



**AGENDA**  
**CITY OF CREVE COEUR**  
**HORTICULTURE, ECOLOGY AND**  
**BEAUTIFICATION COMMITTEE**  
**CITY HALL- MEETING ROOM 2**  
**OCTOBER 16, 2024**  
**4:30 PM**

**CALL TO ORDER**

**ROLL CALL**

**APPROVAL OF MINUTES**

1. Approval of HEB Meeting Minutes from August 21, 2024.

**UNFINISHED BUSINESS**

2. Creve Coeur Ordinance Change Recommendations
3. Monarch Butterfly Banners

**NEW BUSINESS**

4. Bioswales & Raingardens - Stormwater Committee
5. Arbor Day 2025 Date

**NEXT MEETING DATE**

6. December 18, 2024

**ADJOURNMENT**

Posted by: \_\_\_\_\_

Date/Time posted: \_\_\_\_\_

***If you need special accommodations to attend a meeting, services may be arranged by contacting the Office of the City Administrator in advance.***



**MINUTES**  
**CITY OF CREVE COEUR**  
**HORTICULTURE, ECOLOGY AND**  
**BEAUTIFICATION COMMITTEE**  
**CITY HALL- MEETING ROOM 2**  
**AUGUST 21, 2024**  
**4:30 PM**

**CALL TO ORDER**

**ROLL CALL**

Committee Chair Mara Berry - PRESENT  
Committee Member Paulette Pierson (Vice-Chair) - PRESENT  
Committee Member Fran Cantor - PRESENT  
Committee Member Rachel Eilbott - LATE  
Committee Member Carol Mueller - PRESENT  
Committee Member Gene Rovak - LATE  
Committee Member Danielle Singer - ABSENT

Council Liaison David Hoffman - PRESENT  
Staff Liaison Janet Rueschhoff - PRESENT

**APPROVAL OF MINUTES**

**1. Approval of Minutes from 06/19/2024**

**UNFINISHED BUSINESS**

**2. Article about Gov't Center Landscaping**

Mara acknowledged Melissa Bradford's work on the article that was published in last month's newsletter. The committee agreed it was a great job and showed the new plantings very well.

**3. Plein Air Event July 11, 2024**

Mara informed the committee the results of the Plein Air Event. There were 25 entries, the event was well attended, the weather was nice, and it flowed well with the Concert in the Park series. Mara had volunteered to assist the Art Committee with the event and concluded that there wasn't anything she thought the HEB Committee could collaborate with them on.

**NEW BUSINESS**



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**4. St. Louis County Native Plant Ordinance vs Creve Coeur's Ordinance - Fran Cantor**

Committee member, Fran Cantor, discussed the comparison of the City's ordinances vs the new ordinances voted on by St. Louis County to see if there were areas of improvement for the City of Creve Coeur.

Fran noted that the committee's name had not been updated in the City ordinance in two places. She then pointed out that the county is using the website link in their ordinance for the list of acceptable natives for planting and for the Dept. of Agriculture.

The committee would like to make recommendations to the Building Division that we update and incorporate these items to the city's ordinances.

Fran will send the specific information to Janet for the minutes.

**5. Olive Median Landscaping - Jim Heines**

Jim Heines, Director of Public Works was introduced to the committee to talk about west Olive Blvd. landscaping plans for the median. The plan is to plant fescue and do plantings on the ends of the larger medians. The narrow medians would have River Rock gravel and PW's could drive by spraying the area, which would be less cost in labor and safer for the crews.

The plantings would be the traditional red head coleus with the Golden Japanese Barberry surrounding them.

Carol Mueller had asked Jim who takes care of the weeds past Mason Road on Olive and he replied that is MoDOT. Residents can call the MoDOT number at 314-275-1500 for weed control.

**6. New Monarch Butterfly Banners - Jim Heines**

Jim informed the committee that the Butterfly street banners that are displayed along Olive Blvd. during the spring have been damaged by the wind and or storms. Before replacing about half the stock, Jim asked the committee if they wanted to keep the same design OR come up with something different.



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Since there was no image of the current banner available, the banner was described to the committee and informed that two years ago, the City logo had been added. Although those present weren't in favor of changing it, Mara indicated that this topic will be tabled until October's meeting.

**BUSINESS FROM STAFF**

**7. New Staff Liaison**

**NEXT MEETING DATE**

**8. Next Meeting is scheduled for October 16, 2024**

**ADJOURNMENT**

Report regarding St. Louis County ordinances referencing native plants and Creve Coeur ordinances referencing native plants. I do not claim that this list is all inclusive, and I think it would be good for a professional to review, add areas I may have missed and correct suggestions I have made that may be unnecessary or inappropriate.

County Ordinance under 1003.162 5. (2) Native Plants-refers to interior islands in commercial parking lots. See (a) and (b) below

- (a) All landscape plans must use at least fifty (50) percent native and/or drought tolerant plant material for landscaping to be installed, as appropriate for their location. A detailed plant list shall be included with all plans.

**This is the main difference that I could find between St. Louis County and Creve Coeur regarding native plants. While Creve Coeur encourages native plants, our ordinances do not “require” a specific amount of native plants material to be used in any location. I do not recommend that we adopt this. It will prove cumbersome for staff.**

- (b) Use of invasive plants and noxious weeds for new landscaping is prohibited. Invasive plants are listed in the Missouri Department of Conservation’s Missouri Vegetation Manual. Noxious weeds are listed in the Missouri Department of Agriculture’s Missouri State Noxious Weed List.

**There are several places in our Creve Coeur Ordinances where we list specific plants that are not allowed. Lists change as we learn more information. In order not to have to tweak ordinances as we update information, I suggest we insert the two list referenced by the County plus the “Creve Coeur Invasive Plant List (update 9/2017)” wherever we reference plants that are not allowed. Our list from 2/2017 is more up to date than the state lists. We also need to make our list easier to find. The Creve Coeur list is on our website under our committee, but it also needs to be under planning and zoning. We need to have things clear and easy to find for developers.**

In reading our ordinances I found outdated references that need to be updated

- **Section 220.020. A.** Creve Coeur lists several noxious weeds. **I recommend we delete the specific plants and reference the Missouri Department of Conservation’s Vegetation Manual for Invasive Plants, the Missouri Department of Agriculture’s Missouri State Noxious Weed List and The Creve Coeur Invasive Plant List (update 9/2017).**
- **Same section:** Public Works shall maintain a list of permitted ornamental grasses and native plants for use in connection with the enforcement of this

Chapter. **Does Public Works have a list? If so, can we see it. If not, we need to make one.**

- **Section 220.120 A. and B. and C list the Recycling, Environment and Beautification committee. All three sections need changing to Horticulture, Ecology and Beautification**
- **Section 220.180-needs to be re-worded as we do not have a City Arborist, but we still need to protect Landmark Trees.**
- **Section 220.190, 220.200, 220.210-B, 220.210-C-1. Each of these mentioned a City Arborist. Since we don't have a city arborist, they should be rewritten to reference the correct person/department.**
- **Section 220.200. Rewrite to designate who has the power to enforce regulations, etc.**
- **Section 220.210 B.-rewrite to delete City Arborist and insert proper authority**
- **Section 220.210 C.-1. Rewrite to delete City Arborist and insert proper authority**
- **Section 220.220 – delete. It is no longer relevant. It was originally put in to satisfy Tree City USA requirements and those have changed.**
- **Section 405.540-13. Rewrite: Plants not allowed per section 220.020 as Invasive or Noxious shall not be permitted. See Missouri Department of Conservation's Vegetation Manual under Invasive Plants, Missouri Department of Agriculture Noxious Weed List and Creve Coeur Invasive Plant List (update 9/2017)**
- **Section 405.550 – 1. c. references deposit required for City to investigate a landscape violation complaint from a resident against another resident. It has \$200. Since this is an old ordinance, I believe it might not cover the City's actual expenses. I recommend that this be rewritten with a new, current amount and a cost of living increase.**
- **Section 405.560-3. References City's Forestry account. Do we have one?**

2024-2025

# Seedling Order Form

GEORGE O. WHITE STATE FOREST NURSERY

CELEBRATING  
**OVER 90 YEARS**  
of SEEDLING PRODUCTION



**From seed to seedling:**  
Black walnuts planted in fall 2023 on left grew to seedlings by spring 2024.



*Serving nature and you*

## Plan Ahead and Order Early!

Although we accept orders from Sept. 3, 2024, through April 15, 2025, we always sell out of some species quickly. To get the plants you want, please send your order as soon as possible. Some species are in short supply and will only be made available online. Check out our online catalog at [mdc.mo.gov/seedlings](http://mdc.mo.gov/seedlings) for all available seedlings. **You can place your order online starting Sept. 3, 2024.**

### Contact Information

George O. White State Forest Nursery  
Missouri Department of Conservation  
14027 Shafer Road  
PO Box 119  
Licking, MO 65542  
573-674-3229  
Fax: 573-674-4047

### Three Ways to Order

Submit orders by internet, mail, or fax. **We do not accept phone orders.** If you order by mail or fax, **do not send payment with your order.**

### Did You Know?

Why don't we always have the same species or number of species each year? It's mainly about the seed. All the seedlings we offer for sale are grown from seed here at the nursery, except for a few species. So, if we can't collect or buy enough seed of every species each year, then we can't plant it and won't have it for sale. For example, we normally plant around 1,100 pounds of overcup oak acorns. This past fall of 2023, there were no overcup acorns collected or bought. We happen to have 200 pounds from the previous year to plant, so this next year, we will only have around 1/5 of the seedlings to sell. Likewise, if the weather doesn't cooperate, the seeds of various species may not germinate or germinate well. This then lowers the number of seedlings we have to offer. Through the years we watch the trends in the seedling sales and make adjustments to the amount of seed we sow. However, this is only one factor in determining how many seedlings we will have to sell. Other determining factors include the quality of the seed, weather both when the seed is in the ground and after it germinates and grows through the summer, wildlife both in eating the seed and/or eating the seedlings, insects, etc. Not every seed that is planted makes it to being a seedling.

### Cost

Prices range from \$0.40 to \$1.17 per seedling. See pricing chart below. Sales tax will be added to all orders unless you provide a tax-exemption certificate. A \$9 handling charge is added to each order, no matter the number of seedlings. Now, due to rising shipping costs, in-state shipping cost is \$15 per 100 seedlings with a \$15 minimum charge. Out-of-state shipping is \$20 per 100 seedlings with a \$20 minimum charge.

Price per Seedling			
Species	Available in 10 only	Available in increments of 25	
		25-75	100+
Eastern white pine 2-0, Shortleaf pine, Loblolly pine, Pitch x loblolly pine	\$0.82	\$0.44	\$0.40
Norway spruce, Eastern red cedar, and Bald cypress	\$1.17	\$0.70	\$0.58
Hardwood trees and shrubs	\$1.17	\$0.70	\$0.58
<i>Orders of multiple species of 10s or 25s cannot be combined for volume discount.</i>			

### Billing Card

After we process your order, we'll send you a billing card by mail or email. You should receive it within two weeks of submitting your order. If you do not receive a billing card, call 573-674-3229. Check your billing card when you get it. It will show the species available for pick up or delivery, the price per each bundle, and the total amount charged for your order. **If a species is sold out when we receive your order, we will not bill you for that species.** If the sold-out seedlings become available later, we will try to notify you if time allows.

### Reallocation Letter

If you receive a reallocation letter, call as soon as you get it if you want to add the seedlings to your order. We reallocate on a first come, first served basis as long as the seedlings last. We do not automatically add them to your order. You must call the nursery and tell us you still want them, 573-674-3229.



## Payment

The billing card will have a due date, as well as information on how to pay for your seedlings. We accept check, money order, Visa, MasterCard, and Discover. (A convenience fee for any credit/debit card transaction is collected by a third-party vendor, not the Missouri Department of Conservation.) Please write your order number on your check. **All orders must be paid in full before they can be shipped or picked up.** If payment is not received within 30 days of the date the order was placed, the order will be canceled.

If you submit an order by mail, fax, or via the internet, you should receive a billing card from us within about two weeks. If you DO NOT receive a billing card from us, call the nursery at 573-674-3229 to inquire about the status of your order.

## Permit Card/Conservation ID Discount

The Conservation Permit Card replaces the old Heritage Card and is used as a single source for hunter education verification, permits purchased, and permit verification. If you lose your Hunter Education card, you can purchase the Permit Card to replace it if your hunter education certification can be verified through department records. The Heritage Card will remain valid, but in order for it to be carried in lieu of paper or electronic permits, the Permit Card must be possessed. With your Permit Card or Conservation ID number, you can receive a 15 percent discount, up to \$20, off your seedling order. The Permit Card costs \$2 and does not expire.

You can purchase a Permit Card online at [mdc.mo.gov/buypermits](http://mdc.mo.gov/buypermits), at a conservation service center, from a retail permit vendor, or by calling 800-392-4115. The card will be mailed to the address on file. It should arrive within four to six weeks of purchase.

## Order Changes and Refunds

To request an order change, contact the nursery, or if you have created a user profile online, please login and make appropriate changes. **Changes need to be made no later than three weeks before your ship/pick up date.** Adjustments or refunds will be made only at the discretion of the nursery. No refunds on orders canceled after April 1, 2025. No refund of \$2.50 or less will be made. Please notify us promptly of any address change and include your order number. Once shipped, seedlings are nonrefundable.

## Delivery

You can have your trees shipped, or you can pick them up at the nursery. **Allow a minimum of 3 weeks notice if you need to change your shipping date and/or address.**

Please select the delivery month and the week you want your trees delivered. We will ship orders mid-February through early May. Most orders arrive within 48 hours after they leave the nursery, but this cannot be guaranteed. If any or all of your order has not arrived within seven days of your selected delivery date, please contact the nursery. Some states have quarantines on incoming plants. It is the customers' responsibility to check for any type of quarantine that may be in place. We will not offer a refund for any trees destroyed or undeliverable due to quarantine laws for your state.

**If an address is sent in or entered incorrectly by the customer and the seedlings have to be re-shipped, the customer must pay for the second shipping.**

## Seedlings

We provide mainly 1-year-old bare-root seedlings. A few species are 2 years old, and they are noted as 2-0 in the pricing chart. The size of the seedlings varies greatly depending on the species, but mainly range from 6 to 22 inches. Seedlings are provided in a minimum quantity of 10 or any increment of 25 trees per species.

## Spacing of Seedlings

When planting seedlings, consider their primary purpose and the height and spread to which they will eventually grow. As a general rule, seedlings should be spaced as shown below:

Purpose	Spacing
Erosion control	3-6 feet
Reforestation	8-12 feet
Wildlife shrubs	3-6 feet
Windbreaks	5-12 feet

Quantity of Seedlings per Acre	
Spacing in feet	Seedlings per acre
3x3	4,840
4x4	2,722
5x5	1,742
6x6	1,210
7x7	889
8x8	681
9x9	538
10x10	436
12x12	302
15x15	194

# Conifer Species



Bald cypress



Eastern red cedar



Eastern white pine



Loblolly pine



Norway spruce



Pitch x loblolly pine



Shortleaf pine



# Hardwood Species



Hackberry



Black cherry



Black walnut



Cottonwood



Mixed hickory



Osage orange

Courtesy: Missouri Botanical Garden Plantfinder

## Price per Seedling

Species	Available in 10 only	Available in increments of 25	
		25-75	100+
		Eastern white pine 2-0, Shortleaf pine, Loblolly pine, Pitch x loblolly pine	\$0.82
Norway spruce, Eastern red cedar, and Bald cypress	\$1.17	\$0.70	\$0.58
Hardwood trees and shrubs	\$1.17	\$0.70	\$0.58

*Orders of multiple species of 10s or 25s cannot be combined for volume discount.*

Species	Common Uses				Wildlife Benefits				Other Important Facts
	Wind Break	Erosion Control	Reforestation	Wetland Restoration	Food	Cover	Pollinator	Mature Height in Feet	
<b>Conifer Species</b>									
Bald cypress ( <i>Taxodium distichum</i> )	✓	✓	✓	✓				90-100	Large trees that may live more than 1,000 years. Commonly associated with southeastern swamps, but adapt easily to a wide range of sites. Young trees grow rapidly on good sites and may reach 20 feet in height in 10 years. Extremely durable wood.
Eastern red cedar ( <i>Juniperus virginiana</i> )	✓			✓	✓	✓		60	Eastern red cedar's aromatic wood is valuable for closet lining and novelties. Excellent for wildlife and windbreak plantings.
Eastern white pine* 2-0 ( <i>Pinus strobus</i> ) (Average size 8-10 inches)	✓		✓			✓		80-100	A tall, stately tree with an attractive conical shape and branches nearly to the ground in open stands. Makes an excellent windbreak throughout the state. Adapts to a variety of sites, but prefers moderately moist, sandy loam soils. *White pine may have difficulty surviving with Missouri's dry climate and clay soils.
Loblolly pine ( <i>Pinus taeda</i> )	✓		✓			✓		90	Native throughout the southern United States. Introduced and grows well in southern Missouri. A fast-growing pine that is an important timber tree for lumber and pulp. Similar in appearance to shortleaf pine, but has longer needles and a larger cone. Grows on a wide variety of sites including poor, dry upland, and rich bottomland soils.
Norway spruce* ( <i>Picea abies</i> )	✓					✓		50	Excellent tree for windbreak and wildlife cover. Although not immune to deer damage, deer generally leave this evergreen alone. This fast-growing spruce grows best on well-drained soils and will tolerate a lot of shade. It will retain its dense drooping branches as the tree matures. *Norway spruce may have difficulty surviving with Missouri's dry climate and clay soils.
Pitch x loblolly pine ( <i>Pinus rigida x Pinus taeda</i> )	✓	✓	✓			✓		60	This hybrid pine combines the cold hardiness and drought tolerance of pitch pine with the larger mature size, moist soil tolerance, and fast growth of loblolly pine. Develops a dense, extensive root system that helps it adapt to extreme soil conditions. The long, naturally shed needles are used for pine straw mulch in the landscaping industry. Does best in full sun to partial shade.
Shortleaf pine ( <i>Pinus echinata</i> )	✓		✓			✓		80-100	Only pine native to Missouri. Grows to 2-3 feet in diameter. Does very well on dry, upland sites in the Ozarks. Probably should not be planted north of the Missouri River.
<b>Hardwood Species</b>									
Black cherry ( <i>Prunus serotina</i> )		✓	✓		✓	✓	✓	60	Found statewide on a variety of sites including moist, fertile bottoms and dry, gravelly upland soils. The lumber is second only to walnut in demand as a fine hardwood. The flowers are white clusters 2 to 4 inches long. The red-to-black fruits ripen in August and are abundant nearly every year. Numerous wildlife species eat the fruit. Leaves turn yellow to red in the fall.
Black walnut ( <i>Juglans nigra</i> )			✓	✓	✓			80-90	The "black gold" of Missouri. Valued for its lumber and nuts, it is extensively cultivated statewide. Grows rapidly on deep, rich, alluvial soils. Growth rates decline rapidly in poor soils.
Cottonwood (cuttings) ( <i>Populus deltoides</i> )	✓	✓	✓	✓		✓		100	One of the largest and fastest-growing trees in the eastern United States. Grows best in deep, well-drained bottomland soils. Can reach diameters of 3-4 feet. Instructions for planting cuttings are on the back page.
Hackberry ( <i>Celtis occidentalis</i> )	✓	✓	✓	✓	✓		✓	90	Common bottomland species found statewide. Does very well in prairie regions. Birds eat the fruit.
Mixed hickory ( <i>Carya spp.</i> )			✓		✓		✓	70	This mix is dominated by shagbark, but also includes bitternut, pignut, black, and shellbark hickories. Good selection for wildlife and reforestation projects where a variety of nut sizes and tree forms is desired.
Osage orange ( <i>Maclura pomifera</i> )	✓		✓		✓	✓		40-50	The familiar hedge or hedgeapple tree of Missouri's prairie regions. Hard, durable wood is used for fence posts. Has thorns.



Shellbark hickory



Kentucky coffee tree



Black oak



Bur oak



Cherrybark oak



Chinkapin oak



Northern red oak



Nuttall's oak



Pin oak



Post oak



White oak



Shumard oak



Swamp chestnut oak



Swamp white oak



Willow oak

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		25-75	100+
Hardwood trees and shrubs	\$1.17	\$0.70	\$0.58
Orders of multiple species of 10s or 25s cannot be combined for volume discount.			

Species	Common Uses				Wildlife Benefits				Other Important Facts
	Wind Break	Erosion Control	Reforestation	Wetland Restoration	Food	Cover	Pollinator	Mature Height in Feet	
Shellbark hickory ( <i>Carya laciniosa</i> )			✓	✓	✓			90	A large scaly bark hickory that grows best on rich bottomland soils. It produces the largest nut of any hickory. Not found naturally in the Ozarks, but will grow statewide.
Kentucky coffee tree ( <i>Gymnocladus dioica</i> )	✓	✓	✓				✓	70-90	Medium to large tree preferring good soil. Found statewide, but most common in western Missouri. Large, persistent seedpods and short, heavy twigs make this legume distinctive in winter.
Black oak ( <i>Quercus velutina</i> )			✓		✓	✓	✓	85	Found statewide, but most common in the Ozarks. Will grow on dry, poor upland sites, but grows best on well-drained soil. Good acorn producer.
Bur oak ( <i>Quercus macrocarpa</i> )		✓	✓	✓	✓		✓	80	Large acorns with fringed caps are characteristic of this oak. Grows statewide on a variety of sites including dry uplands and moist lowlands. Reaches 3-4 feet in diameter.
Cherrybark oak ( <i>Quercus falcata</i> var. <i>pagodifolia</i> )		✓	✓	✓	✓	✓	✓	100	Southeastern lowland oak that should be planted in Missouri Bootheel area. Prefers rich, well-drained bottomland soils. Large, fast growing, well-formed, and commercially important.
Chinkapin oak ( <i>Quercus muhlenbergii</i> )			✓		✓	✓	✓	70	Found throughout Missouri mostly on dry upland woods, along bluffs, and in glades. It tolerates very dry, rocky soil, but will grow on a wide variety of sites. This tree is in the white oak group, has silver-gray bark, and long, thin leaves. The acorns are nearly black, about ¾ to 1 inch long and are a favorite food source for turkey and deer.
Northern red oak ( <i>Quercus rubra</i> )	✓	✓	✓		✓	✓	✓	90	One of the most widespread and commercially important of the oaks. Found on a wide variety of sites statewide. Grows best in fertile, sandy loam soils.
Nuttall's oak ( <i>Quercus texana</i> )		✓	✓	✓	✓	✓	✓	90-100	Relatively fast-growing oak that is found in the Southeastern lowlands. Does well on heavy, poorly drained clay soils. General appearance somewhat resembles pin oak. Probably should not be planted outside the Bootheel.
Pin oak ( <i>Quercus palustris</i> )	✓	✓	✓	✓	✓	✓	✓	70-80	This fast-growing oak grows naturally on poorly drained, heavy bottomland sites statewide. It is often used for landscaping as it will grow well on a wide variety of sites, from wet to dry. The small acorns are eaten by many mammals and birds, and they are an important winter food for migrating waterfowl.
Post oak ( <i>Quercus stellata</i> )			✓		✓	✓	✓	70	A medium- to large-sized tree with a broad, rounded crown and stout, sometimes contorted branches. Distinctive cross- or ghost-shaped leaves. Grows in rocky upland woodlands and in flatwoods on broad ridges. Slow-growing, long-lived tree.
Shumard oak ( <i>Quercus shumardii</i> )	✓	✓	✓	✓	✓	✓	✓	80-100	A large, commercially valuable oak found naturally in all but the northern third of Missouri. Frequently grows in association with northern red oak and white oak. Can be planted on a wide variety of sites.
Swamp chestnut oak ( <i>Quercus michauxii</i> )			✓		✓	✓	✓	85	Also called cow oak and basket oak. A large well-formed tree, which grows in well-drained soils above the floodplain in southeastern Missouri. Able to withstand flooding for short periods during the dormant season.
Swamp white oak ( <i>Quercus bicolor</i> )		✓	✓	✓	✓	✓	✓	70	A fairly fast-growing, medium-sized tree that may reach a diameter of 3 feet. Grows naturally in the northern two-thirds of the state along low hills and stream bottoms, but is adaptable to a wide variety of sites. Despite its name, this species does not naturally grow in swamps. The acorns are one of the favored fall foods for deer, turkey, and many other wildlife species.
White oak ( <i>Quercus alba</i> )			✓		✓	✓	✓	85	Found statewide. This important hardwood lumber tree is often an excellent acorn producer. Does best on deep well-drained soils, but does well on dry, poor upland sites. Slow growth rate, but may live for hundreds of years.
Willow oak ( <i>Quercus phellos</i> )	✓	✓	✓	✓	✓	✓	✓	70	This tree gets its name from the long, slender, willow-like leaves. Native to southeastern Missouri, but will grow statewide. Does best on poorly drained soils, but can be planted on a variety of sites. Fast-growing oak with small acorns.



Ohio buckeye



Black gum



Pecan



Persimmon



Red mulberry



River birch



Sandbar willow



Silver maple



Sweet gum



Sycamore



Tulip poplar



American beautyberry



Buttonbush

Price per Seedling			
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		25-75	100+
Hardwood trees and shrubs	\$1.17	\$0.70	\$0.58
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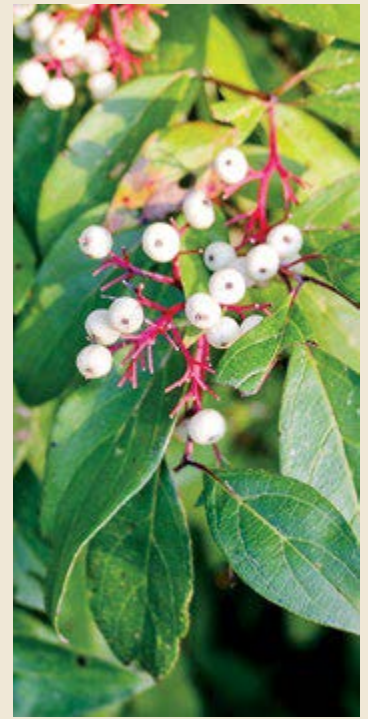
Species	Common Uses				Wildlife Benefits				Other Important Facts
	Wind Break	Erosion Control	Reforestation	Wetland Restoration	Food	Cover	Pollinator	Mature Height in Feet	
Ohio buckeye ( <i>Aesculus glabra</i> )				✓			✓	50	Found statewide, it is among the first trees to leaf out and flower in spring and lose its leaves in the fall. Large greenish-yellow flowers are attractive to hummingbirds. The seeds, which are large, shiny, and dark brown, are sometimes carried for good luck and to prevent rheumatism. Tolerates lots of shade.
Black gum ( <i>Nyssa sylvatica</i> )			✓	✓	✓	✓	✓	65	Medium-sized tree found in southern Missouri, but can be planted successfully statewide. Grows on deep, moist soils and along streams. An attractive tree with shiny dark-green leaves, blue-black fruits, and brilliant red fall color. Older, larger trees often contain hollows that are used by cavity-nesting wildlife.
Pecan ( <i>Carya illinoensis</i> )			✓	✓	✓			90	Most noted for edible nuts, but also is valued for wood. Does best on moist, well-drained river bottoms. Seedlings are grown from native wild seed.
Persimmon ( <i>Diospyros virginiana</i> )	✓	✓	✓	✓	✓			60-70	A small- to medium-sized tree whose fruit is valuable to people and wildlife. Among the hardest of North American woods. Male and female flowers are borne on separate plants, so plant several trees near each other.
Red mulberry ( <i>Morus rubra</i> )			✓		✓		✓	50	Medium-sized tree found statewide. Prefers good soil, but can be found on poor sites. Many animals eat the fruit. Seedlings not guaranteed pure red native due to natural cross-pollination with the nonnative white mulberry.
River birch ( <i>Betula nigra</i> )	✓	✓		✓		✓		60	A small- to medium-sized streambank tree useful for bank stabilization. Peeling, flaking bark gives the tree an attractive appearance in winter. Grows statewide.
Sandbar willow (cuttings) ( <i>Salix interior</i> )		✓		✓		✓		30	Shrub-like, thicket-forming willow found statewide. Occurs on sand bars and muddy stream banks. Good soil binder and bank stabilizer that prevents erosion. Leaves and twigs are browsed by deer. Instructions for planting cuttings are on the back page.
Silver maple ( <i>Acer saccharinum</i> )		✓	✓	✓		✓	✓	90	A large bottomland "soft" hardwood. Grown commercially for wood. Perhaps overused as a fast-growing shade tree. Because of the wood's brittleness, breakage in ice and wind is a problem.
Sweet gum ( <i>Liquidambar styraciflua</i> )	✓	✓	✓	✓			✓	80-100	Native to the lowlands and foothills of southern Missouri. Planted extensively statewide. Does best in deep, moist soils. Yellow, orange, and red fall color. Valuable timber tree that can grow 3-4 feet in diameter.
Sycamore ( <i>Platanus occidentalis</i> )		✓	✓	✓		✓	✓	80-100	A large bottomland, streambank tree. Can be used as a bank stabilizer along with other bottomland species. Shows a great deal of resistance to beaver damage and wet soil conditions.
Tulip poplar ( <i>Liriodendron tulipifera</i> )	✓		✓				✓	90-100	One of the more valuable hardwoods. May reach diameters approaching 2 feet. Found naturally on moist, well-drained soils in southeastern Missouri. Planted widely as an ornamental.
<b>Wildlife Shrubs</b>									
American beautyberry ( <i>Callicarpa americana</i> )		✓			✓	✓	✓	10	This rapidly growing, rounded shrub has a 4- to 8-foot spread. Tops will sometimes die back in cold winters, but flowering is on new growth, so dieback or drastic pruning will not affect flowering. Flowers are white to pale pink. The large, palegreen leaves turn yellow in the fall. Showy, purple-blue fruits are attractive to birds and persist on the shrubs into late fall. Grows well in partial shade and on a wide variety of soil types.
Buttonbush ( <i>Cephalanthus occidentalis</i> )		✓		✓	✓	✓	✓	18	Found throughout the state in low, wet woods, swamps, and along borders of streams and ponds. The flowers are fragrant, white, round clusters about 1 to 1½ inches across and are a favorite nectar source for bees. Many birds eat the nutlets and nest in the branches. Does best on moist sites.



Carolina buckthorn



Deciduous holly



Gray dogwood



Flowering dogwood



Rough-leaved dogwood



Silky dogwood



Elderberry



Hazelnut



False indigo



Washington hawthorn



Ninebark



Redbud



Rose mallow

Price per Seedling			
Species	Available in 10 only	Available in increments of 25	
		25-75	100+
Hardwood trees and shrubs	\$1.17	\$0.70	\$0.58
Orders of multiple species of 10s or 25s cannot be combined for volume discount.			

Species	Common Uses				Wildlife Benefits				Mature Height in Feet	Other Important Facts
	Wind Break	Erosion Control	Reforestation	Wetland Restoration	Food	Cover	Pollinator			
Carolina buckthorn ( <i>Rhamnus caroliniana</i> )	✓				✓				25	This shrub to small tree has leaves 4 to 6 inches long, oval, and are shiny bright green. The flowers are small and not showy, but the fruit turns orange in late summer to shiny black at maturity. The fruit is eaten by a variety of woodland birds, and deer will browse the twigs. It will tolerate a wide range of soils and grows well in the shade.
Deciduous holly ( <i>Ilex decidua</i> )	✓			✓	✓	✓	✓		25	Also called possumhaw, this small- to medium-sized tree produces regular crops of brilliant red fruit on the female plant. The male and female flowers are borne on separate plants, so several trees should be planted near each other. After the leaves fall, the fruit is visible for long distances and helps feed birds in winter and early spring when other foods are depleted.
Flowering dogwood* ( <i>Cornus florida</i> )					✓	✓	✓		40	It's the Missouri State Tree. The seedlings are grown from seed collected from native trees. *The survival of this small-to-medium shade tree is very low. For best results plant in shade, not direct sunlight.
Gray dogwood ( <i>Cornus racemosa</i> )	✓				✓	✓	✓		10	Similar in appearance to rough-leaved dogwood, this tree is smaller and has smooth leaves. Found widely scattered statewide on both moist and rocky sites. Forms thickets by root suckers. Provides excellent wildlife food and cover.
Rough-leaved dogwood ( <i>Cornus drummondii</i> )	✓				✓	✓	✓		20	This thicket-forming shrub found statewide on a wide variety of soils survives poor sites better than other dogwoods. Leaves are rough textured. It does not have large white flowers like flowering dogwoods, but small white flowers appear in May. The shrub has white berries and purple-to-red fall color.
Silky dogwood ( <i>Cornus amomum</i> )	✓			✓	✓	✓	✓		9	This species, also called swamp or pale dogwood, is found statewide except in the lowlands of the Bootheel. Grows in moist ground along streams, rocky banks, spring branches, swamps, wet prairies, and low, wet woods. The flowers are similar to rough-leaved and gray dogwood. The blue fruit is eaten by many wildlife species. Leaves are longer and narrower than other dogwoods.
Elderberry ( <i>Sambucus canadensis</i> )		✓		✓	✓	✓	✓		10	Found throughout the state in open woods, fencerows, roadsides, and along borders of streams and ponds. The flowers are large, showy, flat-topped white clusters that appear in late May to June. The dark-purple berries are edible and make an excellent jelly. Many species of birds and mammals eat the fruit, and deer browse the leaves and branches. Will tolerate both wet and dry sites.
False indigo ( <i>Amorpha fruticosa</i> )		✓		✓	✓	✓	✓		12	Found statewide in moist ground along streams, rocky banks, and low, wet woods. The flowers are 2 to 6 inches long with dense clusters of purple tube-shaped flowers. This shrub is in the legume family, and the seeds are eaten by quail and other wildlife. Bees and butterflies are attracted to the flowers.
Washington hawthorn ( <i>Crataegus phaenopyrum</i> )	✓				✓	✓	✓		25	A small- to medium-sized tree with showy white flowers in spring and bright red fruit in the fall.
Hazelnut ( <i>Corylus americana</i> )	✓	✓			✓	✓	✓		10	Also called American filbert, this thicket-forming shrub is found throughout the state on a wide range of soils and sites. The nut is consumed by people and wildlife.
Ninebark ( <i>Physocarpus opulifolius</i> )	✓	✓		✓		✓	✓		8	A streamside shrub found over much of the state. Forms a massive root system quickly after planting, making it useful to control erosion on streambanks. It is also used as an ornamental. Its name is taken from the way the mature bark curls away from the stem resembling the number 9.
Redbud ( <i>Cercis canadensis</i> )	✓				✓	✓	✓		30	A small-to-medium understory tree with showy pink flowers in early spring. This legume is an attractive addition to wildlife or windbreak plantings.
Rose mallow ( <i>Hibiscus lasiocarpus</i> )				✓	✓	✓	✓		8	This tall perennial is found in the south half of the state along sloughs, ponds, and streams. Excellent for wetland plantings, pond edges, and other wet sites. Plants die back to the root collar each winter. Large, showy white or sometimes pink flowers bloom from July through September. The seeds are eaten by ducks, quail, and many other birds.



Serviceberry



Smooth sumac



Spicebush



Witch-hazel



Wild plum

### Price per Seedling

Species	Available in 10 only	Available in increments of 25	
		25-75	100+
Hardwood trees and shrubs	\$1.17	\$0.70	\$0.58

*Orders of multiple species of 10s or 25s cannot be combined for volume discount.*

Species	Common Uses				Wildlife Benefits			Mature Height in Feet	Other Important Facts
	Wind Break	Erosion Control	Reforestation	Wetland Restoration	Food	Cover	Pollinator		
Serviceberry ( <i>Amelanchier arborea</i> )					✓	✓	✓	25	The showy white flowers of this large shrub/small tree are the first to appear in Missouri woodlands each spring. Reddish sweet-tasting fruits are edible but quickly consumed by wildlife. Fall color varies from yellow to orange to red. Found statewide, grows best in partial shade along woodland edges.
Smooth sumac ( <i>Rhus glabra</i> )					✓	✓	✓	20	Thicket-forming shrub or small tree is found statewide in old fields, prairies, woods borders, and road rights of way. Was widely used by Native Americans and early settlers for medicinal uses. Provides excellent wildlife food and cover. Dark-green summer foliage is followed by scarlet fall color and red berries.
Spicebush ( <i>Lindera benzoin</i> )		✓			✓	✓	✓	12	Found naturally in the south half of the state in low or moist ground along streams, ravine bottoms, and low, wet woods. The flowers are small, yellow, and fragrant. Leaves are aromatic when crushed. Seed is bright red and is eaten by many birds and mammals. Will tolerate partial shade to full sun. This shrub will often grow as wide as it is tall.
Witch-hazel ( <i>Hamamelis vernalis</i> )	✓	✓			✓	✓	✓	10	Large shrub found in and along dry, rocky streambeds. Leaves are collected for medicinal uses. Shrub is valuable for wildlife food and cover, and for controlling erosion along streams.
Wild plum ( <i>Prunus spp.</i> )	✓	✓		✓	✓	✓	✓	25	A small thicket-forming tree. One of the first trees to bloom in the spring. Produces a bright-red edible fruit. Provides excellent food and cover for wildlife.



## Dedication to Trees

*A boyhood love of the outdoors leads to an award-winning tree farmer*

Jim Ball's motivation for managing trees began with his boyhood love for the outdoors, growing up hunting, fishing, hiking, and camping in the woods and streams near Braymer. It extended to the ocean, mountains, and desert when the family moved to southern California.

Ball put that outdoor experience to use during Army jungle training in places like Panama, where he learned skills that proved handy as an infantry platoon leader in Vietnam.

His hunting experience extends to 12 states, including Alaska, two Canadian provinces, Mexico, and Russia and includes both small game and most of the North American big game.

In 1969, Ball began his career in the petrochemical business and met his future wife, Schatzi. Soon thereafter, he and his father purchased 80 acres of timber and pasture near Braymer for hunting, eventually increasing it to 850 acres.

"For a long time, I wished the farm had better wildlife habitat," Ball said. So, in 1986, he purchased an adjacent tract, enrolled in the Conservation Reserve Program (CRP), and planted his first 100 acres in native warm grass and later with forbs.

In 1991, they planted trees on 28 acres enrolled in CRP. Since then, they have planted 160,000 trees on 250 acres, much of it in CRP. They planted oaks on the upland ground but on the better sites, they planted eastern black walnut. To increase diversity, they mixed in other species, most

purchased from MDC's George O. White State Forest Nursery in Licking.

Ball has managed his timber with financial help and technical advice from federal and state agencies, including MDC and the Natural Resources Conservation Service. He has pruned his trees as they grew and conducted timber stand improvement (TSI), including killing unwanted trees to favor desirable specimens and species.

A member of the Walnut Council and the Missouri Tree Farm System, Ball connected with like-minded landowners and experts at field days and educational events. He has hosted events on his farm and written and lectured on how-to subjects. His dedication earned him the State Outstanding Tree Farmer of the Year in 2017 and 2023. In 2018, he went on to be the Regional Outstanding Tree Farmer for 10 states in the north-central region.

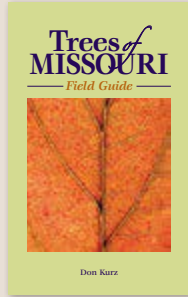
He built a 20-acre lake and several ponds for erosion control and enhanced fish habitat, including 2 miles of tree-lined riparian buffers. His other wildlife habitat projects include 40 acres of monarch butterfly habitat.

Jim and Schatzi are most proud of sharing the outdoor experience with family and friends, converting worn out farm ground to conservation practices, and witnessing how TSI can help the appearance and financial capability of a forest.

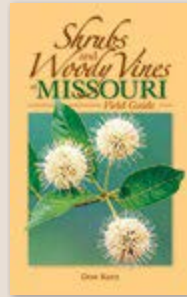
"Our goal is providing an enduring place for our future generations and instilling in them the love of the outdoors my wife and I have," Ball said. "Our family loves the ranch and wants to keep it in the family."

—Brian Schweiss, MU Extension sustainable forestry specialist

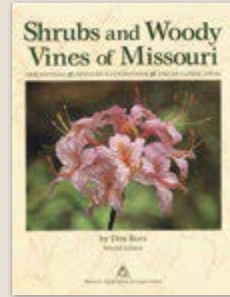
Before undertaking any extensive planting project, consult the MDC regional office in your area. The following books can be purchased at most nature centers, online at [mdcnatureshop.com](http://mdcnatureshop.com), or call toll-free 1-877-521-8632. Prices do not include shipping, handling, and tax.



**Trees of Missouri Field Guide**  
soft cover \$8



**Shrubs and Woody Vines of Missouri Field Guide**  
soft cover \$8



**Shrubs and Woody Vines of Missouri**  
soft cover \$16.50



**Tried & True Missouri Native Plants For Your Yard**  
soft cover \$7



### How to Plant Cottonwood and Willow Cuttings

Cottonwood and willow have the ability to sprout roots and leaves from a stick-like cutting. The cottonwood cutting is typically 18 inches long, and the willow 12 inches. Most of the cutting needs to be in the soil, so only leave 2 to 4 inches (about 2 buds) out of the ground. Also, the cutting must be planted with the buds pointed upward. All of the cuttings in a bundle point the same way, so you will only have to look carefully at one cutting per bundle.

### Trees Work Trivia Questions

What year did the flowering dogwood become Missouri's state tree?

- A. 1955
- B. 1995
- C. 2005

True or False: The flowering blooms of the eastern redbud tree are edible.

True or False: Black walnut trees produce a compound that can inhibit the growth of other plants around them.

What shape are sassafras leaves?

- A. Oval
- B. Mitten-shaped
- C. Three lobes
- D. All of the above

What tree produces fruit sometimes called the "Ozark Banana"?

- A. Osage orange
- B. Persimmon
- C. Paw paw

Which tree has "knees" that grow up from the roots in wet environments?

- A. Shumard oak
- B. Bald cypress
- C. River birch

True or False: Shade from a tree's canopy can reduce temperatures by up to 20 degrees, making it safer and more comfortable to be outdoors.

(A, True; True, D, C, B, True)





TREES  
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