

## Distribution & Adaptability

### Neighboring States



### Illinois



**Represented**



**Not Represented**

### General Comments

Green ash is a fast growing, medium-sized tree that grows well on moist bottomland and moist upland soils. It is used for handle stock, furniture, and interior trim. It is also a good landscape and windbreak tree.

### Special notes

There are, on average, 17,000 cleaned seeds per pound and approximately 100,000 seeds per bushel. The seed keeps well.

It is best to store the seed at low moisture (about 7%) and low temperature (about 40°F) in sealed containers.

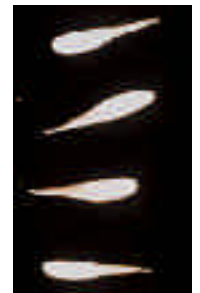
**Description:** Green ash is a medium-sized tree that will grow best on high moisture sites on bottomlands or uplands.



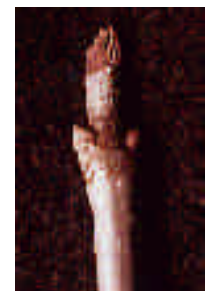
**Leaves:** Opposite, compound with 7 to 9 spear shaped leaflets. Leaflets 3 to 6 inches long; short stalked. Finely toothed edges, except near the base. Dark green and smooth above; paler green and slightly hairy beneath. **Leaves turn bright yellow in the fall.**



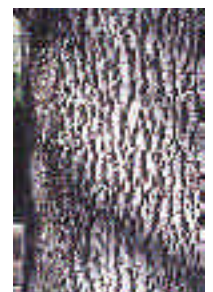
**Fruit:** Clustered on hairy stalks. Winged seeds; narrow and paddle shaped.



**Twigs:** Stout. Velvety when mature. **Shield shaped leaf scars.** Small buds; rusty brown.



**Bark:** Gray with ridges crossing frequently to form a diamond pattern. Green ash bark is almost identical to that of white ash.



## Distribution & Adaptability

### Neighboring States



### Illinois



**Represented**



**Not Represented**

### General Comments

White ash is planted extensively as a park and shade tree. Its fine, straight trunk and large crown make it an excellent choice for these purposes. The wood varies in quality from one site to another. It is usually difficult to break, yet it is comparatively light. White ash makes some of the best handles obtainable for striking tools. In addition, it is used for boat oars, sporting goods (baseball bats), furniture and interior trim.

### Special Notes

On average, there are 13,000 cleaned seeds per pound and approximately 139,000 seeds per bushel. Seed should be air dried to a moisture content of less than 7%, placed in a sealed container, and stored at 35° to 40° F to maintain viability.

**Description:** White ash is a tall, stately tree often reaching a height of 100 feet. It grows best on upland sites with deep, moist soils. White ash often grows in woods with northern red oak, chinkapin oak, white oak, black oak, sugar maple, basswood and other species.



**Leaves:** Opposite, compound usually with 7 egg shaped leaflets. Smooth or remotely toothed leaflets. Dark green on the upper surface; paler beneath. **Leaves turn purple in the fall.**



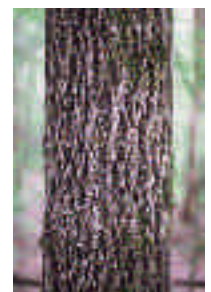
**Fruit:** Occurs in many-seeded, persistent clusters. Paddle shaped seeds; winged at the tip.



**Twigs:** Stout with large, pale lenticels and blunt buds. **Horseshoe shaped leaf scars.**



**Bark:** Gray with many close ridges crossing to form a diamond pattern.



## Distribution & Adaptability

### Neighboring States



### Illinois



Represented



Not Represented

### General Comments

Baldcypress trees develop knees and a swollen, fluted trunk where the root system is permanently submerged. The wood is oily and resistant to decay. Baldcypress is often planted as an ornamental tree. The wood has historically been used for railroad ties, mine timbers, barrels, and fenceposts.

### Special Notes

100 pounds of fresh cones yield approximately 50 pounds of cleaned seeds. On average, there are 5,200 cleaned seeds per pound.

Cones should be spread in a thin layer for drying. Separation of seeds from cones can be labor-intensive. Seeds should be kept in dry storage at 40° F.

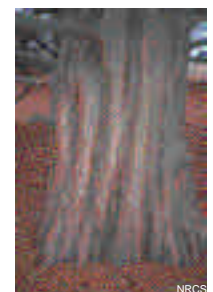
**Description:** Baldcypress is large, often over 100 feet tall, and grows best in swamps and low, wet areas in southern Illinois. However, it has been planted on both wet and dry sites throughout the state. **Distinguished by feathery leaves and spherical, wrinkled cones.**

**Leaves:** Delicate, feathery, yellow-green needles. Borne singly; pointed at the tip; up to 3/4 inches long. **Needles and small branches turn reddish-brown and fall away in the autumn.**

**Fruit:** Spherical cones. Up to 1 inch in diameter with thick, irregular scales. Each scale bears 2 seeds when the mature cone disintegrates. Each cone bears 18 to 30 seeds. Pale green in early stage, becoming reddish-brown in maturity.

**Twigs:** Slender, reddish-brown. Numerous thin scales. Small green buds; globe shaped.

**Bark:** Pale reddish-brown. Broken into thin fibrous scales. Baldcypress “knees” occur when growing in standing water.



## Distribution & Adaptability

### Neighboring States



### Illinois



**Represented**



**Not Represented**

### General Comments

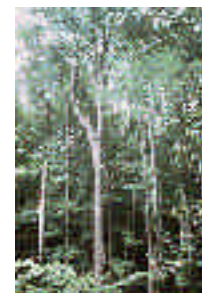
The beautiful, light reddish-brown wood is strong, lightweight, and popular in cabinet and furniture making. The leaves of this tree are toxic to livestock and can be fatal if consumed.

### Special Notes

Expect large seed crops every 2 to 6 years. 100 pounds of fruit yield an average of 20 pounds of cleaned seed. On average, there are 4,200 cleaned seeds per pound. Seeds are eaten by birds and readily spread to adjacent areas.

Clean the pulp and juice from the seeds by soaking and rubbing the seeds over a screen. On a larger scale, macerators or low speed hammer mills are used with water to float off pulp. Dry the cleaned seeds at 90° for 3 hours until seed moisture content is reduced to about 5%. Seed stored in plastic bags at 33° to 41° F will remain viable for at least 3 years.

**Description:** Black cherry is a medium-sized tree, growing up to 75 feet tall with a rounded crown. **Black cherry is similar to choke cherry, but is usually larger and has thicker leaves with inwardly curved teeth.** It occurs in most well drained upland woods.



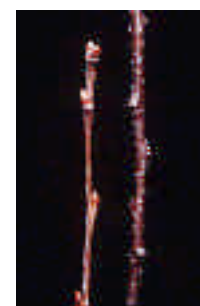
**Leaves:** Alternate, simple. Narrowly oblong with a sharply pointed tip. Base tapers to a point. Up to 6 inches long and 2 inches wide. Finely toothed edges. Smooth, shiny, dark green upper surface. Duller, with rusty orange hair lining veins on the lower surface. Leafstalk has 1 or more reddish glands near the base of the leaf.



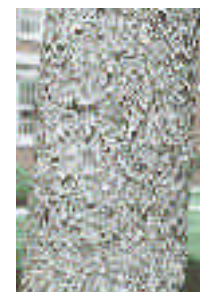
**Fruit:** Dark purple, round berries with juicy, fleshy fruit. Up to ½ inch in diameter. Appearing in late summer.



**Twigs:** Smooth, slender, shiny. Dark brown with light colored lenticels. Oval buds with pointed tips. Up to ¼ inch long.



**Bark:** Smooth, shiny, with prominent lenticels. Reddish-brown in younger trees. Later becoming dark brown, almost black. Deeply furrowed. Scaly plates.



*Carya cordiformis* **Bitternut Hickory**

## Distribution & Adaptability

### Neighboring States



### Illinois



**Represented**



**Not Represented**

### General Comments

The dark brown wood is heavy and strong and is used for handles of striking tools and for fuel. The wood is often burned for the smoke curing of meats.

Seedlings and small saplings grow quickly and are tolerant of shade.

### Special Notes

Large seed crops can be expected every 4 to 6 years. On average, 100 pounds of fruit yield 60 to 85 pounds of cleaned seed. There are approximately 156 cleaned seeds per pound.

If stored for an extended period, seeds should be kept in closed containers at 40° F and 90% relative humidity.

**Description:** Bitternut hickory is a medium-sized tree with an irregularly rounded crown and a **slender, straight trunk**. This tree typically grows along streams, in bottomland woods, and in rich upland forests..



**Leaves:** Alternate, compound. **Usually 7 to 9 spear shaped leaflets**. Up to 6 inches long and 3 inches wide, with the widest part just above the center. **Toothed edges. Pointed at the tip**. Dark yellow-green, smooth upper surface. Paler and hairy lower surface.



**Fruit:** **Spherical. Up to 1¼ inch in diameter**. Thin husk; yellowish-green, turning brownish-black. **Husk splits away at 4 distinct breaks extending halfway down the sphere but does not readily separate from the nut**. The nut is somewhat flattened and very bitter.



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**Twigs:** Smooth, slender. Usually gray-brown or orange-brown. **Slender buds; mustard yellow**.



**Bark:** Gray to brown. **Thin with a smooth appearance**. Separates into small, plate-like scales with shallow ridges.

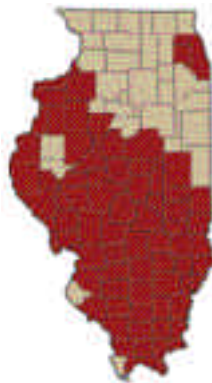


Carya tomentosa **Mockernut Hickory****Distribution  
& Adaptability**

## Neighboring States



## Illinois



Represented



Not Represented

**General Comments**

Wood from mockernut hickory is very strong and is often used for hammer and axe handles as well as sporting equipment.

**Special Notes**

Large seed crops can be expected every 3 to 4 years. On average, 100 pounds of fruit yield 50 to 80 pounds of cleaned seed. There are approximately 90 cleaned seeds per pound.

**Seeds may be stored in closed containers at 40° F and 90% relative humidity for 3 to 5 years.**

**Description:** Mockernut hickory is also known as white hickory. This medium to tall tree grows to heights of up to 90 feet mainly in upland woods.



**Leaves:** Alternate, compound with 7 to 9 leaflets on hairy leaf stalks and twigs. Spear shaped leaflets, rounded at the base. Toothed edges. Top leaflets are widest just above the middle. Up to 8 inches long and 4 inches wide. Smooth and dark yellow-green above. Paler and finely hairy below. **Leaves have a strong aroma when crushed.**



**Fruit:** Thick husk with a relatively small nut inside. Spherical, egg, or pear shaped nut; up to 2 inches across. Shell is hard, thick; reddish-brown in color. The kernel is small, dark and sweet in flavor.



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**Twigs:** Slender or stout. Gray, hairy. **Buds are large, egg shaped; reddish-brown outer scales fall away soon after formation; yellow or tan, silky inner scales.**



**Bark:** Dark gray. Shallowly furrowed, often in a diamond shaped pattern. Does *not* appear scaly.

## Distribution & Adaptability

### Neighboring States



### Illinois



**Represented**



**Not Represented**

### General Comments

The heavy, strong wood is used for tool handles and athletic equipment as well as fuel. Early pioneers used pignut hickory to construct the hubs and spokes of wagon wheels.

### Special Notes

Large seed crops can be expected every 2 to 3 years. On average, 100 pounds of fruit yield 65 to 85 pounds of cleaned seed. There are approximately 200 cleaned seeds per pound.

Seeds may be stored in closed containers at 40° F and 90% relative humidity for 3 to 5 years.

**Description:** Pignut hickory is a medium-sized tree, up to 75 feet tall. The crown is often oblong or egg shaped with the widest part at the top. **Pignut hickory grows best on dry upland soils.**



**Leaves:** Alternate, compound, usually with **5 spear shaped leaflets**. Leaflets up to 5 inches long and 2 inches wide. Upper 3 leaflets are largest. Finely toothed. Smooth, dark yellow-green above. Paler and hairy below.



**Fruit:** Usually pear shaped. **Thin, greenish and slightly hairy husk**; splits away at 4 distinct breaks extending approximately halfway to the base. Long, smooth nut; 1 to 2 inches long; 4 slight angles; very hard shell.



**Twigs:** Stout, smooth. Shiny brown or gray. **Rounded buds with a short point at the tip**; reddish-brown outer scales shed early in the winter; downy tan or gray inner scales. **Buds on the sides of twigs protrude at nearly right angles.**



**Bark:** Light gray to black. Smooth on younger trees, later separating into furrowed ridges.



## Distribution & Adaptability

### Neighboring States



### Illinois



**Represented**



**Not Represented**

### General Comments

Shagbark hickory can sprout easily and quickly overtake open fields. The heavy, strong and flexible wood is used for tool handles and athletic equipment. Also used as fuel for barbecue grills.

### Special Notes

Large seed crops can be expected every 2 to 3 years. On average, 100 pounds of fruit yield 25 to 38 pounds of cleaned seed. There are approximately 100 cleaned seeds per pound.

Seeds may be stored in closed containers at 40° F and 90% relative humidity for 3 to 5 years.

**Description:** Shagbark hickory is a medium to large tree, up to 80 feet tall. The rounded crown turns a rusty, golden brown in the fall. **Shagbark hickory typically grows best on well drained bottomland soils, but more commonly occurs throughout upland woods.**

**Leaves:** Alternate, compound, usually with **5 leaflets**. Oval or egg shaped leaflets, with the widest part near the pointed tip. **Up to 10 inches long and 5 inches wide**. Toothed edges; **minute hairs grow from each tooth**. Dark yellow-green above; paler and lightly hairy below. Stout leafstalks.

**Fruit:** Appear singly or in pairs. 1 to 2½ inches in diameter. **Thick husk; up to ½ inch thick, splitting to the base. Spherical or pear shaped nut;** pale tan; 4 prominent ridges. The meat is very pale in color; sweet. Wildlife consumes shagbark hickory nuts in great quantity.

**Twigs:** **Stout.** Reddish-brown to gray. Smooth or somewhat hairy. **Large, egg shaped buds up to 1 inch long;** round or short-pointed outer scales; inner scales are light in color and downy.

**Bark:** Smooth, gray on younger trees. **Becoming shaggy on mature trees.** Strips of bark curve away from the tree at ends; attached to tree in the center of strips.



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## Distribution & Adaptability

### Neighboring States



### Illinois



**Represented**



**Not Represented**

### General Comments

Like other hickories, this wood is heavy and strong, often used for tool handles and athletic equipment. Early settlers perceived the occurrence of shellbark as an indicator of fertile cropland.

### Special Notes

Large seed crops can be expected every 2 to 3 years. On average, 100 pounds of fruit yield 15 to 25 pounds of cleaned seed. There are approximately 30 cleaned seeds per pound.

Seeds may be stored in closed containers at 40° F and 90% relative humidity for 3 to 5 years.

**Description:** Shellbark hickory is also known as kingnut hickory. The largest of the hickories, shellbark also has the largest leaves and fruit. This tree can grow to heights of over 100 feet and most often grows in better drained parts of bottomlands.



Iowa DNR- Bureau of Forestry

**Leaves:** Alternate, compound. Usually with 7, occasionally 9, spear shaped leaflets each up to 10 inches long and 5 inches wide. Pointed at the tip and tapering to the base. The top leaf in each cluster is widest. Smooth and dark yellow-green above. Paler and downy below.



**Fruit:** Appear singly or in pairs. 1 to 2½ inches in diameter. Husk up to ½ inch thick. **Large nut; oblong; somewhat flattened;** 4 to 6 ridges. Sweet in flavor, the shellbark hickory nut is popular with both humans and wildlife.

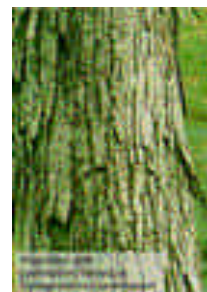


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**Twigs:** Stout. Orange-brown with orange dots. Covered with fine hairs. Egg shaped buds; dark, loose-fitting scales. **Outer scales with a long, stiff point.** Large terminal buds, up to ¾ inch long.



**Bark:** Gray. Similar in appearance to that of shagbark hickory, with a loose, shaggy appearance.



Carya aquatica

**Water Hickory****Distribution  
& Adaptability****Neighboring States****Illinois****Represented****Not Represented****General Comments**

Although heavy and strong, the wood of the water hickory is inferior to other hickories and is most often used for fuel and fenceposts.

**Special Notes**

Large seed crops can be expected every 2 to 3 years. There are approximately 164 cleaned seeds per pound.

Seeds may be stored in closed containers at 40° F and 90% relative humidity for 3 to 5 years.

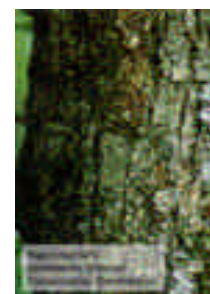
**Description:** This medium-sized tree grows up to 75 feet tall on wet soils, swampy areas, or drained floodplains. Water hickory is similar to both the pecan and bitternut hickory.



**Leaves:** Alternate, compound usually with 7 to 17 spear shaped leaflets. Leaflets grow up to 5 inches long and 2 inches wide. Pointed tips. Finely toothed edges. Tapering to the base. Dark green, smooth upper surface. Brownish, smooth to lightly hairy lower surface.



**Fruit:** Dark brown husk with yellow scales; divided in 4 sections separating 1/2 way to the base. **Oblong, flattened nut; thin, reddish-brown shell;** up to 1 1/2 inch long; 4 angles. Kernel is bitter in flavor.



**Twigs:** Slender. Reddish-brown or gray. Usually smooth, but occasionally lightly hairy. **Pointed, hairy buds; reddish-brown with yellow scales;** up to 1/4 inch long.

**Bark:** Reddish-brown. Furrowed, becoming shaggy in mature trees.

## Distribution & Adaptability

### Neighboring States



### Illinois



**Represented**



**Not Represented**

### General Comments

Black oak is used for general construction and fuel.

### Special Notes

Expect seed crops every 3 to 4 years. On average, 100 pounds of fruit yield 40 pounds of cleaned seed. There are approximately 245 cleaned seeds per pound.

Remove defective acorns from viable acorns by floating off the bad nuts. It is not advisable to store the acorns for more than one winter.

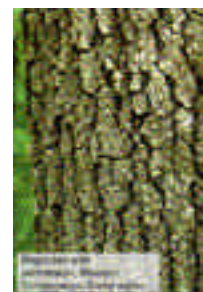
**Description:** Black oak is a medium to large tree with a straight trunk and a broad, rounded or oval crown. It mainly grows in well drained upland soils.

**Leaves:** Alternate, borne simply with 7 to 9 deep to shallow lobes in leaves 10 inches long and 8 inches wide. Tips of lobes separate into smaller lobes with bristled tips. Widest above the middle. Leaves are dark green and shiny above. Pale green and smooth or **often hairy along veins below**. Leafstalk up to 5 inches long, stout; smooth to finely hairy.

**Fruit:** Appear singly or in pairs. Reddish-brown acorn; oval and pointed at the tip. Up to  $\frac{3}{4}$  inch long. **Scaly cap with ragged edges; covers approximately  $\frac{1}{2}$  of the nut.**

**Twigs:** Slender to stout. Reddish-brown to dark brown. **Long buds, up to  $\frac{1}{2}$  inch; angular and hairy; usually gray to gray-brown.**

**Bark:** Black, rough, and deeply furrowed. **The bright orange to yellow inner bark distinguishes the black oak from red oak and Shumard oak.**



## Distribution & Adaptability

### Neighboring States



### Illinois



**Represented**



**Not Represented**

### General Comments

Often used for cabinet making, shipbuilding, fuel, and fenceposts.

### Special Notes

Expect seed crops every 3 to 4 years. On average, 100 pounds of fruit yield 65 to 75 pounds of cleaned seed. There are approximately 75 cleaned seeds per pound.

In general, bur oak acorns should not be stored, because acorns in the white oak group begin to germinate soon after falling. However, with proper handling, seeds can be stored until the following spring if soaked for 12 hours, sealed in 4 mil plastic bags and placed in a cooler at 32° to 36° F.

**Description:** One of the largest, most long-lived trees in the central United States, **the bur oak has the largest leaves and acorns of all native oaks.** Macrocarpa is Greek for “big-fruited.” The bur oak can grow up to 120 feet tall and has a rounded crown, straight trunk, and a slightly buttressed base. This tree grows on dry upland sites, but prefers rich, moist lowland soils.

**Leaves:** Alternate, simply borne with 5 to 7 coarsely rounded lobes. **Lobes below the middle cut nearly to the midvein. Up to 14 inches long and 7 inches wide. Broadest at the top.** Dark green and smooth or lightly hairy above. Paler and slightly downy below. Short, stout leafstalks, up to 1 inch long; smooth to finely hairy.

**Fruit:** Up to 1¼ inch in diameter. **Scaly cap; long, hairy fringe; covers over ½, sometimes nearly all, of the acorn.** (Much smaller in the northern third of Illinois.)

**Twigs:** Dark brown. Stout. **Often have ridges with a cork-like texture.** Downy buds; yellowish-brown to reddish-brown; rounded or slightly pointed.

**Bark:** Dark brown to yellow-brown. Rough with loose scales and deep furrows.



## Distribution & Adaptability

### Neighboring States



### Illinois



**Represented**



**Not Represented**

### General Comments

Cherrybark oak produces high quality lumber and is often used for cabinet making, interior finishing and furniture. Though not widely planted, cherrybark oak makes a fine shade and windbreak tree.

### Special Notes

Cherrybark oak acorns are small (580 per pound) and are eaten by a wide variety of wild-life species. Few mature trees can be found in areas where collecting is easy or efficient, such as parks, cemeteries, etc. For the above reasons, cherrybark oak acorns are among the highest priced and most difficult to obtain. Good acorn crops tend to be frequent, at 1 to 2 year intervals.

**Description:** Cherrybark oak is named for the bark's similarity to that of black cherry. This fast growing tree may reach heights in excess of 100 feet. The crown is broadly rounded and the trunk is straight. Most often grows in bottomlands and riverbanks on deep, well drained soils.



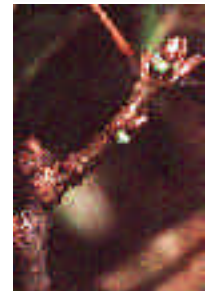
**Leaves:** Alternate, borne simply with 5 to 11 pointed lobes at nearly right angles to the midrib. Lobes cut almost 1/2 way to the midrib. Widest above the middle. Up to 10 inches long and 7 inches wide. Dark green, smooth and shiny upper surface. Pale, hairy lower surface. Stout, hairy leafstalks; 1 to 2 inches long.



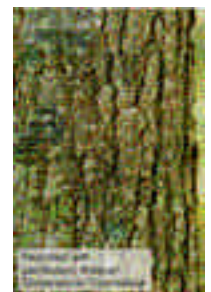
**Fruit:** Appear singly or in pairs. Brown. Oval. Up to 1/2 inch long. **Finely hairy cap; covers less than 1/3 of the length of the acorn. Bright orange nut when cut.**



**Twigs:** Stout. Gray to reddish-brown. Oval buds; up to 1/4 inch in length; angular, hairy; chestnut brown.



**Bark:** Dark gray. Small scales with narrow ridges.



Quercus muehlenbergii **Chinkapin Oak**

## Distribution & Adaptability

### Neighboring States



### Illinois



Represented



Not Represented

### General Comments

A widely distributed but uncommon forest tree. Wood quality is similar to white oak. Tolerates a wide variety of sites, including thin, poor soils. Makes a good street or yard tree, particularly on neutral to basic soils commonly found near concrete.

### Special Notes

Good seed crops are relatively frequent, every 2 to 4 years, and can be very heavy, up to 400+ pounds from a mature tree.

Approximately 400 acorns per pound of seed. Chinkapin oak acorns are sweet and readily eaten by a wide variety of wildlife.

**Acorns have no dormancy and are similar to white oak in their tendency to sprout** as soon as they are soaked or come in contact with moist soil. Seed should be planted as soon as possible or stored for short periods only at 40°F or less.

**Description:** Chinkapin oak is a long lived, medium-sized tree capable of reaching 300+ years of age and 60 to 80 feet in height at maturity. Growth rate is moderate and compares to white oak. Limestone-derived soils and upland sites are preferred, but may be found on well-drained, floodplain terraces with **soil pH near or above 7.0**.

**Leaves:** Saw toothed margins, widening toward a pointed tip. Smooth, yellow-green above, white below. Leaf size variable, but up to 8 inches long and 5 inches wide with a stalk up to 1.5 inches long.

**Fruit:** Small, shiny, up to ¾ inch, oval-shaped, dark brown or black acorn borne on a short stalk. Cup encloses about 1/3 of the acorn, with a fine fringe.

**Twigs:** Slender, smooth, orange-brown to gray or even purplish, with 1/8 inch reddish-brown or gray buds.

**Bark:** Ashy gray, mottled white, shallowly furrowed, rough and flaky.



Quercus muehlenbergii  
Chinkapin Oak



Quercus muehlenbergii  
Chinkapin Oak



Quercus muehlenbergii  
Chinkapin Oak



## Distribution & Adaptability

### Neighboring States



### Illinois



**Represented**



**Not Represented**

### General Comments

A valuable timber species, producing lumber that is marketed with red oak. One of the few commercially important species found on poorly drained clay flats of first river bottoms. Also a highly valued wildlife species due to heavy, consistent mast production. It is often confused with pin oak because the leaves and bark are very similar.

### Special Notes

Nuttall oak is a heavy seed producer with particularly good seed crops every 3 or 4 years. There are approximately 95 seeds per pound and an average of 52 pounds of seed per bushel of fruit.

**Description:** Also known as Texas red oak. In many ways similar to pin oak in appearance, best distinguished by the acorns. A fast growing tree capable of reaching 100 feet in height. Typically grows on poorly drained clay bottomland sites along the Mississippi River, mainly in extreme southwestern Illinois.



**Leaves:** Similar to pin oak. **4 to 8 inches long; 2 to 5 inches wide; 5 to 7 deeply divided and bristle tipped lobes.** Dull, dark green above; paler below.



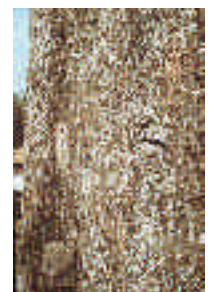
**Fruit:** Solitary or clustered, reddish brown, often with dark stripes. **Oblong, 3/4 to 1 1/2 inches long; 1/4 to 1/2 enclosed in a deep, thick cup.**



**Twigs:** Reddish brown to gray-brown, moderately slender, smooth. Terminal buds nearly 1/4 inch long, slightly angled, **with numerous gray-brown scales.**



**Bark:** Very similar to pin oak, **dark gray-brown, smooth on younger trees. On older trees, bark is broken into broad flat ridges divided by narrow lighter colored fissures.**



## Distribution & Adaptability

### Neighboring States



### Illinois



**Represented**



**Not Represented**

### General Comments

The strong wood is often used to construct barrels.

### Special Notes

Expect seed crops every 4 to 5 years. There are approximately 140 cleaned seeds per pound. The seed is commonly sold in the cap because it is almost enclosed by the cap and not readily separated. Unlike other acorns in the white oak group, overcup oak stores well. Viability of up to 98% after 1 year has been achieved when stored in sealed bags at 33° to 36° F and 30 to 50 percent moisture content.

**Description:** Overcup oak is a large tree, up to 100 feet tall, with a very broad crown and relatively short, thick trunk. **This tree grows on the lowest, wettest bottomland sites.**



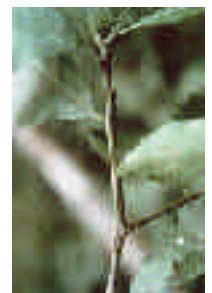
**Leaves:** Alternate, borne simply with **5 to 7 bluntly rounded lobes, with shallow to deep gaps between lobes.** Leaves on a single tree may vary in appearance. Widest above the middle. Up to 10 inches long and 5 inches wide. Dark green and smooth upper surface. Paler and smooth lower surface. Stout, smooth leafstalks; up to 1 inch long.



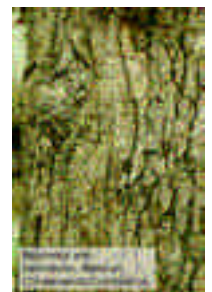
**Fruit:** Appear singly or in pairs. Brown acorn; shiny; round, up to 1 inch in diameter. Finely hairy cap; yellow-brown; **encloses nearly the entire acorn.**



**Twigs:** May be gray, whitish or purplish and rather shiny. Slender. Smooth. Rounded buds are gray or reddish-brown, up to 1/8 inch long.



**Bark:** Gray to whitish gray with gray patches. Shallow furrows.





## Distribution & Adaptability

### Neighboring States



### Illinois



**Represented**



**Not Represented**

### General Comments

Used in general construction, fuel and fenceposts. Used as a common landscape tree. Pin oak grows faster than other oaks and is resistant to smoke fumes and ice glaze damage. However, growth is stunted and leaves become yellowish if planted in soils with pH above 6.8.

### Special Notes

Expect seed crops every 2 to 3 years. There are approximately 50 to 70 pounds of cleaned seed per 100 pounds of fruit. Expect an average of 410 cleaned seeds per pound.

**Description:** Pin oak is a medium-sized tree, up to 75 feet tall, with an oblong or narrowly rounded crown and a straight trunk. Pin-like stubs can be found on the lower portion of the trunk, and dead branches are persistent. This tree grows best in the moist soils of bottomland woods or along bodies of water, but also occurs in some upland forests..



**Leaves:** Alternate, borne simply. Up to 7 inches long and 4 inches wide with **5 to 7 angular, deeply divided lobes with bristled tips**. Dark green, smooth, and shiny upper surface. Paler with tufts of hair lining the veins of the lower surface. Leafstalks up to 2 inches long; slender, smooth.



**Fruit:** Appear singly or in groups of 2 to 4. **Pale brown**, often with darker brown lines. **Small, rounded acorn; up to 1/2 inch across**. Reddish-brown, finely hairy cap; **thin and saucer shaped; covers up to 1/4 of the length of the acorn**.



**Twigs:** Reddish-brown to dark gray, smooth and slender. Smooth, egg-shaped buds; pointed at the tip; reddish-brown or dark gray; up to 1/8 inch long. **Lowest branches point downward; middle branches point straight out; upper branches point upward.**



**Bark:** Light or dark brown. **Smooth or shallowly furrowed**. Rougher on more mature tree.



## Distribution & Adaptability

### Neighboring States



### Illinois



**Represented**



**Not Represented**

### General Comments

The heavy wood of the red oak is used for flooring, interior finishing, furniture, fence posts, barrels, and fuel. Given ample space, this fast-growing tree makes a great shade tree.

### Special Notes

Expect seed crops every 4 to 6 years. On average, there are 42 to 80 pounds of cleaned seeds per 100 pounds of fruit and an average of 125 cleaned seeds per pound. Remove defective acorns from healthy acorns by floating off the bad nuts.

**Description:** Red oak is a medium to tall tree, up to 90 feet tall, with a broadly rounded crown and straight trunk, often buttressed at the base. Red oak grows best in rich upland woods.



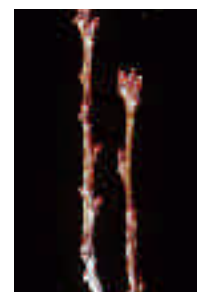
**Leaves:** Alternate, borne simply with 7 to 11 bristle-tipped and shallowly divided lobes. Dark green and smooth or lightly hairy above. Paler and smooth or hairy along veins on the back. Up to 10 inches long and 6 inches wide. Stout, usually smooth leafstalks; up to 2 inches long.



**Fruit:** Appear singly or in pairs. Pale brown; oblong; up to 1½ inch long. **Reddish-brown cap; flat or very shallow; covers less than ¼ of the length of the acorn.**



**Twigs:** **Reddish-brown. Slender, smooth, and shiny.** Pointed buds; reddish-brown; up to ¼ inch long; smooth and shiny.



**Bark:** Grayish-brown, reddish-brown, or gray with dark stripes. Smooth on younger trees, **later forming wide, flat ridges. Pinkish inner bark.**



## Distribution & Adaptability

### Neighboring States



### Illinois



**Represented**



**Not Represented**

### General Comments

The coarse-grained wood is heavy and strong and is used in general construction. Shingle oak was historically used for shingles and siding. It does not self-prune readily, causing poorer quality lumber.

### Special Notes

Expect seed crops every 2 to 4 years. On average, 100 pounds of cleaned fruit yield 40 to 55 pounds of cleaned seed. There are approximately 415 cleaned nuts per pound.

**Description:** Shingle oak is a medium-sized tree, growing up to 90 feet tall with a rounded or oblong crown and a straight trunk. It grows best in upland woods, but also occurs on bottomland sites.



**Leaves:** Alternate, borne singly. **Oblong and narrow in shape, tapering to a bristled tip. Smooth edges without lobes or teeth.** Dark green, smooth, and shiny above. Paler and hairy below. Stout leafstalks; up to 1/2 inch long; hairy.



**Fruit:** Appear singly or in pairs. **Dark brown. Almost round.** Approximately 3/4 inch long. Reddish-brown cap; lightly hairy with thin scales; covers less than 1/2 of nut.

**Twigs:** Reddish-brown. Slender, smooth. Egg shaped buds; pointed at the tip; brown, and smooth. Up to 1/8 inch long.



**Bark:** Dark brown. **Flat plates with deep furrows. Dead branches on lower stem are retained.**



## Distribution & Adaptability

### Neighboring States



### Illinois



**Represented**



**Not Represented**

### General Comments

This light, strong and durable wood is used for interior finishing and furniture. Shumard oak makes a handsome shade tree. Acorns are readily consumed by white-tailed deer, birds and squirrels.

### Special Notes

Expect seed crops every 2 to 3 years. On average, there are 50 pounds of cleaned seeds per bushel of fruit and an average of 100 cleaned seeds per pound.

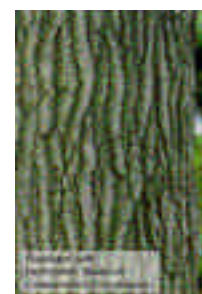
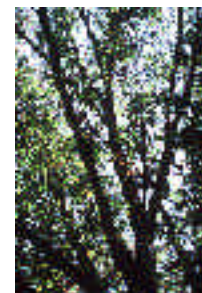
**Description:** Shumard oak is a large tree, growing up to 120 feet tall, with a broad crown and buttressed trunk on older trees. This tree grows best in bottomland woods and along streambanks on better drained sites. Shumard oak is also known as southern red oak and Schneck's oak.

**Leaves:** Alternate, simple with **7 to 9 deeply divided lobes, which cut over 2/3 of the way to the midvein. Broadly rounded indentations. Center lobes at nearly right angles to the midvein. Lobe tips divide further, with several bristled tips.** Dark green and shiny above. Paler with tufts of hair at vein intersections below. Up to 8 inches long. Slender, smooth leafstalks grow up to 2½ inches long.

**Fruit:** Usually appear singly. Light brown, sometimes with dark stripes. Egg shaped; **short, blunt point at the base; flat top. Up to 1¼ inch long. Shallow cap; short, tight scales; covers approximately ¼ to 1/3 of the length of the acorn.**

**Twigs:** Reddish-brown or light brown. Stout, smooth. Reddish-brown buds are smooth. Approximately 1/3 inch long.

**Bark:** **Dark brownish-black. Rough and ridged bark.** Deep fissures on older trees.



Quercus michauxii **Swamp Chestnut Oak**

## Distribution & Adaptability

### Neighboring States



**Represented**



**Not Represented**

### Illinois



### General Comments

This high quality, hard, heavy wood is used for general construction, furniture and cabinetry. This is also an excellent landscape tree. Acorns are sweet and highly favored by many wildlife species.

### Special Notes

Expect seed crops every 3 to 5 years. On average, there are 40 to 50 pounds of cleaned seeds per 100 pounds of fruit and an average of 85 cleaned seeds per pound.

In general, swamp chestnut oak acorns should not be stored, because acorns in the white oak group begin to germinate soon after falling.

**Description:** Also known as basket oak, swamp chestnut oak is a medium to large tree, up to 100 feet tall, with a rounded crown. This tree generally occurs in the moist soils of lowland woods.



**Leaves:** Alternate, simple. **Oval leaves, pointed at the tip and tapering to the base. Short, rounded teeth give the effect of scalloped edges.** Up to 10 inches long and 6 inches wide. Widest above the middle. Leaves are thick. Green and lightly hairy above. Whitish and hairy below.



**Fruit:** Appear singly or in groups of 2. Turning from green to **bright canary yellow** to brown after dropping. **Oval. Up to 1½ inch long. Bowl shaped cap; thick and hairy; short fringe around the rim; pointed scales;** covers roughly 1/3 of the length of the acorn.



**Twigs:** Stout, smooth. Reddish-brown to gray. Reddish-brown buds; pointed and lightly hairy. Up to 1/4 inch long.



**Bark:** Gray to silvery-white. Irregular furrows. Scaly.



*Quercus bicolor* **Swamp White Oak**

## Distribution & Adaptability

### Neighboring States



**Represented**



**Not Represented**

### Illinois



### General Comments

The hard, heavy, strong wood is used for interior finishing, cabinets, fuel, and fenceposts.

### Special Notes

Expect seed crops every 3 to 5 years. On average, there are 60 to 75 pounds of cleaned seeds per 100 pounds of fruit and an average of 120 cleaned seeds per pound. The acorns are favored by wildlife.

In general, swamp white oak acorns should not be stored, because acorns in the white oak group begin to germinate soon after falling.

**Description:** Swamp white oak is a medium to large tree, growing up to 70 to 90 feet tall, with a broad, rounded crown. This tree occurs mainly in the moist soils of bottomland woods.

**Leaves:** Alternate, simple with **very shallow, rounded lobes**. Egg shaped leaves, widest at or just above center. Up to 6 inches long and 4 inches wide. Dark green upper surface; smooth to lightly hairy. **Whitish and downy lower surface**. Leafstalks up to 1 inch long; smooth to lightly hairy.

**Fruit:** Appear **singly or in pairs on stalks 1 inch or longer**. Pale brown. Oval; approximately 1 inch long. Light brown cap; thick, hairy, and scaly; covers approximately  $\frac{1}{3}$  of the length of the acorn.

**Twigs:** Stout. Grayish-brown to yellowish-brown. **Bark on twigs peels back in papery sheets**. Yellow-brown buds; clustered at tips of twigs; oblong to round; up to  $\frac{1}{8}$  inch long; smooth to lightly hairy at the tip.

**Bark:** Grayish-brown. Deeply furrowed. Loose, shaggy plates on old trees.



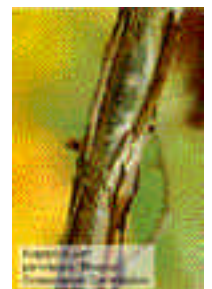
Photo courtesy of Iowa DNR, Bureau of Forestry



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## Distribution & Adaptability

### Neighboring States



### Illinois



**Represented**



**Not Represented**

### General Comments

This high quality wood is hard, strong, and durable. It is used for lumber, veneer, furniture, cabinets, barrels, interior finishing, and general construction. The sweet acorns are highly favored by wildlife.

### Special Notes

Expect seed crops every 4 to 10 years. On average, there are 60 to 90 pounds of cleaned seeds per 100 pounds of fruit and an average of 120 cleaned seeds per pound.

White oak acorns sprout readily and store very poorly. Plant promptly after collection or place in a cooler at 35° to 37° F as soon as possible after cleaning and floating until planted in the fall.

**Description:** White oak is a long-lived and large tree, up to 100 feet tall, with a very broad crown and relatively short trunk when open grown. This tree grows in dry or moist soils, but prefers loamy, well-drained upland soils.



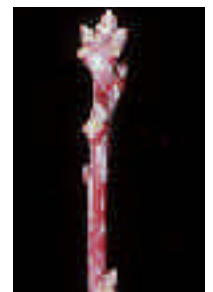
**Leaves:** Alternate, simple with **7 to 9 rounded lobes**. Shallow or deep indentations. Green, smooth upper surface. Paler and smooth lower surface. Up to 10 inches long and 5 inches wide. Leaves on a single tree may vary considerably. **Leaves turn purple to deep red in autumn.** Leafstalks up to 1 inch long; stout, smooth.



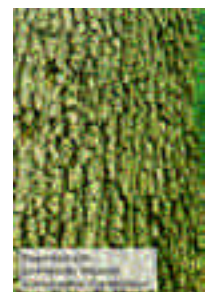
**Fruit:** Appear singly or in groups of 2. **Chocolate brown and shiny, as if polished.** Oblong. **Up to 3/4 inch long.** Yellow-brown cap; lightly hairy; **covers up to 1/4 of the length of the acorn.** Cap scales are “wart-like” in appearance.



**Twigs:** Slender, smooth. Shiny. Gray, whitish, or purplish in color. Rounded buds; reddish-brown or gray; up to 1/8 inch long.



**Bark:** Gray or white with patches of gray. Shallow furrows. Long, loose plates.



## Distribution & Adaptability

### Neighboring States



**Represented**



**Not Represented**

### Illinois



### General Comments

This heavy, strong, and relatively soft wood dries slowly. It is used for general construction. A good shade tree. The bitter acorns are important food for ducks.

### Special Notes

Expect seed crops every 2 years. On average, there are 46 to 47 pounds of cleaned seeds per bushel of fruit and an average of 462 cleaned seeds per pound.

**Description:** Willow oak is a medium-sized tree, up to 75 feet tall, with a narrowly rounded crown. This tree generally grows best in poorly drained soils in swampy woods.



**Leaves:** Alternate, simple, “willowlike.” No lobes or teeth. Narrowly oblong or spear shaped. Bristled tip and narrow base. Up to 5 inches long and 1 inch wide. Similar to shingle oak, but narrower. Light green and smooth above and paler and smooth below. Leafstalks up to ½ inch long; smooth to lightly hairy.



**Fruit:** Appear singly or in groups of 2. Pale yellow-brown, often striped. Rounded. Up to ½ inch long. Reddish-brown cap; finely hairy; covers less than ¼ of the length of the acorn.



**Twigs:** Slender, smooth. Reddish-brown. Oblong buds; pointed and smooth; up to 1/8 inch long.



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**Bark:** Light in color and smooth on younger trees. Becoming reddish-brown with irregular, shallow furrows on older trees.





## Distribution & Adaptability

### Neighboring States



### Illinois



**Represented**



**Not Represented**

### General Comments

The light reddish-brown wood is hard and heavy and is used for interior finishing, furniture, and tool handles. Often cultivated for the sweet nuts. Pecan is a good choice for agroforestry projects because of the combination of valuable nuts and timber.

### Special Notes

Large seed crops can be expected every 2 to 3 years. On average, 100 pounds of fruit yield 50 to 75 pounds of seed. There are approximately 100 cleaned seeds per pound.

If stored for an extended period, seeds should be kept in closed containers at 40° F and 90% relative humidity.

**Description:** Pecan is a large tree, up to more than 120 feet tall with a widely spreading crown and a relatively short, stout and straight trunk. Pecan grows best in moist woods and along rivers.



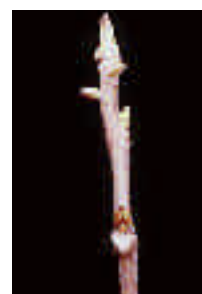
**Leaves:** Alternate, compound with 9 to 19 spear shaped leaflets which curve to a long, pointed tip. Rounded or tapered base. Finely toothed edges. **Yellow-green and smooth upper surface. Paler and smooth or hairy lower surface.** Up to 8 inches long and 3 inches wide.



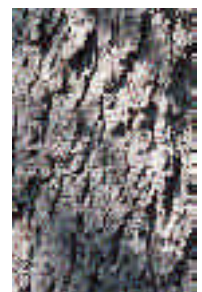
**Fruit:** Clusters of 3 to 12. **Smooth, oblong nut; pointed at the tip;** up to 2 inches long and 1 inch wide; **reddish-brown with black markings; thin shell. Thin husk;** 4-winged; dark brown with pale yellow scales; splits nearly to the base. Sweet kernel.



**Twigs:** Stout, brown twigs. Hairy when young, later becoming smooth. **Buds have long points; up to 1/2 inch long with yellow glandular dots; lightly hairy.**



**Bark:** Thick. Reddish-brown. Plate-like scales.



## Distribution & Adaptability

### Neighboring States



Represented



Not Represented

### Illinois



### General Comments

The heavy, hard wood of the persimmon tree is resistant to splitting. The heartwood is nearly black and is used for flooring, golf club heads and billiard cues. Persimmons are a source of food for a variety of wildlife and are sold commercially as well. It is a good choice for agroforestry projects since both the fruit and the wood have value.

### Special Notes

Large seed crops can be expected every 2 years. On average, 100 pounds of fruit yield 10 to 30 pounds of cleaned seed. There are approximately 1,200 cleaned seeds per pound.

Run the fruit through a macerator with water and float off pulp. There is a market for canned pulp. It is also possible to rub and wash the fruit through  $\frac{1}{4}$  inch mesh hardware cloth. Dry seeds for 1 to 2 days. Store thoroughly dried seeds in dry, sealed containers at 40° F.

**Description:** The persimmon is a medium-sized tree, up to 75 feet tall with a broad, rounded or flattened crown. This tree grows best in rich bottomland woods, but occurs widely in upland woods as well.



**Leaves:** Alternate, simple. **Oval to elliptical with a pointed tip. Smooth edges.** Tapered or rounded base. Up to 5 inches long and 2½ inches wide. **Dark green, smooth, shiny upper surface.** Paler, smooth lower surface. Stout leafstalks; smooth or lightly hairy; up to 1 inch long. The persimmon leaf is often confused with sour gum, but persimmon leaves are more abruptly pointed at the tips.



**Fruit:** **Fleshy, round berry.** Up to 2 inches in diameter. **Yellow-orange to orange as it ripens. Wrinkled and sweet when fully ripe.** Contains 1 to 8 flattened seeds.



**Twigs:** Slender, brown. Smooth or hairy. Rounded buds; smooth; dark reddish-brown; up to  $\frac{1}{8}$  inch long; **covered by two dark scales.**



**Bark:** Dark gray to black. **Separates into thick, blocks at maturity. Resembles alligator skin.**



## Distribution & Adaptability

### Neighboring States



### Illinois



**Represented**



**Not Represented**

### General Comments

The heavy, strong wood is occasionally used for interior finishing, furniture, and pulpwood. The American sycamore grows quickly.

### Special Notes

On average, 100 pounds of fruit yield 56 to 66 pounds of cleaned seed. There are approximately 150,000 cleaned seeds per pound. Collect after leaf fall and into the next spring. Dry on ventilated trays. **Wear a dust mask when separating seeds.** Crush to remove dust and fine hairs, then rub through hardware cloth using a fan to blow away debris. Macerators or hammer mills are also used to separate the seeds. Store short-term in a cool, well-ventilated place. For extended storage, dry to 10 to 15% moisture content and store in airtight containers at 20° to 38° F.

**Description:** Sycamore is a large tree, which can grow over 100 feet tall with a broad, irregular crown. It grows best in bottomland woods.



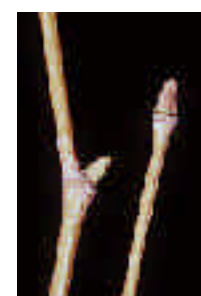
**Leaves:** Alternate, simple with 3 to 5 shallow, coarsely toothed lobes. Heart shaped or straight base. **Large leaves, up to 7 inches long and 7 inches wide.** Bright green, smooth upper surface. Paler and smooth with some hairs along the veins of the lower surface. Leafstalks up to 5 inches long; lightly hairy.



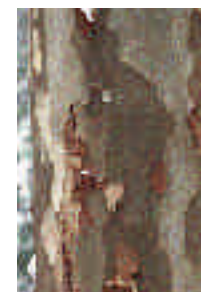
**Fruit:** Round. Light brown. Approximately 1 inch in diameter. Long stalks. Many small seeds surrounded by hairs.



**Twigs:** Smooth, light brown. **Crooked or “zig-zagging.”** Light brown buds; pointed; up to ¼ inch long; one scale. Buds are covered completely by the leafstalk during the growing season.



**Bark:** Reddish brown on young trees. **Later breaking away into thin, rounded, flat scales giving a brown and gray and white mottled appearance.**



## Distribution & Adaptability

### Neighboring States



### Illinois



**Represented**



**Not Represented**

### General Comments

The soft, durable wood is very workable and is used for furniture, frames and canoes. The tuliptree can grow rapidly in rich soils. It makes an attractive shade tree.

### Special Notes

There is much variation in seed yields. Seed viability is characteristically low, averaging 10 to 35 percent. The quantity of seeds per bushel of cones ranges from 5 to 13 pounds. The average number of cleaned seeds per pound is about 10,000.

Shake or pick seed cones from trees in dry weather. Dry immediately. Drying may take 7 to 20 days. Separate seeds by flailing, hand-shucking, treading, or using a hammermill or macerator. Dried seeds may be stored in sealed containers at 36° to 40° F for several years.

**Description:** Also known as yellow poplar, the tuliptree can grow up to 200 feet tall with an oblong or pyramid shaped crown. This tree thrives in rich upland soils.



**Leaves:** Alternate, simple. **Large, with 4 wide lobes. Upper two lobes are broadly separated, giving the leaf a “saddle” shape.** Smooth edges, indented base. Approximately 4 to 6 inches long and wide. Bright green upper surface. Paler lower surface. Long, slender leafstalks.



**Fruit:** Seed cones. **Approximately 2½ inches long. Overlapping seeds; winged and angled.**



**Twigs:** Smooth, reddish-brown. **Leaf scars nearly spherical. Flattened buds with 2 large scales; shaped like duckbills; up to 1 inch long.**



**Bark:** Smooth and grayish on young trees. Later becoming dark gray with some white showing between furrows.



## Distribution & Adaptability

### Neighboring States



### Illinois



**Represented**



**Not Represented**

### General Comments

Black walnut is consistently among the highest value and most sought after of all North American woods. The wood is used for veneer, interior finishing and furniture. Black walnut is frequently cultivated for nut crops as well as timber. It is an excellent agroforestry species because it produces nut and timber crops.

### Special Notes

Large seed crops can be expected every 3 to 4 years. On average, 100 pounds of fruit yield 30 to 65 pounds of cleaned seed. There are approximately 40 cleaned seeds per pound.

It is advisable to remove the husks when they first begin to soften. Cleaned seeds with a 20 to 40% moisture content at 37° F can be stored for up to 1 year in plastic bags.

**Description:** The black walnut is a large tree, growing to 150 feet tall with a straight trunk and a rounded crown. This tree grows best in rich, well drained soils on stream terraces and uplands.



**Leaves:** Alternate, pinnately compound with **15 to 23 leaflets**, each as large as 3½ inches long and 1½ inch wide. Spear shaped; long, pointed tips; finely toothed edges. Rounded at the base. Yellow-green and smooth upper surface. Paler and downy lower surface.



**Fruit:** Appear singly or in groups of 2. **Round, up to 2 inches in diameter. Yellow-green to green husk; rough, thick. Nut is dark brown; very hard with deep ridges. Seed is sweet.**



**Twigs:** Stout. Greenish to orange-brown. Hairy at first. **Pith is brown and chambered with white diaphragm. Buds are pale brown and downy with rounded tips; up to ½ inch long.**



**Bark:** Dark brown to black with deep furrows. Thick, sometimes with crossing ridges forming diamond shapes; sometimes blocky.

