

THE RIGHT TREE

IN THE RIGHT PLACE

Tree limbs and power lines are not a good combination – especially when Midwestern storms bring lightning, high winds and ice. Electric utility companies regularly trim tree limbs away from power lines to help prevent power outages from occurring during severe weather.

That's why it is so important to plant the right tree in the right place. Placing low-growing trees under or near power lines will not only help beautify your property, but also help prevent service problems in the future.

The trees listed are appropriate species to plant under or near power lines. This is not intended to be an absolute list of species to plant in the upper Midwest. Other cultivars may be appropriate, however, they may not be readily available. For more information on the best tree to plant in a certain area of your yard, visit your local nursery, garden center or consult with a utility forester.

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! Numerous utility-sponsored tree-planting programs are available to help communities take an active role in both energy management and protecting the environment.

Trees planted in the right places can provide substantial to local residents through shading of homes during the summer and minimizes winds during the winter.

Planting distances: The diagram below shows the minimum distance a tree should be planted away from utility poles and lines.



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Some simple planning before a tree planting occurs will greatly increase the likelihood of success for that planting. This guide is designed to provide you with some basic information about which trees can be planted under or near power lines, an understanding of tree planting and care techniques, and special considerations to keep in mind with tree plantings. Included with each tree listed in this publication is specific information on which hardiness zone the tree will do best (see map below), how tall the tree will be at maturity, which soil types the tree prefers and other valuable information.

This guide is by no means your final stop for information. Homeowners should work with their local nursery, arborist, horticulturist, landscape designer or other experienced professional to determine which specific cultivars will work the best for your location and why.

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- A** — Soil with pH less than 7.
- C** **a** — A narrow upright growth form.
- C** **a** — A cultivated plant variety.
- C** — The environmental requirements of the plant.
- E** **a** — To peel off in shreds or thin layers, as bark from a tree.
- F** — A bark form having rounded lengthwise ridges resembling muscles.
- F** **a** — The leaves of the plant.
- H** — A measure of soil acidity and alkalinity.
- S** — A shoot from the root area or from beneath the surface of the ground.
- T** **a** — A flower at the end of the branch.

USDA Hardiness Zones [map]

The U.S. Department of Agriculture divides the country into different zones to indicate the hardiness of a particular plant species. The zones are determined by average annual minimum temperatures — a tree that is hardy to zone 3 will survive temperatures of zone 3. To ensure the trees are hardy in your area



Average Annual Minimum Temperature (F)	Zone
-45 to -50	2a
-40 to -45	2b
-35 to -40	3a
-30 to -35	3b
-25 to -30	4a
-20 to -25	4b
-15 to -20	5a
-10 to -15	5b
-5 to -10	6a

B

CA E

BEF E

C



A

(Acer tataricum ssp. ginnala)

Hardy to zone 3a; multi-stemmed tree; 15-20' tall; fragrant, inconspicuous, creamy-white flowers in spring; red fruit in summer that turns brown; bright orange to red fall color; can reseed in wild; tolerant to a wide range of soils and pH.

Summer fruit

(Syringa reticulata)

Hardy to zone 3a; compact; upright; 15-25' tall; reddish-brown, shiny bark; large, creamy-white, slightly fragrant, terminal flowers in June; yellow fall color; tolerant to a wide range of soils and pH; urban and salt tolerant.

June flowers

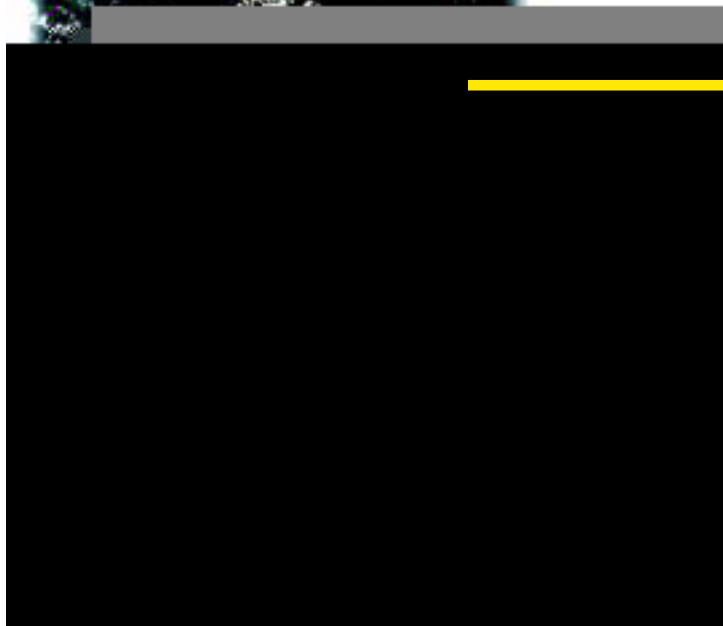
A

*(Carpinus caroliniana)*

Hardy to zone 3b (northern strains only); wide-spreading; multi-stemmed tree with low branches; 20-30' tall; fluted, muscle-like bark and branches; yellow to orange-red fall color; slow grower; prefers rich, moist, slightly-acid soil; salt intolerant; shade tolerant.

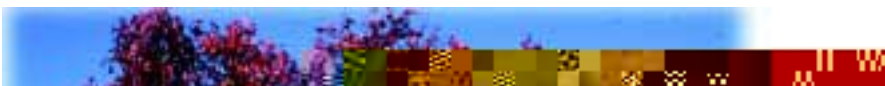
Native to the Midwest.

Bark

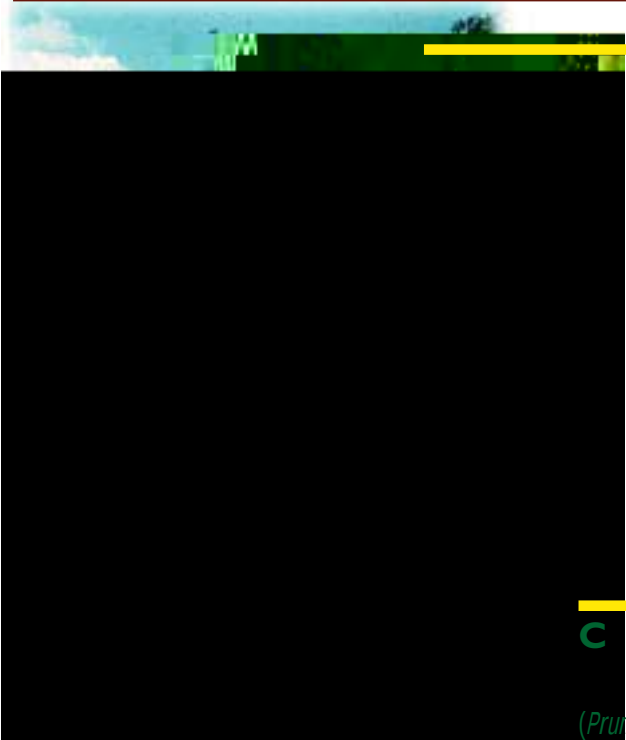


A

(*Amelanchier x grandiflora*)



C



Bark

A

(Prunus maackii)

Hardy to zone 3a; multi-stemmed; rounded tree; 20-35' tall; showy; bronze; shiny bark that exfoliates; white flowers produced with the leaves in May; reddish-black fruit in summer that attracts birds; yellow fall color; prefers a moist, well-drained soil.

C

(Prunus virginiana 'Canada Red' or 'Shubert')

Hardy to zone 3a; pyramidal to oval-rounded form; 15-25' tall; white flowers produced with the leaves in spring; reddish-black fruit in summer that attracts birds; green leaves changing to reddish-purple in late spring; tends to sucker; tolerant to a wide range of soils and pH; some pest problems; native to the Midwest.

(Prunus x 'Newport')

Hardy to zone 4a; twiggy; rounded form; 15-20' tall; pale pinkish-white; slightly fragrant flowers in May; purple fruit in summer; attracts birds; reddish-purple leaves; prefers a moist; well-drained soil; some pest problems.

: (No photo shown)

A

(Prunus americana): Hardy to zone 3a;

low, rounded form; 12-18' tall; white flowers in spring; yellow to red edible fruit in summer; attracts birds; orange fall color; suckers readily; prefers moist, well-drained soil; some pest problems; native to Midwest.

Spring flower

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G G C

(Cornus mas 'Golden Glory')

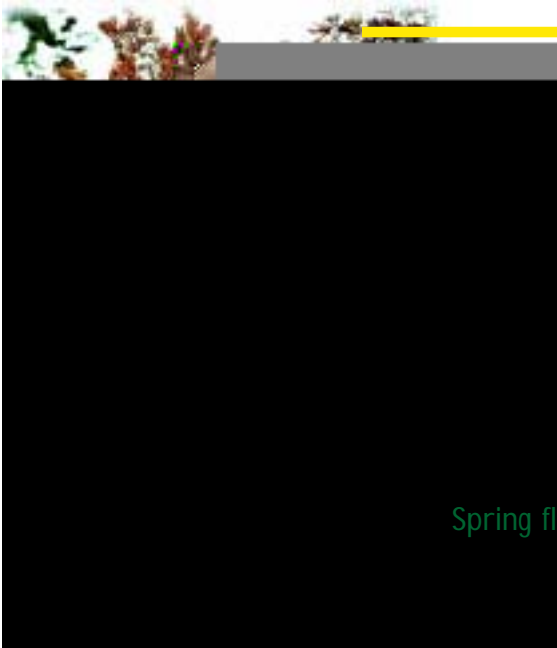
Hardy to zone 4b; multi-stemmed; upright tree with oval form; 20-25' tall; small, yellow flowers in early April that are long lasting; tart, cherry-red fruit in late summer; yellow to purple fall color; tolerant to a wide range of soils and pH; urban tolerant.

Spring flower

(Cornus alternifolia)

Hardy to zone 3a; horizontal branches; 15-20' tall; fragrant, creamy-white flowers in early June; bluish-black fruit on red stems in July that attracts birds; reddish-purple fall color; prefers a cool, moist, slightly-acid, well-drained soil; shade to partial shade; not drought tolerant; intolerant to open, exposed sites; native to the Midwest.

Summer fruit



Spring flower

(Sorbus alnifolia)

Hardy to zone 4a; upright-oval tree; 25-35' tall; smooth gray bark; white flowers in May; pinkish-red to scarlet fruit in fall; orange-red fall color; prefers a moist, well-drained soil; pH adaptable; some pest problems.

: (No photo shown)

European mountainash (*Sorbus aucuparia*): hardy to zone 3a; upright, oval form; 20-30 feet tall; bronze-gray, smooth bark; white flowers in spring; orange-red clusters of fruit in fall; attracts birds; orange-red to purple fall color; prefers moist, well-drained, slightly acid soil; some pests.

Showy mountainash (*Sorbus decora*): Hardy to zone 2; upright-oval tree; 20-30' tall; white flowers in spring; orange-red clusters of fruit in fall; attracts birds; orange-red to purple fall color; prefers a moist, well-drained soil; some pests; native to Midwest.

Other Trees That May be Planted Under Powerlines.

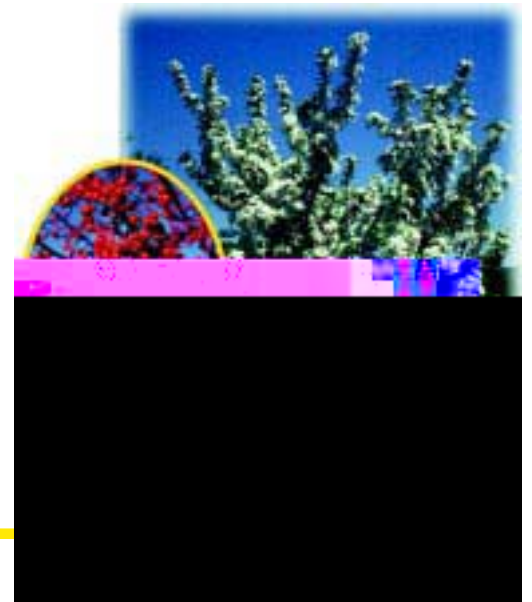
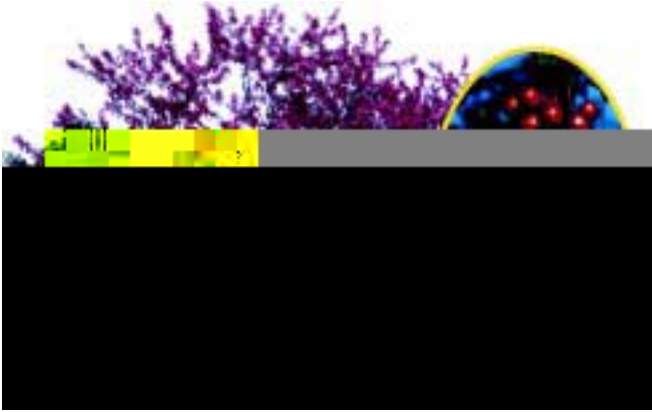
Tree	Mature Height	Tree Form	Growth Rate	Fall Color	Flowers	Fruit
Hedge maple (<i>Acer campestre</i>)	25-35 feet	rounded to pyramidal	slow	yellow	not ornamental	not ornamental
Manchurian maple (<i>Acer manschuricum</i>)	30-35 feet	upright, spreading	slow	orange to red	not ornamental	not ornamental
Globe Norway maple (<i>Acer platanoides</i> 'Globosum')	15-20 feet	dense, rounded	slow	yellow	not ornamental	not ornamental
Korean maple (<i>Acer pseudosieboldianum</i>)	15-25 feet	multi-stemmed	slow	orange-red	not ornamental	not ornamental
Tatarian maple (<i>Acer tataricum</i>)	15-20 feet	multi-stemmed, rounded	moderate	yellow-red	inconspicuous, greenish-white	summer, red
Three-flowered maple (<i>Acer triflorum</i>)	20-25 feet	upright, rounded	slow	orange	inconspicuous, yellow	not ornamental
Shantung maple (<i>Acer truncatum</i>)	20-25 feet	broad-rounded	slow	yellow-orange	not ornamental	not ornamental
Downy serviceberry (<i>Amelanchier arborea</i>)	15-20 feet	horizontal to rounded	moderate	yellow	white, in spring	purple, edible
Alleghany serviceberry (<i>Amelanchier laevis</i>)	15-25 feet	upright, oval	moderate	orange-red	white, in spring	purple, edible
Cumulus serviceberry (<i>Amelanchier x lamarckii</i> Cumulus®)	20-30 feet	columnar to oval	moderate	orange-red	white, in spring	purple, edible
Fox Valley river birch (<i>Betula nigra</i> 'Little King') Fox Valley™	10-12 feet	multi-stemmed, compact, oval	slow	yellow	not ornamental	not ornamental
Weeping Siberian peashrub (<i>Caragana arborescens</i> 'Pendula')	10 feet	narrow, weeping	slow	none	yellow in spring	not ornamental
Fringetree (<i>Chionanthus virginicus</i>)	12-20 feet	multi-stemmed small, rounded	slow	yellow	fragrant, white, in late spring	female plant, bluish-black
American smoketree (<i>Cotinus obovatus</i>)	20-30 feet	oval to rounded	moderate	yellow-orange to red	smoky pink, in summer	not ornamental
European spindletree (<i>Euonymus europaeus</i>)	12-20 feet	upright, broad,	moderate	yellow-maroon	not showy	fall, pinkish-red, orange seed
Leprechaun green ash (<i>Fraxinus pennsylvanica</i> 'Johnson') Leprechaun™	15-20 feet	dwarf, low, compact, rounded	slow	yellow	not ornamental	not ornamental
Seven-son tree (<i>Heptacodium miconioides</i>)	15-20 feet	upright, irregular form	moderate	yellow	creamy-white fragrant in late summer	rose-purple in fall
Amur maackia (<i>Maackia amurensis</i>)	20-30 feet	vase shaped, rounded	slow	none	white, in summer	not ornamental
Elizabeth yellow magnolia (<i>Magnolia x</i> 'Elizabeth')	20-30 feet	oval to upright, pyramidal	moderate	yellow	fragrant, in spring creamy-yellow	not ornamental
Ann magnolia (<i>Magnolia x</i> 'Ann')	8-10 feet	multi-stemmed, erect, shrubby	slow	none	fragrant, deep purple red, in spring	not ornamental
Betty magnolia (<i>Magnolia x</i> 'Betty')	10-15 feet	multi-stemmed, broad, shrubby	slow	none	fragrant, deep purple red with white, in spring	not ornamental
Pinkie magnolia (<i>Magnolia x</i> 'Pinkie')	10-15 feet	multi-stemmed, broad	slow	none	fragrant pale reddish-purple to pink with white in spring	not ornamental
Cypress Norway spruce (<i>Picea abies</i> Cupressina')	25-30 feet	dense, narrow, compact	slow	evergreen	not ornamental	not ornamental
Remont Norway spruce (<i>Picea abies</i> Remontii')	8-10 feet	dwarf, dense, compact	slow	evergreen	none	not ornamental
Dwarf Serbian spruce (<i>Picea omorika</i> 'Nana')	8-10 feet	dwarf, dense, compact	slow	evergreen	not ornamental	not ornamental
Manchurian apricot (<i>Prunus mandshurica</i>)	15-20 feet	spreading, rounded	moderate	golden-orange fall color	white to light pink flowers in spring	yellow, edible fruit in summer
Hoptree, waferash (<i>Ptelea trifoliata</i>)	12-18 feet	rounded	slow	yellow	inconspicuous, greenish-yellow, fragrant in spring	rounded, winged
Weeping willowleaf pear (<i>Pyrus salicifolia</i> 'Pendula')	12-18 feet	rounded to weeping	fast	none	cream to greenish-white	1" pears
Japanese stewartia (<i>Stewartia pseudocamellia</i>)	15-20 feet	upright, oval	slow	red-orange	white in summer	not ornamental
China Snow Pekin lilac (<i>Syringa pekinensis</i> 'Morton') China Snow™	15-20 feet	upright-oval to rounded	moderate	yellow	large, slightly fragrant, creamy white, in early summer	not ornamental
Japanese yew (<i>Taxus cuspidata</i>)	10-30 feet	wide-spreading, broad-pyramidal	slow	none	not ornamental	not ornamental
Yellowhorn (<i>Xanthoceras sorbifolium</i>)	12-15 feet	oval	slow	none	fragrant, white with yellow and red blotches in spring	not ornamental

Some may be hard to find.

Hardiness	Culture	Comments
zone 5	tolerant to a wide range of soils and pH	dense form, branches close to ground, urban tolerant
zone 4	prefers moist, well-drained soil	no pests
zone 4b	tolerant to a wide range of soils and pH	only this cultivar may be used under powerlines, can reseed in wild, urban tolerant,
zone 4	prefers moist, well-drained soil	more cold hardy than Japanese maple, no pests,
zone 3a	tolerant to a wide range of soils and pH	can reseed in wild
zone 4b	slightly acid, moist, well-drained soil	exfoliating, golden amber-brown bark, more hardy than paperbark maple, no pests
zone 3b	tolerant to many soils, pH	urban tolerant, drought tolerant
zone 3b	well-drained, slightly acid soil, full sun to partial shade	smooth gray bark, attracts birds, tolerant to poor, dry soils, native to Midwest, suckering
zone 3a	moist, well-drained, slightly acid soil	reddish-bronze, new growth in spring, attracts birds, native to Midwest, suckering
zone 3a	moist, well-drained, slightly acid soil	bronze new leaves
zone 3b	prefers acidic soil, tolerant of wet or dry soils	showy, exfoliating, reddish-brown bark, borer resistant, only this cultivar may be used under powerlines, native to Midwest
zone 2a	tolerant to a wide range of soils and pH	green stems, drought and salt tolerant
zone 4b	pH adaptable, prefers moist well-drained soil	plant with male pollinator for fruit, attracts birds, no pests

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Flowering crabapple (*Malus* spp.): Hardy to zone 4; various growth habits and sizes from 5-25' tall; flowers bloom in May and color varies from white,



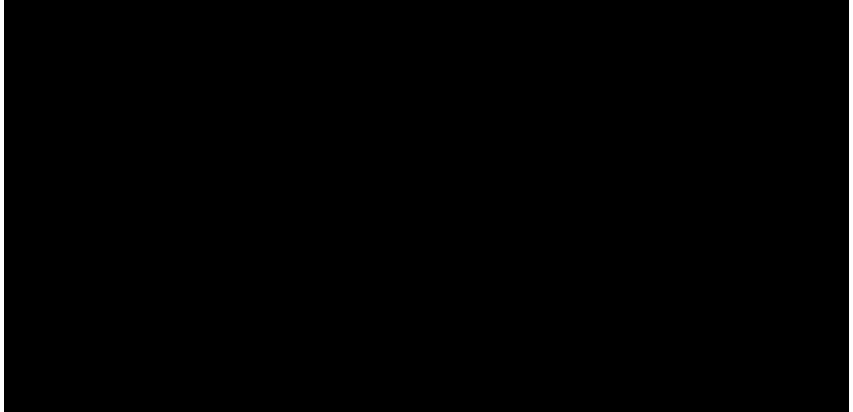
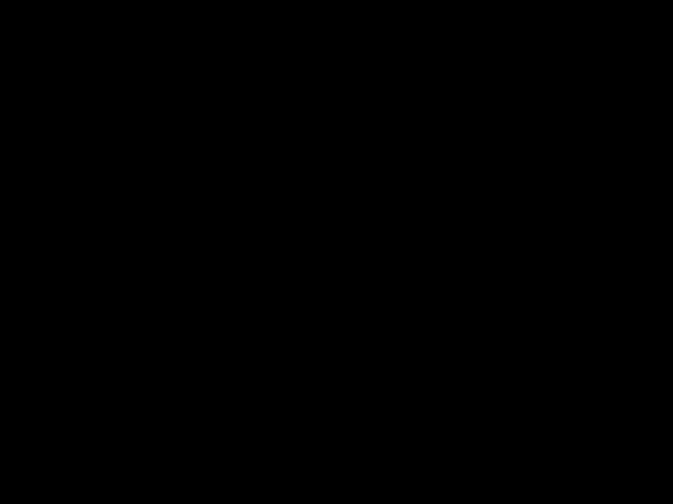
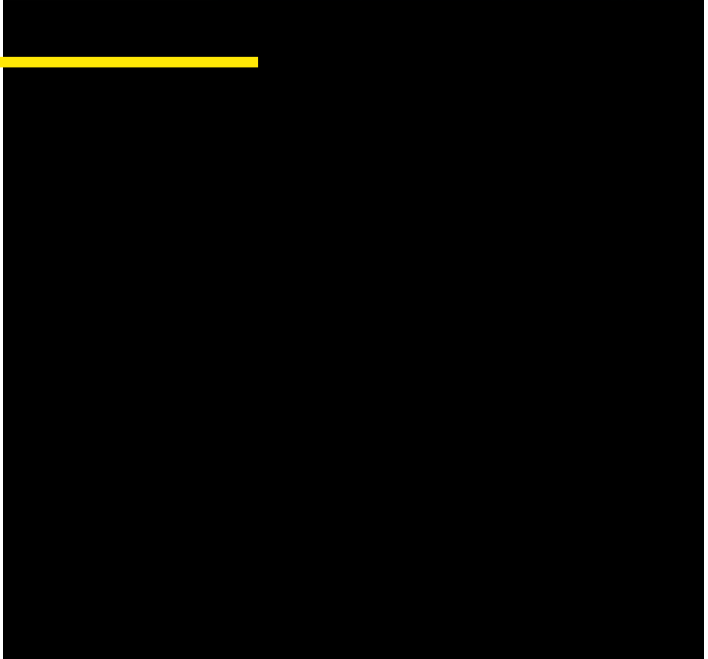
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'Coral Cascade': 15' tall; semi-weeping form; pinkish-white flowers; persistent orange fruit

'Louisa': 10-15' tall; graceful; weeping form; pink flowers; yellow fruit.

'Manbeck Weeper' (Anne E.™): 10' tall; wide-spreading weeper; white flowers; persistent fruit.

'Molazam' (Molten Lava®): 10-15' tall; horizontal weeper; white flowers; orange fruit.



Merrill magnolia

(Magnolia x loebneri 'Merrill')

Hardy to zone 4b; broad pyramidal form; multi-stemmed; 20-30' tall; light gray bark; fragrant; white flowers in April; no fall color; prefers a moist, well-drained soil; pH adaptable; plant on north or northeast side of building; plant in spring only.

Spring flower

Other cultivar: (No photo shown)

(Magnolia x loebneri

'Leonard Messel'): hardy to zone 4b; oval to rounded form; 15-20' tall; smooth, light gray bark; fragrant, pink white flowers flushed with fuschia in April; no fall color; prefers moist, well-drained soil; pH adaptable; plant on north or northeast side of building; plant in spring only.

(Magnolia x soulangiana)

Hardy to zone 5a; wide-spreading, oval to rounded tree with low branches; 20-30' tall; coarse textured; smooth, gray bark; large white to dark pinkish-purple, fragrant flowers in April; no fall color; prefers moist, well-drained soil; plant on north or northeast side of building; plant in spring only.

Spring flower

(Magnolia stellata)

Hardy to zone 4b; oval to rounded, shrubby form; 8-15' tall; smooth, light gray bark; white, fragrant flowers in April; no fall color; prefers moist, well-drained soil; plant on north or northeast side of building; plant in spring only.

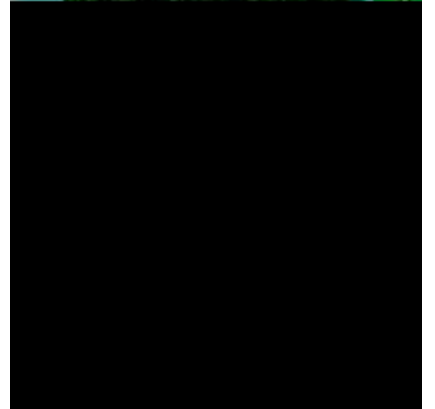
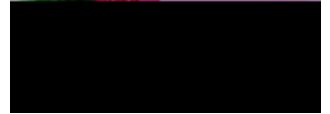
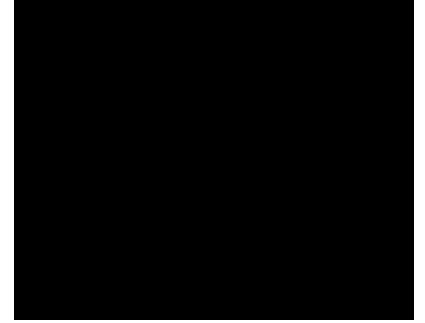
Spring flower

E

E

(Juniperus virginiana)

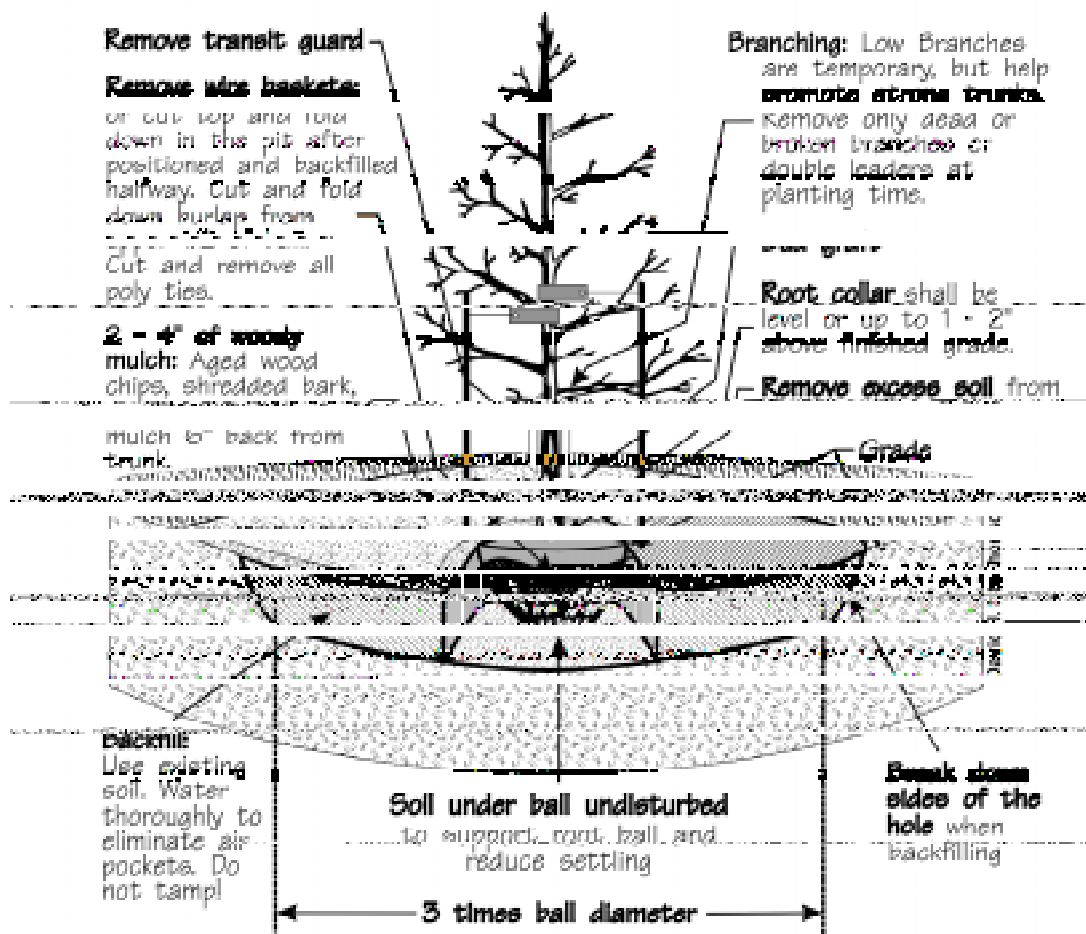
Hardy to zone 3b; certain cultivars are suitable for planting under power lines; dense, mainly upright form; evergreen leaves turning russet-brown in winter; female cultivars have small, blue-gray cones; attracts birds; tolerant to a wide range



C B

The following planting diagram provides some very important information to help you as you plant your tree. For additional instructions about tree planting techniques, check with your local nursery or look for any number of University Extension publications that are available.

Proper Tree Planting Diagram



Stake only if you have to. Use 2-3" wide webbing straps and secure to stakes with heavy gauge wire. The wire should be able to catch the wire and hold the webbing strap up, preventing it from sliding down the tree. Do not stake tightly - trees gain strength from movement. Remove all stakes after one year.

Use of tree wrap is not recommended, as it causes a number of problems for the tree.

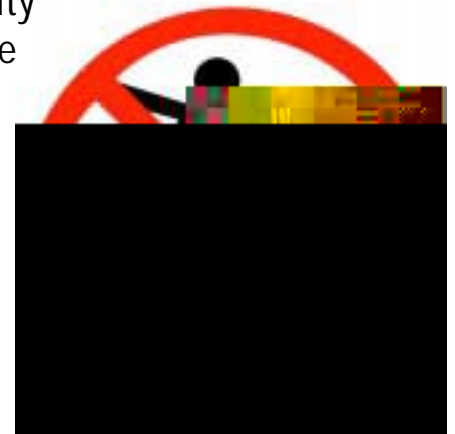
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Before your shovel hits the dirt, be sure all underground utility lines are marked. At least three days before you start, dial the number below for your area, and your area "one-call" service will send a utility worker to mark the locations of underground service lines.

- In Iowa, call 1-800-292-8989
- In Minnesota, call 1-800-252-1166
- In Illinois, call 1-800-892-0123
- In Wisconsin, call 1-800-242-8511

There is **C A GE** to you for this service. The one-call service will mark all buried electric, gas, water, sewer, cable and telephone lines.



When you get ready to plant, **24** from any marked lines, and consider the length and depth of the roots of the mature tree.



Padmount transformers are ground-mounted transformers in metal cabinets. Underground power lines can approach these transformers from any and every direction. When planting trees or other vegetation in the area of a padmount transformer, always maintain at least ten feet of clearance from the front of the cabinet and at least three feet from the sides and rear of the cabinet.



Utility meters are needed to monitor the energy use of your residence. Utility company meter readers need to be able to view and record information from these meters on a regular basis. Planting trees or shrubs too close to your meter or planting thorny vegetation near the meter can hamper meter reading and could potentially result in damage to the equipment.

