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SHRUBS

Brugmansia × *candida*



Common Name: angel's trumpet
Type: Broadleaf evergreen
Family: Solanaceae
Native Range: Ecuador
Zone: 8 to 10
Height: 5.00 to 10.00 feet
Spread: 3.00 to 5.00 feet
Bloom Time: Seasonal bloomer
Bloom Description: White, yellow, pink
Sun: Full sun
Water: Medium
Maintenance: Medium
Suggested Use: Annual
Flower: Showy, Fragrant
Leaf: Evergreen

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=a492>

Culture

Winter hardy to USDA Zones 8-10 where plants are typically grown as shrubs or small trees to 15' tall in organically rich, medium moisture, well-drained soils in full sun. In St. Louis, growing options include: (1) grow in large containers or tubs which must be overwintered indoors in bright, sunny locations or in greenhouses or (2) grow in the ground and lift plants in fall before first frost for overwintering in a cool, frost-free location (40 degrees F) with very minimal watering. During the growing season, plants are heavy feeders that need regular fertilization to stimulate new growth and flowers.

Noteworthy Characteristics

Brugmansia × *candida*, an angel's trumpet hybrid (*B. aurea* x *B. versicolor*), is a tropical shrub or tree that typically matures to 5-10' tall and features huge, nodding, trumpet-shaped flowers (to 12" long) from mid-summer to fall. Flowers come in white, yellow and pale pink, with some double-flowered cultivars available. Flowers emit a strong fragrance in evenings. Ovate to oblong leaves (to 8" long). In the first year, plants will typically grow to 3' tall with minimal flowering. In the second year, plants will grow taller with more profuse flowering.

Genus name honors Sebald Justin Brugmans (1763-1819) a professor of natural history at Leiden.

Problems

No serious insect or disease problems. Watch for caterpillars, spider mites and whiteflies, particularly on overwintering plants. For more information see: [Problems Common to Many Indoor Plants](#)

Garden Uses

Container plant for patios, decks or other sunny locations around the home. If grown in the ground, it makes an excellent accent plant that must be lifted in fall.

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Rhododendron 'Delaware Valley White'



Common Name: evergreen azalea
Type: Broadleaf evergreen
Family: Ericaceae
Zone: 5 to 8
Height: 3.00 to 4.00 feet
Spread: 3.00 to 4.00 feet
Bloom Time: April to May
Bloom Description: White
Sun: Part shade
Water: Medium
Maintenance: Medium
Suggested Use: Hedge
Flower: Showy
Leaf: Evergreen
Attracts: Butterflies
Other: Winter Interest
Tolerate: Rabbit

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=b425>

Culture

Best grown in acidic, organically rich, humus, medium moisture, moisture-retentive but well-drained soils in part shade. Prefers a sun dappled or high open shade. Morning sun with afternoon shade is also acceptable. Tolerates a fair amount of sun in cool northern summers, but leaves may scorch in hot afternoon sun in the St. Louis area. Plant in a location protected from strong winds. Plants perform well on north or east facing slopes. Do not site plants within or near the drip line of trees in the walnut family (most rhododendrons/azaleas are sensitive to toxic juglones produced by roots of walnuts, butternuts, pecans and hickories). Good soil drainage is essential (plants do not like “wet feet”). Poor drainage inevitably leads to root rot, therefore raised beds/plantings should be considered in heavy clay soils such as those present in much of the St. Louis area. Shallow, fibrous root systems (do not cultivate around plants) will benefit greatly from a mulch (e.g., wood chips, bark or pine needles) to help retain moisture and stabilize soil temperatures. Roots must never be allowed to dry out. Acidify soils as needed (plants generally like soil pH in the range of 5.0 to 5.5). Add sulfur or iron sulfate to soils to lower the pH. Add limestone or lime to soils to raise the pH. Clip off spent flower clusters immediately after bloom as practicable.

'Delaware Valley White' is not reliably winter hardy throughout USDA Zone 5.

Noteworthy Characteristics

Rhododendron is a genus of 500 to 900 species and includes both of what we commonly call rhododendrons and azaleas. Most are evergreen, but some are deciduous. They originate mostly from the Northern Hemisphere with high concentrations in western China, the Himalayas and Myanmar (Burma). They are grown for their showy spring flowers and in the case of evergreen types for their attractive winter foliage. True rhododendrons have 10

stamens in a flower and azaleas have only 5. Much hybridization has resulted in a great number of hybrid cultivars. Of note to gardeners in cool temperate areas are the large and small leaved evergreen rhododendrons and the evergreen and deciduous azaleas.

Evergreen azaleas develop as multi-stemmed plants from the ground and usually grow 3-5 feet tall. They retain their leaves throughout the year and are not as winter hardy as the deciduous azaleas. In cold winters flower buds may be frozen resulting in reduced or no flowering and foliage may winter burn (turn brown and be killed). Color range is mostly from white to pink, red, lavender and purple.

Genus name comes from the Greek words *rhodo* meaning rose and *dendron* meaning tree. Transferred from the Greek name for *Nerium oleander*.

'Delaware Valley White' is an evergreen azalea whose hybridization is unknown. It typically grows to 3-4' tall over the first 10 years. Tubular, funnel-shaped, usually single, white flowers (to 2.5" across) bloom in clusters in early mid-season (late April-May). Each flower has 10 stamens. Obovate to oblong green leaves (to 1 1/4" long) usually turn yellow over winter. Some authorities list this cultivar as a Glenn Dale hybrid.

Problems

Rhododendrons and azaleas are susceptible to many insect and disease problems. Insect pests include aphids, borers, lacebugs, caterpillars, leafhoppers, mealybugs, nematodes, scale, thrips and whitefly. Mites may also appear. Disease pests include blights, canker, crown rot, leaf gall, root rot, leaf spot, rust and powdery mildew. Chlorosis (leaves turn yellow) often indicates an iron deficiency in the soil that is often caused when the soil pH becomes too high. A healthy plant in the proper environment with proper care should have limited problems, however.

Garden Uses

Mass, group or specimen. Shrub borders, mixed borders, woodland gardens and shade gardens. Also effective in foundation plantings or as a hedge. Woodland margins.

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Euonymus alatus 'Compactus'



Common Name: dwarf-winged burning bush
Type: Deciduous shrub
Family: Celastraceae
Zone: 4 to 8
Height: 9.00 to 11.00 feet
Spread: 9.00 to 11.00 feet
Bloom Time: May to June
Bloom Description: Yellow/green
Sun: Full sun to part shade
Water: Medium
Maintenance: Low
Suggested Use: Hedge
Flower: Insignificant
Leaf: Good Fall
Tolerate: Clay Soil, Black Walnut

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=c680>

Culture

Easily grown in average, medium moisture, well-drained soil in full sun to part shade. Tolerates close to full shade, but usually at the expense of diminished fall color quality. This is an adaptable shrub that tolerates a wide range of soils except for wet, poorly-drained ones. Plants appreciate consistent moisture, particularly when grown in full sun locations.

Noteworthy Characteristics

Euonymus alatus, commonly called winged euonymus, burning bush, winged burning bush or winged spindle tree, is a dense, mounded, spreading, flat-topped, multi-stemmed shrub that is particularly noted for its fiery red fall foliage color. It is native to forests, woodlands and scrub areas in eastern Russia, Japan, China and Korea. It was introduced into the U.S. around 1860 as an ornamental, and over time has become an extremely popular shrub for homes, commercial properties and along highways. This shrub will mature over time to 15-20' tall, but is often pruned shorter. Elliptic to obovate, crenulate to serrulate, green leaves (to 3" long) turn bright red in fall. Fall color can be spectacular. Small, yellowish-green flowers appear in May but are not showy. Small fruits (1/3" red capsules) ripen in fall. Fruit capsules split open when ripe to reveal the tiny seeds (each encased in a fleshy orange-red aril). Seeds are attractive to certain birds who eat and distribute them. Greenish-brown stems have distinctive corky ridges ("wings" as used in the common name). Corky-winged stems are more noticeable in winter after leaf drop. Winged euonymus has escaped plantings and naturalized in at least 21 eastern and mid-western states. In some areas, it is now considered to be a threat to native plants because of its ability to establish itself in woodlands, forests, fields, roadsides and disturbed areas where, if conditions are favorable, it will out-compete native plants to form dense thickets.

Genus name is an ancient Greek name referring to plants of this genus.

Specific epithet means winged.

'Compactus' is a popular burning bush cultivar. It is a deciduous shrub which is not all that "compact" since it typically grows in a mound to 10' tall with a slightly larger spread, though it can easily be kept shorter by pruning. The corky ridges are absent or very reduced in size on the stems of 'Compactus'. For a truly compact burning bush, see *Euonymus alatus* 'Rudy Haag' which typically grows from 3-5' tall.

Problems

No serious insect or disease problems. Twig blight may occur, particularly in wet soil conditions. Watch for spider mites.

Garden Uses

This shrub produces excellent fall color. Specimen/accent, group or mass. Foundations, shrub borders, screen or hedge.



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Buddleja × *weyeriana* 'Honeycomb'



Common Name: butterfly bush
Type: Deciduous shrub
Family: Scrophulariaceae
Zone: 5 to 9
Height: 5.00 to 12.00 feet
Spread: 4.00 to 8.00 feet
Bloom Time: June to October
Bloom Description: Yellow with orange eyes
Sun: Full sun
Water: Medium
Maintenance: High
Flower: Showy, Fragrant
Leaf: Colorful
Attracts: Butterflies
Tolerate: Clay Soil

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?taxonid=243251>

Culture

Grow in average, medium moisture, well-drained soil in full sun. Becomes weedy and sparse with diminished flowering performance if not grown in full sun. Does poorly in wet conditions. Removal of spent flower spikes during the growing season will encourage additional bloom. This hybrid is one of the least winter hardy of the buddleias and is only recommended for growing in USDA Zones 6-9. Regardless of winter protection, in Zone 6 the top growth of this plant may die to the ground in winter with roots surviving. Even if plants do not die to the ground, they usually grow more vigorously, produce superior flowers and maintain a better shape if routinely cut back to a framework close to the ground in late winter each year in somewhat the same way one would prune back a crepe myrtle (*Lagerstroemia*). Blooms on both new and old wood, so loss of top growth to winter weather or late winter pruning will not eliminate flowering for the growing season.

Noteworthy Characteristics

Genus name honors the Reverend Adam Buddle (1660-1715), English botanist and vicar of Farm bridge in Essex.

The genus name is frequently listed today as *Buddleia*. However, Linnaeus named the genus *Buddleja* (pronounced with a silent "j") which is still considered to be the proper spelling (first name survives) according to the International Code of Botanical Nomenclature.

'Honeycomb' is a yellow-flowered butterfly bush that typically grows in a single growing season to 5-7' tall and 4-5' wide with an upright-arching to spreading habit. If not pruned back each year, it will grow taller. It is a hybrid (*B. davidii* var. *magnifica* × *B. globosa*) that is noted for producing yellow flowers with orange eyes in globe-shaped panicles. In comparison to *B. davidii* forms, this hybrid produces stronger branching that is less likely to sprawl, but smaller flower panicles clumped at the stem ends rather than in long pyramidal clusters. Flowers are fragrant, and, as the common name suggests, very attractive to butterflies. Lance-shaped silvery leaves (to 8" long).

Problems

No serious insect or disease problems. Nematodes can be troublesome in the South.

Garden Uses

Best grown in small groups or in massed plantings in borders, cottage gardens or butterfly gardens.

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Calycanthus raulstonii 'Hartlage Wine'



Common Name: Carolina allspice
Type: Deciduous shrub
Family: Calycanthaceae
Zone: 5 to 9
Height: 8.00 to 10.00 feet
Spread: 8.00 to 10.00 feet
Bloom Time: April to May
Bloom Description: Maroon
Sun: Full sun to part shade
Water: Medium
Maintenance: Low
Suggested Use: Naturalize
Flower: Showy, Fragrant
Tolerate: Deer, Clay Soil

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?taxonid=265575>

Culture

Easily grown in average, medium moisture, well-drained soil in full sun to part shade. Thrives in part shade but tolerates full sun if soils are kept moist. May grow somewhat taller in part shade than in full sun. Tolerant of a wide range of soils, including sandy or clay, but prefers rich moist loams. Prune immediately after flowering to shape and to maintain compactness. Remove root suckers promptly if naturalization is not desired. If planted in the (northern part of USDA Zone 6), it should be given a root mulch, sheltered location and protection from cold winter winds. Flowers are reportedly sterile, so plant will not produce viable seed.

Noteworthy Characteristics

Calycanthus raulstonii, commonly known as Raulston's allspice or sweetshrub, is a large, upright-rounded, thicket-forming, multi-stemmed, suckering, deciduous shrub which typically grows to 8-10' tall and as wide. This species is the result of a cross between *Calycanthus chinensis* and *Calycanthus floridus*. It features mildly fragrant maroon flowers in spring (sometimes continuing through summer to early fall) on plants clad with opposite, leathery, irregularly toothed, glossy, ovate to elliptic, emerald green leaves (to 7" long) which turn buttery yellow in fall. Leaves are rough above and pubescent below. Commonly called sweetshrub but the within plant has much less flower fragrance however.

Genus name comes from the Greek words *kalyx* meaning calyx and *anthos* meaning a flower.

Specific epithet honors the late J. C. Raulston of the North Carolina State University Arboretum who helped develop this plant until his death in 1996.

Plants in the genus *Calycanthus* are commonly called sweetshrub or strawberry bush in reference to the fragrant blooms which are often described as combining hints of pineapple, strawberry and banana.

'Hartlage Wine' is the original clone of this intrageneric cross. It was named after student Richard Hartlage who crossed *Sinocalycanthus chinensis* (Chinese species) with *Calycanthus floridus* (U.S. species) in 1991 at the JC Raulston Arboretum at North Carolina State University. It is noted for its stunning maroon fading to wine-red flowers which bloom primarily in April-May. Opposite broad elliptic leaves.

Unfortunately, nomenclature questions still exist. Some experts consider the new plant to be an intergeneric hybrid between *Sinocalycanthus chinensis* (Chinese sweetshrub) and *Calycanthus floridus* (Carolina allspice), having the botanical name of x *Sinocalycanthus raulstonii* 'Hartlage Wine'. Other experts do

not recognize *Sinocalycanthus* as a genus (simply considered part of *Calycanthus*) and contend that this plant is an intrageneric hybrid whose proper botanical name is *Calycanthus raulstonii* 'Hartlage Wine'

Problems

No serious insect or disease problems.

Garden Uses

Woodland gardens. Specimens around homes and in foundations. Shrub borders. Native plant areas. Dappled shade. Hedge.

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Euonymus fortunei 'Emerald Gaiety'



Common Name: wintercreeper euonymus
Type: Broadleaf evergreen
Family: Celastraceae
Zone: 5 to 8
Height: 3.00 to 5.00 feet
Spread: 3.00 to 6.00 feet
Bloom Time: June
Bloom Description: Greenish white
Sun: Full sun to part shade
Water: Medium
Maintenance: Medium
Flower: Insignificant
Leaf: Colorful, Evergreen
Other: Winter Interest
Tolerate: Drought, Black Walnut

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=c206>

Culture

Easily grown in average, medium moisture, well-drained soils in full sun to part shade. Tolerates significant amounts of shade. Also tolerates a wide range of soils and soil conditions, except for wet ones. Established plants tolerate some drought. Good tolerance for urban conditions. Stems may root where they touch the ground. May be propagated by rooted stem cuttings. Good tolerance for urban conditions. Trim annually after flowering to maintain attractive shape. Inconspicuous, greenish-white flowers may appear in June.

Variegated leaf may do best in part shade.

Noteworthy Characteristics

Euonymus fortunei, commonly called wintercreeper euonymus, is a dense, woody-stemmed, broadleaf evergreen to semi-evergreen plant that comes in a variety of forms. It may appear as a trailing ground cover, a mounding shrub or a climbing vine.

Genus name is an ancient Greek name referring to plants of this genus.

Specific epithet honors Scottish horticulturist and plant collector in China Robert Fortune (1812-1880).

'Emerald Gaiety' is a variegated, shrubby form with a spreading habit that typically grows to 3-5' tall over time. It is erect and densely branched, featuring rounded glossy deep emerald green leaves (to 1 3/4" diameter) with irregular but attractive creamy white margins. Leaf margins acquire pink tones as winter approaches. Flowers are sparse, and sometimes do not appear. If given support, 'Emerald Gaiety' can be trained to climb.

Problems

Euonymus scale can be a significant problem and should be treated if it appears. Anthracnose, crown gall, leaf spot, mildew and aphids can also be problems. Can spread invasively into lawns or adjacent garden areas or can climb adjacent structures.

Garden Uses

Where not deemed invasive it can be a versatile ground cover for sunny or shady areas in the landscape. Also effective as an edger along paths or sidewalks, as a slope cover where it can also provide erosion control, as a foundation planting. If used as an ivy-like climbing vine for covering walls, chimneys or fences, it more easily flowers and sets seeds that can increase its invasive spread.

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Forsythia suspensa



Common Name: weeping forsythia
Type: Deciduous shrub
Family: Oleaceae
Native Range: China
Zone: 5 to 8
Height: 6.00 to 10.00 feet
Spread: 6.00 to 10.00 feet
Bloom Time: March to April
Bloom Description: Yellow
Sun: Full sun to part shade
Water: Medium
Maintenance: Low
Suggested Use: Hedge
Flower: Showy
Tolerate: Deer, Clay Soil, Black Walnut

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=z920>

Culture

Easily grown in average, medium, well-drained soils in full sun to part shade. Adapts to wide range of soils. Best flower production in full sun. Prune immediately after spring flowering (wide range of pruning options include simply removing old stems and shaping to cutting back to the ground to revitalize). If left alone, plants may colonize an area over time because weeping branches often root where they touch the ground.

Noteworthy Characteristics

Forsythia suspensa, commonly called weeping forsythia, is an upright, arching, deciduous shrub most noted for its weeping habit. As a shrub, it typically grows 6-10' tall and as wide, but weeping branches may be trained on a support structure to grow somewhat taller as a woody vine. Golden 4-petaled flowers appear in profusion before the foliage in late winter to early spring. One of the earliest blooming shrubs... a true harbinger of spring. Opposite, serrate, ovate, simple to trifoliate, medium green leaves (to 4" long). No appreciable fall color. This species is native to China and is one of the parents of the popular *Forsythia x intermedia* hybrids.

Genus name honors William Forsyth (1737-1804), Scottish superintendent of the Royal Gardens of Kensington Palace and author, among other works, of *A Treatise on the Culture and Management of Fruit Trees* which in its day was probably the most widely read work on the subject.

Specific epithet means hanging.

Problems

No serious insect or disease problems. Some susceptibility to leaf spot and crown gall. Although vegetatively winter hardy to USDA Zone 5, the flower buds are sometimes damaged by cold winter temperatures and late freezes in Zone 5.

Garden Uses

Grown primarily for early spring accent and weeping branches. Group in borders. Mass on banks or slopes. Naturalize in sunny areas of open woodland gardens. Informal hedge. If planted above a wall, branches will cascade downward to cover the wall surface. May be trained to grow as a vine.

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Gardenia jasminoides



Common Name: gardenia
Type: Broadleaf evergreen
Family: Rubiaceae
Native Range: China, Taiwan, Japan
Zone: 8 to 11
Height: 5.00 to 6.00 feet
Spread: 5.00 to 6.00 feet
Bloom Time: Seasonal bloomer
Bloom Description: White/ivory
Sun: Part shade
Water: Medium
Maintenance: High
Flower: Showy, Fragrant, Good Cut
Leaf: Evergreen

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?taxonid=286686&isprofile=0&basic=%25>

Culture

In their native range, most gardenias are adaptable shrubs tolerant of sun or semi-shade, and do best in a well-drained, humus-rich, acidic soil. Fall or spring is the best time for planting in warmer climates. Place in light to moderate shade, preferably with minimum competition from tree roots. Gardenias resent root disturbance. Use fertilizer for acid loving plants, and iron compounds. Add plenty of organic matter, such as compost or ground bark to as large an area as possible. Mulch plants instead of cultivating. A good time to feed gardenias in these warm areas is mid-March, using an acid plant food, fish emulsion or blood meal. Fertilize the shrubs again in late June to encourage extra flowers on everbloomers or faster growth of young shrubs. Do not fertilize gardenias in the fall. Doing so will stimulate tender growth. Prune shrubs after they have finished flowering to remove straggly branches and faded flowers. Water gardenias regularly. Drip irrigating the shrubs will keep water off the foliage and blossoms and prevents leaf spots.

Cape jasmine, as it is sometimes called, is more commonly a container plant in conservatories and greenhouses in colder climates but it can be placed outside in warmer months. Grown indoors, these plants need bright light, moderate temperatures; cooler during dormancy, average to high humidity and well-drained, acidic soil. Water moderately, using room temperature water, when possible. Do not allow soil to dry out. Prune after flowering to maintain the plant's shape and remove faded or brown flowers as they appear. Fertilize from March to August with a mild acid liquid fertilizer.

Noteworthy Characteristics

Gardenia jasminoides, commonly called common gardenia or cape jasmine, is native to southern China and Japan and is an evergreen shrub with thick, glossy, dark green leaves (to 4" long). It typically grows to 3-6' tall. It is particularly noted for its extremely fragrant white flowers (to 3" diameter) and is often grown in double-flowered forms. Flowers bloom throughout the year in warm climates where temperatures do not dip below 60 degrees F., but

more typically bloom in late spring to early summer in cooler climates in the northern part of its growing range.

Gardenia jasminoides is synonymous with *G. augusta* and *G. grandiflora*.

Genus name honors Alexander Garden (1730-1791), Scottish physician, botanist and zoologist who settled in Charleston, South Carolina in 1752.

Specific epithet means like jasmine.

Problems

Problems include powdery mildew, leaf spots, dieback, anthracnose, sooty mold, whiteflies, mealybugs, scales, aphids and spider mites. These insects are often serious pests. Hard water, lack of iron or too alkaline soil will produce yellow leaves (chlorosis). The loss of buds or black leaf tips are usually due to changes in temperature or amounts of water. Temperatures below 60°F can produce malformed buds.

Garden Uses

Gardenias are prized for their large, very fragrant flowers and are quite often given as gifts to gardening enthusiasts.



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Ilex opaca



Species Native to Missouri
Common Name: American holly
Type: Broadleaf evergreen
Family: Aquifoliaceae
Native Range: Eastern and central United States
Zone: 5 to 9
Height: 15.00 to 30.00 feet
Spread: 10.00 to 20.00 feet
Bloom Time: May
Bloom Description: Creamy white
Sun: Full sun to part shade
Water: Medium
Maintenance: Low
Flower: Insignificant
Leaf: Evergreen
Attracts: Birds
Fruit: Showy
Other: Winter Interest, Thorns
Tolerate: Deer, Clay Soil, Air Pollution

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=k640>

Culture

Easily grown in average, consistently moist, acidic, well-drained soils in full sun to part shade. Leaves typically yellow in alkaline soils. Tolerates a broad range of soil conditions but will not tolerate flooding or soils saturated with moisture. Avoid poorly drained soils. Best growth in the wild usually occurs in rich bottomlands and swamp margins. Site in locations protected from cold winter winds. Part afternoon shade is best in hot summer climates. Plant foliage loses density in too much shade.

Noteworthy Characteristics

Ilex opaca, commonly called American holly, is an upright, pyramidal, evergreen tree that slowly matures to 15-30' in cultivation but may reach 50' tall in the wild. It is native to the eastern and central U.S., most frequently found in moist woods, forest bottomlands and swamp peripheries plus some coastal dunes (e.g., Cape Cod down the Atlantic Coast) from Massachusetts to West Virginia to Ohio to southeastern Missouri south to Texas and Florida. This species is easily identified because it is the only native U.S. holly with spiny green leaves and bright red berries. This is the Christmas holly whose berry-laden boughs are typically collected at Christmas time each year for ornamentation ("decking the halls" as it were). Thick, leathery, deep green leaves (2-4" long) have spiny marginal teeth. Species is dioecious (male and female flowers are on separate trees). Greenish-white flowers bloom May-June (male flowers in 3-12 flowered clusters and female flowers solitary or in 2s or 3s). Bright red or orange fruits (drupes to 1/4- 1/2" diameter) ripen in fall on pollinated female trees and persist on the tree through winter. Birds love the fruit.

Genus name comes from the Latin name *Quercus ilex* for holm oak in reference to the foliage similarities (holm oak and many of the shrubs in the genus *Ilex* have evergreen leaves).

Specific epithet means opaque or dull, in reference to the non-lustrous leaf surfaces of species plants (many of the cultivars have more lustrous foliage).

Problems

Potential insect problems include holly leaf miner, spider mites, whitefly and scale. Potential disease problems include leaf spot, leaf rot, tar spot and powdery mildew. Plants are also susceptible to leaf drop, leaf scorch and chlorosis (yellowing of leaves in high pH soils).

Garden Uses

Specimen or group. Foundation planting. Foliage provides excellent color for the winter landscape, and cuttings of the same are popular additions to Christmas wreaths and decorations. Berries are attractive and a good winter food source for birds. Hedges. Woodland gardens.



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Hydrangea macrophylla 'Nikko Blue'



Common Name: bigleaf hydrangea

Type: Deciduous shrub

Family: Hydrangeaceae

Zone: 6 to 9

Height: 4.00 to 6.00 feet

Spread: 4.00 to 6.00 feet

Bloom Time: July to August

Bloom Description: Blue in acid soil; Pink in alkaline soil.

Sun: Part shade

Water: Medium

Maintenance: Medium

Flower: Showy

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=k550>

Culture

Hydrangea macrophylla is best grown in rich, medium moisture, well-drained soils in part shade. Tolerates full sun only if grown in consistently moist soils. Soil pH affects the flower color of most cultivars except white (blue in highly acidic soils and lilac to pink in slightly acidic to alkaline soils). Add aluminum sulfate to the soil to make the flowers bluer or add lime to the soil to make the flowers pinker. Begin soil treatments well in advance of flowering, as in late autumn or early spring. Plants generally need little pruning. If needed, prune immediately after flowering by cutting back flowering stems to a pair of healthy buds. Prune out weak or winter-damaged stems in late winter/early spring. Best to mulch plants year-round with 3" of shredded bark, peat or compost. Winter hardy to USDA Zone 6. For added protection, however, plants grown in USDA Zone 5 should be sited in sheltered locations and given additional winter protection, as needed, for the purposes of minimizing the risk of loss of significant numbers of flower buds or possible die-back to the ground in an extremely harsh winter. A burlap wrap of stems or circle of chicken wire filled with leaves or straw to 8-12" are time-consuming and visually unattractive landscape options, but can be effective. Regardless of protective measures taken, most bigleaf hydrangeas simply will not bloom (or will bloom poorly) in some years because of a variety of winter occurrences beyond the control of the gardener (e.g. low temperatures, sudden wide temperature fluctuations, icy conditions, late frosts). Some newer cultivars have been selected that flower on both old and new wood. Their pruning and flowering can differ from that of the species.

Noteworthy Characteristics

Hydrangea macrophylla, commonly called big leaf hydrangea, is a deciduous shrub with a rounded habit that, in the St. Louis area, typically grows 3-6' tall and as wide unless damaged by harsh winters or pruned smaller. It generally features serrate, obovate to elliptic, dark green leaves (4-8" long) and large clusters of long-blooming summer flowers in either lacecap form (flattened flower clusters of small fertile florets with scattered showy sterile florets often forming a marginal ring) or mophead form (globose flower clusters of mostly showy sterile florets).

Genus name comes from *hydor* meaning water and *aggeion* meaning vessel in reference to the cup-like capsular fruit.

Specific epithet comes from the Greek words *makros* meaning large and *phyllon* meaning leaf in reference to plant leaves.

'Nikko Blue' is part of the hortensia or mophead group (large sterile florets arranged in globular or "mophead"-like panicles). It is a deciduous shrub with a rounded habit which typically grows 4-6' tall. Features clusters of pink or blue florets in large, rounded, 4-5" panicles (corymbs) which bloom in June (often earlier than other varieties) for up to two months. Large, serrate, obovate to elliptic, lustrous, medium green foliage.

Problems

No serious insect or disease problems. Some susceptibility to bud blight, bacterial wilt, leaf spot and mildew. Aphids are occasional visitors.

Garden Uses

Group or mass in the shrub border. Also a good specimen or accent for foundations and other locations near homes or patios. Hedge. Containers.

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Hydrangea paniculata 'Limelight'



Common Name: panicle hydrangea
Type: Deciduous shrub
Family: Hydrangeaceae
Zone: 3 to 8
Height: 6.00 to 8.00 feet
Spread: 6.00 to 8.00 feet
Bloom Time: July to September
Bloom Description: Chartreuse-lime aging to rose
Sun: Full sun to part shade
Water: Medium
Maintenance: Medium
Suggested Use: Hedge
Flower: Showy
Leaf: Good Fall
Tolerate: Air Pollution

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=c192>

Culture

Best grown in organically rich, medium moisture, well-drained soils in full sun to part shade. Can be trained as a small single trunk tree, but is best grown as a large, multi-stemmed shrub. May display best shrub form if regularly pruned to a height of 6-10' tall. This is one of the most winter hardy of the hydrangeas. It thrives in urban conditions. Bloom occurs on current season's growth, so prune as needed in late winter to early spring.

Larger flower panicles can be obtained by thinning the plants to 5-10 primary shoots. In full bloom, the weight of the flower panicles will typically cause the branches to arch downward.

Noteworthy Characteristics

Hydrangea paniculata, commonly called panicle hydrangea, is a vigorous, upright, rapid-growing, somewhat coarsely textured, deciduous shrub that is native to China and Japan. It typically grows to 8-15' (less frequently to 25') tall, and features oval to ovate dark green leaves and upright, sharply-pointed, conical, terminal flower panicles (to 6-8" long) containing both fertile and sterile flowers (mostly non-showy fertile flowers) that bloom from mid-summer into fall.

Genus name comes from *hydor* meaning water and *aggeion* meaning vessel in reference to the cup-like capsular fruit.

Specific epithet is in reference to the flowers being arranged in panicles.

'Limelight' is a slightly more compact cultivar that typically grows to 6-8' tall and as wide. It is noted for producing large, dense, upright, cone-shaped panicles (to 8" across) of mostly sterile flowers that change color on the shrub as they mature. Flowers emerge creamy white, mature to chartreuse-lime and eventually acquire pink-darkening-to-rose tones before finally fading to beige. As the flower show fades in fall, the oval to ovate, serrate, dark green leaves (to 4" long) turn attractive shades of red. Panicles may be cut for fresh arrangements or for drying, or may be left on the plant where they will persist well into winter. U.S. Plant Patent PP12,874 issued on August 20, 2002.

Problems

No serious insect or disease problems. Some susceptibility to bud blight, bacterial wilt, leaf spot, rust and mildew. Aphids and mites are occasional visitors.

Garden Uses

Mass or group in the mixed shrub border or open woodland garden. Also effective as a lawn specimen, accent or hedge. Provides late summer bloom when few other shrubs are in flower.



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Kerria japonica 'Pleniflora'



Common Name: Japanese kerria
Type: Deciduous shrub
Family: Rosaceae
Zone: 4 to 9
Height: 5.00 to 10.00 feet
Spread: 6.00 to 10.00 feet
Bloom Time: April to May
Bloom Description: Yellow
Sun: Part shade
Water: Medium
Maintenance: Medium
Suggested Use: Hedge
Flower: Showy
Tolerate: Deer, Heavy Shade, Dry Soil, Wet Soil

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?taxonid=249949>

Culture

Grow in average, medium moisture, well-drained soils in part shade. Tolerates full shade. Flowers pale in too much sun. Prefers loamy soils that are moderately fertile. Avoid heavy clay soils. Blooms on previous year's wood, so prune in spring after flowering. Suckering habit can be a problem, and unwanted suckers should be promptly removed. If necessary, plants may be renovated by cutting stems to the ground.

Noteworthy Characteristics

Kerria japonica, commonly called Japanese kerria or Japanese rose, is a tough-but-graceful, spring-flowering, deciduous shrub that is native to certain mountainous areas of China and Japan. It typically grows to 3-6' tall and to 6-8' wide on slender, arching, yellowish-green stems that remain an attractive green in winter. Single, five-petaled, rose-like, yellow flowers (to 1 1/2" diameter) bloom somewhat profusely in spring. Double-toothed, narrow, ovate-lanceolate, bright green leaves (to 4" long) turn yellow in fall.

Genus name honors William Kerr (d. 1814), Kew gardener and collector, who collected in China, Java and the Philippines.

Specific epithet means of Japan.

Plants in the genus *Kerria* are sometimes also commonly called Easter rose because the flowers typically bloom around Easter time and resemble roses.

'Pleniflora' is a very popular double-flowered cultivar that features rounded, pom-pom-like, yellow flowers (to 2" diameter). It typically grows taller (to 8-10') and more upright than the species. Cultivar name means full flowered. Synonymous with *K. japonica* 'Flore Pleno'.

Problems

No serious insect or disease problems. Susceptible to leaf spots, cankers, blights and root rot.

Garden Uses

An attractive flowering shrub for shady areas of woodland gardens or shrub borders. Specimen, group or mass. Informal hedge or screen. Incorporate into foundation plantings. Also effective in wild gardens or naturalized areas where plants may be allowed to sucker and spread.



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Prunus laurocerasus 'Otto Luyken'



Common Name: cherry laurel
Type: Broadleaf evergreen
Family: Rosaceae
Zone: 6 to 8
Height: 3.00 to 4.00 feet
Spread: 6.00 to 8.00 feet
Bloom Time: April to May
Bloom Description: Creamy white
Sun: Full sun to part shade
Water: Medium
Maintenance: Low
Suggested Use: Hedge
Flower: Showy, Fragrant
Leaf: Evergreen
Attracts: Birds
Fruit: Showy
Tolerate: Heavy Shade

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=c335>

Culture

Best grown in moist, organically rich, well-drained soils in full sun to part shade. Tolerates shade. Good soil drainage is essential. Plants generally prefer sun in the cooler areas of the growing range (USDA Zone 6) and shadier conditions in the hotter areas of the growing range (USDA Zone 8). Prune as needed after flowering. Unpruned species plants can grow quite large. May not be consistently winter hardy throughout the St. Louis area.

Noteworthy Characteristics

Prunus laurocerasus commonly called cherry laurel or English laurel is a broad, dense, spreading, evergreen shrub that in cultivation typically matures over time to 10-18' tall with a spread to 20-25'. It is native to southeastern Europe and southwestern Asia where plants in the wild may become quite tree-like, eventually reaching 30' in height. Lustrous, oblong, dark green leaves (to 6" long). Foliage is evergreen with no fall color. Tiny, cup-shaped, creamy white flowers in upright clusters (racemes to 5" long) bloom from the leaf axils in April-May. Flowers have a powerful aroma. Flowers give way to somewhat inconspicuous black drupes that ripen in mid-summer. This fruit is basically inedible for humans (bitter aftertaste) but is loved by local bird populations.

Genus name from Latin means plum or cherry tree.

Specific epithet means laurel cherry in reference to its laurel-like evergreen leaves and cherry-like fruit.

'Otto Luyken' is a compact cultivar that grows only 3-4 feet tall and spreads to 6-8 feet. Over time it can grow 6-10 feet tall. It is free-flowering. It was introduced by Hesse Nurseries in Germany around 1968.

Problems

Better pest resistance than most other species in the genus *Prunus*. Susceptible to shot-hole disease, powdery mildew and root rot.

Garden Uses

Tall hedge or screen. Specimen. Mass or group in large areas. Open woodland or shade. Compact cultivars are much smaller in size and have become very popular garden plants.



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Pyracantha coccinea



Common Name: scarlet firethorn
Type: Deciduous shrub
Family: Rosaceae
Native Range: Europe, southwestern Asia
Zone: 6 to 9
Height: 6.00 to 18.00 feet
Spread: 6.00 to 18.00 feet
Bloom Time: May
Bloom Description: White
Sun: Full sun to part shade
Water: Medium
Maintenance: Low
Suggested Use: Hedge
Flower: Showy
Attracts: Birds
Fruit: Showy
Other: Thorns
Tolerate: Clay Soil

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=e940>

Culture

Grown in average, dry to medium moisture, well-drained soil in full sun to part shade. Best in fertile soils with sharp drainage. Good tolerance for drought conditions. Not reliably winter hardy throughout the St. Louis area where shrubs should be sited in protected areas sheltered from cold winds.

Noteworthy Characteristics

Pyracantha coccinea, commonly known as scarlet firethorn, is native from southeastern Europe to the Caucasus. It is an evergreen to semi-evergreen shrub that typically grows to 8-10' tall and to 12' wide. It is noted for spring white flowers in drooping clusters, glossy green leaves, needle-like spines, and orange-red berries in fall. Foliage is evergreen in mild climates, but semi-evergreen to mostly deciduous in the St. Louis area.

Genus name comes from the Greek *pyr* meaning fire and *akantha* meaning a thorn in reference to the thorny branches and the showy crimson fruit.

Specific epithet comes from Latin *coccineus* (scarlet).

Problems

Susceptible to scab. Additional disease problems include fireblight and wilt. Potential insect pests include aphids, lacebug and scale.

Garden Uses

Impenetrable shrub for informal hedges, hedgerows, dense screens or property lines. Also, effective when massed to cover slopes. Group in shrub borders. May be sheared as a hedge, but severe pruning performed after flowering will adversely affect fruit production. Espaliers trained on wall or fence. Best planted in areas where the thorns will not present a problem.



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Spiraea japonica 'Gold Mound'



Common Name: Japanese spirea
Type: Deciduous shrub
Family: Rosaceae
Zone: 4 to 8
Height: 2.00 to 3.00 feet
Spread: 3.00 to 4.00 feet
Bloom Time: June to July
Bloom Description: Pink
Sun: Full sun
Water: Medium
Maintenance: Low
Suggested Use: Hedge
Flower: Showy
Leaf: Colorful, Good Fall
Attracts: Butterflies
Tolerate: Deer, Erosion, Clay Soil, Air Pollution

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=c341>

Culture

Easily grown in average, medium moisture, well-drained soils in full sun. Tolerates light shade. Tolerates a wide range of soils. Prefers rich, moist loams. Remove faded flower clusters as practicable (light shearing is an option) to encourage additional bloom. Flowers on new wood, so prune in late winter to early spring if needed. Plants can be aggressive self-seeders, and have escaped gardens and naturalized in many areas of the eastern U.S. Plants will also spread in the garden by suckering.

Noteworthy Characteristics

Spiraea japonica, commonly called Japanese spirea, is a dense, upright, mounded, deciduous shrub that typically grows 4-6' tall with a slightly larger spread. Leaves (to 3" long) are oval and sharply-toothed. Tiny pink flowers in flat-topped clusters (corymbs) cover the foliage from late spring to mid-summer, with sparse and intermittent repeat bloom sometimes occurring. Flowers are attractive to butterflies.

Genus name comes from the Greek word *speira* meaning wreath in reference to the showy flower clusters seen on most shrubs in the genus.

Specific epithet means of Japan, which is part of its native range.

'Gold Mound' is, as the cultivar name suggests, noted for its attractive golden foliage. It is cross between *S. japonica* 'Alpina' and *S. japonica* 'Goldflame' (parents originally described as *S. japonica* var. *alpina* and *S. x bumalda* 'Goldflame'). Leaves emerge golden in spring, but gradually fade to a gold-green as the summer progresses. Fall color may include interesting yellows, oranges and reds. This is a compact mounded cultivar that grows to 42" tall and to 48" wide. Small pink flowers in flattened corymbs (to 3" across) appear in late spring.

Problems

No known serious insect or disease problems. Spireas are generally susceptible to many of the diseases and insects that attack other rose family members, including leaf spot, fire blight, powdery mildew, root rot, aphids, leaf roller and scale.

Garden Uses

Specimen or group for rock gardens. Mass or group in shrub border. Low hedge for path and walkways. Incorporates well into foundation plantings.

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Viburnum plicatum f. *tomentosum* 'Mariesii'



Common Name: doublefile viburnum

Type: Deciduous shrub

Family: Adoxaceae

Zone: 5 to 8

Height: 10.00 to 12.00 feet

Spread: 12.00 to 15.00 feet

Bloom Time: April to May

Bloom Description: White

Sun: Full sun to part shade

Water: Medium

Maintenance: Low

Suggested Use: Hedge

Flower: Showy

Leaf: Good Fall

Attracts: Birds, Butterflies

Fruit: Showy

Tolerate: Drought

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=c358>

Culture

Easily grown in average, medium moisture, well-drained soil in full sun to part shade. Prefers moist loams, but tolerates a wide range of soils. Best with consistent and even moisture. Prune as needed immediately after flowering.

Noteworthy Characteristics

Viburnum plicatum is a dense, upright, multi-stemmed, deciduous shrub that typically matures to 8-15' tall with a slightly larger spread. Ovate, toothed, strongly-veined, dark green leaves (to 4" long) have pleated upper surfaces. Leaves turn burgundy red to purplish red in fall. Two different forms of this shrub are commonly sold in commerce: (1) Japanese snowball bush (f. *plicatum*) which is the type form featuring sterile, snowball-like, orbicular inflorescences (2-3" diameter cymes) of non-fragrant, showy white flowers along the branches in spring with no subsequent fruit and (b) doublefile viburnum (f. *tomentosum*) which is the wild-related taxon featuring fertile, flat-topped flower clusters (2-4" diameter cymes) which bloom along tiered horizontal branches in doublefile form, each cluster containing an outer ring of large showy sterile florets surrounding a center mass of tiny non-showy fertile florets which when fertilized give way to egg-shaped fruits and viable seed. Bloom time of f. *plicatum* typically occurs about two weeks later than that of f. *tomentosum*. Mature height of f. *plicatum* may rise to as much as 15' tall, but mature height of f. *tomentosum* typically will not exceed 10' tall. Except as to flower structure, bloom time, height and branching habit, both forms are otherwise very similar and commonly sold in commerce under a number of different cultivar names.

The sterile snowball form (f. *plicatum*) is known from cultivation only (first observed as a garden plant in Japan). It was discovered prior in time to the discovery of the wild fertile

doublefile form (f. *tomentosum*) from which it was actually developed. As a result of this inverted schedule of discovery, the sterile form was mistakenly given a species name (*Viburnum plicatum*) and the subsequently discovered fertile form (f. *tomentosum*) was named as if it were a variety of the species. The wild form (f. *tomentosum*) is native to forests and thickets in China and Japan.

Forma *tomentosum* has fine hairs on young stems and leaf undersides.

Genus name comes from the Latin name of a species plant.

Specific epithet means pleated or folded in reference to leaf veins.

'Mariesii' is a doublefile viburnum noted for its distinctively layered horizontal branching. It is a broad, dense, multi-stemmed, deciduous shrub that typically matures to 10-12' tall and spreads to 15' wide. Non-fragrant flowers in flat-topped, lacecap-like clusters bloom in profusion along the branches in April or May. Flower clusters appear in two rows or files, hence the common name. Each flower cluster (4-6" wide) has small non-showy inner fertile flowers with a showy outer ring of pure white sterile flowers. Pollinated fertile flowers give way in summer to red berry-like drupes which eventually mature to black. Fruits are ornamentally attractive and a food source for birds. Ovate, serrate, dark green leaves (to 5" long) turn reddish purple in fall. 'Mariesii' honors Chelsea gardener Charles Maries (1851-1902).

Problems

No serious insect or disease problems.

Garden Uses

Specimen or groups. Shrub borders, foundations or hedges.



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Viburnum plicatum



Common Name: Japanese snowball
Type: Deciduous shrub
Family: Adoxaceae
Native Range: Japan, China
Zone: 5 to 8
Height: 8.00 to 15.00 feet
Spread: 10.00 to 18.00 feet
Bloom Time: April to May
Bloom Description: White
Sun: Full sun to part shade
Water: Medium
Maintenance: Low
Suggested Use: Hedge
Flower: Showy
Leaf: Good Fall
Attracts: Butterflies
Tolerate: Drought

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=c363>

Culture

Easily grown in average, medium moisture, well-drained soil in full sun to part shade. Prefers moist loams, but tolerates a wide range of soils and has good drought tolerance. Prune as needed immediately after flowering.

Noteworthy Characteristics

Viburnum plicatum is a dense, upright, multi-stemmed, deciduous shrub that typically matures to 8-15' tall with a slightly larger spread. Ovate, toothed, strongly-veined, dark green leaves (to 4" long) have pleated upper surfaces. Leaves turn burgundy red to purplish red in fall. Two different forms of this shrub are commonly sold in commerce: (1) Japanese snowball bush (f. *plicatum*) which is the type form featuring sterile, snowball-like, orbicular inflorescences (2-3" diameter cymes) of non-fragrant, showy white flowers along the branches in spring with no subsequent fruit and (b) doublefile viburnum (f. *tomentosum*) which is the wild-related taxon featuring fertile, flat-topped flower clusters (2-4" diameter cymes) which bloom along tiered horizontal branches in doublefile form, each cluster containing an outer ring of large showy sterile florets surrounding a center mass of tiny non-showy fertile florets which when fertilized give way to egg-shaped fruits and viable seed. Bloom time of f. *plicatum* typically occurs about two weeks later than that of f. *tomentosum*. Mature height of f. *plicatum* may rise to as much as 15' tall, but mature height of f. *tomentosum* typically will not exceed 10' tall. Except as to flower structure, bloom time, height and branching habit, both forms are otherwise very similar and commonly sold in commerce under a number of different cultivar names.

The sterile snowball form (f. *plicatum*) is known from cultivation only (first observed as a garden plant in Japan). It was discovered prior in time to the discovery of the wild fertile

doublefile form (f. *tomentosum*) from which it was actually developed. As a result of this inverted schedule of discovery, the sterile form was mistakenly given a species name (*Viburnum plicatum*) and the subsequently discovered fertile form (f. *tomentosum*) was named as if it were a variety of the species. The wild form (f. *tomentosum*) is native to forests and thickets in China and Japan.

Genus name comes from the Latin name of a species plant.

Specific epithet means pleated or folded in reference to deep leaf veins.

Problems

No serious insect or disease problems.

Garden Uses

Specimen or groups. Shrub borders, foundations or hedges.



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TREES

Lagerstroemia 'Natchez'



Common Name: crape myrtle
Type: Deciduous shrub
Family: Lythraceae
Zone: 6 to 9
Height: 4.00 to 21.00 feet
Spread: 4.00 to 21.00 feet
Bloom Time: July to September
Bloom Description: White
Sun: Full sun
Water: Medium
Maintenance: Medium
Flower: Showy
Leaf: Good Fall
Tolerate: Drought, Clay Soil, Air Pollution

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=w110>

Culture

Best grown in average, medium moisture, well-drained soils in full sun. Does well in loamy, clay soils with good drainage. Benefits from a slow release fertilizer. Overly fertile soils tend to produce lush foliage growth at the expense of flowering with somewhat increased susceptibility to winter injury. Water roots deeply, particularly in dry spells, but avoid wetting the foliage. Plant in a protected location and apply a winter mulch. Above ground branches are considered to be winter hardy to USDA Zone 7, whereas roots are usually but not always hardy to USDA Zone 5. In the St. Louis area (Zone 5b to 6a), some gardeners prefer to grow these plants in somewhat the same manner as buddleias (butterfly bushes) by cutting all stems back to 8" in early spring each year. Roots will sprout new stems which typically grow 2-4' tall (sometimes more) by the end of the growing season. Flowers appear on the new wood. With protection, top growth will survive some winters, but may still suffer significant injury or die to the ground in harsh winters.

Noteworthy Characteristics

Lagerstroemia is a genus of about 40 species of deciduous and evergreen shrubs and trees from warm-temperate to tropical areas of Asia to Australia. They are grown for their very showy, lovely summer to fall bloom. In warmer areas many can be grown as trees but in colder climates they may be killed to the ground but resprout from below ground to be grown more as shrubs.

Genus name honors Magnus von Lagerstroem (1691-1759), Swedish botanist, Director of the Swedish East Indies Company and friend of Linnaeus.

Common name is in reference to the crepe-papery inflorescences and the myrtle-like (*Myrtus*

communis) features of the bark and foliage.

'Natchez' is a cross between *L. indica* and *L. fauriei*. It is one of several mildew resistant hybrids developed by the National Arboretum in Washington, D.C., all of which have been given the names of Native American tribes. It is a deciduous, upright, spreading, multi-stemmed shrub. Features dark green foliage turning orange to red in fall, dark cinnamon brown bark which exfoliates with age and terminal, crepe-papery, 6-12" long inflorescences (panicles) of white flowers from mid-summer to early fall. Flowers give way to round seed capsules which often persist well into winter. In the South, this cultivar is more tree-like and can be grown as a single trunk tree or large woody shrub with a maximum size of 21' tall and 21' wide. In the St. Louis area where winter injury is a problem, plants will grow much smaller.

Problems

The two main disease problems of crape myrtles are fungal leaf spot and powdery mildew. Foliage may yellow (chlorosis) in alkaline soils. Some susceptibility to aphids and scale. Winter injury, particularly to top growth, may occur in USDA Zones 5 and 6.

'Natchez' reportedly has good mildew resistance.

Garden Uses

Good as a specimen shrub or in groups. Shrub borders or perennial borders. In the South where above ground winter hardiness is not a problem, this cultivar is also quite effective as a tall screen or large informal hedge or trained as a single trunk tree for use both in the landscape and as a street tree.

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Cornus florida



Species Native to Missouri
Common Name: flowering dogwood
Type: Tree
Family: Cornaceae
Native Range: Eastern North America
Zone: 5 to 9
Height: 15.00 to 30.00 feet
Spread: 15.00 to 30.00 feet
Bloom Time: April to May
Bloom Description: White (bracts)
Sun: Full sun to part shade
Water: Medium
Maintenance: Medium
Suggested Use: Flowering Tree
Flower: Showy
Leaf: Good Fall
Attracts: Birds, Butterflies
Fruit: Showy
Tolerate: Deer, Clay Soil, Black Walnut

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=c280>

Culture

Easily grown in average, medium moisture, well-drained soils in full sun to part shade. Prefers moist, organically rich, acidic soils in part shade. Benefits from a 2-4" mulch which will help keep roots cool and moist in summer. May be inadvisable at this time to plant this tree in areas where dogwood anthracnose infestations are present (see problems section below).

Noteworthy Characteristics

Cornus florida, commonly known as flowering dogwood, is a small deciduous tree that typically grows 15-30' tall with a low-branching, broadly-pyramidal but somewhat flat-topped habit. It arguably may be the most beautiful of the native American flowering trees. It is native from Maine to southern Ontario to Illinois to Kansas south to Florida, Texas and Mexico. It is the state tree of Missouri and Virginia. It blooms in early spring (April) shortly after, but usually overlapping, the bloom period of the redbuds. The true dogwood flowers are actually tiny, yellowish green and insignificant, being compacted into button-like clusters. However, each flower cluster is surrounded by four showy, white, petal-like bracts which open flat, giving the appearance of a single, large, 3-4" diameter, 4-petaled, white flower. Oval, dark green leaves (3-6" long) turn attractive shades of red in fall. Bright red fruits are bitter and inedible to humans (some authors say poisonous) but are loved by birds. Fruits mature in late summer to early fall and may persist until late in the year.

Genus name comes from the Latin word *cornu* meaning horn in probable reference to the strength and density of the wood. *Cornus* is also the Latin name for cornelian cherry.

Specific epithet comes from the Latin word *flos* flower in reference to its attractive spring flowers.

Common name of dogwood is in probable reference to an old-time use of hard slender stems from this tree for making skewers once known as dags or dogs.

Problems

Flowering dogwood, when stressed, is susceptible to a rather large number of disease problems, the most serious of which is dogwood anthracnose. Although this anthracnose is not yet a serious problem in Missouri, it has caused considerable devastation in parts of the eastern U.S. Plants are also susceptible to powdery mildew, leaf spot, canker, root rot and leaf and twig blight. Stressed trees also become vulnerable to borers. Leaf miner and scale are less serious potential insect pests.

Garden Uses

Popular as a specimen or small grouping on residential property around homes, near patios or in lawns. Also effective in woodland, bird or native plant gardens.



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Acer rubrum



Species Native to Missouri
Common Name: red maple
Type: Tree
Family: Sapindaceae
Native Range: Eastern and central North America
Zone: 3 to 9
Height: 40.00 to 70.00 feet
Spread: 30.00 to 50.00 feet
Bloom Time: March to April
Bloom Description: Red, sometimes yellow
Sun: Full sun to part shade
Water: Medium to wet
Maintenance: Low
Suggested Use: Shade Tree, Street Tree, Rain Garden
Flower: Showy
Leaf: Good Fall
Tolerate: Wet Soil, Air Pollution

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=j170>

Culture

Easily grown in average, medium to wet, well-drained soil in full sun to part shade. Tolerant of a wide range of soils, but prefers moist, slightly acid conditions. Very cold hardy.

Noteworthy Characteristics

Acer rubrum, commonly called red maple, is a medium-sized, deciduous tree that is native to Eastern North America from Quebec to Minnesota south to Florida and eastern Texas. It typically grows 40-60' tall with a rounded to oval crown. It grows faster than Norway and sugar maples, but slower than silver maple. In northern states, red maple usually occurs in wet bottomland, river flood plains and wet woods, but in Missouri it typically frequents drier, rocky upland areas. Emerging new growth leaves, leafstalks, twigs, flowers, fruit and fall color are red or tinged with red. Quality of red fall color on species plants is variable. Leaves (to 2-5" long) have 3 principal triangular lobes (sometimes 5 lobes with the two lower lobes being largely suppressed). Lobes have toothed margins and pointed tips. Leaves are medium to dark green above and gray green below. Flowers on a given tree are primarily male or female or monoecious and appear in late winter to early spring (March-April) before the leaves. Fruit is a two-winged samara.

Genus name is the Latin name for a maple tree.

Specific epithet of *rubrum* meaning red is everywhere in evidence: red flowers in dense clusters in late March to early April (before the leaves appear), red fruit (initially reddish, two-

winged samara), reddish stems and twigs, red buds, and, in the fall, excellent orange-red foliage color.

Problems

No serious insect or disease problems. Watch for aphids, leafhoppers, borers, scale and caterpillars. Verticillium wilt attacks the vascular system and can be fatal. Canker, fungal leaf spot and root rots may also occur. Wind and ice may break some branches. Leaf hoppers can cause substantial damage.

Garden Uses

Plant as a specimen tree for the lawn, street or park. It is of note that this tree has a shallow, flattened root system that may buckle nearby sidewalks or driveways if planted too close.



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Acer palmatum



Common Name: Japanese maple
Type: Tree
Family: Sapindaceae
Native Range: Korea, Japan
Zone: 5 to 8
Height: 10.00 to 25.00 feet
Spread: 10.00 to 25.00 feet
Bloom Time: April
Bloom Description: Reddish-purple
Sun: Full sun to part shade
Water: Medium
Maintenance: Low
Flower: Insignificant
Leaf: Good Fall
Tolerate: Rabbit, Black Walnut

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=b974>

Culture

Easily grown in moist, organically rich, slightly acidic, well-drained soils in full sun to part shade. Grows well in sandy loams. May be grown in full sun in the northern parts of its growing range, but prefers some part afternoon shade in the southern parts of its growing range. New foliage may scorch in full sun locations in hot summers areas, particularly if soils are not kept consistently moist. Mulch helps retain soil moisture and keep roots cool. Site in locations protected from strong winds. Avoid hot and dry sites. Fertilize in spring before leaves emerge. Pruning is best kept to a minimum, but if needed should be done in late fall to mid-winter. Spring or summer pruning often results in significant bleeding.

Noteworthy Characteristics

Acer palmatum, commonly called Japanese maple, is a deciduous shrub or small tree that typically grows to 10-25' (infrequently to 40') tall. It is native to Japan, Korea and China. General plant form is rounded to broad-rounded, often with low branching. Each palmate green leaf (2-5" long) has 5 or 7 but less frequently 9 pointed toothed lobes. Small reddish-purple flowers in umbels bloom in mid spring (April). The flowers are rather attractive close up but are not particularly showy from a distance. Flowers are followed by samaras (to 3/4" long) in pairs. Samaras ripen in September-October. Fall color includes shades of yellow, red-purple and bronze. Cultivars (often grafted) are quite variable.

Genus name is the Latin name for a maple tree.

Specific epithet is in reference to the palmate nature of the leaves. Each leaf has several lobes (typically 5–7) that all originate from one point looking like an open hand with outstretched fingers.

Problems

No serious insect or disease problems. Potential disease problems include stem canker, leaf spots, fusarium, verticillium wilt, botrytis, anthracnose and root rots. Potential insect pests include aphids, scale, borers and root weevils. Mites may be troublesome. Foliage tends to leaf out early in spring and is subject to damage from late spring frosts. Chlorosis may occur in high pH soils.

Garden Uses

Japanese maples are generally grown for their attractive foliage and shape. Specimen/accent or group around the home or yard or periphery of the border. Good sun-dappled understory tree. Woodland garden margins. Screen. Bonsai.



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Quercus phellos



Species Native to Missouri
Common Name: willow oak
Type: Tree
Family: Fagaceae
Native Range: Southeastern United States
Zone: 5 to 9
Height: 40.00 to 75.00 feet
Spread: 25.00 to 50.00 feet
Bloom Time: April
Bloom Description: Yellow-green
Sun: Full sun
Water: Medium to wet
Maintenance: Low
Suggested Use: Shade Tree, Street Tree, Rain Garden
Flower: Insignificant
Tolerate: Clay Soil, Wet Soil, Air Pollution

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=a191>

Culture

Easily grown in average, medium to wet, well-drained soils in full sun. Tolerates light shade. Prefers moist well-drained loams but adapts to a wide range of soil conditions including clays with somewhat poor drainage. Generally tolerant of urban pollution. Trees or seeds for the St. Louis area should come from northern sources because there is some question as to the winter hardiness of this tree throughout USDA Zone 5.

Noteworthy Characteristics

Quercus phellos, commonly called willow oak, is a medium to large, deciduous oak tree of the red oak group that is noted for its oak shape, willow-like leaves and relatively fast growth rate. It is native to the Southeastern United States, typically being found in moist bottomland soils. In Missouri, it is usually found in wet or low woods bordering swamps, streams and canals in a few counties in the far southeastern portion of the state (Steyermark). Willow oak typically grows 40-75' tall with an oval to rounded crown but may reach 100' in ideal conditions. Smooth-edged, bristle-tipped, narrow, green leaves (to 5" long and 1" wide) are willow-like. Leaves turn an undistinguished yellow-brown or dull gold in fall. Fruits are rounded acorn cups (to 1/2" long). Acorns can be an important source of food for wildlife. Insignificant monoecious yellowish-green flowers in separate male and female catkins appear in spring (April) as the leaves emerge. Dark, irregularly-furrowed trunks (gray to dark gray-brown) develop on mature trees.

Genus name comes from the classical Latin name for oak trees.

Specific epithet means cork.

Problems

Oaks are susceptible to a large number of diseases, including oak wilt, chestnut blight, shoestring root rot, anthracnose, oak leaf blister, cankers, leaf spots and powdery mildew. Potential insect pests include scale, oak skeletonizer, leaf miner, galls, oak lace bugs, borers, caterpillars and nut weevils. Notwithstanding the aforementioned, willow oak is generally considered to have good resistance to pests and to be a low-maintenance, long-lived tree.

Garden Uses

A medium to large shade tree for large lawns, along streets or in parks. Also effective along ponds or water gardens.



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Osmanthus fragrans



Common Name: fragrant olive
Type: Broadleaf evergreen
Family: Oleaceae
Native Range: Himalayas, Japan, China
Zone: 9 to 11
Height: 10.00 to 15.00 feet
Spread: 10.00 to 15.00 feet
Bloom Time: April
Bloom Description: White
Sun: Full sun to part shade
Water: Medium
Maintenance: Medium
Suggested Use: Flowering Tree
Flower: Showy, Fragrant
Leaf: Evergreen
Other: Winter Interest
Tolerate: Drought, Clay Soil

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=a886>

Culture

Winter hardy to about 10 degrees F. and generally considered to be plantable in the ground in USDA Zones 8b-11. In these warm winter areas, it is easily grown in average, consistently moist, well-drained garden soils in full sun to part shade. Best with part afternoon shade in hot summer climates. Tolerates heavy clays. Drought tolerant once established. May be trained as a small tree, shrub or espalier. Clip off growing tips to maintain compact size and to encourage bushiness. In St. Louis, grow in containers which must be overwintered indoors in bright cool locations.

Noteworthy Characteristics

Osmanthus fragrans, commonly called fragrant olive, sweet olive or sweet tea, produces clusters of not particularly showy flowers that have an extremely powerful apricot fragrance. It is a small, upright, evergreen tree or large shrub that will typically grow to 10-15' tall in cultivation, but may reach 20-30' tall in its native habitat in Asia (Himalayas, China and Japan). It must be grown in containers in the St. Louis area. Features oval, leathery, glossy green leaves (to 4" long). Leaf margins may be smooth or finely toothed. Tiny white flowers appear in axillary clusters in spring, with some sporadic bloom through the summer into fall. Varieties of the species bear flowers in orange, gold and reddish hues. The plant has very fragrant flower. In China, flowers are sometimes added to teas.

Genus name comes from the Greek words *osme* meaning fragrant and *anthos* meaning flower.

Specific epithet also means fragrant.

Problems

No serious insect or disease problems. Watch for scale and aphids. For more information see: [Problems Common to Many Indoor Plants](#)

Garden Uses

South of USDA Zone 8a, sweet olive is grown as a small flowering tree, shrub, hedge, screen or espalier for lawns and areas around the home. In St. Louis, it is grown as a container plant for decks, patios or outdoor sitting areas or year round as a houseplant.



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Prunus persica 'Reliance'



Common Name: peach
Type: Fruit
Family: Rosaceae
Zone: 5 to 8
Height: 8.00 to 10.00 feet
Spread: 8.00 to 10.00 feet
Bloom Time: March to April
Bloom Description: Pink
Sun: Full sun
Water: Medium
Maintenance: High
Flower: Showy
Attracts: Birds
Fruit: Showy, Edible

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?taxonid=261706&isprofile=0&>

Culture

Grow in average, medium moisture, well-drained soil in full sun. Self-pollinating. Benefits from regular watering, fertilization and pruning. Plant in full sun in a site where periodic chemical spraying will not pose any problems to adjacent areas. Avoid planting peach trees in the same soil where other stone fruits have recently grown.

Noteworthy Characteristics

Prunus persica, commonly called peach, is native to China. It is grown for its luscious fruit but some cultivars are grown chiefly for the flowers and produce inedible fruit. Species trees grow up to 25' tall and wide but peach trees sold in commerce today are grafted to rootstocks which control the size of the tree. Dwarf trees bear standard size fruit, but have the advantage of fitting into smaller sites and being more manageable (easier pruning, spraying and harvesting).

Genus name from Latin means plum or cherry tree.

Specific epithet means Persia. *Prunus persica* reached Europe from China through Persia.

'Reliance' produces soft pink blossoms in early spring that is followed by medium to large freestone peaches with bright yellow flesh and yellow skin blushed with red. Fruit ripens in early to mid-August (USDA Zone 5). The tree growing at the Kemper Center was grafted to a dwarf rootstock which results in a very small tree typically growing to only 8-10' tall. 'Reliance' is also available in commerce as a standard-sized tree (grafted to a standard rootstock) which typically grows 12-15' tall.

Problems

Peaches are susceptible to a large number of serious pest problems. A regular regimen of chemical spraying is needed in order to insure harvesting a good crop. Potential disease problems include peach leaf curl, brown rot, bacterial leaf spot and canker. Potential insect problems include peach tree borer, plum curculio, oriental fruit moth, root nematodes, mites and aphids. Very cold winter temperatures and late spring frosts often cause significant damage to the buds/flowers of peaches.

'Reliance' is noted for its cold hardiness, however, and reportedly has produced crops after enduring winter temperatures as low as -25F.

Garden Uses

This dwarf tree is grown almost exclusively for its fruit crop. It fits into small places and is ideal for a sunny spot in the back yard. Attractive early spring bloom is a nice bonus.



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Cercis canadensis



Species Native to Missouri
Common Name: eastern redbud
Type: Tree
Family: Fabaceae
Native Range: North and Central America
Zone: 4 to 8
Height: 20.00 to 30.00 feet
Spread: 25.00 to 35.00 feet
Bloom Time: April
Bloom Description: Pink
Sun: Full sun to part shade
Water: Medium
Maintenance: Low
Suggested Use: Street Tree, Flowering Tree, Naturalize
Flower: Showy
Leaf: Good Fall
Attracts: Butterflies
Tolerate: Deer, Clay Soil, Black Walnut

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?taxonid=280440&isprofile=1&basic=Redbud>

Culture

Easily grown in average, medium moisture, well-drained soils in full sun to part shade. Part shade is best in hot summer climates. Performs best in moderately fertile soils with regular and consistent moisture. Avoid wet or poorly drained soils. Since this tree does not transplant well, it should be planted when young and left undisturbed.

Noteworthy Characteristics

Cercis canadensis, commonly called eastern redbud, is a deciduous, often multi-trunked understory tree with a rounded crown that typically matures to 20-30' tall with a slightly larger spread. It is particularly noted for its stunning pea-like rose-purple flowers which bloom profusely on bare branches in early spring (March-April) before the foliage emerges. This tree is native to eastern and central North America from Connecticut to New York to southern Ontario and the Great Lakes south to Western Texas and Florida. It is found in open woodlands, thickets, woodland margins, limestone glades and along rocky streams and bluffs throughout Missouri (Steyermark). Flowers (to ½" wide) bloom in clusters of 4-10. Flowers are followed by flattened leguminous bean-like dry seedpods (to 2-4" long) that mature to brown in summer. Each pod has 6-12 seeds. Pods may remain on the tree into winter. Alternate, simple, cordate, broadly ovate to nearly orbicular, dull green to blue-green leaves (3-5" across) have a papery texture and are short pointed at the tip. Leaves turn pale yellow to greenish-yellow in fall. *Cercis canadensis* is the state tree of Oklahoma.

Genus name comes from the Greek word *kerkis* meaning weaver's shuttle in reference to the resemblance of each seed pod to a weaver's shuttle.

Specific epithet is in reference to Canada (southern Ontario) being part of the native range of this tree.

Problems

Canker can be a significant disease problem. Verticillium wilt, dieback, leaf spots, mildew and blights may also occur. Insect pests include Japanese beetles, tree hoppers, leaf hoppers, caterpillars, borers, webworms and scale. Keeping the tree vigorous by regular watering and fertilization and by pruning out dead branches as needed will help keep the tree healthy.

Garden Uses

Specimen or small groups. Lawns, shrub borders, woodland margins, or along patios. Street tree or lawn tree. Attractive in naturalized settings.

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Salix babylonica



Common Name: weeping willow

Type: Tree

Family: Salicaceae

Native Range: Northern China

Zone: 6 to 8

Height: 30.00 to 50.00 feet

Spread: 30.00 to 50.00 feet

Bloom Time: April to May

Bloom Description: Silver green

Sun: Full sun to part shade

Water: Medium to wet

Maintenance: Medium

Suggested Use: Rain Garden

Flower: Insignificant

Tolerate: Deer, Black Walnut

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=c148>

Culture

Grow in average, medium to wet, well-drained soils in full sun to part shade. Thrives in moist soils. Avoid dry soils. Prefers full sun. Prune as needed in late winter to early spring. This species may not be reliably winter hardy in the St. Louis area, and is best grown in the southern parts of the U.S.

Noteworthy Characteristics

Salix babylonica, commonly called weeping willow or Babylon weeping willow, is a medium to large deciduous tree with a stout trunk topped by a graceful broad-rounded crown of branches that sweep downward to the ground. It grows to 30-50' (sometimes to 60') tall and as wide. It is native to China.

Many consider this tree to have the best form of the weeping willows available in commerce. Bark is gray-black. Branchlets are typically green or brown. This weeping willow can be a spectacular specimen at the edge of a pond with its branches gracefully weeping down to touch the water, however, it is often very difficult to site this tree in a residential landscape. It is dioecious, with male and female flowers appearing in silvery green catkins (to 1" long) on separate male and female trees. Flowering catkins appear in April-May, but are not showy. Narrow, lanceolate, finely-toothed leaves (to 6" long and 3/4" wide) with long acuminate apices are light green above and gray-green beneath. Variable fall color is usually an undistinguished greenish-yellow.

Some experts believe that the true species no longer exists in the wild in China and that plants being sold today under the name *S. babylonica* are primarily hybrids or mistakenly identified similar species.

Genus name is the Latin name for this plant.

The specific epithet means of Babylon and was given to this tree by Carl Linnaeus who mistakenly believed it to be the biblical willow of Babylon instead of a tree from China that was likely transported westward beginning in biblical times along the Silk Road trade route from China through central Asia, Afghanistan, Iraq, and Syria, eventually finding its way into Europe by the early 1700s. The trees growing in Babylon along the Euphrates River in biblical times were probably poplars (*Populus euphratica*) which are not willows but are in the willow family.

Problems

Susceptible to numerous disease problems including blights, powdery mildew, leaf spots and cankers. It also is visited by many insect pests including aphids, scale, borers, lacebugs and caterpillars. Wood is weak and tends to crack. Branches may be damaged by ice and snow. Litter from leaves, twigs and branches may be a problem. Shallow roots may clog sewers or drains and make gardening underneath the trees difficult.

Garden Uses

Weeping form of this tree is quite beautiful when the tree is planted in appropriate settings. Weeping willow may be grown most effectively in moist soils along streams, ponds or other water bodies. It is generally not recommended for use as a specimen in residential landscapes because of its susceptibility to breakage, potential insect/disease problems, invasive roots which seek out cracks in sewer and water pipes, litter potential, and overall mature size (this can develop into a very large tree).

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GROUNDCOVER AND GRASSES

Ajuga reptans



Common Name: common bugle
Type: Herbaceous perennial
Family: Lamiaceae
Native Range: Europe, northern Africa, southwestern Asia
Zone: 3 to 10
Height: 0.50 to 0.75 feet
Spread: 0.50 to 1.00 feet
Bloom Time: May to June
Bloom Description: Blue
Sun: Full sun to part shade
Water: Medium
Maintenance: Low
Suggested Use: Ground Cover, Naturalize
Flower: Showy
Leaf: Colorful
Tolerate: Rabbit, Deer, Black Walnut

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=b200>

Culture

Easily grown in average, medium moisture, well-drained soils in full sun to part shade. Prefers moist, humus soils with good drainage, but tolerates moderately dry ones. Will grow in full shade, but best foliage color usually occurs in part-sun locations (at least 3-4 hours of sun per day). Provide good air circulation in hot and humid areas where crown rot is a problem. Divide plants if they become overcrowded. This low-growing bugleweed will spread in the garden by stolons (*reptans* means creeping) to form an attractive, mat-like ground cover. Plants may be cut back to the ground after flowering, if necessary, to rejuvenate the foliage. Large plantings may be mowed on a high mower setting to remove spent flower spikes and to tidy the appearance of the planting. Space plants 6-9" apart for prompt cover. On variegated forms promptly remove any non-variegated leaves that may appear.

Noteworthy Characteristics

Ajuga reptans, commonly called bugleweed, is a dense, rapidly spreading, mat-forming ground cover which features shiny, dark green leaves. Whorls of tiny, blue-violet flowers appear in mid to late spring on spikes rising above the foliage to 10". Cultivars of this species feature leaves with more interesting and varied foliage color. When in full flower, large clumps of bugleweed can produce a striking display. Dense foliage will choke out weeds. Not particularly tolerant of foot traffic.

Genus name origin is unclear.

Specific epithet means creeping.

Problems

Crown rot can be a problem, particularly in the humid conditions of the deep South and in heavy soils. Avoid planting in wet, heavy soils, provide good air circulation and divide when clumps become overcrowded. Also avoid planting near perennial beds or lawns where its spreading nature could pose removal problems.

Garden Uses

Primary use is as a ground cover. Will fill in large, shady areas where lawns are difficult to establish. May also be planted on banks or slopes, under trees or around shrubs. Can be planted over spring bulbs such as snowdrops (*Galanthus*). Avoid planting adjacent to lawn areas since little islands of *Ajuga* may start appearing in the grass. Good for small spaces, containers and rock gardens.

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Lysimachia nummularia 'Aurea'



Common Name: creeping Jenny
Type: Herbaceous perennial
Family: Primulaceae
Zone: 3 to 9
Height: 0.25 to 0.50 feet
Spread: 1.00 to 1.50 feet
Bloom Time: June
Bloom Description: Yellow
Sun: Full sun to part shade
Water: Medium to wet
Maintenance: Medium
Suggested Use: Ground Cover, Water Plant, Naturalize, Rain Garden
Flower: Showy
Leaf: Colorful
Tolerate: Wet Soil, Shallow-Rocky Soil

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=t120>

Culture

Easily grown in moist, humus-rich, well-drained soils in full sun to part shade. Plants prefer some part afternoon shade in the St. Louis area, but flowers and foliage of yellow-leaved cultivars usually show best yellow color in full sun. Plants spread by rhizomes and self-seeding in optimum growing conditions to form large colonies. Stems may root where leaf nodes touch the ground. Plants tend to be less invasive if grown in lean, somewhat dry soils, however best performance is in moist fertile soils.

Best yellow color in full sun. Foliage is lime green in shade.

Noteworthy Characteristics

Lysimachia nummularia, commonly called moneywort or creeping Jenny, is a low-growing, creeping ground cover which forms a leafy mat only 2-4" tall. Roots where leaf nodes come in contact with the soil. Thrives in damp soils which will often kill off other types of ground covers. It features rounded, slightly ruffled, leaves (to 3/4" diameter). Profuse, cup-shaped, bright yellow flowers (to 3/4" across) appear in early summer. Tolerates limited foot traffic. It is native to Europe, but has naturalized in parts of eastern North America.

Genus name honors King Lysimachus (661-281 B.C.), Macedonian King of Thrace and is derived from *lysimacheios* which was the ancient Greek name of a plant in this grouping.

Specific epithet means resembling a coin for the leaf shape.

'Aurea' has yellow leaves.

Problems

No serious insect or disease problems. *Lysimachia* is susceptible to rust and leaf spots. Plants should be closely monitored to avoid unwanted spread.

Yellow foliage has been known to revert to the green color of the species.

Garden Uses

Excellent ground cover for areas where it can be left alone to spread or naturalize, such as banks, woodland gardens, along paths, or in moist areas near water gardens or along streams, pools or ponds. Also can be planted to cover or spill over stone walls. Interesting selection for hanging baskets. Probably too aggressive a spreader for border fronts or areas adjacent to lawns. Yellow foliage provides excellent contrast and color for shade areas.

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Pulmonaria 'Raspberry Splash'



Common Name: lungwort
Type: Herbaceous perennial
Family: Boraginaceae
Zone: 4 to 9
Height: 0.75 to 1.00 feet
Spread: 1.00 to 1.50 feet
Bloom Time: April
Bloom Description: Raspberry red
Sun: Part shade to full shade
Water: Medium
Maintenance: Low
Suggested Use: Ground Cover, Naturalize
Flower: Showy
Leaf: Colorful
Tolerate: Deer, Heavy Shade, Black Walnut

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?taxonid=256572>

Culture

Easily grown in average, medium moisture, well-drained soils in part shade to full shade. Prefers cool, organically rich, humus soils that are kept consistently moist. Soils must not be allowed to dry out. Plants may go into dormancy in the heat of a St. Louis summer if soils become too dry. Foliage may depreciate considerably in hot summer weather and may scorch if grown in too much sun. Although plants tolerate light morning sun, they need afternoon shade. Remove flower stems immediately after bloom. Plants spread slowly by creeping roots. Divide plants in fall if they become too crowded. Plant leaves may retain some color in warm winters.

Noteworthy Characteristics

Pulmonaria is a genus of about 17 species of deciduous or evergreen herbaceous perennials from Europe and Asia. Lungworts are shade plants that, like many of the hostas, are often valued more for their attractive foliage than for their spring flowers.

Genus name comes from the Latin *pulmo* meaning lung. In accordance with the Doctrine of Signatures, genus plants were once believed by Medieval herbalists to be an effective remedy for treating lung diseases because the spotted plant leaves purportedly resembled diseased lungs. It is, however, well established today that there is no valid basis for believing genus plants have any value as medicinal plants.

Common name of lungwort is in reference to the supposed resemblance of the blotched/spotted leaves to a diseased lung.

'Raspberry Splash' is a mounding variety that features upright silvery-blotched leaves and

bright raspberry flowers. It typically grows in an upright basal clump to 12” tall and spreads to 18” wide. Narrow, lance-shaped, dark green leaves are heavily blotched with silver. Drooping clusters (terminal cymes) of funnel-shaped, raspberry flowers appear on short stalks just above the foliage in spring. This cultivar is a hybrid between *P. longifolia* ‘Bertram Anderson’ and *P. ‘Leopard’*. U.S. Plant Patent #PP12,138 issued October 9, 2001.

Problems

No serious insect or disease problems. Slugs and snails are occasional insect pests. Powdery mildew can be a significant problem on some lungwort, particularly if soils are allowed to dry in summer. Leaves can depreciate considerably in extremely hot weather and/or too much sun (scorch).

‘Raspberry Splash’ reportedly has good resistance to powdery mildew.

Garden Uses

Excellent foliage plant for shady areas of the landscape. Spring flowers are also attractive. Best grown in groups or massed as a ground cover. Best in woodland or shade gardens, shaded border areas or shaded areas of rock gardens. Also can be an effective edging plant for shady paths.



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Hosta plantaginea



Common Name: hosta
Type: Herbaceous perennial
Family: Asparagaceae
Native Range: China
Zone: 3 to 9
Height: 1.00 to 1.50 feet
Spread: 1.50 to 2.00 feet
Bloom Time: August to September
Bloom Description: White
Sun: Part shade to full shade
Water: Medium
Maintenance: Low
Flower: Showy, Fragrant, Good Cut
Attracts: Hummingbirds
Tolerate: Heavy Shade, Black Walnut

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=h120>

Culture

Easily grown in average, medium moisture, well-drained soils in part shade to full shade. Tolerant of a wide range of soil conditions. Performs best in rich, moist, organic soils. Plants need consistent moisture during the growing season. Water is best applied directly to the soil beneath the leaves. Divide plants as needed in spring or autumn. Division is usually easiest in early spring before the leaves unfurl.

Noteworthy Characteristics

Hosta plantaginea is an erect and spreading, medium hosta which features bright glossy, nearly round, heart-shaped, light yellowish green leaves and very large (3-4" long), waxy, trumpet-shaped, white, heavily fragrant flowers on scapes up to 30". A dependable and versatile perennial requiring little care. Grown for both its beautiful foliage and its large, fragrant flowers. Flowers are considered among the best in the *Hosta* genus. Dense foliage crowds out garden weeds. Sometimes commonly called August lily in reference to its late summer bloom time.

Genus name honors Austrian botanist Nicholas Thomas Host (1761-1834) and was first established in 1812. The genus was subsequently renamed in 1817 as *Funkia* in honor of botanist Heinrich Christian Funk under the belief at that time that *Hosta* was an invalid name. *Hosta* was finally reinstated as the genus name in 1905 by the International Botanical Congress.

Specific epithet means resembling a plantain.

Problems

Although slugs and snails can be serious problems, and leaf spot and crown rot lesser problems, hosta are otherwise virtually disease and pest-free, and are ideal, low-maintenance garden perennials.

Garden Uses

A mainstay of the shade garden. This medium hosta can be mixed with other perennials in the border, woodland garden or natural area or can be massed to cover large areas. This species can be particularly effective as a specimen.



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Hosta 'Undulata Variegata'



Common Name: hosta
Type: Herbaceous perennial
Family: Asparagaceae
Zone: 3 to 8
Height: 1.00 to 2.00 feet
Spread: 1.00 to 2.00 feet
Bloom Time: June to July
Bloom Description: Lavender
Sun: Part shade to full shade
Water: Medium
Maintenance: Low
Flower: Showy
Leaf: Colorful
Attracts: Hummingbirds
Tolerate: Heavy Shade, Black Walnut

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=a408>

Culture

Easily grown in evenly moist, organically rich, well-drained soils in part shade to full shade. Best in part shade (some morning sun or sun dappled conditions). Established plants have some tolerance for dry shade (particularly plants with thick leaves), but soils should never be allowed to dry out. Full size and quality form are best achieved with consistent moisture. Water is best applied directly to the soil beneath the leaves. Divide plants as needed in spring or autumn. Division is usually easiest in early spring before the leaves unfurl. Plant in locations protected from wind.

Noteworthy Characteristics

Hosta is a genus of about 70 species of shade-loving, rhizomatous, clump-forming, herbaceous perennials which are native to open woodlands, woodland margins and glades in Japan, Korea, China and eastern Russia. Hostas are primarily grown for their ornamental foliage. Stalked, conspicuously-veined, often dense, basal leaves in a variety of shapes, sizes, colors and textures rise up from a central rhizomatous crown to form a rounded to spreading mound of foliage. Bell or funnel-shaped flowers in terminal, mostly one-sided racemes bloom in late spring or summer atop vertical, unbranched, usually leafless but frequently bracted scapes which rise upward from the crown or rootstock to a point often well above the foliage mound.

Genus name honors Austrian botanist Nicholas Thomas Host (1761-1834) and was first established in 1812. The genus was subsequently renamed in 1817 as *Funkia* in honor of botanist Heinrich Christian Funk under the belief at that time that *Hosta* was an invalid name. *Hosta* was finally reinstated as the genus name in 1905 by the International Botanical Congress.

Funkia remains a popular common name today in some areas. An additional common name for plants in this genus is plantain lily (foliage is somewhat plantain-like and flowers are somewhat lily-like in some species).

Hosta undulata and *Hosta 'Undulata'* are designations applied to a large number of garden hostas that have in common wavy-margined, twisted leaves, which are either variegated or all green. Hostas sold in commerce as *Hosta 'Undulata Variegata'* or *Hosta undulata 'Variegata'* usually are mounding plants to 15-22" tall featuring narrow oval to elliptic wavy-margined green leaves (to 7" long) with irregular creamy white center stripes. Racemes of funnel-shaped, lavender flowers appear in summer on scapes rising well above the foliage mound to (24-36" tall). The Royal Horticultural Society (RHS) currently breaks

down *Hosta undulata* into four separate varieties (var. *albomarginata*, var. *errumena*, var. *undulata* and var. *univittata*). Under RHS designation, the within plant is synonymous with *Hosta undulata* var. *undulata*. Because of the taxonomic confusion over these wavy-leaved hostas, it may be best to check out the foliage before buying.

Problems

Slugs and snails are attracted to the foliage, chewing jagged holes in the leaves, and if left unchecked, can cause serious damage over a fairly short period of time. Watch for foliar nematodes which feed on the leaves causing interveinal browning. Leaf spots and crown rot are less frequent problems. Plants infected with Hosta Virus X (HVX), tobacco rattle virus or tomato ring spot virus should be immediately removed from garden areas and destroyed. Otherwise, hostas are virtually pest-free and are considered ideal low-maintenance garden perennials. Leaves, particularly of exposed plants, can be severely damaged by hail storms. Leaves are commonly eaten, often voraciously, by deer.

Garden Uses

Hostas are a mainstay of shade gardens. Notwithstanding the often showy flowers produced, hostas are primarily grown in shady areas for the often ornamental excellence of their foliage. Very effective in groups or massed. Good background plant. Shady borders, shade gardens or woodland gardens.



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Hedera helix



Common Name: English ivy
Type: Vine
Family: Araliaceae
Native Range: Europe, Scandinavia, Russia
Zone: 4 to 9
Height: 20.00 to 80.00 feet
Spread: 3.00 to 50.00 feet
Bloom Time: September to October
Bloom Description: Greenish white
Sun: Part shade to full shade
Water: Medium
Maintenance: Low
Suggested Use: Ground Cover, Naturalize
Flower: Insignificant
Leaf: Evergreen
Other: Winter Interest
Tolerate: Drought, Heavy Shade

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=r450>

Culture

Easily grown in average, medium moisture, well-drained soils in part shade to full shade. Will also grow in full sun. Tolerates a wide range of soils, but prefers rich loams. Tolerates some drought, but produces best foliage color in evenly moist soils. In the St. Louis area, plants will benefit from a placement that will provide some protection from winter wind and sun and from hot summer temperatures. Plants may be propagated vegetatively or by seed. Birds help disperse seed. Spreading stems will root at the nodes where they touch the soil. Ground covers rarely need pruning except when they invade unintended areas. Ground covers may be trimmed on the edges with a spade or shears.

Noteworthy Characteristics

Hedera helix, commonly known as English ivy, is a vigorous, aggressive, fast-growing, woody evergreen perennial that is primarily grown as a climbing vine or trailing ground cover. As a climbing vine, it may over time grow upwards to 50-100' in height. As a ground cover, it typically grows to 6-9" tall but spreads over time to 50-100'. English ivy grows in two forms or stages: (1) juvenile stage is the climbing/spreading stage (most often seen) in which plants produces thick, 3-5 lobed, dark green leaves (to 4" long) on non-flowering stems with adventitious roots, and (2) adult stage is the shrubby non-climbing stage in which lobeless, elliptic-ovate, dark green leaves appear on rootless stems that do not spread or climb, but do produce round, umbrella-like clusters of greenish-white flowers in early fall followed by blue-black berries. Native to Europe, English ivy was brought to the U. S. by settlers in colonial days. It has been and continues to be widely sold in the U. S. as an ornamental plant. It has escaped gardens and naturalized in a large number of eastern, midwestern and pacific coast states. In some climates such as in the Pacific Northwest, it is considered by some to be an invasive invader of woodland and open areas where it often aggressively displaces native vegetation by densely smothering large areas of ground with its trailing densely-leaved stems or by climbing into tree canopies via clinging aerial rootlets.

Genus name is the Latin name for ivy.

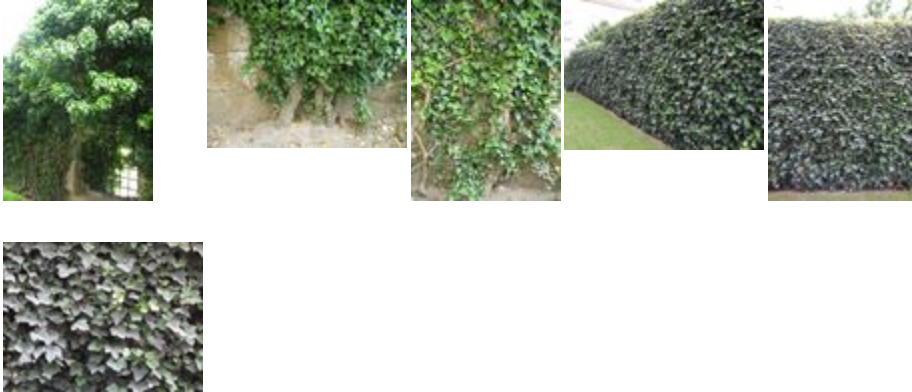
Specific epithet from Greek means spiral or twisted.

Problems

No serious insect or disease problems. Aphids, mealybugs, caterpillars, loopers and scale may appear. Watch for leaf spots, canker, bacterial leaf spot, stem rot and powdery mildew. Mites can be significant problem. Climbing vines around homes easily crawl into unintended areas, curl around gutters and damage painted surfaces, loose mortar or aluminum siding if growth is not closely monitored. For more information see: [Problems Common to Many Indoor Plants](#)

Garden Uses

Cover for fences, trellises or walls. Ground cover. Lawn alternative. Smaller-leaved cultivars are often used for topiary shapes, hanging baskets, houseplants or small area ground covers.



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Juniperus horizontalis 'Wiltonii'



Common Name: creeping juniper

Type: Needled evergreen

Family: Cupressaceae

Zone: 3 to 9

Height: 0.25 to 0.50 feet

Spread: 6.00 to 8.00 feet

Bloom Time: Non-flowering

Sun: Full sun

Water: Medium

Maintenance: Low

Suggested Use: Ground Cover

Leaf: Evergreen

Other: Winter Interest

Tolerate: Deer, Drought, Erosion, Dry Soil, Shallow-Rocky Soil, Air Pollution

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?taxonid=249878&isprofile=0&>

Culture

Grow in average, medium moisture, well-drained soils in full sun. Adapts to a wide range of soils, but prefers a dry, sandy soil. Tolerates hot, relatively dry growing conditions, somewhat poor soils and many city air pollutants. Intolerant of wet soils.

Noteworthy Characteristics

Juniperus horizontalis, commonly called creeping juniper, is a procumbent evergreen shrub that is native to Alaska, Canada and the northern U.S. from New England to New York to the Great Lakes, Wyoming and Montana. Distribution in the northern U.S. is somewhat spotty. It is typically found growing in rocky or sandy soils including rock outcroppings, stony slopes, coastal cliffs, prairies, sand dunes and stream banks. It forms a low groundcover that generally rises to 6-18" tall but spreads by long trailing branches with abundant short branchlets to form an often-dense, 4-10' wide mat. Foliage is primarily scale-like (adult) with some awl/needle-like (juvenile) needles appearing usually in opposite pairs. Foliage is typically green to blue-green during the growing season, but often acquires purple tones in winter. Fleshy seed cones (dark blue berries) generally mature in two years, but are often absent on cultivated plants.

Genus name comes from the Latin name for the juniper.

Specific epithet is in obvious reference to the horizontal branches.

'Wiltonii' is a female cultivar noted for its excellent, dense, prostrate form, typically growing to 4-6" tall and spreading to 6-8' wide. It features silver blue foliage that acquires purple tones in winter. This cultivar is synonymous with *J. horizontalis* 'Blue Rug' and sometimes commonly called blue rug juniper.

Problems

No serious insect or disease problems. Junipers are generally susceptible to blights (dieback of stem tips), particularly in unusually rainy/wet springs. Cedar-apple and related rust diseases spend part of their life cycle on junipers. Root rot may occur, particularly in wet, poorly drained soils. Occasional insect pests include aphids, bagworms, webworm, and scale. Watch for spider mites. Foliage on mature plants will sometimes die back in the center.

Garden Uses

A versatile, sprawling ground cover. Rock gardens. Foundations. Retaining wall edges. Mass on slopes for erosion control. Good for rocky ground. Hot and dry areas.

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Stachys byzantina



Common Name: lambs' ears
Type: Herbaceous perennial
Family: Lamiaceae
Native Range: Central-eastern Turkey, northern Iran, Caucasus
Zone: 4 to 8
Height: 0.75 to 1.50 feet
Spread: 1.00 to 1.50 feet
Bloom Time: May to July
Bloom Description: Purplish-pink
Sun: Full sun
Water: Dry to medium
Maintenance: Low
Suggested Use: Ground Cover, Naturalize
Flower: Insignificant
Leaf: Colorful
Tolerate: Rabbit, Deer, Drought, Dry Soil, Shallow-Rocky Soil, Black Walnut, Air Pollution

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=p980>

Culture

Easily grown in average, dry to medium, well-drained soils in full sun. Appreciates some light afternoon shade in hot summer climates. Too much shade, however, may impede leaf drying and promote the onset of disease. The woolly leaves of this plant tend to trap moisture, and in humid climates such as the St. Louis area, plant leaves are susceptible to attack from rot and leaf spot where too much moisture is present. Plants are generally drought tolerant. Avoid overwatering. If mid-summer foliage decline occurs, pick off damaged leaves as needed. Spreads by creeping stems that root as they go along the ground and can be mildly aggressive in rich soils. Site starter plants 12-18" apart for use as a ground cover. Divide when necessary. Flowers are not particularly showy, and many gardeners prefer to remove the flowering stems as they appear to enhance the ground cover effect.

Noteworthy Characteristics

Stachys byzantina, known as lamb's ears, is grown primarily for its thick, soft, velvety, silver-gray leaves which typically form a rapidly spreading mat approximately 4-6" off the ground. Leaves are evergreen in warm climates but will depreciate considerably in harsh winters. Erect, small-leaved flowering stems with terminal spikes of insignificant, tiny, purplish-pink flowers appear in summer rising above the foliage to 10-15" tall. Many gardeners remove the flowering stems to enhance the ground cover effect. Dense rosettes of woolly, tongue-shaped, gray-green leaves (to 4" long) spread by runners. Leaf shape and texture resemble a lamb's ear, hence the common name.

Genus name comes from the Greek *stacys* meaning ear of corn in probable reference to the inflorescence of a related plant.

Specific epithet means of classical Byzantium (Istanbul, Turkey).

Several cultivars of this species, the best of which is 'Helene Von Stein', have the advantages over the species of having better summer foliage and rarely producing flowering stems.

Problems

Tends to rot and develop leaf diseases in humid summer climates. Well-drained soils are essential in order to combat potential rot problems which often occur in humid St. Louis summers. Even with well-drained soils, some summer die-out may occur where high humidity and/or moisture on foliage is present. Can spread aggressively.

Garden Uses

Foliage provides interesting texture and color to the border or rock garden. Effective edger or small area ground cover.



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Liriope muscari



Common Name: big blue lilyturf
Type: Herbaceous perennial
Family: Liliaceae
Native Range: China, Taiwan, Japan
Zone: 5 to 10
Height: 1.00 to 1.50 feet
Spread: 0.75 to 1.00 feet
Bloom Time: August to September
Bloom Description: Lavender
Sun: Full sun to part shade
Water: Medium
Maintenance: Low
Tolerate: Rabbit, Deer, Drought, Erosion, Air Pollution

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=l100>

Culture

Easily grown in average, medium moisture, well-drained soil in full sun to part shade. Prefers moist, fertile soils in part shade in the St. Louis area. Tolerates a wide range of light conditions and soils. Will grow in close to full shade but will produce more elongated foliage and spread more slowly. Also has good tolerance for heat, humidity and drought. Foliage is evergreen in warm southern climates but declines considerably in areas with cold winters such as St. Louis. Cut foliage to the ground (mow large plots on high mower setting) in late winter to early spring in preparation for new growth. Plants may not be reliably winter hardy in the northern parts of USDA Zone 5 where they should be sited in protected locations.

Noteworthy Characteristics

Liriope muscari, commonly called lilyturf or blue lily turf, is a tufted, tuberous-rooted, grass-like perennial which typically grows 12-18" tall and features clumps of strap-like, arching, glossy, dark green leaves (to 1" wide). Clumps slowly expand by short stolons, but do not spread aggressively like *Liriope spicata*. Erect, showy flower spikes with tiered whorls of dense, violet-purple flowers rise above the leaves in late summer. Flowers give way to blackish berries which often persist into winter.

Genus name honors a Greek woodland nymph, Liriope, the mother of Narcissus.

Specific epithet means with flowers resemble grape hyacinth (*Muscari*).

Common name of lily turf acknowledges the plant's turf-like growing habit. It is not a grass and was previously placed in the lily family but is now placed in the asparagus family. Another common name is border grass.

Problems

No serious insect or disease problems. Watch for slugs and snails. Leaf rot and crown rot may occur.

Garden Uses

Excellent grassy ground cover for shaded areas of the landscape. Best massed as a ground cover or edging plant. Small groups for accent. Rock gardens. Woodland gardens. Containers. Edging for paths or walkways. May be used in some areas as a grass substitute, but it has little tolerance for foot traffic.

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Liriope spicata



Common Name: creeping liriope
Type: Herbaceous perennial
Family: Asparagaceae
Native Range: China, Vietnam
Zone: 4 to 10
Height: 0.75 to 1.50 feet
Spread: 1.00 to 2.00 feet
Bloom Time: August to September
Bloom Description: Lavender to white
Sun: Full sun to part shade
Water: Medium
Maintenance: Low
Suggested Use: Ground Cover, Naturalize
Flower: Showy
Tolerate: Rabbit, Deer, Drought, Erosion, Air Pollution

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=a620>

Culture

Easily grown in average, medium, well-drained soil in full sun to part shade. Prefers moist, fertile soils in part shade. Spreads quickly by underground rhizomes to form colonies and can be quite aggressive. Mow in early spring to remove old foliage.

Noteworthy Characteristics

Liriope spicata is a rhizomatous, grass-like perennial which forms a clump of narrow, arching, glossy, dark green leaves (to 1/4" wide) typically growing 9-15" high. Erect flower spikes with pale lavender to white flowers arise, somewhat hidden, among the leaves in late summer. Flowers often give way to blackish berries in fall. Evergreen in the South but can turn brown considerably in areas with cold winters such as St. Louis.

Genus name honors a Greek woodland nymph, Liriope, the mother of Narcissus.

Specific epithet means spike-bearing.

Common name of lily turf acknowledges the plant's turf-like growing habit. It is not a grass and was previously placed in the lily family but is now placed in the asparagus family.

Problems

No serious insect or disease problems. Watch for slugs or snails.

Garden Uses

Best as a dense ground cover. Effective planted under shallow-rooted trees and along streams or ponds. Can help stabilize soil on banks or slopes.



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Phlox paniculata 'David'



Common Name: garden phlox
Type: Herbaceous perennial
Family: Polemoniaceae
Zone: 3 to 8
Height: 2.00 to 4.00 feet
Spread: 2.00 to 3.00 feet
Bloom Time: July to September
Bloom Description: White
Sun: Full sun to part shade
Water: Medium
Maintenance: Medium
Flower: Showy, Fragrant
Attracts: Hummingbirds, Butterflies
Tolerate: Deer, Clay Soil, Black Walnut

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=l610>

Culture

Grow in moderately fertile, medium moisture, well-drained soil in full sun to part shade. Best in full sun. Prefers rich, moist, organic soils. Also prefers moderate summer temperatures over the heat and humidity of the deep South. Needs good air circulation (space well and thin out stems as needed) to help combat potential powdery mildew problems. Intolerant of drought and needs to be watered in dry spells. Avoid overhead watering however. Appreciates a summer mulch which helps keep the root zone cool. For winter, cut plants to the ground and remove from the garden plus clean up all plant areas in order to minimize possible powdery mildew infection for the following growing season. Remove faded flower panicles to prolong bloom period and to prevent unwanted self-seeding (cultivars generally do not come true from seed).

Noteworthy Characteristics

Phlox paniculata, commonly known as garden phlox, is native from New York to Iowa south to Georgia, Mississippi and Arkansas. It has escaped gardens and naturalized into areas beyond its original native range. In Missouri, it is typically found south of the Missouri River in moist or rich low woods, thickets, alluvial banks and gravel bars along streams and bluff bases (Steyermark). This is an upright perennial that grows in a clump to 2-4' tall and to 2-3' wide on stiff stems clad with conspicuously veined, opposite, pointed, elliptic, deep green leaves (to 4-6" long). Fragrant, tubular, pink-purple to white florets (to 3/4" diameter) are densely packed in large, tiered, domed terminal clusters (to 6-8") over a long July to September bloom period. Each individual floret has a long corolla tube and five flat petal-like lobes. Butterflies love the flowers.

A large number of garden phlox cultivars in flower colors including white, lavender, pink, rose, red and bi-color are available in commerce. Cultivars resistant to powdery mildew are often

the best choices.

The genus name is derived from the Greek word *phlox* meaning flame in reference to the intense flower colors of some varieties.

Specific epithet refers to the plant bearing flowers in panicles.

'David' is a garden phlox cultivar that typically grows in an upright clump to 3-4' tall. Fragrant, tubular flowers (1/2" to 1" diameter) with long corolla tubes and five flat petal-like lobes are pure white. Individual flowers are densely arranged in large, terminal, pyramidal clusters (panicles to 6-12" long) in summer atop stiff, upright stems which seldom need staking. Long mid to late summer bloom sometimes extends into early fall. Narrow, opposite, pointed, lance-shaped leaves (to 5" long). Good fresh cut flower.

Problems

Phlox is not always an easy plant to grow well. Phlox bugs, powdery mildew and root rot can be serious problems. Spider mites can also be a problem, particularly in hot, dry conditions. Taller stems may need staking.

By reputation, 'David' has good resistance to powdery mildew.

Garden Uses

Garden phlox is a staple of the perennial border. Mixes well with other perennials and provides long summer bloom. Regardless of flower color, garden phlox is attractive to hummingbirds and is a good selection for inclusion in a bird garden.



For more information and details contact

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Phone 770-443-7616

Phlox subulata



Common Name: moss phlox
Type: Herbaceous perennial
Family: Polemoniaceae
Native Range: Eastern and central United States
Zone: 3 to 9
Height: 0.25 to 0.50 feet
Spread: 1.00 to 2.00 feet
Bloom Time: March to May
Bloom Description: Red-purple to violet-purple to pink to white
Sun: Full sun
Water: Medium
Maintenance: Medium
Suggested Use: Ground Cover, Naturalize
Flower: Showy
Attracts: Butterflies
Tolerate: Deer, Drought, Erosion, Air Pollution

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=c268>

Culture

Best grown in humus, medium moisture, well-drained soils in full sun. Best flowering is in full sun, but plants generally appreciate some dappled sun in the hot summers of the deep South. Good soil drainage is important. Plants grow well in sandy or gravelly soils and tolerate hot, dry exposures better than most other species of phlox. Plants will self-seed in optimum growing conditions. Cut back stems after flowering by 1/2 to maintain form and promote denser growth plus to stimulate a possible light rebloom.

Noteworthy Characteristics

Phlox subulata, commonly called moss phlox, moss pink, mountain phlox or creeping phlox, is a vigorous, spreading, mat-forming, sun-loving phlox that grows to only 6" tall but spreads to 24" wide. It is noted for its creeping habit, its linear to awl-shaped leaves (which retain some green in winter) and its profuse carpet of mid-spring flowers with notched flower petals. It is native to somewhat dry, rocky or sandy places, open woodland areas and slopes from Michigan, Ontario and New York south to Tennessee and mainly in the Appalachians to North Carolina. Loose clusters (cymes) of fragrant, tubular flowers (to 3/4" wide) bloom in April-May. Flowers are red-purple to violet-purple, pink or infrequently white. Each flower has five, flat, petal-like, rounded lobes that are distinctively notched. Linear to awl-shaped, green leaves (to 1" long). From Latin, *subulata* means awl-shaped in reference to the leaves. Vegetation mats purportedly resemble moss, hence the common name of moss phlox. Many cultivars of this plant are available in commerce featuring flower colors of blue/purple, pink, red and white.

The genus name is derived from the Greek word *phlox* meaning flame in reference to the intense flower colors of some varieties.

Specific epithet means awl-shaped.

Problems

Phlox subulata and its cultivars do not seem to be bothered by powdery mildew to the same extent as are most other species of phlox. Spider mites can be a problem, particularly in hot, dry conditions. Foliar nematodes can cause damage in wet/humid conditions. Watch out for rabbits.

Garden Uses

Rock gardens, edgings, foundations or ground covers. Ground covers are particularly valued in sunny areas of woodland gardens, slopes, native plant gardens or naturalized areas. Also appropriate for sunny areas of border fronts. Drape slightly over a rock wall.



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