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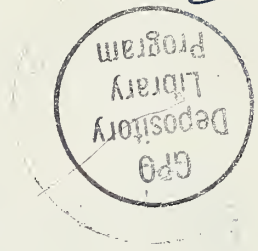
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Conservation Plants for the Northeast

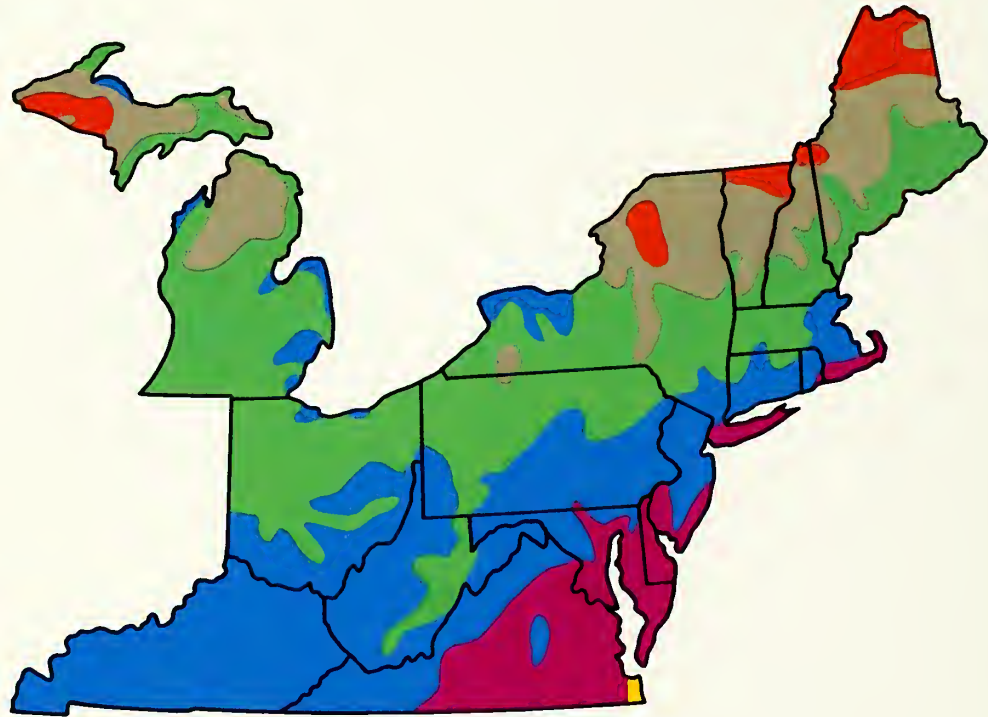


PS11 #

Indexing Branch
DUM

Conservation Plants for the Northeast

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Plant Hardiness Zones

Average Annual Minimum Temperature (°F)

3	-40° to -30°	6	-10° to 0°
4	-30° to -20°	7	0° to 10°
5	-20° to -10°	8	10° to 20°

Cover:
Conservation plantings protect grazing land in
central Vermont. Photo © Tim McCabe

Revised February 1991

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Introduction

This publication briefs users on conservation plants that are suited to the different site conditions located throughout the Northeast. The plants were chosen on the basis of observation and testing by Soil Conservation Service (SCS) plant scientists and the experience of many users. Although conservation use is the main criterion for selection, the photographs reflect that many of the plants add beauty and value to the surrounding landscape.

Each plant has been placed in a category according to its main conservation use. Although the plant appears in only one category, it may also be suited to other conservation uses. The categories are explained in the introduction to each section.

The description of each plant begins with the common name and the scientific name.

Zones refers to areas of climatic adaptation, shown on the map inside the front cover. Although the plant may grow in zones other than the ones indicated, maximum conservation effectiveness occurs within these zones. Because the zones are keyed to a climate classification for both Canada and the United States, the key begins with zone 3.

Use refers to the main conservation use to which the plant is primarily suited. A plant may simply be used as an ornamental without a specific conservation purpose.

Growth rate indicates how long the plant must grow to become effective for the given conservation use.

Site conditions refers to particular soil and site conditions under which the plant can grow.

The minimum soil fertility at which a plant can be expected to grow is stated in the text. Fertility is best determined by soil tests. If a plant with low-fertility requirements is selected, a soil test is less important. All plants described here will grow in a medium- to high-fertility soil or where fertility is maintained by periodic applications of fertilizer.

The maximum soil acidity at which the plant can grow effectively is also stated. Ratings are very acid (pH 3.5-4.4), acid (pH 4.5-5.5), and slightly acid (pH 5.6-7.3). Plants also grow well where the soil is less acid than the maximum acidity indicated.

Soil texture—rated clayey, loamy, or sandy—indicates the kind of soil in which the plant can grow effectively. Information about soil texture is included in soil surveys, which are available for your area from the local office of the Soil Conservation Service.

The drought and shade tolerance of each plant is rated poor, fair, good, or excellent as compared with all other plants within the section. These ratings help you determine the comparative advantages of the plants within each section.

Drought tolerance indicates that the plant can grow where low amounts of water are available and the soil is dry most of the year. Shade tolerance indicates how the plant grows in full shade. If the plant does not tolerate full sun, that characteristic is noted.

A soil drainage class is given for each plant. This means the plant tolerates the drainage conditions indicated and grows well in better drained soils, but does not grow well in more poorly drained soils. The soil drainage classes used are: poorly drained,

somewhat poorly drained, moderately well drained, and well drained. All the plants listed grow in well-drained soil; a few require well-drained soil. Many of the plants tolerate soils that are not well drained. The minimum drainage class these plants tolerate is explained. More information about soil drainage classes is provided in soil surveys published by the Soil Conservation Service.

Other important characteristics of growth relevant to use and management of the plant are indicated where appropriate.

A paragraph that briefly describes plant features and indicates how to establish the plant follows the plant description. Features given, such as height at maturity, are average and may vary depending on existing conditions.

For additional information about the use and management of conservation plants, contact the local office of the Soil Conservation Service.

All programs and services of the U.S. Department of Agriculture, Soil Conservation Service, are offered on a nondiscriminatory basis, without regard to race, color, national origin, religion, sex, age, marital status, or handicap.

Hardy Plants to Reclaim Disturbed Areas

Land disturbed by earthmoving or flooding is highly erodible because vegetation, and many times topsoil, has been removed. Plants used to stabilize these areas should be drought resistant, acid tolerant, and able to grow on low-fertility soils. The plants described in this section have one or more of these attributes and are particularly suited to use on disturbed areas. However, all can be grown where site conditions are more favorable.



'Lancer' perennial pea



'Lancer' perennial pea

Lathyrus latifolius

Zones: 3, 4, 5, 6, 7, 8

Uses: Erosion control on roadsides, steep areas near homes and commercial sites, gravel pits, surface mine spoil, eroding critical areas, and food and cover for wildlife.

Growth rate: Slow to germinate and establish the first year; produces complete cover by the end of the second year.

Site conditions: Grows on steep, shallow, low-fertility, loamy, clayey, and sandy soils; has excellent drought tolerance and some shade tolerance; requires well-drained soil.

'Lancer' perennial pea forms a 2- to 3-foot-tall, thick, viny mat that gives excellent erosion control. It blooms continuously for 6 to 8 weeks during the summer with flowers ranging from white to deep purple. 'Lancer' can be planted in the spring or late summer and early fall. The seeds can either be drilled or broadcast but must be covered with soil to insure germination. 'Lancer' should not be planted alone because of its slow emergence. It can be planted with grasses or another legume.



'Lathco' flatpea

Lathyrus sylvestris

Zones: 3, 4, 5, 6, 7, 8

Uses: Erosion control on roadbanks, logging roads, dams, gravel pits, surface mine spoil, and industrial waste areas; cover for small mammals.

Growth rate: Slow to germinate and grow the first year; produces complete cover in 2 to 3 years.

Site conditions: Grows in shallow, low-fertility, acid, clayey, loamy, and sandy soils; excellent drought tolerance; good shade tolerance; requires well-drained soil; tolerates more acid and droughty sites than most legumes. It is excellent for restricting the growth of woody plants.

'Lathco' flatpea is a deep-rooted, long-lived viny legume that grows to a height of 30 inches. It has long, narrow leaflets and pink flowers and produces seed in August. Flatpea seeds can be drilled or broadcast. They are slow to germinate and should be planted with tall fescue or other fast-growing grasses. Plant in spring, late in summer, or early in fall.



Crownvetch

Coronilla varia

Zones: 4, 5, 6, 7

Uses: Ground cover for steep roadbanks, surface mine spoil, and industrial sites where low maintenance is important.

Growth rate: Slow to start the first year; produces complete cover in 2 to 3 years.

Site conditions: Grows in shallow, low-fertility, acid, clayey, loamy, and sandy soils; excellent drought tolerance; poor shade tolerance; requires well-drained soil.

Crownvetch grows to a height of 3 feet. It blooms profusely for about 6 weeks in May and June. Once established, crownvetch grows aggressively and provides excellent cover. Several varieties are available. Establish early in spring or in fall by seeding or by planting crowns or root divisions 12 to 18 inches apart.





Birdsfoot trefoil

Lotus corniculatus

Zones: 3, 4, 5, 6

Uses: Erosion control, soil improvement, and forage for livestock and deer.

Growth rate: Produces complete cover in 2 years.

Site conditions: Grows in medium-fertility, slightly acid, clayey, and loamy soils; fair drought tolerance; poor shade tolerance; grows better on poorly drained soil than most legumes but is not as drought- or heat-tolerant as flatpea or crownvetch.

Birdsfoot trefoil is an herbaceous forage legume that grows to a height of 1 to 2 feet. Bright-yellow flowers bloom in May through July. Several varieties of birdsfoot trefoil are available. Establish by seeding in April, early in May, or early in fall.



'Tioga' deertongue

Panicum dichanthelium

Zones: 3, 4, 5, 6, 7, 8

Uses: Excellent for revegetating acid mine spoil; ground cover for erodible sandy areas, such as roadbanks, ditchbanks, and gravel pits; seeds eaten by many species of birds.

Growth rate: Produces complete cover in 2 years.

Site conditions: Grows in low-fertility, acid, loamy, and sandy soils; excellent drought tolerance; poor shade tolerance; tolerates moderately well drained soil.

'Tioga' deertongue is a native warm-season bunch grass that grows to a height of 1½ to 3 feet. It has broad, short leaves and a strong, fibrous root system. Establish by seeding early in spring.

'Niagara' big bluestem

Andropogon gerardii

Zones: 4, 5, 6, 7

Uses: Long-lived erosion control plant for sand and gravel pits, mine spoil, and roadsides; excellent forage for livestock and cover for wildlife.

Growth rate: Slow to germinate and establish the first year. Produces fair to good cover by the end of the second year.

Site conditions: Grows well on hot, droughty sites. Tolerates medium- to low-fertility, acid, sandy, loamy, and clayey soils; has poor shade tolerance; and prefers well-drained sites.

'Niagara' big bluestem is a perennial, warm-season grass that has excellent drought resistance. It is being used in critical area seedings where cool season species cannot tolerate the high temperatures or coarse soils. It grows from 5 to 7 feet tall and is very leafy. Plant seed in the early spring, taking care to compact the soil after seeding.



Tall fescue

Festuca arundinacea

Zones: 4, 5, 6, 7, 8

Uses: Stabilizing grassed waterways, slopes, and roadbanks; lawns for recreation areas; food for geese, deer, and cottontail; cover for birds; forage for winter grazing; the most versatile and widely used grass for conservation in the Northeast.

Growth rate: Produces effective ground cover the first year.

Site conditions: Grows in low-fertility, acid, clayey, loamy, and sandy soils; good drought tolerance; fair shade tolerance; tolerates somewhat poorly drained soil.

Tall fescue is a deep-rooted bunch grass that has stems 3 to 4 feet high. Leaves are broad, coarse, and flat. The variety 'KY-31' is most widely used in the Northeast. Establish by drilling or broadcasting seed in spring or early in fall.





Redtop

Agrostis alba

Zones: 3, 4, 5, 6, 7, 8

Uses: Quick cover for grassed waterways, diversions, and roadbanks.

Growth rate: Produces effective ground cover the first year.

Site conditions: Grows in low-fertility, acid, clayey, loamy, and sandy soils; fair drought tolerance; poor shade tolerance; tolerates poorly drained soil.

Redtop is a fast-starting, sod-forming grass that is about 18 inches tall at maturity. The leaves are narrow and the stems fine. Because it is fast starting and tolerates cold temperatures and poorly drained soils, redtop is widely used as a component in mixtures planted on disturbed sites in the Northeast. Establish by seeding in spring or early in fall.



Perennial ryegrass

Lolium perenne

Zones: Warm parts of 5; all of 6, 7, 8

Uses: Fast-growing, short-term stabilizing cover; soil improvement; lawns and pasture (several varieties have been developed for lawns).

Growth rate: Produces complete cover in a few months.

Site conditions: Grows in medium-fertility, acid, clayey and loamy soils; fair drought tolerance; poor shade tolerance; tolerates somewhat poorly drained soil.

Rapid growth rate is the primary conservation value of perennial ryegrass. It grows to a height of 1 to 2 feet. Many long, narrow leaves extend from the base of the plant. Establish by drilling seed or by broadcasting seed with mulch early in spring or fall.

Bermudagrass

Cynodon dactylon

Zones: 6, 7, 8

Uses: Turf on playfields; stabilizing disturbed areas that are to be mowed or maintained by applying fertilizer.

Growth rate: Can produce complete cover in one growing season if planted and managed with that objective.

Site conditions: Grows in medium-fertility, acid, clayey, loamy, and sandy soils; excellent drought tolerance; poor shade tolerance; tolerates moderately well drained soil.

Bermudagrass is a fast-spreading, sod-forming grass that produces more wear-resistant turf than any other grass. It grows only in the warm part of the year and turns brown in fall after the first frost. Bermudagrass grows better on poor sites than most other turf grasses. 'Tufcote' is the most winter-hardy variety for use in the Northeast. Establish by planting sod or plugs of grass on 12- to 18-inch centers in spring.



Sericea lespedeza

Lespedeza cuneata

Zones: 6, 7, 8

Uses: Erosion control; food and cover for quail, rabbits, and other small animals.

Growth rate: Slow to start; most growth in summer; produces complete cover in 2 years.

Site conditions: Grows in low-fertility, acid, loamy and sandy soils; excellent drought tolerance; poor shade tolerance; requires well-drained soil.

Sericea lespedeza has stems that grow to a height of 2 to 4 feet. A semiprostrate variety, 'Interstate,' branches more profusely and grows 6 to 12 inches shorter than common sericea. All varieties have widely branched roots that penetrate the soil as deep as 3 feet. Unless mowed, dead stems remain upright in winter. Seed sericea lespedeza in midspring or late spring.





'Arnot' bristly locust

Robinia fertilis

Zones: 4, 5, 6, 7, 8

Uses: Revegetating coal mine spoil, gravel pits, and roadbanks; best available shrub for steep, sandy or gravelly areas.

Growth rate: Matures in 3 to 5 years.

Site conditions: Grows in low-fertility, acid, loamy and sandy soils; excellent drought tolerance; poor shade tolerance; requires well-drained soil.

'Arnot' bristly locust grows to a height of 6 feet. It forms a thicket by root suckers and has attractive rose-colored flowers and bristled seedpods. Roots fix nitrogen, which helps it grow well on low-fertility soils. Establish by planting nursery-grown seedlings 1 year old. Follow standard tree-planting procedure.



Staghorn sumac/Smooth sumac

Rhus typhina/Rhus glabra

Zones: 4, 5, 6, 7, 8

Uses: Revegetating and landscaping disturbed urban areas, roadbanks, gravel pits, and acid mine spoil; fruit eaten by gamebirds and songbirds.

Growth rate: Mature in 4 to 6 years.

Site conditions: Grows in medium-fertility, acid, loamy soil; good drought tolerance; poor shade tolerance; tolerates moderately well drained soil.

Sumacs are large shrubs that grow to a height of 10 or more feet. They have palmlike leaves composed of 9 to 21 leaflets. Beautiful orange and red fall color increases their landscaping value. Greenish flower spikes produce clusters of red fruit. Establish by planting nursery-grown seedlings 1 year old.

European black alder

Alnus glutinosa

Zones: Warm parts of 4; all of 5, 6, 7, 8

Uses: Revegetating infertile mine spoil and similar sites.

Growth rate: Seedlings planted 6 feet apart grow together in 4 to 6 years.

Site conditions: Grows in low-fertility, acid, loamy and sandy soils; good drought tolerance; poor shade tolerance; tolerates moderately well drained soil.

European black alder can grow to a height of 50 feet but does not grow that high when planted on mine spoil. Roots fix nitrogen, which makes it grow well on infertile soils. Dark-green leaves turn brown in fall. For maximum cover, plant 1-year-old nursery-grown seedlings 6 feet apart early in spring. Stands may decline in vigor after 20 years.



'Steiner group' black locust

Robinia pseudoacacia

Zones: 5, 6, 7, 8

Uses: Stabilization and reforestation on surface-mined land, and for posts and rail production in urban areas.

Growth rate: More rapid than seeded black locust.

Site conditions: Grows well on low-fertility, acid, shallow soils. It does best on well-drained sites, is drought resistant, but is not tolerant to shading.

'Steiner group' is composed of three clones of black locust with improved form, vigor, growth rate, and bore and rot resistance. Its pinnate form with straight stems improves the potential for post and pole production on surface-mined land and other disturbed sites. Should be planted in a mixture with hardwoods, not exceeding ½ acre in a pure stand to reduce the potential of bore infestation.





'Streamco' purpleosier willow

Salix purpurea

Zones: 3, 4, 5, 6, 7, 8

Uses: Erosion control along streambanks; twigs and buds eaten by grouse, rabbits, beaver, and muskrat.

Growth rate: Provides effective erosion control in 2 to 4 years.

Site conditions: Grows in medium-fertility, acid, clayey, loamy, and sandy soils; poor drought tolerance; good shade tolerance; tolerates poorly drained soil.

'Streamco' purpleosier willow can grow to a height of 10 to 18 feet but usually does not grow that high on streambanks. It is a thicket-forming shrub with many smooth, thin, tough branches. Establish by planting rooted or unrooted cuttings. Unrooted cuttings should be at least ¼-inch in diameter and 12 to 18 inches long. At least two-thirds of the cutting should be in the ground when planted.



'Bankers' dwarf willow

Salix cotteti

Zones: 5, 6, 7, 8

Uses: Erosion control along streambanks and low-growing vegetation in poorly drained areas.

Growth rate: Produces solid stands in 2 to 3 years when planted on 2-foot centers.

Site conditions: Grows well in a wide variety of soils. It is best adapted to wet sites subject to periodic flooding. Poor drought tolerance; moderate shade tolerance.

'Bankers' has a mature height of about 6 feet. It produces prostrate stems that root under moist conditions. The rooted stems grow together to form dense cover. The small stems bend under the flow of high water, lessening the likelihood of catching debris. Plant rooted or hardwood cuttings 12 to 18 inches long in rows 18 to 30 inches apart and place them 2 to 3 feet above the normal waterline. If the shoreline is bare, plant grasses or legumes after planting 'Bankers' to help prevent erosion.

'Ruby' redbosier dogwood

Cornus stolonifera

Zones: 3, 4, 5, 6, 7, 8

Uses: Streambank erosion control, shrub borders, wildlife, and landscaping.

Growth rate: Spreads by layering where stems contact the ground. It is moderately fast growing, reaching a height of 6 to 10 feet.

Site conditions: Grows in medium-fertility, slightly acid, clayey, loamy, and sandy soils; has moderate shade tolerance and poor drought tolerance.

'Ruby' has bright-red stems, dark-green leaves, and creamy-white fruit. Its ability to spread by layering and its tolerance of wet soils makes it an excellent choice for streambank erosion control. It is also a useful upland plant, providing food and cover for wildlife and color for landscaping. When planting along streambanks, plant at the water's edge, using rooted cuttings or fresh hardwood cuttings that are at least 9 to 12 inches long and leaving up to 2 inches of the stem above the ground.





Stabilizing Plants for Dunes and Sandy Areas

Dunes protect shore property from damage caused by high waves and wind. This section features plants that are used to stabilize or build dunes. These plants are tolerant to salt spray and can be used to landscape shore property. They are also suited to sandy inland areas usually low in fertility.

American beachgrass

Ammophila breviligulata

Zones: 3, 4, 5, 6, 7, 8

Uses: Stabilizing and building frontal sand dunes; stabilizing droughty sandy areas inland.

Growth rate: Plants 18 inches apart provide effective cover in 1 year.

Site conditions: Grows in low-fertility, slightly acid, loamy, and sandy soil; excellent drought tolerance; poor shade tolerance; requires well-drained soil.

American beachgrass grows to a height of 3 to 4 feet. It spreads rapidly by underground stems to form erosion-resistant cover but requires fertilizer for dense, enduring growth. It traps windblown sand to build dunes. Two varieties, 'Cape' and 'Hatteras,' are commercially available. Establish by planting nursery-grown culms or stems 12 to 18 inches apart.



'Avalon' saltmeadow cordgrass

Spartina patens

Zones: 4, 5, 6, 7, 8

Uses: Stabilizing brackish and freshwater tidal streambanks by absorbing wave action and collecting sediment.

Growth rate: Becomes effective by the end of the first year when planted in hills 18 to 36 inches apart. Plant closer together in open areas, farther apart in sheltered areas.

Site conditions: Adapted to brackish water on coastal shorelines (sandy soils). Does well under normal shoreline conditions and responds to fertilization. Poor drought and shade tolerance.

'Avalon' saltmeadow cordgrass is used to stabilize eroding shorelines along the Atlantic coast. It should be planted from the mean high water level to the toe of the slope. Plant nursery-grown material. Plantings should be made between midspring and July 1 using culms with top growth of 6 to 10 inches. Dig holes deep enough to fully accept the root, and seal the hole by pressing and compacting the soil around the roots.





'Atlantic' coastal panicgrass

Panicum amarum var. *amarulum*

Zones: 5, 6, 7, 8

Uses: Stabilization of coastal sand dunes, and disturbed sites such as borrow areas, gravel pits, highway fills, and wildlife food and cover.

Growth rate: Forms effective cover the first year.

Site conditions: Grows best on sandy and silt-loam soils; tolerates droughty, infertile soil material; has excellent drought resistance, poor shade tolerance, and some acid tolerance. It makes satisfactory growth on poorly to moderately drained soils.

The principal use for 'Atlantic' is for stabilizing disturbed areas with light sandy soils. It can be direct seeded on most sites, including sand dunes, and has excellent drought resistance. Seedlings are also transplanted. Its stiff stems resist lodging and its abundant seed production makes it a desirable wildlife plant.



'Sea Isle' Japanese sedge

Carex kobomugi

Zones: 6, 7, 8

Uses: Stabilizing sand dune areas where light to moderate foot traffic exists. Can be used in combination with 'Cape' American beachgrass.

Growth rate: Slow to establish, gives good cover by the end of the second or third growing season.

Site conditions: A salt-tolerant plant, it differs from most related sedges by growing on dryer areas. Good drought tolerance; poor shade tolerance; does not tolerate tight, heavy soils.

'Sea Isle' grows 8 to 10 inches tall, and spreads primarily by short rhizomes. A mature stand is quite dense with almost complete ground cover. Plants stay green well into the fall and can tolerate reasonable amounts of foot traffic. Propagated vegetatively, the plants exhibit slow vigor the first year; however, the surviving plants show excellent persistence and spread into permanent stands.

Bayberry

Myrica pensylvanica

Zones: 3, 4, 5, 6, 7, 8

Uses: Versatile shrub for landscaping and revegetating sand dunes and inland areas; berries provide food for birds.

Growth rate: Produces fruit in 3 to 4 years; matures in 7 to 8 years.

Site conditions: Grows in low-fertility, acid, clayey, loamy, and sandy soils; excellent drought tolerance; poor shade tolerance; tolerates moderately well drained soil.

Bayberry is a semievergreen shrub that grows to a height of 6 to 8 feet. It has gray, scented berries that are eaten by birds. Fruit appears only where both male and female shrubs are planted in the same area. Roots fix nitrogen, which helps bayberry grow in low-fertility soil. Establish by planting bare-root or container-grown seedlings 2 years old.



Beach plum

Prunus maritima

Zones: 4, 5, 6, 7, 8

Uses: Revegetating sand dunes; beautification; edible fruit.

Growth rate: Produces flowers and fruit in 3 to 4 years; matures in 7 to 8 years.

Site conditions: Grows in medium-fertility, acid, loamy, and sandy soils; excellent drought tolerance; fair shade tolerance; tolerates moderately well drained soil.

Beach plum is a deciduous shrub that grows to a height of about 7 feet. It is native to coastal sand dunes. White flowers appear in May and large edible fruit in August or September. Beach plum can be grown in areas other than coastal dunes. Establish by planting bare-root or container-grown seedlings 1 year old.





Rugosa rose

Rosa rugosa

Zones: 4, 5, 6, 7, 8

Uses: Shrub for stabilizing sand dunes and forming borders for pathways through dunes; landscaping; provides food and cover for songbirds and rabbits.

Growth rate: Produces fruit in 1 to 2 years; matures in 6 to 7 years.

Site conditions: Grows in medium-fertility, acid, loamy and sandy soils; excellent drought tolerance; fair shade tolerance; tolerates moderately well drained soil.

Rugosa rose is a sprawling shrub that grows to a height of 3 to 5 feet. It spreads by stout underground stems. Surface stems have sharp spines. Dark-green leaves turn bright orange in fall. White, pink, or purple flowers blossom most of the summer, and red fruit appears in fall. Establish by planting seedlings 1 to 2 years old.



'Emerald Sea' shore juniper

Juniperus conferta

Zones: 6, 7, 8

Uses: Shrub for landscaping and stabilizing sand dunes, for cover on sandy roadbanks, and for border plantings.

Growth rate: Plants 2 feet apart provide complete cover in 2 to 3 years.

Site conditions: Grows in medium-fertility, slightly acid, loamy and sandy soils; good drought tolerance; fair shade tolerance; requires well-drained soil.

'Emerald Sea' shore juniper is a spreading shrub that grows to a height of 1 foot. It spreads by lateral branching to form a dense ground cover. On dunes, foliage is pale green. Its large grey-green berries are colorful, adding to the attractiveness of the plant. Establish by planting container-grown rooted cuttings 1 to 2 years old. On dunes, it provides protection from wind during the first year.

Japanese black pine

Pinus thunbergii

Zones: 5, 6, 7, 8

Uses: Ornamental tree for borders, screens, and windbreaks on sandy areas inland and along the coast; the most useful evergreen tree for mid-Atlantic coastal areas.

Growth rate: Grows 12 to 18 inches per year.

Site conditions: Grows in medium-fertility, acid, loamy and sandy soils; excellent drought tolerance; poor shade tolerance; very good salt tolerance; tolerates moderately well-drained soil.

Japanese black pine is an evergreen tree that grows to a height of 30 to 50 feet. Its wide-spreading branches have bright-green needles and cones 2 to 3 inches long. Establish by planting bare-root or container-grown plants 2 to 3 years old.



Seoats

Uniola paniculata

Zones: 7, 8

Uses: Stabilizing frontal sand dunes along the mid- and lower-Atlantic coast.

Growth rate: Effective cover by the end of the second growing season.

Site conditions: Adapted to coastal dunes, seoats are tolerant to salt spray, have good drought tolerance, and poor shade tolerance.

This species has excellent sand-stabilizing ability due to its bunch-type growth habit, long thick leaves, and dense fibrous roots. Seoats are established from nursery-grown plants. When replanting, set the root as deep as possible (at least 1 foot) and pack it tightly. Selections are being evaluated that show tolerance to colder climates.





Smooth cordgrass

Spartina alterniflora

Zones: 4, 5, 6, 7, 8

Uses: Stabilizing brackish water and freshwater tidal streambanks by absorbing wave action and collecting sediment.

Growth rate: Becomes effective by the end of the first year when planted in hills 18 to 36 inches apart. Plant closer together in open areas, farther apart in sheltered areas.

Site conditions: Adapted to brackish water on coastal shorelines (sandy soils). Does well under normal shoreline conditions and responds to fertilization. Poor drought and shade tolerance.

Smooth cordgrass is the dominant, most productive marsh plant in the regularly flooded intertidal zone along the Atlantic coast. It is an excellent plant with which to restore eroded shorelines. It helps to prevent further erosion when planted between the mean low water level and the mean high water level along the shore. Plantings should be made between midspring and July 1, using culms that have top growth 6 to 10 inches tall. Dig holes deep enough to fully accept the root and seal the hole by pressing and compacting the soil around the roots.

Effective Plants for Screens and Wind Barriers

Many species of plants can be effectively used as screens or wind barriers. Some plants have factors that limit their use, such as openness and weak branches. Others are prone to insect and disease damage or have limited wildlife value. Generally, plants selected for screens should have a tight upright form; evergreens are preferable because they effectively screen all year. When selecting plants for wind barriers keep in mind that wind barriers protect an area ten times the height of the barrier. Example: a 30-foot-tall barrier will protect open ground up to a distance of 300 feet. Some reliable plants for screens and wind barriers are listed in this section.



Left, flowering dogwood. Right, evergreen azalea.



Eastern redcedar

Juniperus virginiana

Zones: 3, 4, 5, 6, 7, 8

Uses: Dense screen or hedge; food for songbirds; nesting sites for robins and mockingbirds; roosting cover for juncos and other birds.

Growth rate: Grows 8 to 12 inches per year.

Site conditions: Grows in low-fertility, acid, clayey, loamy, and sandy soils; good drought tolerance; good shade tolerance; tolerates moderately well drained soil.

Eastern redcedar is a native evergreen tree that grows to a height of 25 to 30 feet. It is naturally upright and requires very little trimming. Container-grown plants or plants dug from native stands can be used. Plant about 4 feet apart in a row.



Northern whitecedar

Thuja occidentalis

Zones: 3, 4, 5, 6, 7, 8

Uses: Dense, attractive hedges.

Growth rate: Grows 12 to 18 inches per year.

Site conditions: Grows in medium-fertility, acid, clayey, loamy, and sandy soils; fair drought tolerance; fair shade tolerance; tolerates somewhat poorly drained soil.

Northern whitecedar is a native evergreen tree that grows 60 feet high and 25 feet wide. Although the tree can be sheared, its natural form is ideal for screens. Establish by planting 2-year-old seedlings or container-grown plants about 6 feet apart.

'Imperial' Carolina poplar

Populus canadensis

Zones: 4, 5, 6, 7

Uses: Windbreaks, shade, screens, pulpwood, and timber.

Growth rate: Very fast growing, up to 6 to 8 feet per year for the first few years, reaching 50 to 80 feet

Site conditions: Medium-fertility, acid soils. Moderately drought resistant, not shade tolerant, does well on somewhat poorly drained lowlands, and tolerates occasional flooding.

'Imperial' is a male hybrid and does not produce the cottony seeds common to poplar trees. It tends to be longer lived than most hybrids and gives quick wind protection when planted on favorable sites. Do not place near water or sewer lines when planting in yards or urban areas. Place plants 10 to 12 feet apart when used for screens and windbreaks.



Amur privet

Ligustrum amurense

Zones: 4, 5, 6, 7, 8

Uses: Trimmed hedges and field windbreaks; has numerous fine twigs and can be trimmed to desired width or height.

Growth rate: Grows 18 to 24 inches per year.

Site conditions: Grows in medium-fertility, acid, clayey, loamy, and sandy soils; fair drought tolerance; poor shade tolerance; tolerates moderately well drained soil.

Amur privet is a deciduous, upright plant that grows to a height of 15 feet. Establish by planting 1-year-old bare-root plants or rooted cuttings 2 feet apart in a row.





California privet
Ligustrum ovalifolium

Zones: 7, 8

Uses: Informal hedges and windbreaks.

Growth rate: Grows about 2 to 3 feet per year.

Site conditions: Grows in medium-fertility, acid, loamy, and sandy soils; fair drought tolerance; fair shade tolerance; tolerates moderately well drained soil.

California privet is semievergreen and grows to a height of 12 to 18 feet. It can be sheared to control height and produce fine branching. Varieties that have variegated leaves are available. Establish by planting rooted cuttings 3 feet apart in a row.



'Rem-Red' amur honeysuckle
Lonicera maackii

Zones: 4, 5, 6, 7, 8

Uses: Borders, hedges, and screens; provides food for many species of birds late in fall and through winter.

Growth rate: Produces fruit in 3 to 5 years; matures in 6 to 7 years.

Site conditions: Grows in medium-fertility, acid, clayey, loamy, and sandy soils; fair drought tolerance; good shade tolerance; tolerates somewhat poorly drained soil.

'Rem-Red' amur honeysuckle is a large shrub that grows to a height of 8 to 12 feet. It has dense foliage, extensive branching, oval leaves, and white flowers. Red berries mature late in fall and provide food for birds in winter. Establish by planting seedlings 1 to 2 years old about 6 feet apart in a row.

Tatarian honeysuckle

Lonicera tatarica

Zones: 3, 4, 5, 6, 7, 8

Uses: Hedges, borders, or clump plantings; summer food for birds and year-round cover for birds and small mammals.

Growth rate: Produces fruit in 3 to 4 years; matures in 7 to 8 years.

Site conditions: Grows in medium-fertility, acid, clayey, loamy, and sandy soils; fair drought tolerance; fair shade tolerance; tolerates moderately well drained soil.

Tatarian honeysuckle is a shrub that grows erect to a height of 6 to 9 feet. It has many stems, dense branches, pink flowers in May and June, and red berries in July. Establish by planting nursery-grown seedlings 1 to 2 years old about 5 feet apart in a row.



Mountain laurel

Kalmia latifolia

Zones: 4, 5, 6, 7, 8

Uses: Borders, landscaping, and disturbed areas where there are few selections for suitable plants.

Growth rate: Slow growing, reaching 12 to 20 feet.

Site conditions: Grows in gravel, sands, silts, clays, and loams. Very shade and flood tolerant; tolerates poorly drained and acid soil; is moderately drought resistant.

Mountain laurel is an attractive broadleaf evergreen shrub that can be used in wet, shady sites where foliage is desirable all year.



Lilac

Syringa vulgaris

Zones: 3, 4, 5, 6, 7

Uses: Screens, borders, and hedges.

Growth rate: Fast growing, reaching a height of over 15 feet. Makes an effective screen in 3 to 4 years when planted 6 to 8 feet apart.

Site conditions: Requires well-drained, silty, clayey, or loamy soils. Does not tolerate wet soils; will tolerate moderate shade but needs full sun to bloom. It is drought resistant and tolerates slightly acid conditions.

Lilacs make an excellent border or screen. They have large fragrant flowers in midspring after leaves appear and can be sheared to make a hardy hedge. They are long lived and can tolerate urban conditions.



White pine

Pinus strobus

Zones: 3, 4, 5, 6, 7, 8

Uses: Windbreaks, screens, landscaping, revegetation of disturbed areas, wildlife.

Growth rate: Medium (12 to 24 inches/year). Becomes effective in 4 to 6 years. Grows to a height of 75 to 100 feet.

Site conditions: Grows in moderately well drained, acid, silts, loams, sands, and light clays. It has moderate shade and drought tolerance but does not tolerate flooding.

White pine is a long-lived evergreen used commercially for wood products. It is an excellent wildlife species used for food and cover by songbirds, upland ground birds, small mammals, and deer. Seedlings can be obtained from nursery-grown stock, while larger trees are balled and burlapped.



Hemlock

Tsuga canadensis

Zones: 3, 4, 5, 6, 7, 8

Uses: Screens, windbreaks, landscaping, wildlife, and disturbed areas.

Growth rate: Slow, 10 to 14 inches/year, grows to a height of 75 to 100 feet.

Site conditions: Grows on sands, loams, and clays. Tolerates moderately drained, acid soils; is not drought or flood tolerant and has good shade tolerance.

Hemlocks are shallow-rooted, long-lived evergreens that retain their dark-green color all year. They can be used where a dense canopy is desired at all times. Hemlocks have wildlife value for songbirds, upland ground birds, rabbits, and deer.



Useful Plants for Wildlife Food and Cover

The plants featured in this section are multipurpose. Selected for their value to provide food and cover for wildlife, all have application in one or more of the previous sections covered in this handbook.





'Indigo' silky dogwood/Graystem dogwood

Cornus amomum/Cornus racemosa

Zones: 3, 4, 5, 6, 7, 8

Uses: Both provide food and cover for gamebirds, songbirds, rabbits, raccoon, and other wildlife; silky dogwood is used for stabilizing lower slopes of streambanks.

Growth rate: Both produce fruit in 3 to 5 years; silky dogwood provides effective streambank protection in 3 to 5 years.

Site conditions: Both grow in medium-fertility, acid, clayey, loamy, and sandy soils; both have fair drought tolerance and fair shade tolerance; graystem requires well-drained soil; silky tolerates poorly drained soil.

Graystem and silky dogwoods are shrubs that grow to a height of 8 to 12 feet. White flowers and blue or white berries remain until late in summer or early in fall. Establish by planting container-grown or bare-root seedlings 1 to 2 years old. On streambanks, plant silky dogwood seedlings or rooted or unrooted cuttings 2 feet apart.



Flowering dogwood

Cornus florida

Zones: 5, 6, 7, 8

Uses: Food for gamebirds and many species of songbirds; ornamental landscaping.

Growth rate: Produces fruit in 5 to 6 years; matures in 12 to 14 years.

Site conditions: Grows in medium-fertility, acid, clayey, loamy, and sandy soils; fair drought tolerance; fair shade tolerance; tolerates moderately well drained soil.

Flowering dogwood is a tree that grows to a height of 15 to 25 feet. It has large white or pink blossoms and produces red fruit in September. Establish in spring by planting container-grown plants.

American cranberrybush

Viburnum trilobum

Zones: 3, 4, 5, 6, 7, 8

Uses: Winter food for grouse, songbirds, and squirrels; hedges and borders.

Growth rate: Slow the first 2 years; produces fruit in 4 to 5 years; matures in 8 to 10 years.

Site conditions: Grows in medium-fertility, acid, clayey, loamy, and sandy soils; poor drought tolerance; fair shade tolerance; tolerates poorly drained soil.

American cranberrybush, also called highbush cranberry, is a deciduous shrub that grows to a height of 6 to 7 feet. Leaves turn reddish brown in fall. Fruit remains late into winter. Establish by planting seedlings 2 years old. Because of slow early growth, care must be taken to be sure the plants are not accidentally destroyed. Plant about 4 feet apart in a row.



American holly

Ilex opaca

Zones: 5, 6, 7, 8

Uses: Food and cover for many species of gamebirds and songbirds.

Growth rate: Produces fruit in 3 to 4 years; grows about 1 foot per year.

Site conditions: Grows in medium-fertility, acid, clayey, loamy, and sandy soils; fair drought tolerance; good shade tolerance; tolerates poorly drained soil.

American holly is an evergreen tree that grows to a height of 40 feet. For fruit production, both male and female trees should be planted in the same area. The female tree has red berries that remain into winter. Establish by planting nursery-grown plants 2 to 3 years old early in spring or fall. Protect the plants from strong winds the first year.





'Shelter' switchgrass

Panicum virgatum

Zones: 3, 4, 5, 6, 7, 8

Uses: Food for songbirds, food and cover for upland ground birds and small mammals, and revegetation of gravel pits and mine spoil.

Growth rate: Requires 1 to 2 years to become totally effective. Little or no management required after establishment.

Site conditions: Grows in low-fertility, acid, sands, clays, and loams. Has excellent heat and drought tolerance, low shade tolerance, and does well on moderately well drained soils.

Besides being a good plant for revegetation of surface mine spoil, sand and gravel pits, and steep, sandy roadside cuts, 'Shelter' is an excellent wildlife plant that provides year-round cover and food during the fall and winter. Its stiff stems resist lodging and will recover to an upright position after winter snowstorms.



'VA-70' shrub lespedeza

Lespedeza thunbergii

Zones: 6, 7, 8

Uses: Wildlife food and cover, borders, hedges, and revegetating steep banks along banks and channels.

Growth rate: Produces desired cover during the second growing season.

Site conditions: Moderately well drained, acid, sandy, loamy, and clayey soils. Good drought, poor shade tolerance.

'VA-70' is an excellent source of food for wildlife, including pheasant, bobwhite quail, rabbits, and deer. It can be used alone as a shrub border or in combination with other plants. 'VA-70' works especially well when planted with switchgrass. Can be established from seed or 1-year-old seedlings.

'Natob' bicolor lespedeza

Lespedeza bicolor

Zones: 6, 7, 8

Uses: Food for quail, dove, and wild turkey and cover for these and other birds and mammals.

Growth rate: Produces seed in 3 to 4 years; matures in 5 to 6 years.

Site conditions: Grows in low-fertility, acid, clayey, loamy, and sandy soils; good drought tolerance; fair shade tolerance; requires well-drained soil.

'Natob' bicolor lespedeza is an upright shrub that grows to a height of 12 feet. Many purple flowers bloom from July to September. Seeds provide food for quail. Establish by direct seeding or by planting seedlings early in spring. Plant in strips, borders, or compact blocks to provide both food and cover.



'Roselow' sargent crabapple

Malus sargentii

Zones: 3, 4, 5, 6, 7

Uses: Wildlife food, windbreaks, screens, and landscaping.

Growth rate: Produces fruit the third or fourth growing season.

Site conditions: All soil types, well adapted to sandy soils where rainfall is adequate. Tolerates dry, acid soils; is intolerant to shade, and survives short periodic flooding.

A rounded and densely branched shrub, 'Roselow' is one of the smallest crabapples, obtaining a maximum height of 8 feet. The dark-red fruit appears before leaf drop and remains on the tree all winter until taken by wildlife. It is planted from seedlings in the spring, once it is determined the ground will remain frost free.





'Midwest' Manchurian crabapple

Malus baccata var. *mandshurica*

Zones: 3, 4, 5, 6, 7

Uses: Wildlife food and cover, windbreaks, screens, and landscaping.

Growth rate: Moderately rapid growing tree, producing fruit between the third and fifth growing season.

Site conditions: Grows in all well-drained soil types. Is extremely cold hardy; intolerant to shade; tolerates semi-droughty and slightly acid conditions.

'Midwest' is a dense rounded tree that reaches a height of 20 to 22 feet. It produces abundant apples that are ¼ to ½ inch in diameter and that remain on the tree all winter until taken by wildlife. A successful crop is assured most years, as the tree leafs out before blooming and protects the flowers from frost. The low-spreading branches provide year-round cover for wildlife. Plant from seedlings in early spring after it is determined the ground will remain frost free.



Elderberry

Sambucus canadensis

Zones: 3, 4, 5, 6, 7, 8

Uses: Food for many species of songbirds, squirrels, and deer.

Growth rate: Produces fruit in 4 to 5 years; matures in 7 to 8 years.

Site conditions: Grows in medium-fertility, acid, clayey, loamy, and sandy soils; fair drought tolerance; fair shade tolerance; tolerates somewhat poorly drained soil.

Elderberry is a spreading shrub that grows to a height of 12 feet. It has bright-green compound leaves, white flowers in June and July, and purple berries from August to October. Establish early in spring by planting bare-root or container-grown seedlings.

Winterberry

Ilex verticillata

Zones: 3, 4, 5, 6, 7, 8

Uses: Food for songbirds; ornamental screens.

Growth rate: Produces seed in 3 to 4 years; matures in 6 to 7 years.

Site conditions: Grows in medium-fertility, acid, clayey, loamy, and sandy soils; fair drought tolerance; fair shade tolerance; tolerates poorly drained soil.

Winterberry is an upright spreading shrub that grows to a height of 10 feet. Red berries provide food for birds throughout the winter. Establish early in spring or late in fall by planting bare-root or container-grown seedlings.



'Gobbler' sawtooth oak

Quercus acutissima

Zones: 5, 6, 7, 8

Uses: Food for wild turkey, squirrel, game, and songbirds. Can be used for shelterbelts and landscaping.

Growth rate: Attains a height of 50 to 60 feet in 15 years, and may produce nuts in 7 or 8 years.

Site conditions: Grows in medium-fertility, slightly acid, clayey, loamy, and sandy soils. Fair drought tolerance; poor shade tolerance; tolerates moderately well drained soil.

Trees grow to 70 feet and may produce upwards of 125 pounds of acorns per tree. 'Gobbler' acorns are smaller than other strains and are more readily used by small birds and animals. Plant in the spring using 1- or 2-year-old seedlings.





**American mountain-ash/
European mountain-ash**
Sorbus americana/Sorbus aucuparia

Zones: 5, 6, 7, 8

Uses: Food for grouse and many species of songbirds; screens and ornamental plantings.

Growth rate: Produces fruit in 5 to 8 years.

Site conditions: Grows in medium-fertility, acid, clayey, loamy, and sandy soils; fair drought tolerance; poor shade tolerance; tolerates somewhat poorly drained soil.

Mountain-ash is a tree that grows to a height of 35 to 50 feet. It has compound leaves, white flowers in May and June, and large clusters of orange berries in fall and winter. Establish in spring by planting nursery-grown seedlings or container-grown plants.

Erosion-Controlling Ground Covers

Shrubs and vines can provide low-maintenance, attractive erosion control on roadbanks and around homes and commercial buildings. Many of the plants become so dense that they can be used in place of the traditional lawn where foot traffic does not occur. Used where needed, and in combination with other plants, the selections in this section can provide the desired attractiveness and versatility required in almost any situation.



Pachysandra



Periwinkle

Vinca minor

Zones: 4, 5, 6, 7, 8

Uses: Lawn substitute and ground cover for large and small areas.

Growth rate: Plants 1 foot apart produce complete cover in 1 to 2 years.

Site conditions: Grows in low-fertility, acid, clayey, loamy, and sandy soils; fair drought tolerance; excellent shade tolerance; grows well in full sun; tolerates moderately well drained soil.

Periwinkle, an evergreen that grows to a height of 6 inches, spreads by stolons that root at the nodes. Purple flowers bloom in spring. Establish by planting stem cuttings or divisions.



Pachysandra

pachysandra terminalis

Zones: 4, 5, 6, 7, 8

Uses: In borders, under trees and shrubs, and as a lawn substitute in nontraffic areas.

Growth rate: Plants 1 foot apart provide dense, weed-resistant ground cover in 1 to 2 years.

Site conditions: Grows in medium-fertility, acid, clayey, loamy, and sandy soils; poor drought tolerance; excellent shade tolerance; does not grow well in full sun; tolerates moderately well drained soil.

Pachysandra is one of the most attractive evergreen ground covers available. It has alternating leaves 4 inches long. Flowers and fruit are inconspicuous. Plant rooted cuttings 1 foot apart for rapid growth of dense cover. Clipping early in spring stimulates new growth. Fertilize occasionally.

Lily-of-the-valley

Convallaria majalis

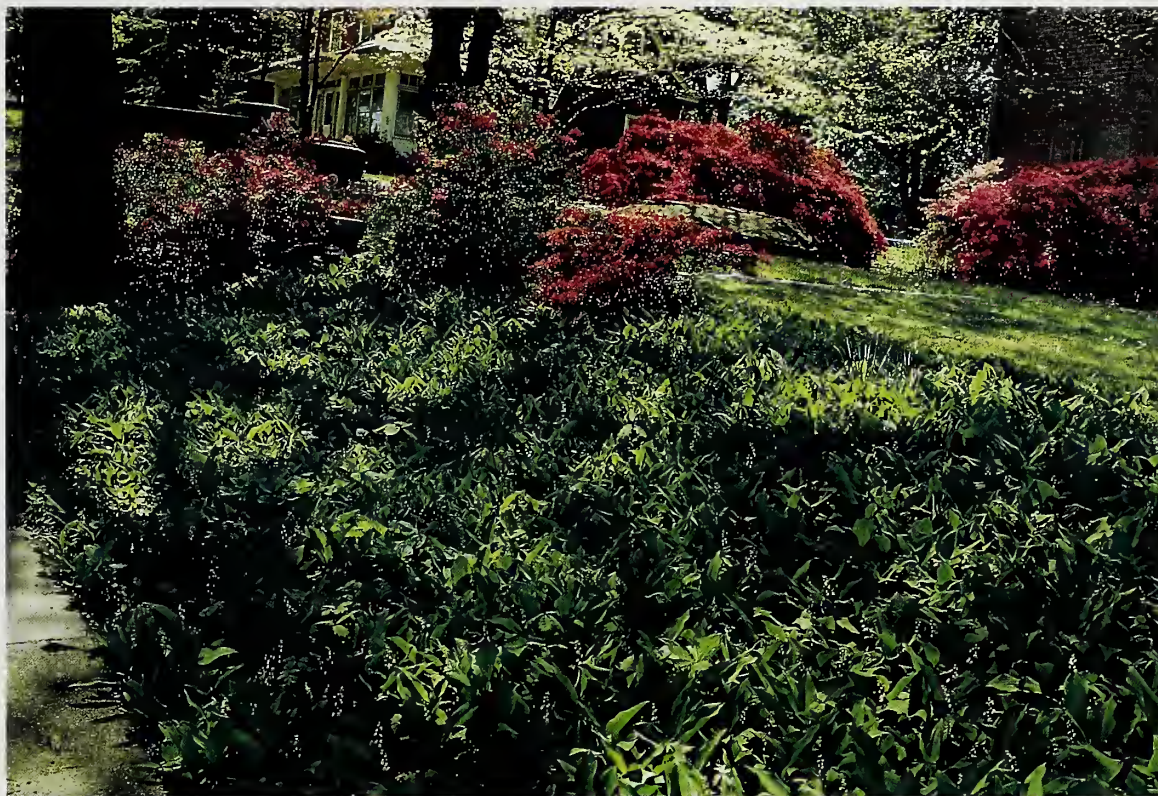
Zones: 3, 4, 5, 6, 7, 8

Uses: Low-maintenance ground cover in partial or full shade.

Growth rate: Plants 1 foot apart produce complete cover in 2 to 3 years.

Site conditions: Grows in low-fertility, acid, clayey, loamy, and sandy soils; good drought tolerance; excellent shade tolerance; does not grow well in full sun; tolerates somewhat poorly drained soil.

Lily-of-the-valley grows to a height of 8 inches. It has attractive, fragrant, bell-shaped flowers and produces orange berries in fall. Establish by planting root divisions in spring and summer.



St. Johnswort (Aaronsbeard)

Hypericum calycinum

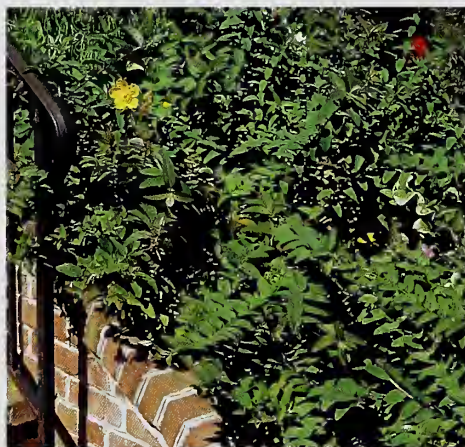
Zones: 6, 7, 8

Uses: Ground cover on sandy soil.

Growth rate: Plants 1 foot apart provide complete cover in 1 to 2 years.

Site conditions: Grows in medium-fertility, acid, loamy, and sandy soils; good drought tolerance; good shade tolerance; tolerates moderately well drained soil.

St. Johnswort (Aaronsbeard) is a semievergreen that grows to a height of 1 foot. Bright-yellow flowers bloom from June to August. Establish by planting divisions or nursery-grown plants. The plant spreads by stolons and layering.





English ivy

Hedera helix

Zones: 4, 5, 6, 7, 8

Uses: Low-maintenance cover for large areas.

Growth rate: Plants 1 foot apart produce complete cover in 2 years.

Site conditions: Grows in medium-fertility, acid, clayey, loamy, and sandy soils; good drought tolerance; good shade tolerance; tolerates moderately well drained soil.

English ivy is an evergreen vine that has broad, flat leaves and can be grown in full sun or full shade. It trails and climbs, attaching to buildings and trees by small holdfasts projected along its stems. Establish by planting nursery-grown rooted cuttings. New spring growth will quickly camouflage discoloration caused by continuous exposure to sun in winter.



Japanese honeysuckle

Lonicera japonica

Zones: 5, 6, 7, 8

Uses: Cover for large areas, such as roadbanks; fruit eaten by bobwhite quail, wild turkey, and many species of songbirds.

Growth rate: Plants 18 inches apart produce complete cover in 2 years.

Site conditions: Grows in low-fertility, acid, clayey, loamy, and sandy soils; good drought tolerance; good shade tolerance; tolerates somewhat poorly drained soil.

Japanese honeysuckle is an exotic, aggressive, semievergreen vine. Stems root when in contact with soil, and aggressive growth must be restricted to prevent spread into areas where unwanted. Small yellow and white flowers bloom in June. In fall, black berries appear and the leaves turn brown. Establish by planting nursery-grown plants.

Ground juniper

Juniperus spp.

Zones: 4, 5, 6, 7, 8

Uses: Dense, attractive, low-maintenance ground cover for large and small areas.

Growth rate: Plants 2 to 3 feet apart provide complete cover in 2 to 3 years.

Site conditions: Grows in medium-fertility, acid, clayey, loamy, and sandy soils; good drought tolerance; poor shade tolerance; requires well-drained soil.

Ground junipers are evergreen, have spinelike leaves, and grow to a height of 8 to 24 inches. Several species and varieties are suitable for ground cover. Establish by planting container-grown plants 1 year old.



Red fescue

Festuca rubra

Zones: 3, 4, 5, 6; cool, shady areas in 7 and 8

Uses: Fine-textured lawn mixtures; dense sod for stabilizing roadbanks and north-facing slopes.

Growth rate: Produces complete cover of attractive, uniform sod in 1 year.

Site conditions: Grows in medium-fertility, acid, clayey and loamy soils; fair drought tolerance; good shade tolerance; requires well-drained soil.

Red fescue has narrow, bright-green leaves. It spreads by short underground stems to produce a tight sod. Aboveground stems have a reddish tint and grow to a height of 18 inches. Red fescue may turn brown in hot, dry summer weather but recovers in fall. Many varieties are available. Establish by seeding on a firm seedbed in spring or early in fall.





Day lily

Hemerocallis spp.

Zones: 4, 5, 6, 7, 8

Uses: Permanent cover for critical areas of urbanizing land, such as soil borrow areas, earthen cuts and fills, and development and recreational sites.

Growth rate: Complete ground cover in 2 years when planted on 2-foot spacings.

Site conditions: Drought and heat resistant; shade tolerant; thrives in low-fertility, moist, slightly acid, sands, clays, and loams.

Propagate by dividing the stout fleshy roots in July or August, and plant on 2-foot spacings. The plants develop rapidly. Some plants will bloom the first year from the divisions. The relatively disease-free plants need little care. Should flower size become small and plant vigor decrease, revitalize the planting by dividing and thinning the clumps.



'Golden Jubilee' black-eyed susan

Rudbeckia hirta

Zones: 3, 4, 5, 6, 7, 8

Uses: Adds color when planted alone or mixed with other erosion control plants for roadside plantings and other disturbed areas.

Growth rate: Seeded in the late summer or early fall, produces flowering plants the following year.

Site conditions: Adapted from well-drained to somewhat poorly drained soils, except heavy clays or very sandy soils. Tolerates acid conditions, is drought resistant, and prefers full sun.

A reseeding biennial, 'Golden Jubilee' should be planted in late summer or early fall. The small seed germinates readily when placed on the ground and raked or lightly mulched. The plants may grow to a height of 3 feet. The showy flowers, with yellow-orange rays and dark brown spherical centers, bloom from June to September adding color to the landscape.

Marginal shield fern

Dryopteris marginalis

Christmas fern

Polystichum acrostichoides

Western swordfern

Polystichum munitum

Zones: 3, 4, 5, 6, 7, 8

Uses: Ground cover in wet, shady conditions.

Growth rate: Complete ground cover in 2 or 3 years.

Site conditions: Semishady to full shade. Tolerate poorly drained, medium-fertility, loamy or clayey soil. Do best in soils high in organic matter.

Ferns may be the last resort for wet, shady places where few plants can survive. Ferns make attractive borders along marshy sites or do well in small areas that are shady and stay moist and damp.

**Lily-turf**

Liriope spicata

Zones: 6, 7, 8

Uses: Evergreen borders along walks and around trees; ground cover; tolerates droughty, low-fertility soils better than most ornamental ground covers; requires little maintenance once established.

Growth rate: Spreads slowly by rhizomes the first year; produces complete cover in 2 years.

Site conditions: Grows in low-fertility, acid, clayey, loamy, and sandy soils; good drought tolerance; good shade tolerance; tolerates somewhat poorly drained soil.

Lily-turf is a coarse, grasslike evergreen that grows to a height of 6 to 12 inches. Several species are available. To establish, divide clumps and plant divisions 6 to 12 inches apart. May spread to adjacent areas when planted in full sun.



Soil Conservation Service Plant Materials Centers

The U.S. Department of Agriculture, Soil Conservation Service, operates 26 plant materials centers located throughout the Nation for the purpose of assembling, evaluating, selecting, and releasing superior plants to solve specific conservation problems.

These problems are usually quite diverse. Many are directly related to protecting water quality. Plant materials centers are helping to improve and maintain water quality by developing plants to control runoff and erosion from roadside cuts, agricultural lands, urban construction, mine spoils, and streambanks. Other problems being addressed at plant materials centers are plants for wind barriers, screens, wildlife food and cover, shoreline protection, livestock forage, low-maintenance ground covers, and wetlands.

Some new challenges facing the centers are the development of plant materials for landfills and soils with heavy metal concentrations, vegetative filter strips that dilute pollutants such as nitrates and pesticides, and plants with low-fertility requirements to reclaim sand and gravel pits while providing wildlife habitat and erosion control.

Three plant materials centers directly serve the Northeast States: Big Flats Plant Materials Center located near Corning, New York; Cape May Plant Materials Center located near Cape May Court House, New Jersey; and Quicksand Plant Materials Center located in Quicksand, Kentucky.

For information concerning plant materials and their use in your area, contact your local Soil Conservation Service or Soil and Water Conservation District office.

Plant Use Reference

● Primary Uses ● Other Uses

Page	Common Name	Cultivar	Scientific Name	Disturbed Areas	Stream-bank	Wildlife Habitat	Dunes & Sands	Screens & Wind barriers	Ground Covers	Forage
13	American beachgrass	Cape	<i>Ammophila breviligulata</i>				●			
27	American cranberrybush		<i>Viburnum trilobum</i>			●				
27	American holly		<i>Ilex opaca</i>			●				
32	American mountain-ash		<i>Sorbus americana</i>			●		●		
22	Amur honeysuckle	Rem-Red	<i>Lonicera maackii</i>			●		●		
21	Amur privet		<i>Ligustrum amurense</i>					●		
15	Bayberry		<i>Myrica pensylvanica</i>			●	●			
15	Beach plum		<i>Prunus maritima</i>			●	●			
7	Bermudagrass	Tufcote	<i>Cynodon dactylon</i>	●					●	
29	Bicolor lespedeza	Natob	<i>Lespedeza bicolor</i>	●		●			●	
5	Big bluestem	Niagara	<i>Andropogon gerardii</i>	●		●	●			●
4	Birdsfoot trefoil	Mackinaw	<i>Lotus corniculatus</i>	●					●	●
32	Black cherry		<i>Prunus serotina</i>			●		●		
9	Black locust	Steiner Group	<i>Robinia pseudoacacia</i>	●				●		
38	Black-eyed susan	Golden Jubilee	<i>Rudbeckia hirta</i>	●					●	
8	Bristly locust	Arnot	<i>Robinia fertilis</i>	●		●		●		
22	California privet		<i>Ligustrum ovalifolium</i>					●		
21	Carolina poplar	Imperial	<i>Populus canadensis</i> var. <i>eugenei</i>					●		
39	Christmas fern		<i>Polystichum acrostichoides</i>						●	
14	Coastal panicgrass	Atlantic	<i>Panicum amarum</i> var. <i>amarulum</i>	●			●		●	
3	Crownvetch	Chemung	<i>Coronilla varia</i>	●			●		●	●
38	Day lily		<i>Heemerocallis</i> spp.						●	
4	Deertongue	Tioga	<i>Panicum dichanthelium</i>	●		●				
10	Dwarf willow	Bankers	<i>Salix cotteti</i>		●			●		
20	Eastern redcedar		<i>Juniperus virginiana</i>			●		●		
30	Elderberry		<i>Sambucus canadensis</i>			●				
36	English ivy		<i>Hedera helix</i>						●	
9	European black alder		<i>Alnus glutinosa</i>	●				●		
32	European mountain-ash		<i>Sorbus aucuparia</i>			●		●		
3	Flatpea	Lathco	<i>Lathyrus sylvestris</i>	●			●		●	
26	Flowering dogwood		<i>Cornus florida</i>			●				

Plant Use Reference (Continued)

Page	Common Name	Cultivar	Scientific Name	● Primary Uses ● Other Uses						
				Disturbed Areas	Stream-bank	Wildlife Habitat	Dunes & Sands	Screens & Wind barriers	Ground Covers	Forage
26	Graystem dogwood		<i>Cornus racemosa</i>			●		●		
37	Ground juniper		<i>Juniperus</i> spp.						●	
24	Hemlock		<i>Tsuga canadensis</i>	●		●		●		
17	Japanese black pine		<i>Pinus thunbergii</i>				●	●		
36	Japanese honeysuckle		<i>Lonicera japonica</i>						●	
14	Japanese sedge	Sea Isle	<i>Carex kobomugi</i>				●			
24	Lilac		<i>Syringa vulgaris</i>					●		
35	Lily-of-the-valley		<i>Convallaria majalis</i>						●	
39	Lily-turf		<i>Liriope spicata</i>						●	
30	Manchurian crabapple	Midwest	<i>Malus baccata</i> var. <i>mandshurica</i>			●		●		
39	Marginal shield fern		<i>Dryopteris marginalis</i>						●	
23	Mountain laurel		<i>Kalmia latifolia</i>	●				●		
20	Northern whitecedar		<i>Thuja occidentalis</i>					●		
34	Pachysandra		<i>Pachysandra terminalis</i>						●	
2	Perennial pea	Lancer	<i>Lathyrus latifolius</i>	●					●	
6	Perennial ryegrass		<i>Lolium perenne</i>	●					●	●
34	Periwinkle		<i>Vinca minor</i>						●	
10	Purpleosier willow	Streamco	<i>Salix purpurea</i>		●			●		
37	Red fescue		<i>Festuca rubra</i>						●	
11	Redosier dogwood	Ruby	<i>Cornus stolonifera</i>		●	●		●		
6	Redtop		<i>Agrostis alba</i>	●					●	
16	Rugosa rose		<i>Rosa rugosa</i>	●		●				
13	Saltmeadow cordgrass	Avalon	<i>Spartina patens</i>				●			
29	Sargent crabapple	Roselow	<i>Malus sargentii</i>			●		●		
31	Sawtooth oak	Gobbler	<i>Quercus acutissima</i>			●		●		
17	Sea oats		<i>Uniola paniculata</i>				●			
7	Sericea lespedeza	Appalow	<i>Lespedeza cuneata</i>	●		●			●	●
16	Shore juniper	Emerald Sea	<i>Juniperus conferta</i>				●		●	
28	Shrub lespedeza	VA-70	<i>Lespedeza thunbergii</i>	●		●		●		
26	Silky dogwood	Indigo	<i>Cornus amomum</i>			●		●		
18	Smooth cordgrass		<i>Spartina alterniflora</i>				●			
8	Smooth sumac		<i>Rhus glabra</i>	●		●				

Plant Use Reference (Continued)

● Primary Uses ● Other Uses

Page	Common Name	Cultivar	Scientific Name	Disturbed Areas	Stream-bank	Wildlife Habitat	Dunes & Sands	Screens & Wind barriers	Ground Covers	Forage
8	Staghorn sumac		<i>Rhus typhina</i>	●		●				
35	St. Johnswort		<i>Hypericum calycinum</i>						●	
28	Switchgrass	Shelter	<i>Panicum virgatum</i>	●		●		●		
5	Tall fescue	KY-31	<i>Festuca arundinacea</i>	●					●	●
23	Tatarian honeysuckle		<i>Lonicera tatarica</i>			●		●		
39	Western swordfern		<i>Polystichum munitum</i>						●	
24	White pine		<i>Pinus strobus</i>	●		●		●		
31	Winterberry		<i>Ilex verticillata</i>			●		●		

