



William T. Kemper Center for Home Gardening

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Best Plants for Problem Clay Soils: Trees and Vines

Trees

Acer griseum — Paperbark maple

Attaining a height of 20 to 30', paperbark maple is an excellent choice for small properties. This slow-growing tree features beautiful peeling cinnamon to reddish brown bark and trifoliate leaves that turn red in fall. Its two-winged seeds tend to be infertile and will not produce as many unwanted seedlings in lawns as other maples.

Amelanchier arborea — Downy serviceberry

The white 5-petaled flowers of downy serviceberry emerge before the leaves in early spring and mature into blueberry-like fruits that attract birds. The fruits may also be enjoyed by humans, especially in pies and preserves. This small tree is recommended for shrub borders, native plant gardens, and near streams and ponds.

Betula nigra — River birch

River birch grows best in acidic, moist to wet soils but adapts to the yearly fluctuation of wet soil in spring and dry soil in summer. It has attractive diamond-shaped leaves and papery reddish brown bark that exfoliates to show lighter bark inside. Whether grown as a single trunk or a multi-stemmed tree, river birch is a good choice as a specimen tree or for small groupings.

Crataegus viridis 'Winter King' — Green hawthorn

With clusters of white flowers in spring, red to purplish leaves in fall, and bright red fruits that persist throughout the winter, this cultivar of green hawthorne provides year round interest in the garden. Unlike many other hawthorns, 'Winter King' is largely thornless and resistant to rust and fireblight. It is a good choice for urban plantings in yards and along streets.

Ginkgo biloba — Maidenhair tree

The fan-shaped leaves of the maidenhair or ginkgo tree turn a spectacular bright yellow in fall. Easily grown in a lawn or as a street or shade tree, it tolerates the difficult city conditions of compacted soil and air pollution. Male cultivars are preferable as the fruit-like covering on the seeds produced by the female trees is irritatingly odorous.

Nyssa sylvatica — Sour gum

Lustrous dark green leaves in summer and yellow, orange, scarlet, or purple leaves in fall, sour gum is one of Missouri's most beautiful native trees. The bluish-black fruit is eaten by birds and small mammals. Once established, this excellent shade tree grows in poorly drained to dryish soil.

Taxodium distichum — Bald cypress

Bald cypress grows well in almost any acid soil from wet and swampy to dry and well-drained. It is a

deciduous conifer with feathery leaves, small round to oval cones, and reddish to orange-brown bark that exfoliates in long strips. Bald cypress is an impressive specimen tree, especially for large park-like settings near water.

Sun: F=Full sun, P=Part shade, S=Shade; **Water:** D=Dry, A=Average, W=Wet

Scientific name	Common name	Height (ft)	MO native	Zone	Bloom color	Bloom time	Sun	Water	Notes
<i>Acer griseum</i>	Paperbark maple	20-30	No	4-8	Green	Mid spring	F-P	A	Good for small areas; has peeling reddish-brown bark
<i>Acer tartaricum</i> subsp. <i>ginnala</i>	Amur maple	15-20	No	2-8	Yellowish white	Mid to late spring	F-P	A	Maybe grown as multi-stemmed shrub; has fragrant flowers; good size for residential property
<i>Alnus glutinosa</i>	Common alder	40-60	No	3-7	Male-reddish brown, female-purplish	Early spring	F-P	A-W	Good for large wet areas; also does well in dry soil
<i>Amelanchier arborea</i>	Downy serviceberry	15-25	Yes	4-9	White	Early spring	F-P	A	Good for shrub borders or native plant gardens; produces edible fruit
<i>Amelanchier canadensis</i>	Shadblow serviceberry	25-30	No	4-8	White	Early spring	F-P	A	Produces edible berries for preserves; best in woodland or native gardens
<i>Betula nigra</i>	River birch	40-70	Yes	4-9	Male-brown, female-green	Early spring	F-P	A-W	Good for wet acidic soil that maybe dry in summer and fall; exfoliating bark
<i>Carpinus caroliniana</i>	American hornbeam	20-35	Yes	3-9	Male-green, female-white	Spring	P-S	A	Tolerates temporary flooding; good for small areas
<i>Carya ovata</i>	Shagbark hickory	60-80	Yes	4-8	Male-yellow green, female-green	Late spring to early summer	F-P	A	Edible fruit; bark grows in long thin plates
<i>Catalpa speciosa</i>	Northern catalpa	40-60	Yes	4-8	White with yellow streaks and brown spots	Late spring to early summer	F-P	A	Tolerates hot, wet and dry conditions; long fruit capsule persists throughout winter
<i>Celtis laevigata</i>	Sugarberry	60-80	Yes	5-9	Green	Spring	F-P	A-W	Tolerates wet to dry sites; fruit attracts birds
<i>Celtis occidentalis</i>	Common hackberry	40-60	Yes	2-9	Green	Spring	F	D-A	Does well in adverse conditions; fruit attracts birds and wildlife
<i>Cercidiphyllum</i>	Katsura tree	40-60	No	4-8	Green	Early	F-P	A	Leaves reddish purple in

<i>japonicum</i>						spring			spring, bluish green in summer, yellow in fall; needs ample moisture until well established
<i>Cercis canadensis</i>	Redbud	20-30	Yes	4-8	Pink	Mid spring	F-P	A	Will not grow well in permanently wet or poorly drained soil; best transplanted when young
<i>Chionanthus virginicus</i>	Fringe tree	12-20	Yes	3-9	Creamy white	Late spring	F-P	A	Fruit attracts birds and wildlife; does well in urban areas
<i>Cornus florida</i>	Flowering dogwood	15-30	Yes	5-9	White bracts with small green flowers	Spring	F-P	A	Fruits attract birds; dogwood anthracnose may be a problem
<i>Cornus mas</i>	Cornelian cherry dogwood	15-25	No	4-8	Yellow	Early spring	F-P	A	Edible fruits used for preserves; removing root suckers will control spread
<i>Corylus colurna</i>	Turkish filbert	40-50	No	4-7	Yellow	Early spring	F	A	Drought tolerant when established; handsome underused tree for urban conditions
<i>Cotinus obovatus</i>	American smoketree	20-30	Yes	4-8	Yellowish green	Late spring to early summer	F	A	Good fall color; noted for long-lasting hairs on spent flower clusters that resemble smoke
<i>Crataegus crusgalli</i>	Cockspur hawthorn	20-30	Yes	3-7	White	Late spring	F	A	Grow where 2" long thorns will not be a problem or grow thornless cultivar
<i>Crataegus viridis</i> 'Winter King'	Green hawthorn	25-35	No	4-7	White	Mid to late spring	F	D-A	Tolerates drought and pollution; mostly spineless; good fall color; species is native
<i>Diospyros virginiana</i>	Persimmon	35-60	Yes	4-9	White to greenish yellow	Late spring	F-P	D-A	Tolerates drought; spreads by root suckers forming colonies; edible fruit
<i>Fraxinus americana</i>	White ash	50-80	Yes	3-9	Green to purple	Mid spring	F	A	Beautiful fall color; needs to grow in large area
<i>Ginkgo biloba</i>	Maidenhair tree	50-80	No	3-8	Green	Early to mid spring	F	A	Golden yellow leaves in fall; male trees preferred due to bad-smelling covering on seeds
<i>Gleditsia triacanthos</i>	Honey locust	30-70	Yes	3-9	Greenish yellow	Late spring to early summer	F	A	Thornless variety available; drought tolerant
<i>Gymnocladus dioica</i>	Kentucky coffee tree	60-75	Yes	3-8	Greenish white	Late spring to early summer	F	A	Adaptable to drought and city conditions; fruit a leathery pod with hard round seed
<i>Ilex opaca</i>	American	15-30	Yes	5-9	Creamy	Late	F-P	A	Evergreen; needs good

	holly				white	spring			drainage; must have male and female trees for fruit set
<i>Koelreuteria paniculata</i>	Golden raintree	30-40	No	5-9	Yellow	Early summer	F	D-A	Tolerates drought and heat; good specimen tree for limited space
<i>Liquidambar styraciflua</i>	Sweet gum	50-75	Yes	5-9	Greenish	Late spring	F	A	Needs protected location in Zone 5; good fall color; 'Rotundifolia' does not set fruit
<i>Liriodendron tulipifera</i>	Tulip tree	70-100	Yes	4-9	Pale green with orange base	Early summer	F	A	Best grown in large areas; beautiful unusual flowers; good fall color
<i>Maclura pomifera</i>	Osage orange	20-40	No	4-9	Yellow	Early summer	F	A	Tolerates wet or dry soil; growing only male trees will avoid problems caused by large fruits
<i>Magnolia stellata</i>	Star magnolia	15-20	No	4-8	White	Late winter to early spring	F-P	A	Good specimen tree; fragrant flowers
<i>Magnolia x soulangiana</i>	Saucer magnolia	20-30	No	4-9	White to pink to purplish	Mid spring	F-P	A	Tolerates pollution; beautiful flowers but often killed by late frost or freeze
<i>Malus hupehensis</i>	Tea crabapple	20-25	No	5-8	Pink buds fading to white	Mid to late spring	F	A	Tolerates part shade; fragrant flowers
<i>Metasequoia glyptostroboides</i>	Dawn redwood	70-100	No	5-8	Non-flowering		F	A	Suffers in drought; fast growing deciduous conifer
<i>Nyssa sylvatica</i>	Sour gum	30-50	Yes	3-9	Greenish white	Spring	F-P	A-W	Good shade tree with scarlet fall color; fruits attract birds and wildlife
<i>Ostrya virginiana</i>	American hop hornbeam	25-40	Yes	3-9	Male-red-brown, female-light green	Spring	F-P	A	Tolerates dry soil; does well in city plantings
<i>Parrotia persica</i>	Parrotia	20-40	No	4-8	Red	Late winter to early spring	F	A	Tolerates light shade; exfoliating bark provides winter interest
<i>Plantanus x acerifolia</i>	London plane	70-100	No	5-8	Red-toned or yellow	Spring	F	A	Resistant to anthracnose; tolerates very light shade and city pollution
<i>Quercus alba</i>	White oak	60-100	Yes	3-9	Male-yellowish, female-reddish	Spring	F	A	May be difficult to transplant but worthwhile; good for large areas
<i>Quercus</i>	Bur oak	70-80	Yes	2-8	Greenish	Late	F	A	Large impressive tree;

<i>macrocarpa</i> <i>Robinia</i> <i>pseudoacacia</i>	Black locust	30-50	Yes	3-8	White	spring Late	F-P	D-A	tolerates city conditions Not for permanently wet soils; fragrant flowers attract bees
<i>Salix alba</i>	White willow	15-80	No	4-8	Yellowish- white to brown	Spring	F-P	A-W	Good for moist or wet areas; a pussywillow
<i>Sassafras</i> <i>albidum</i>	Sassafras	30-60	Yes	4-9	Greenish yellow	Spring	F-P	A	Excellent fall color; naturalizes forming dense thickets
<i>Syringa</i> <i>reticulata</i>	Japanese tree lilac	20-30	No	3-7	Creamy white	Late spring to summer	F-P	A	Good specimen tree, street tree, or in groups; tolerates light shade
<i>Taxodium</i> <i>distichum</i>	Bald cypress	50-70	Yes	4-9	Brown	Spring	F	A-W	Tolerates somewhat dry soil to standing water; deciduous
<i>Tilia americana</i>	Basswood	60-80	Yes	2-8	Pale yellow	Early summer	F-P	A	Fragrant flowers attracts bees; need large area
<i>Ulmus parvifolia</i>	Chinese elm	20-30	No	5-9	Green	Late summer	F	D-A	Has good resistance to Dutch elm disease; not the same as Siberian elm

Vines

Actinidia arguta — Hardy kiwi vine

Unlike the true kiwi, hardy kiwi vine will grow in cold climates. Valued for its lustrous dark green foliage and edible fruit, this twining vine will grow rapidly, making it especially useful for problem areas that need quick cover or for trellises, fences, walls or arbors. Its greenish-white flowers develop into hairless grape-sized berries that taste similar to the true kiwi. For best fruit set, both male and female plants should be grown, although the cultivar, 'Issai,' does not require a pollinator.

Lonicera sempervirens — Trumpet honeysuckle

One of the showiest of the vining honeysuckles, trumpet honeysuckle produces whorls of 4-6 trumpet-shaped flowers that are orange-red to scarlet on the outside and yellow on the inside. Small red berries that are attractive to birds are produced in fall. This twining vine will tolerate dense shade, although its flowers are more profuse in full sun. Best grown on structures such as fences, trellises or arbors, trumpet honeysuckle blooms mostly on previous year's stems.

Parthenocissus tricuspidata — Boston ivy

Boston ivy has lustrous 3-lobed leaves that turn crimson in fall. The greenish-white flowers develop into dull blue berries; both are generally hidden by the foliage. Growing in a wide variety of environments, Boston ivy is a good covering for walls, trellises, arbors and fences or may be grown on the ground to hide unsightly objects.

Scientific name	Common name	Height (ft)	MO native	Zone	Bloom color	Bloom time	Sun	Water	Notes
<i>Actinidia arguta</i>	Hardy kiwi vine	25-30	No	3-8	Greenish white	Late spring to early summer	F-P	A	Grows vigorously; needs male and female plants for best fruit production
<i>Campsis radicans</i>	Common trumpet-creeper	30-40	Yes	4-9	Orange, scarlet	Early summer to early fall	F	A	Grows vigorously and needs pruning to keep under control; flowers attract hummingbirds
<i>Clematis crispa</i>	Swamp leather flower	6-10	Yes	6-9	Lavender blue with white margins	Summer	F-P	A-W	Also known as blue jasmine; plant on trellis, fence, draped over wall, or along ground
<i>Lonicera sempervirens</i>	Trumpet honeysuckle	10-20	No	4-9	Scarlet/orange with yellow inside	Late spring to fall	F	A	Tolerates part shade but blooms more in full sun; fruit attracts birds
<i>Parthenocissus quinquefolia</i>	Virginia creeper	30-50	Yes	3-9	Greenish white or yellowish green	Early to mid summer	F-S	A	Has attractive fall color; tough cover plant for walls and trellises; tolerates almost any soil
<i>Parthenocissus tricuspidata</i>	Boston ivy	30-50	No	4-8	Greenish white	Late spring to early summer	F-P	D-A	May be grown on vertical surfaces or on the ground; needs no support because of adhesive disks but may be difficult to remove