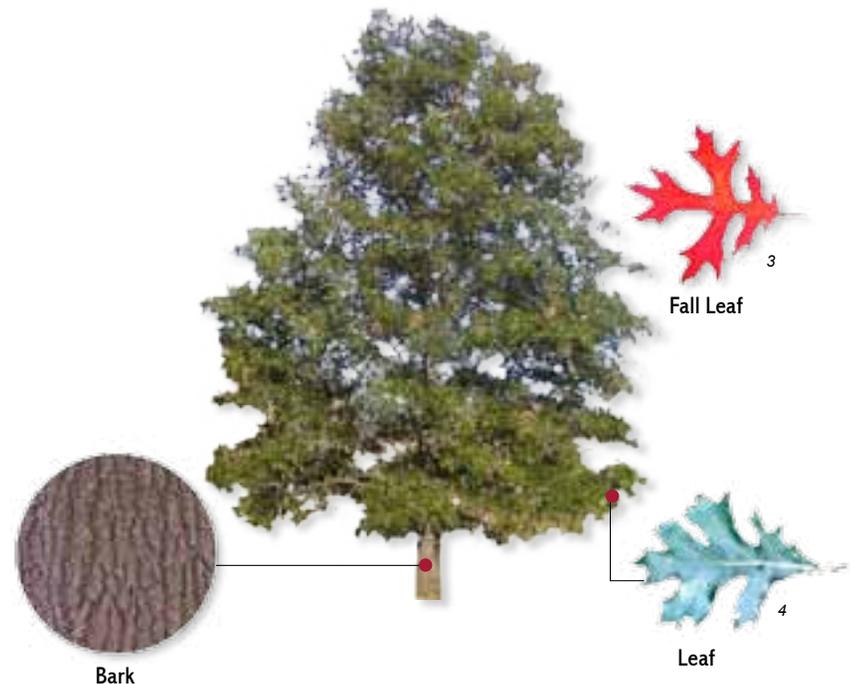


2

1 cm

Acorn

Images provided by:
1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913
2- <http://uptreeid.com>
3- <http://dnr.state.il.us/lands/education/CLASSRM/plants/fallcolors>
4- Wisconsin State Herbarium & Emmet J. Judziewicz



Fall Leaf

Bark

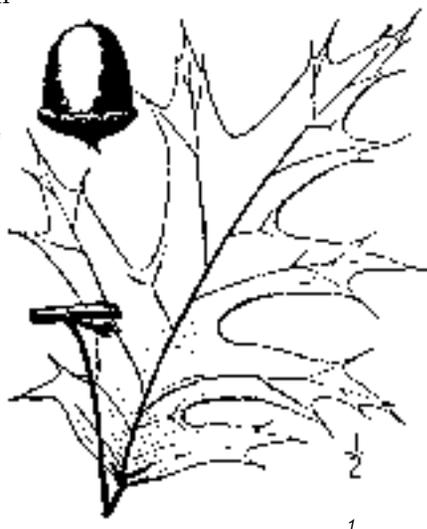
Leaf

Oak, Northern Red

Quercus borealis



A medium to tall tree growing up to 80 feet tall with a trunk diameter capable of up to 3 feet. Trunks of the trees tend to be straight, with large spreading branches and a large, broadly rounded crown. Red oaks commonly grow on moist, loamy soils, often on north-facing slopes, although they can tolerate many urban conditions including dry, acidic soils and some salt spray. In comparison to other oaks, the north red oak is fairly fast growing, and with adequate sunlight will reach full potential. Although less so than northern pin oak, northern red oak is susceptible to “oak wilt” disease, which is commonly spread by insects (beetles) or through the roots systems of adjoining trees.



Habitat:

MOISTURE: Mesic

SUN PREFERENCE: Part shade to full sun

NATIVE IOWA RANGE: Statewide

MATURE HEIGHT: 75-100 feet

BLOOM MONTH: May

BLOOM COLOR: Inconspicuous

FALL COLOR: Golden yellow-brown

HARDINESS ZONES: 5-8a



Images provided by:
1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913
2- Steve Hurst@USDA-NRCS PLANTS Database
3- www.forestry.ky.gov
4- P. Bockenstedt- Stantec
5- S. Short- Stantec

Look for:

TWIGS: Slender in stature, smooth, reddish-brown in color, star-shaped pith in cross section.

LEAVES: Leaf stalk is typically 1-2 inches long. Elliptical, 7-11 lobes, bristled tips with sinuses extending less than half of the way to the mid-vein. Smooth, dull green surface, lighter on the underside with tufts of hairs evident in the vein angles underneath.

FRUIT: In pairs or as a single acorn with or without stalks. Ovoid-shaped nut up to 1 1/2 inches long and pale brown with gray stripes. Reddish-brown cup with tight scales covering 1/4 of the nut.

WILDLIFE VALUE: Red oak trees provide cover and nesting sites for a variety of wildlife. Acorns are sought by a wide variety of wildlife, although acorns of red and pin oak are typically less preferred than those of white oak species. Deer and rabbits browse on the leaves and seedlings.

SIMILAR IN APPEARANCE: Members of the red oak subgenus readily hybridize, causing difficulty in positive identification, especially between pin oak and red oak. The shallow acorn cup and shallow lobes on the leaves are generally good identifying characteristics for northern red oak.



Oak, Pin

Quercus palustris



Commonly found along stream banks, seasonally flooded flats, and floodplain areas, pin oak is an attractive tree with a straight trunk up through the crown. It has a distinctive pyramidal crown and is widely planted for landscaping. Leaves turn brilliant red in fall, and persist into the winter months. It is a hardy tree that can grow well in urban conditions where air pollution, poor drainage, compacted soils, and drought are common. This tree prefers slightly acidic (somewhat sandy) soils and adapts poorly to dry alkaline (calcareous) soils. Pin oaks have a fibrous shallow root system that allow it to adapt to flooded soil conditions once the tree is established.

Like other members of the red oak subgenus, pin oaks are susceptible to oak wilt, a fungal disease that invades the water- conducting vessels in the tree, and plugs them. The disease tends to manifest itself through leaf die-off on the outer margins of the canopy, eventually working in toward the trunk. Oak species root graft between individuals, enabling spread of oak wilt through entire stands.



1

Habitat:

MOISTURE: Wet-mesic to mesic

SUN PREFERENCE: Full sun to part shade

NATIVE IOWA RANGE: Southeast

MATURE HEIGHT: 50-75 feet

BLOOM MONTH: May

BLOOM COLOR: Inconspicuous

FALL COLOR: Deep scarlet to brilliant red

HARDINESS ZONES: 4-8

Images provided by:

1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913

2- Steve Hurst@USDA-NRCS PLANTS Database

3- <http://biology.missouristate.edu>

4 & 5- www.bomengids.nl



2

1 cm
Nut

Look for:

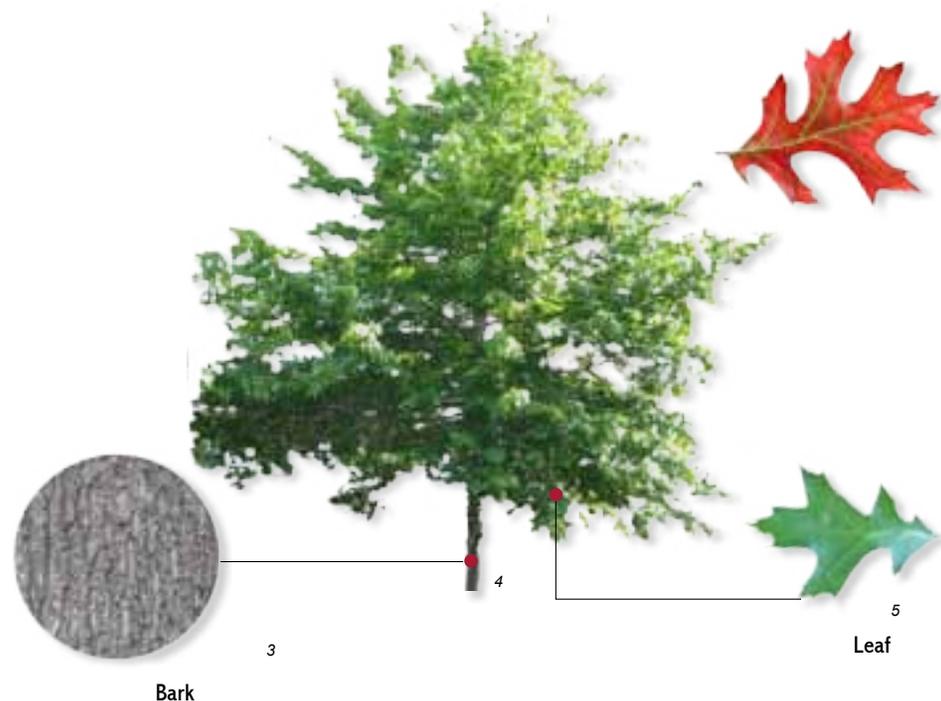
TWIGS: Slender, smooth, reddish-brown to dark-gray in color, star-shaped pith in cross section

LEAVES: Alternate, elliptical, 5-7 lobes, 1-3 bristle-tipped teeth, deep sinuses nearly to the mid-vein.

FRUIT: Acorns in groups of 1-2 with a thin, reddish-brown cup and smooth scales enclosing ¼ of the nut. The nut is rounded, light-brown in color and often striped.

WILDLIFE VALUE: Acorns are sought by a variety of wildlife species and the tree provides wildlife cover.

SIMILAR IN APPEARANCE: Similar in appearance to northern pin oak although acorns are more oval in shape and pin oak leaves persist on the tree into winter whereas leaves from northern pin oak typically drop in autumn. Distinctive pyramidal-shaped crown. Leaf sinuses are deeper, extending nearly all the way to the mid-vein.



3

Bark

4

5

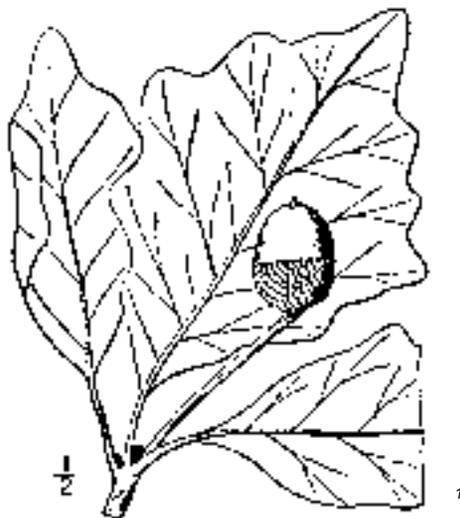
Leaf

Oak, Swamp White

Quercus bicolor



Swamp white oaks are large trees, growing to 100 feet or more, with an open, irregular crown, and deeply furrowed bark. They can live up to 300 years. Swamp white oaks adapt to a variety of soil types and conditions -- from dry to occasionally flooded. These trees also tolerate significant soil compaction and are resistant to oak wilt. Bi-colored leaves -- dark above, light below -- are aesthetically desirable. Swamp white oak is excellent for many situations, including road rights-of-way.



Habitat:

MOISTURE: Wet-mesic

SUN PREFERENCE: Part to full sun

NATIVE IOWA RANGE: East 2/3

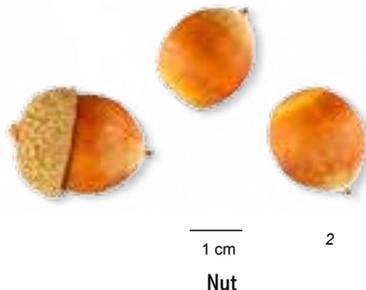
MATURE HEIGHT: 75-100 feet

BLOOM MONTH: May

BLOOM COLOR: Inconspicuous

FALL COLOR: Golden yellow-brown

HARDINESS ZONES: 4-8



Look for:

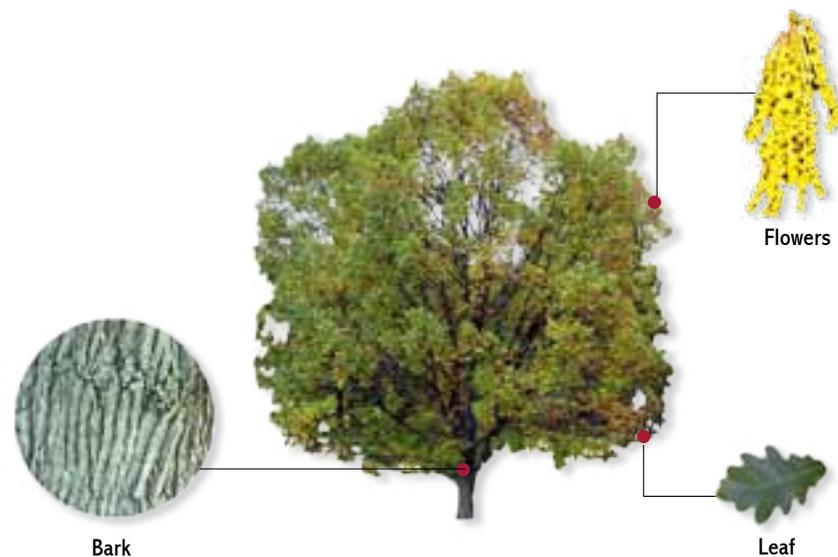
TWIGS: Stout, smooth, light brown, star-shaped pith.

LEAVES: Alternate, simple, up to 7 inches long and 4 inches broad, narrowly elliptical to obovate. Rounded tip with 10-20 lobes of shallow sinuses, glossy green above with white, softly hairy pubescence on the underside. Leaf stalks becoming nearly 1 inch long.

FRUIT: Acorn is oval-shaped, light brown in color and it typically 1 1/4 inches long. Cup encloses about 1/3 of the nut's length and is thick, light brown in color, hairy and has a roughened surface. Acorns are found in pairs with a stalk up to 4 inches long.

WILDLIFE VALUE: Trees provide cover for a variety of birds and mammals. Wildlife including squirrels, mice, deer, and a variety of birds are attracted to the sweet acorns that are produced.

SIMILAR IN APPEARANCE: Swamp white oaks readily hybridize with other members of the white oak subgroup which may complicate positive identification in some cases. In areas where hybridization is not a potential, swamp white oak is easily distinguished by its leaves which are coarsely round-toothed and softly white hairy on the lower surface.



Images provided by:
1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913
2- Steve Hurst@USDA-NRCS PLANTS Database
3- www.hort.uconn.edu
4- <http://web.reed.edu>
5- Steve Baskauf

Oak, White

Quercus alba



A long-lived, large stately tree growing to 100 feet with a trunk capable of growing 45 inches in diameter. A wide-spreading crown with dense foliage and numerous horizontal branches are characteristics of the white oak. Although this tree is resistant to salt spray it is only moderately tolerant of poor or compacted soils, reducing its potential for planting in urban settings. White oak tends to prefer well drained, slightly acidic soils and is shade intolerant. Where white oaks occur

as the dominant canopy tree in forest settings, it usually indicates development of canopy trees during a period when the setting was more open. Like red oak, white oak tends to produce large mast crops every third year over a wide geographic area. This remarkable ability to synchronize seed production may be an adaptive strategy to minimize predation during high production – essentially overwhelming the would-be diners with sheer numbers.



Habitat:

MOISTURE: Mesic

SUN PREFERENCE: Part to full sun

NATIVE IOWA RANGE: Southeast 3/4

MATURE HEIGHT: 75-100 feet

BLOOM MONTH: May

BLOOM COLOR: Inconspicuous

FALL COLOR: Burgundy

HARDINESS ZONES: 3b-8



Look for:

TWIGS: Slender to stout, gray to reddish-green in color with star-shaped pith in cross section.

LEAVES: 5-7 rounded lobes, leaf surface smooth, sinuses varying from shallow to deep, green upper surface, paler to whitish underneath. Leaves on the same tree may vary considerably and often stay on into winter.

FRUIT: Acorn, oval in shape, shiny greenish-brown color, up to 3/4 inch long, 1/4 of body is covered with a minutely hairy cap.

WILDLIFE VALUE: High. Acorns are sought by many wildlife species including ducks, deer, turkey, squirrels and more.

SIMILAR IN APPEARANCE: White oak will hybridize with both swamp white and bur oak, and therefore may complicate correct identification when these species occur in the same area. Where hybridization is not in question, white oak is typically easier to identify thanks to the deep lobes of the leaves and platy bark of mature trees. Bur oak often has corky ridges on twigs and swamp white oak is white and softly hairy on the lower leaf surface.

Images provided by:

1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913

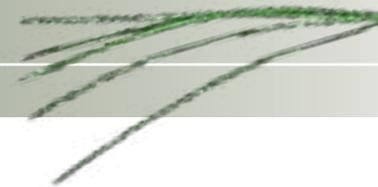
2- Steve Hurst@USDA-NRCS PLANTS Database

3, 5 & 6 www.plantbio.ohio.edu

4- Realworld Imagery, Inc.

Pine, Eastern White

Pinus strobus



White pine was found at the time of Euroamerican settlement in select, isolated areas of the bluffland region of northeast Iowa. Logging of the pineries in northern Minnesota and Wisconsin in the 1800s, resulted in an abundance of lumber for settlers to build homes, barns and other structures on the prairies of Iowa. White pine grows quickly, but has the ability to live beyond 300 years of age under the right conditions. However, most live to be 100-150 years. White pines often form a supercanopy in mature forests, towering over surrounding trees.

White pine prefers protection from hot, dry winds and does best in slightly acidic, well-drained soils. It is a stately tree with strong, gracefully arching limbs. Although widely planted as a landscape tree, and occasionally used in wildlife plantings and shelterbelts, white pine is susceptible to damage from air pollutants. It is intolerant of poorly drained soils and salt and should only be planting near roadways with careful consideration. This tree is also susceptible to white pine blister rust, a disease that often results in systematic limb loss, and potentially tree death.



Habitat:

MOISTURE: Mesic to dry-mesic

SUN PREFERENCE: Full sun to part shade

NATIVE IOWA RANGE: Native northeast, widely planted elsewhere

MATURE HEIGHT: 100-200 feet

BLOOM MONTH: April to June

BLOOM COLOR: Evergreen

FALL COLOR: Golden yellow brown

HARDINESS ZONES: 3-8



Images provided by:
1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913
2- Steve Hurst@USDA-NRCS PLANTS Database
3- Robert H. Mohlenbrock@USDA-NRCS PLANTS Database
4- Realworld Imagery, Inc.
5- P. Bockenstedt- Stantec

Look for:

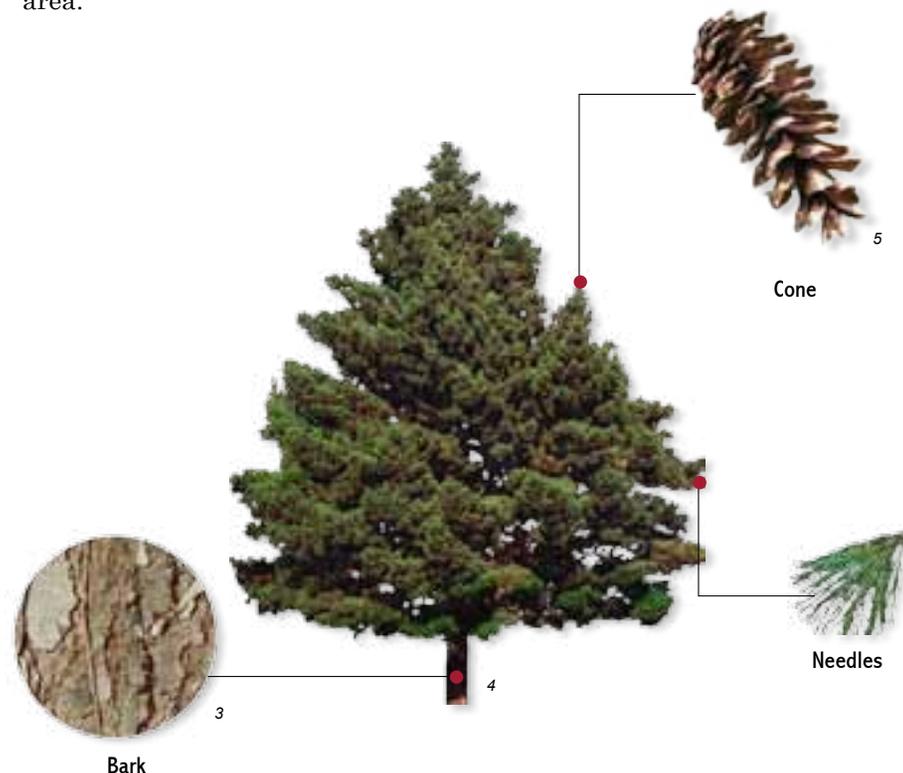
TWIGS: Slender, orange-brown, smooth or slightly hairy, becoming gray.

LEAVES: Needles, blue-green, 3-5 inches long, soft and flexible, borne in bundles of five.

FRUIT: Cone up to 8 inches in length, approximately 3-4 times longer than wide.

WILDLIFE VALUE: Young pine stands provide important winter cover for deer and birds. Mature trees provide roosts for wild turkeys, ruffed grouse, owls and other raptors. Where mature white pine stands occur near lakes and rivers, they are important nesting platforms for osprey and bald eagle.

SIMILAR IN APPEARANCE: The soft blue-green needles, 3-5 inches long, in bundles of 5 readily distinguish white pine from other evergreens in our area.



Plum, Wild

Prunus americana

A small, native tree reaching heights of 35 feet, wild plum is one of the first shrubs or trees to flower in spring. It is commonly found in thickets along edges of woodlands and grasslands in Iowa. Wild plum is used in urban settings as a buffer or screen tree as a result of its dense growth and suckering behavior. Plums are also an important native shrub for wildlife plantings as both a food source and protective/winter cover. Wild plum performs best if planted in well-drained soils and full sun. The fruits are generally sweet if picked at the peak of ripeness, and make great jellies and jams.



Habitat:

MOISTURE: Dry

SUN PREFERENCE: Full sun

NATIVE IOWA RANGE: Statewide

MATURE HEIGHT: 20-35 feet

BLOOM MONTH: May

BLOOM COLOR: White

FALL COLOR: Pale golden yellow

HARDINESS ZONES: 3-8



1 cm
Stone

Images provided by:
1- Britton, N.L. & A. Brown 1913, USDA-NRCS PLANTS Database
2- Steve Hurst@USDA-NRCS PLANTS Database
3- Will Cook - www.duke.edu
4- Anoka Conservation District, www.anokaswcd.org
5- <http://trippelbrookfarm.com>
6- P. Bockenstedt- Stantec

Look for:

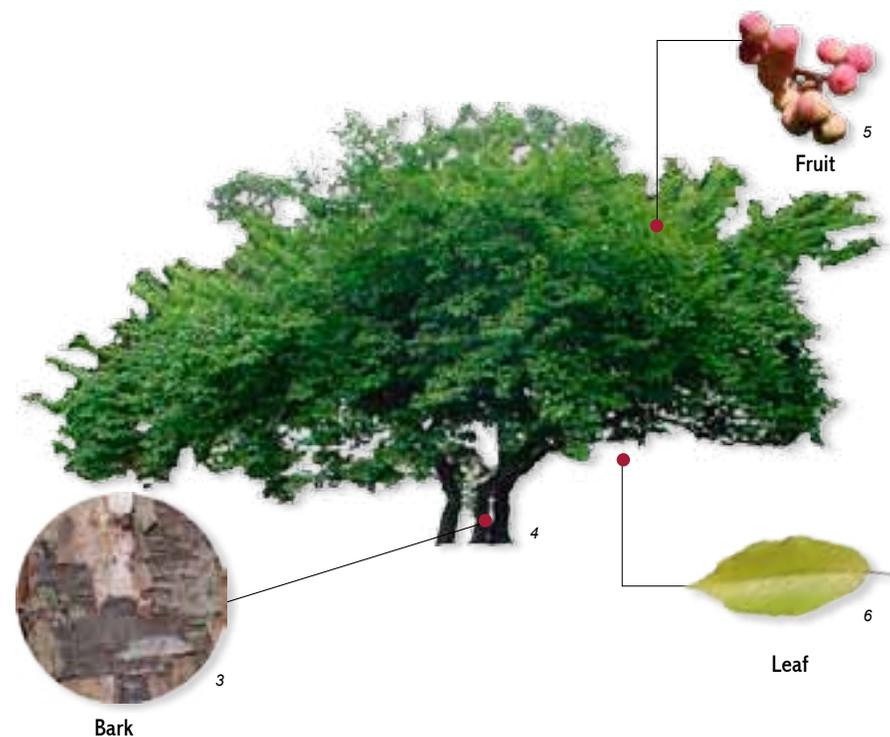
TWIGS: Grayish in color and becoming scaly with age, branches are spiny with sharp tips.

LEAVES: Alternate leaves, 2-4 inches in length, smooth underside, sharply tapering tip with doubly toothed edges, broadly oval in shape.

FRUIT: Edible plums, 1 inch in diameter, red to yellow in color.

WILDLIFE VALUE: Plums form thickets that provide shelter, cover, and nesting habitat for a variety of mammals and birds. The plums are sought by many wildlife species while the twigs and foliage provide highly preferred browse for deer.

SIMILAR IN APPEARANCE: Identified early in the spring by their white flowers that bloom before many other trees even have leaves.



Sycamore

Platanus occidentalis



The sycamore is a stately tree capable of growing to massive proportions. Mature trees have an enlarged base and a straight trunk, which can easily outsize other hardwood tree species. Although commonly under 100 feet in height, sycamores are capable of exceeding 150 feet making them one the tallest of North American trees. The sycamore is a fast-growing tree, tolerant of a wide variety of conditions, however it tends to have weak limbs and is susceptible to wind and ice damage. The smooth, white, gray and olive mottled bark has a tendency to peel off in flakes, creating an attractive mosaic of colors. The aggressive roots of sycamore may cause damage if planted too close to sidewalks and trails.



Habitat:

MOISTURE: Mesic

SUN PREFERENCE: Part shade to full sun

NATIVE IOWA RANGE: Southeast 1/2

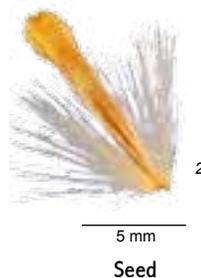
MATURE HEIGHT: 60-100 feet

BLOOM MONTH: May to June

BLOOM COLOR: Inconspicuous

FALL COLOR: Tan to Brown

HARDINESS ZONES: 4b-9a



Images provided by:
1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913
2- Steve Hurst@USDA-NRCS PLANTS Database
3- www.etsu.edu/arboretum
4 & 5- Will Cook- www.duke.edu
6- Realworld Imagery, Inc.

Look for:

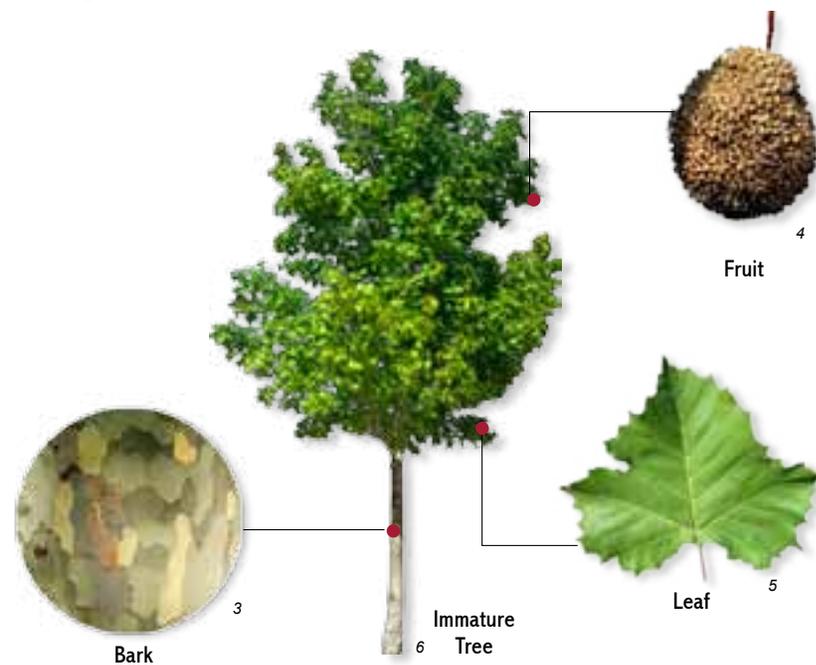
TWIGS: Greenish in color, slender, zigzag in shape, look for ring scars at nodes.

LEAVES: Broadly ovate in shape with 3 or 5 shallow, broad, short-pointed lobes. Leaf edges are wavy with scattered teeth.

FRUIT: Individual brown spherical clusters on long stalks composed of many narrow nutlets with hair tufts.

WILDLIFE VALUE: Relatively low value, though fruit is consumed by a number of songbirds including purple finch, chickadee, wild turkey, and junco, as well as mammals such as muskrat, beaver, and squirrels. Older sycamore trees can be valuable for cavity-nesting birds and animals.

SIMILAR IN APPEARANCE: Leaves are similar in appearance to maple leaves, but sycamores can be distinguished by the smooth, whitish and mottled bark that peels off in large thin flakes. Sycamore leaves are more shallowly lobed, and typically much larger and coarser textured than those of maples.



Walnut, Black

Juglans nigra



Black walnut is a large tree with an open, rounded crown of dark green, aromatic foliage. It is highly valued for its form, fruit, and rich brown-colored, fine-grained wood. Black walnut wood is used to make furniture, gunstocks and veneer and is one of the most highly valued native hardwoods in Iowa. Black walnut produces a growth inhibiting toxin call juglone which affects surrounding plants. Trees are not drought tolerant and although they may grow well in some residential settings, they are by-and-large poorly adapted to highly urbanized settings such as streetscapes. The meats of the walnut are prized by humans and wildlife fortunate enough to have the ability to crack the sturdy shells.



Habitat:

MOISTURE: Mesic

SUN PREFERENCE: Part shade to full sun

NATIVE IOWA RANGE: Statewide

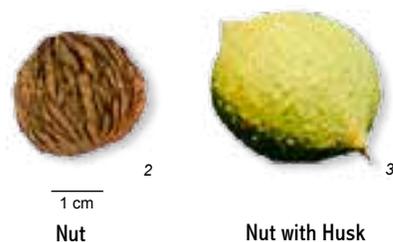
MATURE HEIGHT: 75-100 feet

BLOOM MONTH: May to June

BLOOM COLOR: inconspicuous

FALL COLOR: Yellow

HARDINESS ZONES: 5-9a



Images provided by:
1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913
2- Steve Hurst@USDA-NRCS PLANTS Database
3- Ohio Public Library Information Network
4- J. Biggerstaff- www.bio.brandeis.edu
5- S. Short- Stantec
6- S. Short- Stantec

Look for:

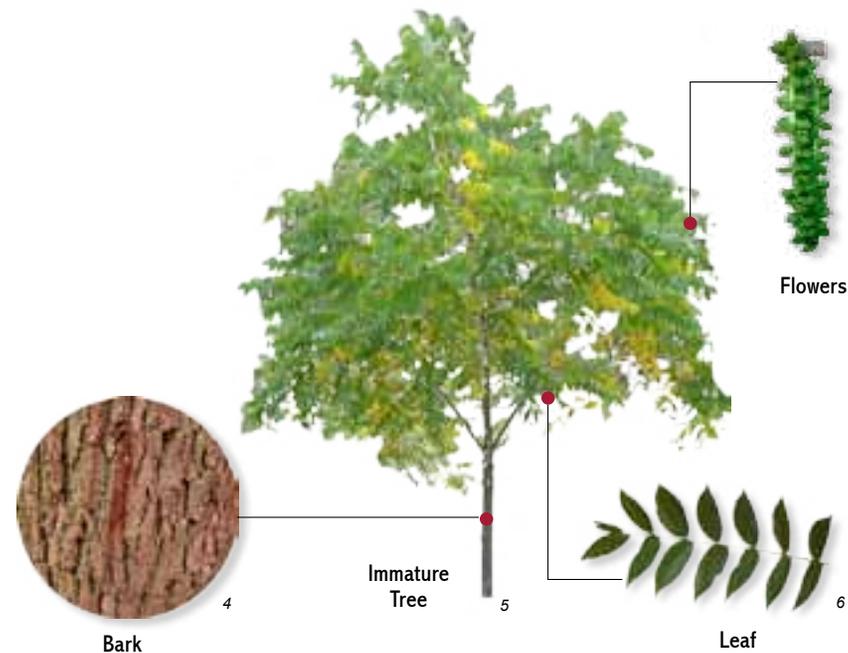
TWIGS: Stout with distinctive buff colored chambered pith and 3-lobed leaf scars.

LEAVES: Pinnately compound leaves. Leaflets are broadly lance-shaped, finely saw-toothed, long-pointed, stalkless, and covered with soft hairs beneath. Leaves have the same pungent odor as the nut husks.

FRUIT: Nearly spherical fruit, 1.5 to 2 inches in diameter borne alone or in groups of 2-3. Husk is yellowish-green with short hairs when ripe, and covers an irregular-ridged shell protecting the sweet, edible seed.

WILDLIFE VALUE: Nuts serve as high quality food for squirrels and other wildlife.

SIMILAR IN APPEARANCE: Similar in appearance to butternut, although butternut fruit are more oval in shape and their twigs are hairy above the leaf scars where walnut is not. Butternut has darker, chocolate-colored diaphragms dividing the pith in twigs.



Cranberry, Highbush

Viburnum trilobum



Highbush cranberry is a medium-tall shrub typically with crowded, multiple stems, but does not form thickets. It prefers well drained, loamy soils with high organic content, but has the ability to adapt to a variety of site conditions. A notable exception to this is droughty locations. There are several cultivated varieties of the American highbush cranberry, but the cultivars of the European highbush cranberry (*Viburnum opulus* var. *opulus*) are more widely used in landscape plantings. The fruit of the North American highbush cranberry is similar in taste to that of the bog cranberry and is suitable for making jellies and sauces when picked just before full ripening.

Highbush cranberry is sensitive to salt spray. While the native variety of highbush cranberry is found in northeast Iowa, both the native and European varieties of this species are widely planted throughout the state, increasing the chances for encountering the native, European, or hybridized forms of this shrub.



Habitat:

MOISTURE: Dry-mesic to wet-mesic

SUN PREFERENCE: Full sun to part shade

NATIVE IOWA RANGE: Northeast 1/3

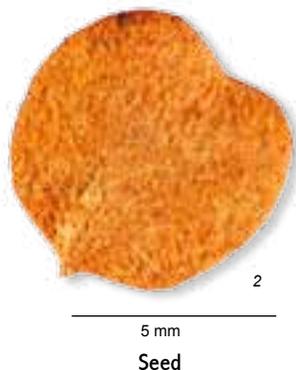
MATURE HEIGHT: 6-12 feet

BLOOM MONTH: May to June

BLOOM COLOR: White

FALL COLOR: Red to maroon purple

HARDINESS ZONES: 2-7



Images provided by:
1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913
2- Steve Hurst@USDA-NRCS PLANTS Database
3 & 5- Anoka Conservation District www.anokaswcd.org
4- USDA-NRCS PLANTS Database/Herman, D.E., et al. 1996

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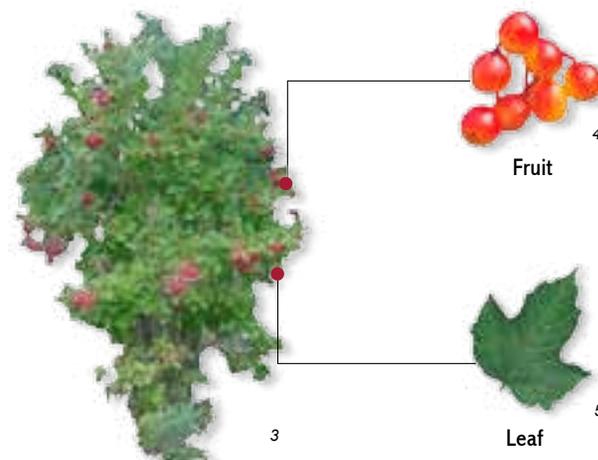
TWIGS: Reddish brown and slender.

LEAVES: Opposite, ovate, deeply three-lobed, coarsely toothed, 1-6 large glands near the end of the leaf stem.

FRUIT: Berry-like, globose, brilliant red in color with a single, strongly flattened stone.

WILDLIFE VALUE: Provides a good source of food for a variety of wildlife. Twigs serve as a browse for deer. The fruit provides a winter food source for many bird species and mammals. Many birds prefer to eat the fruit after at least one freeze - thaw cycle, making the fruit softer and more palatable. This shrub also provides cover for birds and small mammals by forming a multi-stemmed bush.

SIMILAR IN APPEARANCE: The cultivated European variety as well as the maple-leaf viburnum (*Viburnum acerifolium*) are similar. Differentiating between European and American highbush cranberry can be difficult. In a coarse sense, the American highbush cranberry tends to be taller than wide, while the European variety tends to be wide and short. Using a hand lens, American highbush cranberry has stalked glands on the leaf stems, while the European variety has glands without stalks.



Dogwood, Gray

Cornus foemina racemosa



Gray dogwood is a slow growing shrub that forms thickets from rhizomes. Gray dogwoods can tolerate many climatic conditions and are quite adaptable to many situations although their tolerance to salt spray is low. As with other dogwood species, common uses include stream bank restoration and stabilization projects. Gray dogwoods are also used in urban settings to create hedges/buffers, and are planted for wildlife.



Habitat:

MOISTURE: Dry-mesic

SUN PREFERENCE: Partial sun

NATIVE IOWA RANGE: Statewide

MATURE HEIGHT: 6-12 feet

BLOOM MONTH: May to June

BLOOM COLOR: White

FALL COLOR: Maroon-purple

HARDINESS ZONES: 4-9



2

5 mm

Seed

Look for:

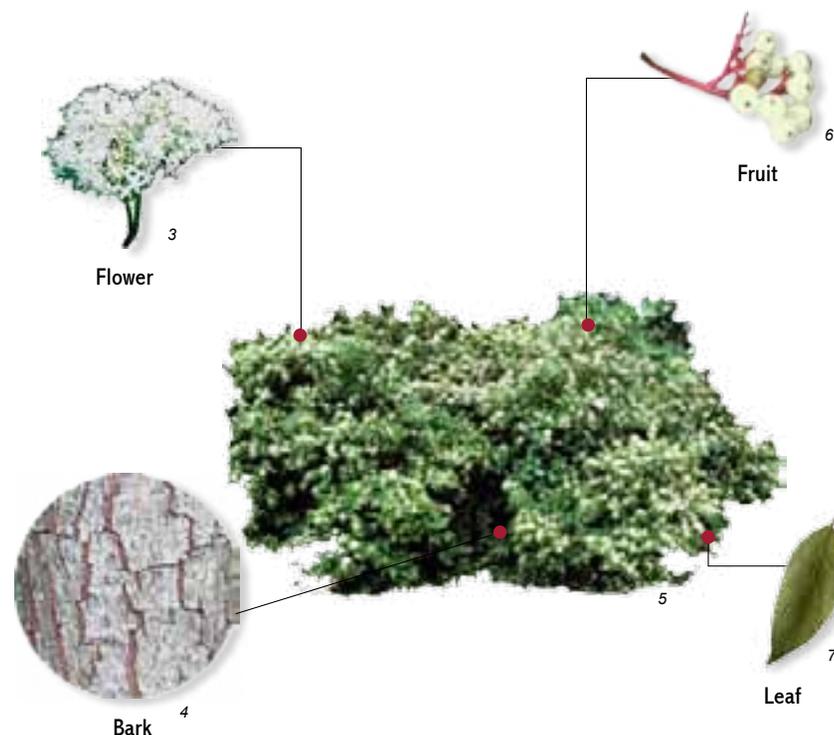
TWIGS: Gray to brown with opposite branching.

LEAVES: Opposite, taper-pointed and oval in shape. Residual “strings” along veins when leaves are pulled apart.

FRUIT: White with bright-red fruit stalks.

WILDLIFE VALUE: Gray dogwood provides food during the summer months and cover for small birds and animals. Small stems and twigs are sought out and eaten by small mammals while the fruit is eaten by a variety of birds and small mammals.

SIMILAR IN APPEARANCE: Similar to and sometimes difficult to differentiate from rough-leaved dogwood. Leaves of rough-leaved dogwood are stiffer, and coarser to the touch than those of gray dogwood. Twigs of rough-leaved dogwood are olive to pink-brown. Twigs of gray dogwood are smooth, turning from green to tan, then to gray-brown.



Images provided by:

1- Britton, N.L. & A. Brown 1913

2- Steve Hurst@USDA-NRCS PLANTS Database

3 - wildcanada.ca

4- Will Cook- www.duke.edu

5- <http://treesforamerica.com/trees/treeguide/treeimages>

6- cst.cmich.edu

7- www.hort.uconn.edu

Dogwood, Red-osier

Cornus stolonifera



Red-osier dogwood is a small to medium-sized shrub with multiple stems growing up to 12 feet tall. It is noted for brilliant red stems and twigs and its tolerance to fluctuating water tables, typically inhabiting areas that may be saturated in spring and dry during summer months. Although it does not grow on continuously wet (saturated) soils, it often occurs along the edges of lakes, wetlands, and rivers. Thanks to its versatility and ease of cultivation, red-osier dogwood is widely used for stream bank stabilization, buffers, and for wildlife plantings. It is also commonly planted as an ornamental due to the showy red twigs that add seasonal color and interest to landscapes during the winter months. Although adaptable to a variety of soils, it needs wet to moist, loamy soils to reach its full potential.



Habitat:

MOISTURE: Wet, wet-mesic

SUN PREFERENCE: Full sun to partial shade

NATIVE IOWA RANGE: North 1/2

MATURE HEIGHT: 6-12 feet

BLOOM MONTH: May to June

BLOOM COLOR: White

FALL COLOR: Orangish-red to bronze-purple

HARDINESS ZONES: 2-7

Images provided by:

1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913

2- P. Bockenstedt- Stantec

3- S. Short- Stantec

Look for:

TWIGS: Reddish to purple in color and smooth in texture.

LEAVES: Simple, opposite, 2-4 inches long. Dark green in color above and light colored below. Rounded bases and pointed tip. Residual “strings” along veins when leaves are pulled apart.

FRUIT: White in color, smooth on faces and furrowed on sides

WILDLIFE VALUE: Red-osier dogwood attracts wildlife as a food source and as cover for small mammals and birds. The fruit is eaten by a variety of birds and the twigs are a favorite winter food of small mammals such as rabbits.

SIMILAR IN APPEARANCE: Commonly confused with silky dogwood although Red-osier dogwood has white pith and has a whitish colored fruit.



Dogwood, Rough-leaved

Cornus drummondii



Rough-leaved dogwood is a large shrub to small tree reaching heights of 20 feet. Thanks to the ability to spread and form colonies, it often occurs as a dense thicket of intertwined branches. For this reason and the production of fruit utilized by wildlife this shrub is frequently used in windbreak and wildlife plantings. Rough-leaved dogwoods are fast-growing trees that are fairly tolerant to drought once established. The salt tolerance for this species is relatively low.



Habitat:

MOISTURE: Dry-mesic to wet-mesic

SUN PREFERENCE: Full sun to part shade

NATIVE IOWA RANGE: Statewide

MATURE HEIGHT: 20 feet

BLOOM MONTH: June - July

BLOOM COLOR: White

FALL COLOR: Purple

HARDINESS ZONES: 4-9



Images provided by:
1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913
2- Steve Hurst@USDA-NRCS PLANTS Database

Look for:

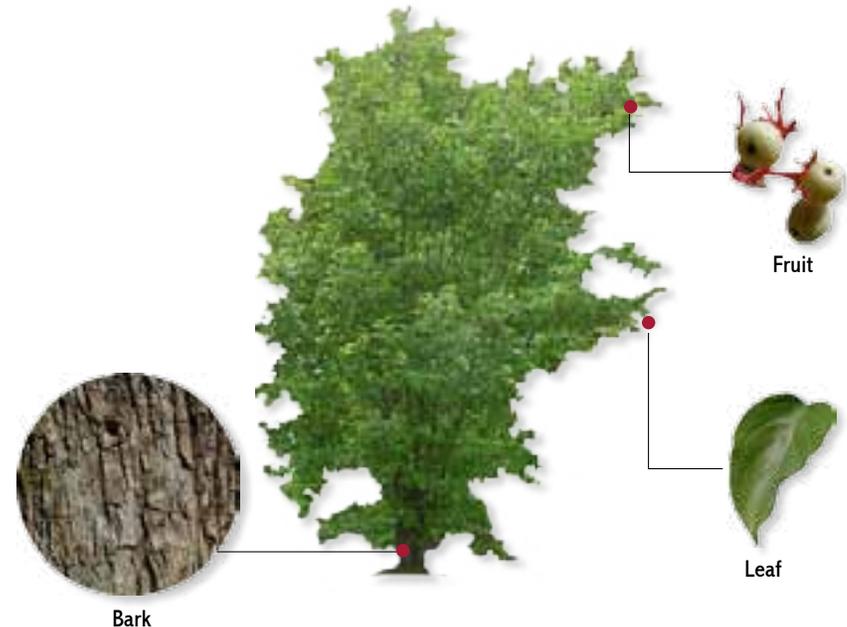
TWIGS: Gray or reddish-brown in color with brownish pith, slender.

LEAVES: Opposite, taper-pointed and elliptical to oval in shape. Leaves lack teeth with 5-7 long curved veins on each side of mid-vein. Leaves are green and rough above, pale and soft below. Residual “strings” stretch between leaf veins when leaves are pulled apart.

FRUIT: White fruit, with thin, bitter pulp is borne in loose clusters on red stalks. Fruit ripens in September and October.

WILDLIFE VALUE: Medium. Provides nesting cover for small birds, berries are somewhat bitter although they serve as a food source for some birds.

SIMILAR IN APPEARANCE: Similar to and sometimes difficult to distinguish from gray dogwood. Leaves of rough-leaved dogwood are stiffer, and coarser to the touch than those of gray dogwood. Twigs of rough-leaved dogwood vary from olive to pink-brown. Twigs of gray dogwood are smooth, turning from green to tan, then to gray-brown.



Dogwood, Silky

Cornus amomum obliqua



Silky dogwood is a handsome shrub growing up to 12 feet tall. It is common to mesic and wet-mesic forests of Iowa. It may occur as scattered individuals or in dense groups in the wild. Young plants have a bright red bark that turns to a reddish-brown to olive color as they mature. It is commonly used in stream bank restoration and slope stabilization projects. Silky dogwoods are reported to be extremely sensitive to salt. There are several cultivated varieties of this species and it is widely available as containerized or bare root stock in the upper Midwest.



Habitat:

MOISTURE: Wet

SUN PREFERENCE: Full sun

NATIVE IOWA RANGE: Statewide

MATURE HEIGHT: 6-12 feet

BLOOM MONTH: June

BLOOM COLOR: White

FALL COLOR: Purplish red

HARDINESS ZONES: 5-8



Look for:

TWIGS: Bright-red to olive-colored stems are evident in the fall, winter and early spring. Brown pith is evident in 1-2 year old stems.

LEAVES: Dark-green, ovate leaves.

FRUIT: Fruit matures in September and is bluish in color.

WILDLIFE VALUE: Silky dogwood can be valuable as a windbreak and cover for a variety of wildlife, as well as providing berries as a food source.

SIMILAR IN APPEARANCE: Silky dogwood is easily confused with red-osier dogwood, although silky dogwood is easily distinguished by the brown pith and bluish fruit.



Images provided by:

1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913

2- Steve Hurst@USDA-NRCS PLANTS Database

Hazelnut

Corylus americana



A fast-growing, multiple-stemmed shrub that can grow to heights of 12 feet at maturity. Nuts from the hazelnut tree have a higher nutritional value than acorns and as anyone that has tried to collect hazelnuts knows, they are eagerly sought after and prized by a wide variety of wildlife. Hazel is planted as an ornamental or nut-bearing shrub as well as in woodland natural areas restoration projects. Hazel is also utilized in wildlife plantings as a food source and cover. Hazelnut is sensitive to salt and should not be used near roadways where salt is applied during winter months.



Habitat:

MOISTURE: Dry-mesic

SUN PREFERENCE: Partial shade to full sun

NATIVE IOWA RANGE: Statewide

MATURE HEIGHT: 6-12 feet

BLOOM MONTH: March to April

BLOOM COLOR: Inconspicuous

FALL COLOR: Golden with a hint of red

HARDINESS ZONES: 3-9



1 cm
Nut

Look for:

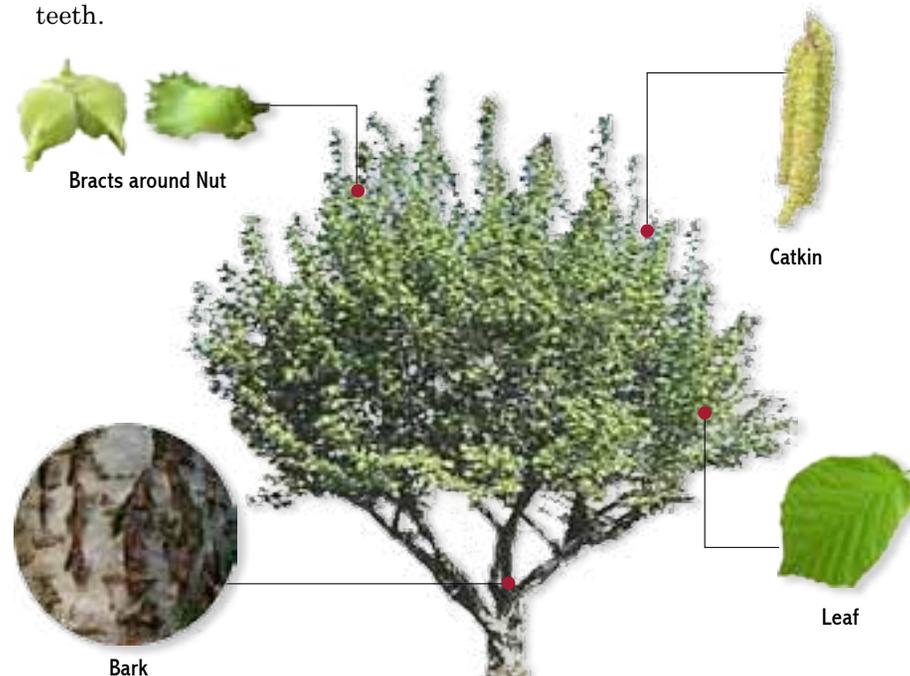
TWIGS: Light brown in color with numerous stiff, red hairs; slender and zigzag in shape.

LEAVES: Alternate, heart-shaped, hairy underside, petiole has stiff hairs, doubly-toothed leaf edge.

FRUIT: Acorn-like, light brown in color, wider than long, nut is encased in two husk-like bracts.

WILDLIFE VALUE: A wide variety of wildlife find the nuts as a high energy food source. Leaves, twigs and catkins are browsed by deer and rabbits and the male catkins serve as an important food source for wildlife during winter months.

SIMILAR IN APPEARANCE: The leaf shape and light brown, zigzag twigs with red hairs are fairly distinctive for this species. Downy hawthorn has somewhat similar leaves, but is generally found in different habitat (floodplains and stream terraces) and develops into a tree. Young river birch might be confused with hazel, but it has smaller leaves and coarser teeth.



Images provided by:

1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913

2- Steve Hurst@USDA-NRCS PLANTS Database

Nannyberry

Viburnum lentago



Nannyberry can be found as a shrub or a small tree with a short trunk and a rounded crown of drooping branches. Commonly forming suckers at the base producing a multi-stemmed shrub, it is well suited as a privacy shrub or a medium-height shrub for natural plantings.

Despite the tendency to form thickets, nannyberry can be formed as a small tree, with tree and shrub forms available from the nursery industry. Nannyberry tends to prefer rich, moist soils and relatively open settings, although it can be found under patchy canopy cover in forests. With clusters of fragrant white flowers in spring, dramatic fall foliage and typically abundant fruit production, nannyberry is very well-suited for landscape and wildlife plantings. It is also a good choice for roadsides, although extra attention should be given to distance from and the traffic volume of roadways as it is sensitive to salt spray.



Habitat:

MOISTURE: Dry

SUN PREFERENCE: Partial sun

NATIVE IOWA RANGE: Statewide

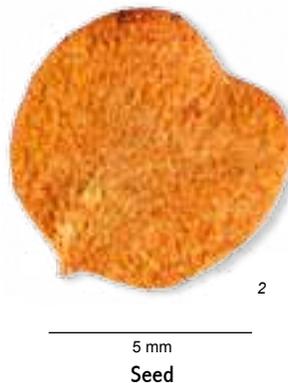
MATURE HEIGHT: 10-20 feet

BLOOM MONTH: May

BLOOM COLOR: White

FALL COLOR: Mottled with yellow, orange and red becoming purple

HARDINESS ZONES: 3-7



Images provided by:
1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913
2- Steve Hurst@USDA-NRCS PLANTS Database
3- USDA-NRCS PLANTS Database/ Herman DE
4- <http://plantsciences.montana.edu>
5- www.bernheim.org

Look for:

TWIGS: Light green, slender, slightly hairy when young, ending in long pointed, hairy, reddish bud.

LEAVES: Often slightly folded on the midvein, shiny in appearance with a finely toothed margin, opposite, long pointed, elliptical, and wavy-winged.

FRUIT: Hanging clusters of dark bluish, berry-like fruit, oval to nearly round, each containing a single smooth, nearly flat stone.

WILDLIFE VALUE: Fruit remains edible into winter, providing a food source for wildlife including a variety of birds and small mammals. The multi-stemmed nature of nannyberry also serves to provide cover from weather and predators for many wildlife species.

SIMILAR IN APPEARANCE: The opposite leaves and smooth bark of young nannyberry make it possible to confuse with dogwood, although nannyberry leaves are generally a shiny green, finely-toothed, and have flared (nearly winged) leaf stems. Leaf buds are more elongated and fuzzy compared to dogwood.



Rose, Pasture (Wild)

Rosa carolina



Commonly found in prairie areas, openings in woodlands, oak savannas, fence rows, and old fields the wild rose is Iowa's state flower. There are several species of wild rose in Iowa, which are sometimes difficult to differentiate from one another. Some species of wild rose prefer well-drained upland sites, while some, such as the smooth-stemmed wild rose (*Rosa blanda*) prefer rich, moist soils. Many insects are attracted to the flowers for the pollen because the flowers do not contain nectar. Rose hips (the red fruit) contain a rich source of vitamins and minerals including Vitamins A, C, and E. Pasture rose and other wild rose species tend to be sensitive to salt spray and prefer well drained soils. Where wild rose grows in large, clonal patches the air is often thickly perfumed during blooming. Like the prairie itself, the subtle beauty of the wild rose is best appreciated up close.



Habitat:

MOISTURE: Dry-mesic to wet-mesic

SUN PREFERENCE: Full sun to part shade

NATIVE IOWA RANGE: Statewide

MATURE HEIGHT: 1-2 feet

BLOOM MONTH: May to July

BLOOM COLOR: Pink to white with pink or red accents

FALL COLOR: Yellow to red

HARDINESS ZONES: 5-9

Images provided by:

1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913

2- Steve Hurst@USDA-NRCS PLANTS Database

3- Will Cook- www.duke.edu

4- www.flawsfamily.net

5- <http://department.bloomu.edu>

6- <http://departments.bloomu.edu>



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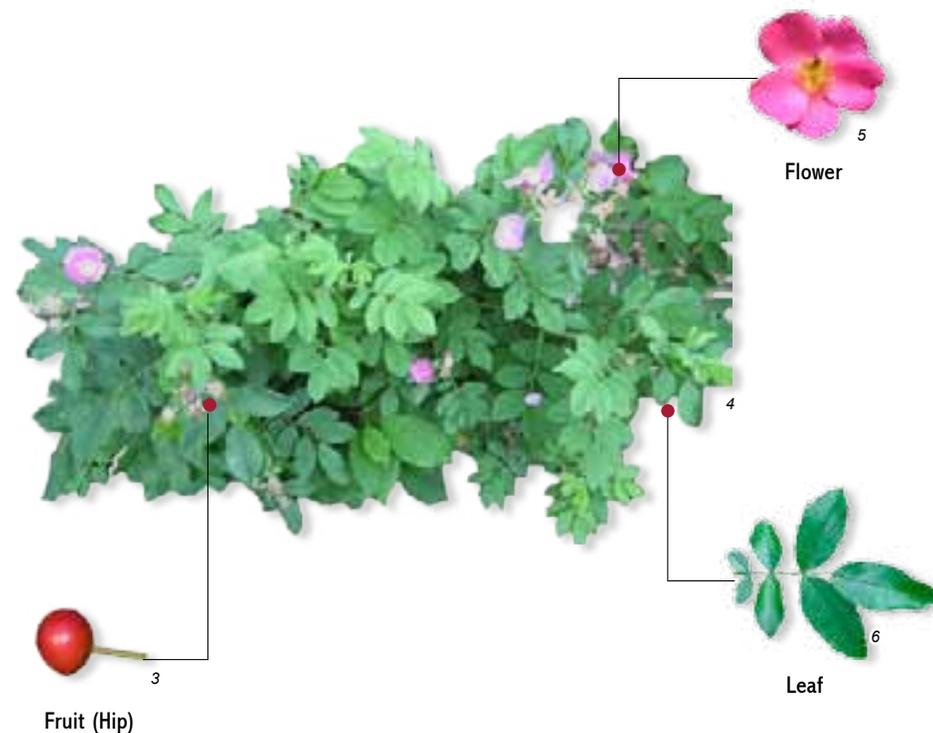
TWIGS: Woody, straight needle-like thorns on opposite sides of stem.

LEAVES: Alternate, compound, 5-7 leaflets. Ovate leaf, 2 inches long, 1 inch wide, strongly serrated margins. Base of each leaf are two prominent stipules, each terminating in a single pointed tip.

FRUIT: Bright red hips.

WILDLIFE VALUE: High. Important food source for upland game birds and small mammals. Leaves, buds, and twigs are browsed by deer and rabbits.

SIMILAR IN APPEARANCE: There are several species of wild rose in Iowa. These can be difficult to distinguish from one another and often require a botanical guide or key.

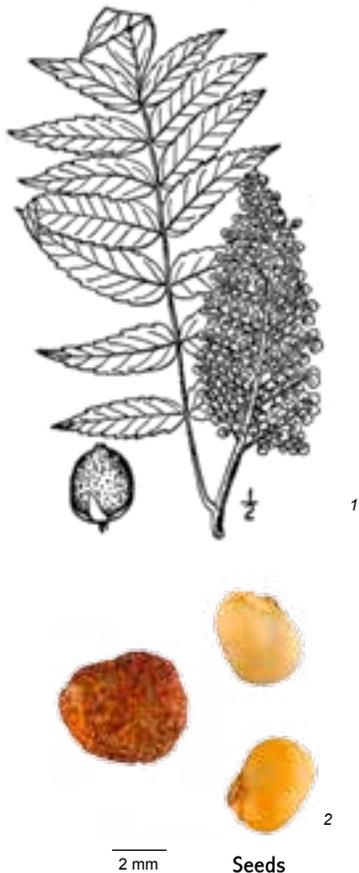


Sumac, Smooth

Rhus glabra



Smooth sumac is a large, open-spreading shrub or small tree with a flattened crown, upright stature and stout branching. Sumac spreads by underground root suckers and has the ability to form large thickets. It is drought and salt resistant, making it a favored plant for some roadside settings. Sumac is commonly found in open fields, along fence rows, and in railroad and road right-of-ways. Smooth sumac is shade intolerant and considered to be an early successional species. It can often be identified in recently formed forests, declining in vigor under the shade of other trees which eventually overtop and shade out sumac. This species may begin to show fall leaf color as early as late August. The showy scarlet red leaves and dark red fruit adds an aesthetic value to the plant. The red seeds can be steeped in boiling water to make a drink that tastes somewhat like pink lemonade. However, such a drink should be consumed in small amounts to minimize potential side effects of the tannins contained in the seeds.



Habitat:

MOISTURE: Dry

SUN PREFERENCE: Full sun

NATIVE IOWA RANGE: Statewide

MATURE HEIGHT: 10-20 feet

BLOOM MONTH: July

BLOOM COLOR: Green

FALL COLOR: Scarlet red

HARDINESS ZONES: 3-9

Images provided by:
1- USDA-NRCS PLANTS Database/ Britton, N.L. & A. Brown 1913
2- Steve Hurst@USDA-NRCS PLANTS Database
3- Al Schneider@USDA-NRCS PLANTS Database
4- www.wemoss.org
5- USDA-NRCS PLANTS Database/Herman, D.E. et al. 1996
6- P. Bockenstedt- Stantec

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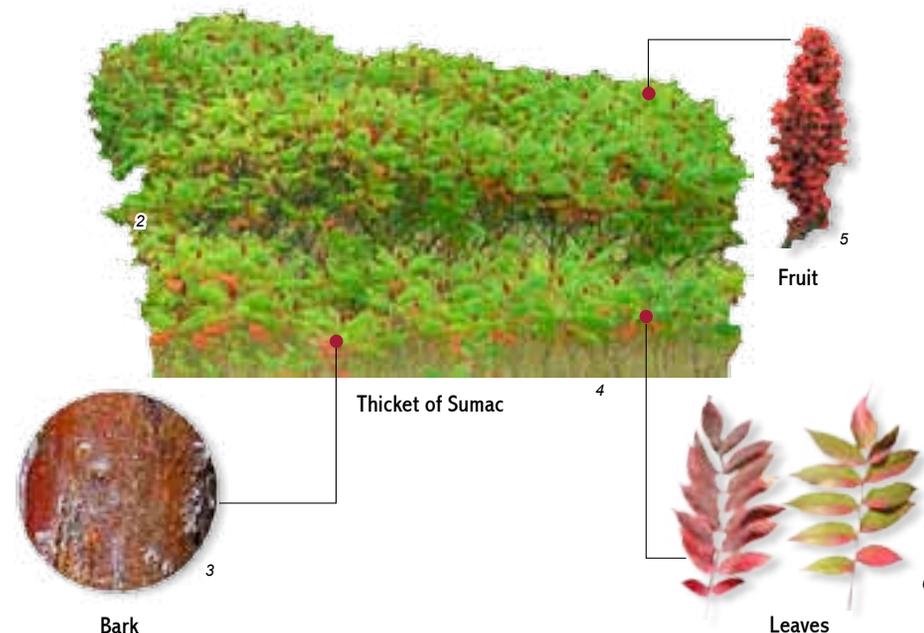
TWIGS: Hairless, gray with whitish bloom, few, very stout.

LEAVES: Pinnately compound, 12" long, slender axis, 11-31 leaflets at 2-4 inches long, lance-shaped leaves, saw-toothed, hairless, almost stalkless, turning reddish in autumn.

FRUIT: 1/8 inch in diameter, rounded, 1-seeded, numerous, crowded in upright clusters, dark red, covered with short sticky red hairs, mature in late summer, remaining attached in winter.

WILDLIFE VALUE: Fruit is consumed by variety of birds and small mammals, mainly in winter. Deer browse the twigs and fruit throughout the year. Small mammals and some bird species use sumac for cover to escape from predators.

SIMILAR IN APPEARANCE: Staghorn sumac (*Rhus typhina*) also turns color early in the fall, but the leaves turn a yellow-orange color rather than crimson red. Likewise, staghorn sumac has fuzzy twigs, easily differentiated from the smooth twigs found on smooth sumac.



We have made an effort to avoid using technical botanical terms in this guide. Despite our good intentions, some botanical terms were included. We hope this glossary helps.

ACUTE: Sharp-pointed.

ALLELOPATHY: The suppression of growth of one plant species by another through release of toxic substances.

ALTERNATE: Leaves that are staggered, not placed directly across from each other on the twig.

ANTHRACNOSE: A group of fungi that cause dieback and sometimes death to various species, such as ash, dogwoods, sycamores, oaks, and maples.

AROMATIC: With fragrant smell; sometimes only if broken or crushed.

AXIL: The area or angle formed between the base of an organ and the structure from which it originated, such as between the leaf base and the stem.

BLADE: The flat part of a leaf or leaflet, characteristic of broadleaf trees.

BRACT: modified leaf part that typically occurs at the base of a flower or leaf.

BROADLEAF: A type of tree with leaves which are flat and thin, and generally shed annually.

BUD SCAR: Marks remaining after bud scales are dropped in the spring.

BIPINNATE: Twice pinnately compound.

BRACT: A reduced leaf or scale, typically below a flower stalk or group of flowers, but it also can refer to small leaves on a stem.

BRISTLY: With stiff hairs.

CAMBIUM: A single layer of cells in a tree's trunk that produce new growth of wood and bark

CLINGSTONE: Describes any of various stone fruits (e.g. plum, peach) with flesh that adheres strongly to the pit.

CLASPING: Tending to encircle or invest, as in the base of a leaf which forms partly around the stem to which it is attached.

COARSE: Rough.

COMPOUND LEAF: leaves which are divided into distinct leaflets.

CONIFER: A cone-bearing tree (think evergreens such as pine and spruce).

CORDATE: Heart-shaped.

CROSS-POLLINATION: fertilization between genetically compatible trees for better fruit, often resulting in superior offspring.

CROWN: Branches, twigs, buds, leaves, flowers and fruit: the form or shape of the tree.

CULTIVAR: Abbreviation of 'cultivated variety', produced by plant breeders and the nursery industry to perpetuate a novel trait within a particular plant species or hybrid (i.e. large flower, different color flower, variegated foliage, height, amount of foliage or others).

DECIDUOUS: Shedding all leaves annually.

DRIP LINE: An area located directly under the outer circumference of the tree branches.

ELLIPTIC: A circular shape which is widest about the middle.

ENTIRE: A leaf margin with smooth, lacking teeth on leaf edges.

EVERGREEN: Trees with needles or leaves that remain alive and on the tree through the winter and into the next growing season (e.g. pine, cedar, azalea).

EXFOLIATE: peeling in shreds or thin layers, as bark from a tree.

FASCICLE: A cluster or bundle of conifer leaves (needles).

FREESTONE: A fruit stone to which the flesh does not cling.

FRUIT: Structure which bears the seeds.

GROWTH HABIT: The general mode of plant growth used to describe the overall shape of a tree.

GLABROUS: Smooth, in the sense of not possessing hairs.

GLAUCOUS: Covered by a white or pale, often waxy, bloom.

HABITAT: The place where a plant usually grows, e.g., a dry, moist, well-drained, sandy, etc.

HARDINESS ZONE: A plant can be expected to grow in the zone's temperature extremes, as determined by the lowest annual temperature. Other conditions such as moisture, soil, and wind might affect the availability of individual plants.

HEARTWOOD: The area next to the pith in a stem, composed of dead cells and serves as support

HIRSUTE: With stiff, usually straight, hairs.

INNER BARK (PHLOEM): Conducts usable food from the leaves to the cambium to nourish it or to storage areas in the wood.

LANCEOLATE: Lance-shaped, broadest below the middle, long-tapering above the middle, several times longer than wide.

LEAF: Stalk and blade of hardwoods: needles and scales of conifers.

LEAFLET: Smaller leaf units which together form a compound leaf. Leaflets may resemble leaves, but differ principally in that buds are not found in the axils of leaflets, and that leaflets all lay in the same plane.

LEAF SCAR: The mark left on the twig where the leaf was previously attached.

LENTICEL: Openings in bark and on the outside of fruits of some trees and shrubs that allow gases to be exchanged between air and the inner tissues of a plant. Lenticel size and shape varies between species of trees and shrubs. Lenticels often appear as dots or lines on twigs and/or bark, such as those of white birch or cherry trees.

LINEAR: Very long and narrow, with nearly or quite parallel margins.

LOBE: Any segment or division, particularly if blunt.

MARGIN: The edge of a leaf.

MEDULLARY OR WOOD RAYS: These rays radiate out from the center of the tree, and serve in lateral conduction and as food storage areas. These are most visible in a cross-sectional view of the tree trunk.

MIDNERVE, MIDRIB, MIDVEIN: The central or principal vein of a leaf, bract, sepal or petal.

NATIVE: Inherent and original to a geographic area. Plants are generally considered to be native to Iowa if they were found in the area prior to Euroamerican settlement.

NERVE: Same as a vein.

NODE: The point along a stem which gives rise to leaves, branches, or inflorescences.

OBLONG: Several times longer than wide with nearly, or parallel sides.

OPPOSITE: Two or three leaves that are directly across from each other on the same twig.

OUTER BARK: The area of the tree trunk composed of dead cells. It insulates and protects inner tissues from disease infections and drying.

OVAL: Broadly elliptical.

OVATE: Egg-shaped.

PALMATE: Radiately lobed or divided, with individual segments originating at a common point or nearly so.

PALMATE: Blades or lobes or veins of the leaf arranged like fingers on the palm of a hand.

PERSISTENT: Deciduous leaf blades that remain on the tree for more than a year.

PETIOLE: The leaf stalk that connects the leaf to the twig.

PHLOEM OR INNER BARK: Conducts usable food from the leaves to the cambium to nourish it or to storage areas in the wood.

PHOTOSYNTHESIS: The process that occurs in the leaves, producing energy from sunlight combining carbon dioxide from the air and water from the soil to produce carbohydrates. Oxygen is released from plants in the process. This process creates the sources of food and energy necessary for growth and respiration of plants.

PINNATE: Blades of lobes or veins of the leaf arranged like vanes of a feather.

PISTILLATE: The part of the leaf that contains female portions of flowers, or the pistils

PITH: The central, soft part of a twig.

POLLINATION: Transfer of pollen from the anther of a stamen to the stigma of a pistil, resulting in fertilization. This can occur either on a single plant (self-pollination) or between different plants. Insect pollination and wind pollination are two examples of mode of pollination.

PEDICEL: The stalk of a single flower in a cluster.

PENDULOUS: Drooping.

PERENNIAL: A plant which lives for more than two years.

PETIOLE: A leafstalk.

PINNATE: leaf structure that is compound or deeply divided, the principal divisions arranged along each side of a common axis.

PUBESCENT: Hairy.

PUNGENT: Very sharp; acrid taste or smell.

RECURVED: Directed backward or downward.

REFLEXED: Abruptly turned or bent downward.

REFORESTATION: The planting of trees (shrubs and ground cover) following fire, logging, farming, drought, pests, or disease or some other type of significant disturbance event.

RHIZOME: An underground stem, typically horizontal.

RIPARIAN ZONE: an area of ecological transition between the aquatic zone and the upland zone.

ROOTS: Root hairs absorb water and mineral salts from the soil. Larger roots anchor the tree and store nitrogen and carbohydrates.

SAMARA: Winged fruit. For example, the fruit of maples (wings enable spinning of fruit like a helicopter when dropped).

SAPWOOD: The area on the outer side of the trunk, which contains the sap conducting tubes. Sapwood is typically lighter in color, but darkens with age as it becomes heartwood. Heartwood and sapwood together comprise the xylem.

SEED: That part of the fruit capable of germinating and producing a new plant.

SELF-FERTILE/SELF-POLLINATING: Fertility through an individual plants own pollen; resulting in development of fertile fruit without a second tree being present.

SERRATE: With sharp, typically forward-pointing, teeth.

SESSILE: Without a stalk.

SIMPLE LEAF: A single leaf blade with a bud at the base of the leaf stem.

SINUS: Indentation between lobes on a leaf.

SPECIMEN TREE: A tree placed so people can gain the greatest enjoyment for the color, texture, scent, or other pleasures it provides.

SPURS: Stubby, often sharp twigs.

STIPULE: An appendage or bract situated at either side of a leaf axil.

TEETH: Notches on the outer edge of a leaf.

TOMENTOSE: Dense, matted hairs.

TRANSLUCENT: Between opaque and transparent, allows some light to pass through.

TREE: A woody plant, generally single-stemmed, that reaches a height of more 15 feet at maturity. A tree has three major parts: roots, trunk and the crown.

TRUNK: The main body of the tree.

VEGETATIVE: Plants or plant parts that are not involved in flowering or seed/ fruit production.

VEIN: A wire-like bundle of tissue in a leaf or other plant part - also referred to as a “nerve”.

XERISCAPE: Use of trees and other plants in the landscape in a manner that relies primarily on rainfall for watering, and reduces artificial watering needs.

XYLEM: The area of the tree trunk that is comprised of the heartwood and sapwood.

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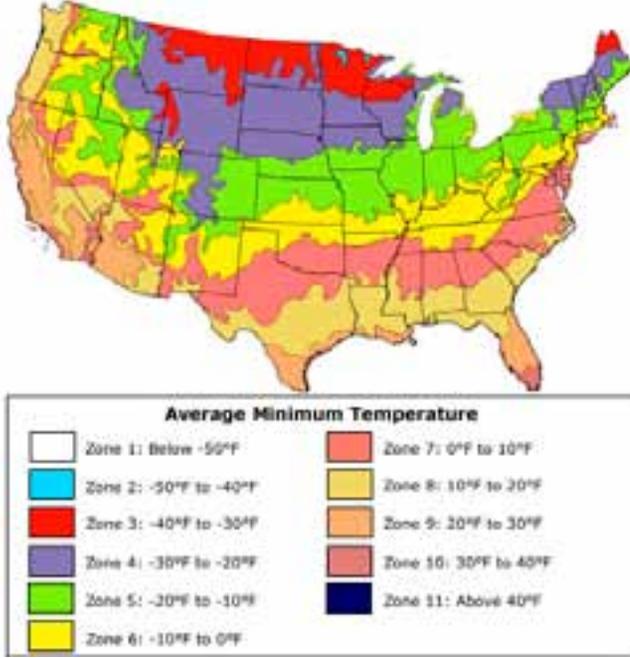
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USDA Hardiness Zone Map



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Trees and shrubs fill our world with beauty. They inspire art and style, and symbolize traits we seek to emulate. Trees and shrubs also provide many benefits to us through wood, fruit, and other forest and food products. They offer a wide variety of ecological services to humans such as reducing surface temperatures of the ground, slowing and treating runoff, and capturing and storing carbon.

Woody plants are to be admired for their ability to resolutely stand against the extremes in weather, defend themselves without the benefit of escape as an option, and the partnerships they have forged with a wide variety of other plants and animals to prosper through the ages.

The Guide to Common Trees and Shrubs of Iowa was developed to help identify woody plants commonly encountered in the state. The guide features common terms and includes characteristics to help with field identification. It is intended to provide easy to access information in a printed guide that can easily be carried in the field.

