

EVERGREEN SCREENING PLANTS

Evergreens are needed to block, frame, and direct views. They also provide visual interest and relief where the predominate vegetation is deciduous

Needled and broadleaved evergreens are more prone to damage from aerial salts, atmospheric pollutants, and desiccating winds because the foliage is retained throughout the seasons. Once the foliage is damaged, the injured portions remain visible for long periods. In general, evergreens are not used for street trees in the classical sense because they block vision and cast shadows which slow down the melting of ice and snow. They are often used, however, in groups or masses at considerable distances from the highway's edge.

The plants that follow have been included because they exhibit the greatest adaptability to adverse environmental conditions. White pine, *Pinus strobus*, and Canadian hemlock, *Tsuga canadensis*, are not included because of their sensitivity to salts and atmospheric pollutants.

Cedrus atlantica

Atlas Cedar



HEIGHT: 50-70 feet
 SPREAD: 40-60 feet
 HABIT: pyramidal in youth; irregular and spreading with age

ZONE: 6
 ENVIRONMENT: full sun, appears to be more tolerant of aerial salts than most evergreens; pH adaptable

Atlas cedar tends to be strongly pyramidal for the first fifteen to twenty-five years, after which time it begins to spread and becomes more open. Needles vary from green (on the type) to silvery-blue on the cultivar 'Glauca'. *Cedrus atlantica* is reported to be difficult to transplant. The authors have seen young plantings in parking lots and in narrow spaces along major roadways where the plants show no signs of stress. Observations at Kew Gardens in England indicate that this species is more tolerant of drought and atmospheric pollution than *C. deodora* or *C. libani*. Disadvantages include stiff, coarse texture compared to other species, lack of shade tolerance, needle dieback in cold winters, and infestations of *Diplodia* tip blight in humid areas. A useful cultivar for restricted growing areas is 'Fastigiata'. *C. deodara*, Deodar cedar, is more graceful than *C. atlantica* and also is easier to transplant. Additionally, two cultivars, 'Kashmir' and 'Kingsville', are supposedly hardy to -25°F , however, these clones have not proven hardy to -5 to -10°F in Midwestern tests. The Arnold Arboretum has a hardy selection called 'Shalimar' that is far superior to either cultivar.

Chamaecyparis pisifera

Sawara False-cypress



HEIGHT 20-50 feet
 SPREAD 10-20 feet
 HABIT: pyramidal

ZONE 5
 ENVIRONMENT. full sun; moist to dry, well-drained soil; pH adaptable

Sawara false-cypress exhibits great variation in form, foliage color, texture, and growth rate. While most cultivars are somewhat slow in growth, they are long-lived and dependable. Young plants tend to be dense and clad with branches directly to the ground. Older specimens are often bare toward the base, and the upper canopy becomes thin and layered in appearance. Trunks are usually straight and tall, and walking through a mature grove would be a delightful experience. *Chamaecyparis pisifera* exhibits tolerance to aerial salts but is intolerant of shading. Older specimens of some cultivars have thinned out or exhibit browned interior leaves due to self-shading. Some cultivars have an unattractive yellow-green winter foliage color. The most useful cultivars for highway screening include 'Plumosa' — conical with bright green, feathery foliage, and 'Squarrosa' — pyramidal with soft blue-gray foliage. This species suffers from a lack of creative landscape use.

Chamaecyparis thyoides

Atlantic White Cedar



HEIGHT: 20-50 feet
SPREAD: 10-15 feet
HABIT: columnar to narrow-pyramidal

ZONE. 5
ENVIRONMENT: full sun to light shade; moist to wet soils that are rich in organic matter

This neglected and under-utilized American conifer is a good choice for poorly drained areas. Individual plants are full and dense, with a narrow, upright form. In nature, the plant is most commonly found in dense colonies in swampy soils. Atlantic white cedar is free from insects and diseases. The wood is extremely durable and structurally strong. Large isolated specimens are subject to wind-throw in severe storms. The species adapts to use as a tall, informal hedge or screen plant and perhaps is best used in low-stress situations.

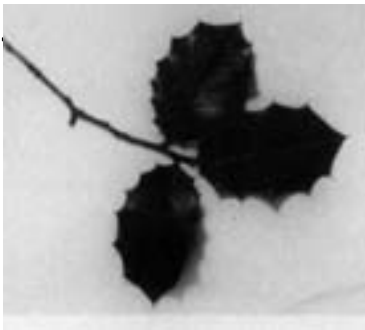
Ilex ciliospinosa

HEIGHT 12-15 feet
 SPREAD 4-6 feet
 HABIT. narrowly upright

ZONE 5
 ENVIRONMENT full sun to moderate shade, prefers a moist, well-drained soil. pH adaptable



Due to cold hardiness, this holly is one of the more successful evergreen species in the Arnold Arboretum. Its narrow, almost columnar habit makes it useful in restricted growing areas. The foliage is a dull yellow-green. Pistillate plants bear clusters of bright red, pea-sized fruits that ripen in early September and remain into December. Fruiting tends to occur in alternate years. During the winter of 1977-'78 (low of -5°F), plants were defoliated but recovered. Without periodic pruning, the plants become leggy and unattractive. As with other hollies, both staminate and pistillate plants are required for fruit production.

*Ilex opaca***American Holly**

HEIGHT: 40-70 feet
SPREAD: 20-40 feet
HABIT: densely pyramidal with
 branches to the ground

ZONE: 6
ENVIRONMENT: full sun to partial
 shade; moist, well-drained, acid soil;
 shows good air pollution and salt
 spray tolerance

This species is seldom considered for street or city use but may deserve a place. The foliage varies from dark green to yellow-green, and the fruit, from yellow to red. American holly tends to be low-branched, which would visually obstruct traffic. Slow growth also may limit use. Fruit size and persistence depend on the cultivar, as does leaf color. Although *Ilex opaca* does display great resistance to aerial salts, leaf miner and berry midge are two serious problems. From the coast of New England southward, however, the species is vigorous, adaptable and dependable. Laboratory hardiness tests have indicated that young stems are hardy only to -13°F . Numerous cultivars have been selected and a list of the more hardy types should be compiled.

Ilex pedunculosa

Longstalk Holly



HEIGHT: 15-20 feet
SPREAD: 10-15 feet
HABIT: large evergreen shrub or low branched tree of dense pyramidal-oval to pyramidal-rounded outline

ZONE: 5
ENVIRONMENT: full sun or partial shade; best growth is achieved in acid, moist, well-drained soils; appears more tolerant of drought and wind than many hollies

This species is little known compared to American holly (*Ilex opaca*) but certainly deserves wider use. Its lustrous, dark green leaves are shaped like those of *Kalmia latifolia*, mountain laurel. The ¼-inch-diameter red fruits are borne on 2-inch-long stalks in September, and are consumed rather quickly by the birds. This species would make an excellent screen and perhaps has possibilities as a container plant. At the Arnold Arboretum, large established plants have been infected by twig dieback (*Phytophthora*) which, in severe cases, caused loss of the plants. The species is easily rooted from cuttings taken through summer and fall. A staminate plant is necessary for pollination.

Juniperus chinensis

Chinese Juniper



HEIGHT: 20-30 feet
SPREAD: 10-20 feet
HABIT: usually pyramidal in outline

ZONE: 4
ENVIRONMENT: full sun; dry to infertile, sandy soils; pH adaptable

This excellent evergreen is especially tolerant of aerial salt spray, heat, drought and urban conditions, under which it remains persistent and long-lived. Shade intolerance and occasional infestations of bag worms and red spider are disadvantages. Superior forms include 'Columnaris', which grows 15-20 feet tall and 6-8 feet wide, forming a superb tall hedge; and 'Keteleeri', which grows 25-30 feet tall and 6-10 feet wide. Other types like 'Pfitzeriana', 'Hetzii', var. *sargentii*, and 'Old Gold' can be used for bank and large area plantings. The authors have observed effective plantings of Pfitzer juniper that covered entire slopes, suppressed weed growth, and resisted salt spray.

Juniperus virginiana

Eastern Red Cedar



HEIGHT: 30-50 feet

SPREAD: 10-20 feet

HABIT: variable, from columnar to upright-oval to pyramidal to broad-pyramidal

ZONE: 3

ENVIRONMENT: full sun; poor, gravelly soils; tolerant of heat, drought and cold; resistant to saline conditions; excellent for calcareous (high pH) soils

Eastern red cedar is one of the commonest and most adaptable pioneer evergreens, for it quickly invades abandoned fields and highway cuts. Foliage is generally a medium green but varies to gray-green. Plants bear quantities of blue-gray, fleshy, berrylike cones that are ornamental. The bark of old plants is reddish-brown in shredding strips. The plant's greatest merits are durability, long life, and cultural adaptability. It tends to be a slow grower and displays significant variability in growth habit, foliage color, and coning characteristics when grown from seed. Selections include 'Burkii' — blue-green summer foliage becoming purplish in winter, pyramidal form to 10-15 feet tall; 'Canaertii' — dense foliage of a rich green color, abundant bluish cones contrasting well with the foliage, rust-prone, upright to 20-30 feet; 'Glauca' — silver-blue foliage, dark green cones, narrowly upright to 20 feet; 'Grey Owl' — spreading type with blue-green foliage, grows 4-6 feet high; 'Silver Spreader' — similar to above (both of these spreading types are effective and might be used where the soils are dry and calcareous); 'Hillii' — blue-green summer foliage becoming purplish in winter, slow grower, dense and columnar, to 15 feet tall; 'Nova' — narrow, upright with a mature height of 10-12 feet.

Picea omorika

Serbian Spruce



HEIGHT: 50-60 feet (80 feet)

SPREAD: 15-20 feet or less

HABIT. evergreen with a remarkably slender trunk and short ascending or drooping branches forming a narrow pyramidal outline

ZONE. 4

ENVIRONMENT: full sun; prefers moist, well-drained soil; tolerates air pollution; pH adaptable and a good choice for calcareous soils

Picea omorika is little known and used as a landscape plant in North America but it has proved to thrive better than any other landscape spruce in London, England. A graceful, spirelike outline, lustrous, dark green leaves and retention of lower branches in old age make this a first choice among spruces. It should be tested in malls, parks or along freeways where environmental pollutants might limit the successful culture of other spruce. Serbian spruce is a first choice among evergreen screening plants for areas where horizontal growing space must be restricted.

Picea orientalis

Oriental Spruce



HEIGHT: 50-60 feet

SPREAD: 10-20 feet

HABIT. a dense, compact pyramid in youth which becomes more graceful with age and maintains a full complement of branches to the ground

ZONE: 5, possibly 4

ENVIRONMENT: full sun; requires moist, well-drained soil for best growth; pH adaptable; foliage may burn in exposed locations especially where temperature drops below -20°F

The short, ¼- to ½-inch-long, lustrous, dark green needles are densely set along the branches on the Oriental spruce. The species makes a good screen or can be used in groups or masses. For park and large area use it is a valuable alternative to pines. Among the spruces, this ranks second to *Picea omorika* in terms of aesthetic qualities.

Picea pungens var. *glauca*

Colorado Blue Spruce



HEIGHT: 30-60 feet
SPREAD: 10-20 feet
HABIT: a narrow to broad symmetrical pyramid with stiff, horizontal branches to the ground

ZONE: 2
ENVIRONMENT: full sun; one of the better spruces for dry soils; tolerates city conditions; pH adaptable

This plant has wide appeal because of the bluish-green to blue cast of the needles, but it is a stiff and formal plant and difficult to blend into the landscape. It displays good tolerance to aerial salts, in part because the wax deposits on the surface of the needles prevent accumulation of the sodium and chloride ions. Cultivars 'Hoopsii', 'Moerheimii', and 'Thompsonii', are among the best for intense silver-blue to blue needle color. Colorado blue spruce is a first choice among landscape conifers for cold northern locations.

Pinus nigra

Austrian Pine



HEIGHT: 50-60 feet
SPREAD: 20-40 feet
HABIT: densely pyramidal in youth,
 becoming umbelliform with maturity

ZONE: 4
ENVIRONMENT: sun; tolerates heat,
 drought and atmospheric pollution as
 well as salinity; pH adaptable

This is one of the most common landscape pines in areas where *Pinus strobus* does not perform well. Needles are dark green and lustrous. The bark on selected trees develops broad, flat ridges with interesting grays and brown. As a background plant along freeways, in parks, and on residential properties where polluted conditions prevail, it is perhaps the best pine. It has suffered from *Diplodia* tip blight, however, which may disfigure or kill susceptible mature trees. Recent research has shown that twenty-year-old trees were scarcely infected, while thirty-year-old trees were heavily infected.

Pinus sylvestris

Scotch Pine



HEIGHT: 30-60 feet

SPREAD: 30-40 feet

HABIT: irregularly pyramidal in youth, becoming open, wide-spreading and flat or round-topped (almost umbrella-shaped) at maturity

ZONE: 2

ENVIRONMENT: full sun; will grow in poor, dry sites; prone to wind desiccation and often turns yellow-green in winter; pH adaptable

Another popular landscape pine, this species is, however, extremely variable in needle color (blue- to yellow-green) and in habit. The orange, scaly bark is attractive on old trees. *Pinus sylvestris* is too irregular for street tree use but looks well in groupings, groves, or masses along interstate highways. It shows moderate tolerance to deicing salts but probably should be recommended only for temporary purposes since it is not long-lived under high stress situations. It, too, is susceptible to *Diplodia* tip blight.

Pinus thunbergiana

Japanese Black Pine



HEIGHT: 20-40 feet
SPREAD: variable
HABIT: irregular in youth and old age; often sprawling

ZONE: 6
ENVIRONMENT: full sun; adaptable to heavy or sandy soils; extremely salt tolerant

Probably the most salt-tolerant pine, this is a good choice where deicing salts or ocean spray present a cultural problem. The severely cold winters of 1976-'77 and '77-'78, however, induced severe needle browning and killed many Japanese black pines in the Midwest. The lustrous, dark green needles are similar to those of *Pinus nigra*. *P. thunbergiana* tolerates sandy, infertile soils as well as any pine. The irregular habit limits street use, but for groupings, massed and shelter plantings, the species has merit.

Sciadopitys verticillata

Japanese Umbrella-pine



HEIGHT: 20-40 feet

SPREAD: 10-20 feet

HABIT: stiffly pyramidal and formal in youth; irregular and more graceful with age

ZONE: 5

ENVIRONMENT: full sun to light shade; moist, well-drained soil; tolerant of exposure to wind and air-borne salt spray

Umbrella-pine is recommended here because it is proving to be extremely durable under difficult growing conditions. The authors have seen one hundred-year-old plants growing on the island of Martha's Vineyard, Massachusetts. The plants, within a block of the ocean, are growing in infertile, dry, sandy soil. Although exposed to the full onslaught of winter gales, they appear to be both structurally sound and vigorous. Several factors limiting use are high purchase cost, slow growth, and the stiff, formal appearance of young plants. Bark on old plants is cinnamon-brown and shredding. The foliage is lustrous, dark green and very exotic in appearance. This plant is an excellent choice for parks and wide, planting islands, and perhaps for above-ground containers. It is more vigorous in the northeastern and northwestern United States because of cooler summer temperatures there.

Thuja occidentalis

American Arborvitae



HEIGHT: 20-40 feet
SPREAD: 10-15 feet
HABIT: densely foliated; narrow to broad pyramid, with short ascending branches to the ground that end with flat, spreading, horizontal sprays

ZONE: 2
ENVIRONMENT: full sun; prefers moist, well-drained soil; adaptable to wet and dry soils; pH adaptable

This species and its numerous cultivars have been widely employed for residential landscaping. The medium green foliage often turns a yellow-brown in winter. The tree makes a functional screen or privacy barrier and could be used effectively in containers. It is easily pruned and can be maintained at any height. Limitations include structural damage from ice and snow, which detracts from landscape uniformity. Two selected cultivars, 'Techny' and 'Nigra', maintain dark green foliage through the winter but are slower growing than the species. 'Hetz Wintergreen' is narrowly upright with a strong central leader; its foliage is a glossy dark green throughout the year.

Thuja plicata

Western Arborvitae



HEIGHT: 50-70 feet

SPREAD: 15-25 feet

HABIT: narrow, pyramidal with a buttressed base; very dense and full with a complement of branches to the ground

ZONE: 5

ENVIRONMENT: full sun to partial shade; moist, well-drained, fertile soils; moist atmosphere; pH adaptable

This beautiful conifer is superior to *Thuja occidentalis*, especially in the quality of its winter foliage color which is a uniform dark green in summer as well. It makes a superlative screen, hedge, or group. It is probably less tolerant of polluted conditions and poor soils than *T. occidentalis*. The light brown to cinnamon-red shredding bark is attractive. Apparently there are different races of this species in cultivation, for some show a lack of cold hardiness. 'Atrovirens' is reliable in Zone 5 and the Arnold Arboretum accessions exhibit good cold tolerance.