

Plant Materials for Vegetation Management along New York State Roadsides PART 2



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Please Note: Part 1 contains pages 1-43. Part 2 contains pages 44-86.

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Scientific name:

Persicaria affinis

Common name:

Fleeceflower, Himalayan knotweed

Region of origin:

Himalayas

Highlights:

Weed Suppressive Rating:

Good-Excellent

Hardiness:

Zones 3-8

Height x Spread:

Up to 12 in. x 24 in. or more

Season of bloom:

Mid-summer to mid-autumn

Flower color:

Deep red to pink

Exposure:

Full sun to partial shade

Soil requirements:

Tolerates most soils

Moisture requirements:

Prefers moist, but not wet, soil

Roadside uses:

Suitable vegetation zones:

Moist medians, roundabouts
(RZ2, RZ3)

Mowing requirements:

None

Salt tolerance:

Unknown

Drought tolerance:

Limited

Invasive potential:

Limited

Physical description: An evergreen, mat-forming plant with dark green , lance-shaped leaves ranging from 2 to 6 in. in length. Height up to 10", and spreading to 24" or more. Foliage turns redish bronze in autumn. Blooms from mid-summer through mid-autumn. Blooms are spikes (2 to 3 in. long) of small (1/4") flowers; color of flowers ranges from pink to deep red, often changing from pink to red (or from red to pink, depending on the cultivar) during the season, finally turning brown in autumn, providing visual interest during the winter.

Optimal growing conditions: The plant prefers full sun and moist soil, but will tolerate partial shade. Does not tolerate excessive soil moisture. Winter hardiness: Zones 3-8.

Susceptibility to pests and diseases: Aphids, slugs, and snails may be problematic.



Photo by Bjorn Thon



Photo courtesy Wikipedia—Kurt Stueber

Scientific name:

Petrorhagia saxifraga

Common name:

Tunic flower, Coat flower,
Saxifrage pink

Region of origin:

Central Europe

Highlights:

Weed Suppressive Rating:

Fair - Good

Hardiness:

Zones 4-8

Height x Spread:

About 10 in. x 12 to 18 in.

Season of bloom:

Early summer

Flower color:

Pale pink

Exposure:

Full sun

Soil requirements:

Well-drained soil

Moisture requirements:

Prefers moist soil

Roadside uses:

Suitable vegetation zones:

Moist medians, roundabouts
(RZ2, RZ3)

Mowing requirements:

None

Salt tolerance:

Limited

Drought tolerance:

Limited

Invasive potential:

Limited

Physical description: This perennial plant forms low mounds, and can reach 10 in. long by 12-18 in. wide. The leaves, which are linear and opposite, reach ¼ to ½ in. long and are very narrow and acute. The serration at the base of each leaf is covered with bristles. Flowering occurs in the beginning of the summer, and flowers are visible throughout the summer. Flowers are pale pink and reach 1/3 in. wide.

Optimal growing conditions: The plant prefers full sun and a moist, well-drained soil. Drainage is very important, and growth of the plant is rapid under good conditions. Saxifrage pink prefers drainage of a rock garden. Winter hardiness: Zones 4-8.

Susceptibility to pests and diseases: Saxifrage pink has no serious problems with pests and diseases.



Photo courtesy Rob's Plants

Scientific name:

Phlox stolonifera

Common name:

Creeping phlox

Region of origin:

Eastern part of the United States (from Pennsylvania to Georgia)

Highlights:

Weed Suppressive Rating:

Poor

Hardiness:

Zones 4-9

Height x Spread:

6 to 12 in. x indefinite

Season of bloom:

Mid to late spring

Flower color:

Purple to violet

Exposure:

Light to moderate shade

Soil requirements:

Organically rich, acidic to neutral soil

Moisture requirements:

Drought tolerant

Roadside uses:

Suitable vegetation zones:

Roadside plantings, medians, roundabouts and managed beds (RZ1, RZ2, RZ3)

Mowing requirements:

None

Salt tolerance:

Good

Drought tolerance:

High

Invasive potential:

Spreads rapidly in well-drained soils but not particularly invasive

Physical description: The common name of *Phlox stolonifera* comes from its tendency to spread by leafy horizontal stems underground). It is low growing and mat forming. It may reach 6 to 12 in. tall, and spreads indefinitely. The elliptic leaves are evergreen and dark green in color; they reach 1 to 3 in. long and are quite attractive. The leaves on the flowering stems are tiny, reaching less than 1 in. in length. Flowering occurs in mid to late spring; the flowers are purple to violet and look like trumpets.

Optimal growing conditions: Creeping phlox prefers light to moderate shade. It performs in any organically rich loam or humus-enriched soil, if the soil is acidic or neutral. If the climate is not too warm, Creeping phlox can tolerate an exposure in full sun. Winter hardiness: Zones 4-9.

Susceptibility to pests and diseases: The main disease problem of this species in hot and humid places is powdery mildew, which is more often noticed in early spring and during the summer. One solution to this problem is to cut back the stems to initiate new growth.



Photos by Andrew Senesac, Cornell Cooperative Extension



Scientific name:

Phlox subulata

Common name:

Moss phlox, Moss pink

Region of origin:

Northeastern United States

Highlights:

Weed Suppressive Rating:

Good - Excellent

Hardiness:

Zones 3-9

Height x Spread:

4 to 6 in. x about 24 in.

Season of bloom:

Early to mid-spring

Flower color:

Purple

Exposure:

Full sun

Soil requirements:

Well-drained soil

Moisture requirements:

Prefers moist soil. Moderately drought tolerant

Roadside uses:

Suitable vegetation zones:

Managed beds in sunny medians, roundabouts or focal points
(RZ1, RZ2, RZ3)

Mowing requirements:

None

Salt tolerance:

Moderate

Drought tolerance:

Moderate

Invasive potential:

Limited

Physical description: Moss phlox forms dense mounds reaching 6 in. tall, and spreads indefinitely. The evergreen leaves are mostly opposite, although upper ones may be alternate. Leaves are ciliate, entire, and medium green in color, and about 1 in. long by 1/8 in. wide. Flowering occurs in early to mid-spring, and flowers are borne in dense terminal panicles. The flowers, which are 3/4 in. across, are colored red-purple to violet-purple, pink, or white. The fruit is a small capsule and is non-ornamental.

Optimal growing conditions: Moss phlox performs best in full sun. It is tolerant of a wide range of soil types, but good drainage is necessary. Although this plant is moderately drought-resistant, it performs best in a slightly moist soil. Concerning pH, moss phlox prefers lightly alkaline soils. Growth is rapid under good conditions. Winter hardiness: Zones 3-9.

Susceptibility to pests and diseases: Aphids and mites are sometimes problematic. Spider mites may be a problem during hot summers. Concerning diseases, crown rot, fungus leaf spot, mildew, rust, and verticillium wilt have been mentioned.



Photos by Andrew Senesac, Cornell Cooperative Extension



Scientific name:

Polystichum acrostichoides

Common name:

Christmas fern

Region of origin:

Eastern North America

Highlights:

Weed Suppressive Rating:

Good to excellent

Hardiness:

Zones 3-9

Height x Spread:

About 2 ft. x 2 ft.

Season of bloom:

None

Flower color:

Flowerless plant

Exposure:

Shade, to partial shade

Soil requirements:

Acidic, well-drained soil

Moisture requirements:

Prefers moist soil, but tolerates drought.

Roadside uses:

Suitable vegetation zones:

Woodside areas, shaded roadside settings (RZ3)

Mowing requirements:

None

Salt tolerance:

Moderate

Drought tolerance:

Very good once established

Invasive potential:

Limited

Physical description: The Christmas fern grows in lush clumps, and its leathery, lance-shaped fronds are dark green year-round. The sterile fronds are shorter, and usually broader, while fertile fronds are longer and slender, and have the undersides of it tips bronze with spores.

Optimal growing conditions: Partial shade in moist, acidic, well-drained soil is the optimum site for Christmas fern, although this plant grows well in most conditions with little maintenance. It tolerates drought, heat, and poor soil as well as repeated transplanting.

Susceptibility to pests and diseases: Rabbits, chipmunks, and box turtles can be a problem.



Photo by Paul Weston, Cornell U.

Scientific name:
Potentilla nepalensis

Common name:
Nepal cinquefoil

Region of origin:
Nepal

Highlights:

Weed Suppressive Rating:
Good - Excellent

Hardiness:
Zones 5-8

Height x Spread:
12 to 18 in. x indefinitely

Season of bloom:
Summer

Flower color:
Purple

Exposure:
Full sun

Soil requirements:
Well-drained soil

Moisture requirements:
Drought tolerant

Roadside uses:

Suitable vegetation zones:
Wildflower beds, naturalized sites, reclamation areas and managed meadows
(RZ2,RZ3)

Mowing requirements:
None

Salt tolerance:
Moderate to good

Drought tolerance:
Very good but prefers warm climates and moderate temperatures

Invasive potential:
Limited

Physical description: The height of this perennial, sprawling plant is quite variable. Under typical conditions, Nepal cinquefoil reaches 12-18 in. tall, but may reach a height of 30 in., with indefinite spreading when conditions are optimal. The plant is compact, and has long leafy stems (which may be pruned if necessary during summer). The semi-evergreen leaves are dark green, have 5 leaflets, and are coarsely dentate. Flowering occurs in early summer and continues sporadically throughout the summer; the stems support purple or crimson-colored flowers, which have 5 petals and reach 1 inch long. The fruit is non-ornamental.

Optimal growing conditions: Nepal cinquefoil prefers full sun with a well-drained soil. This species doesn't like extreme temperatures (heat or cold), and reaches an optimum growth in regions with moderate summers and winters. The plant only persists for two or three years. Winter hardiness: Zones 5-8.

Susceptibility to pests and diseases: Nepal cinquefoil has no serious problems with pests or diseases.



Photos by Andrew Senesac, Cornell Cooperative Extension



Scientific name:

Potentilla neumanniana

Common name:

Spring cinquefoil, Dwarf spring cinquefoil

Region of origin:

Europe

Highlights:

Weed Suppressive Rating:

Good - Excellent

Hardiness:

Zones 5-8

Height x Spread:

3 to 6 in. x 6 to 12 in.

Season of bloom:

Spring through summer

Flower color:

Yellow

Exposure:

Full sun

Soil requirements:

Well-drained soil

Moisture requirements:

Prefers moist soils, but will tolerate most soils

Roadside uses:

Suitable vegetation zones:

Wildflower beds, naturalized sites, and managed meadows (RZ1, RZ2,RZ3)

Mowing requirements:

None

Salt tolerance:

Moderate to good

Drought tolerance:

Moderate

Invasive potential:

Limited

Physical description: A low-growing evergreen groundcover with palmate, toothed, medium-green leaves (with 5 or 7 lobes). The plants produce saucer-shaped, yellow flowers (1 " across) starting in spring and continuing for most of the summer. Plants reach a height of 4" and tend to form clumps up to 12" across. The cultivar 'Nana' is more compact, reaching a height of only 3" and a spread of 6".

Optimal growing conditions: Spring cinquefoil prefers full sun with a well-drained soil, but tolerates partial shade and a variety of soil types. Winter hardiness: Zones 5-8.

Susceptibility to pests and diseases: May be affected by various pathogens (downy & powdery mildew, leaf blister, rust, or leaf spots).



Photos courtesy G. A. Monroe



Scientific name:

Rhus aromatica

Common name:

Fragrant sumac

Region of origin:

Eastern North America

Highlights:

Weed Suppressive Rating:

Fair - Good

Hardiness:

Zones 4-9

Height x Spread:

About 2 ft. x 6 to 8 ft.

Season of bloom:

Spring

Flower color:

Yellow

Exposure:

Full sun or light shade

Soil requirements:

Well-drained, moderately fertile soil

Moisture requirements:

Moist soil. Drought tolerant

Roadside uses:

Suitable vegetation zones:

Sloped sites, medians, underpasses or roundabouts in sunny or partly shaded conditions (RZ2, RZ3)

Mowing requirements:

None

Salt tolerance:

Moderate

Drought tolerance:

Very good once established

Invasive potential:

Limited

Physical description: This low-growing, spreading perennial plant is a woody groundcover that may reach 2-2 ½ ft tall, and spreads 6-8 ft wide. Foliage is dense and aromatic; leaves are 3-palmate, slightly hairy on both sides, and reach 4 in. long. They are bright green, and turn red-orange in autumn. Flowers are yellow, ¼ in. across, and are borne in small panicles. Fruit is non-ornamental.

Optimal growing conditions: Fragrant sumac performs best in a moist, moderately fertile, well-drained soil. It prefers full sun but tolerates light shade. Full sun is preferable to obtain best autumn color. Winter hardiness: Zones 4-9.

Susceptibility to pests and diseases: Caterpillars and scale insects are the main arthropod pests. Concerning diseases, powdery mildew, wood rot, leaf spot blister, canker, and dieback may be problems.



Photo by Michael Masiuk, Penn State U.



Photo by Andrew Senesac, Cornell Cooperative Extension

NOTE: The foliage of fragrant sumac resembles that of poison ivy. The major difference is that the leaves of poison ivy are shiny, whereas those of fragrant sumac are not.

Scientific name:

Rudbeckia fulgida

Common name:

Black-eyed susan, Golden coneflower

Region of origin:

North America

Highlights:

Weed Suppressive Rating:

Good - Excellent

Hardiness:

Zones 3-9

Height x Spread:

30 in. x 12 to 24 in.

Season of bloom:

Summer to fall

Flower color:

Yellow with brown center

Exposure:

Full sun to partial shade

Soil requirements:

Prefers moderately fertile, heavy but well-drained soil

Moisture requirements:

Moist soil. Tolerates mild drought

Roadside uses:

Suitable vegetation zones:

Moist medians, wildflower beds and managed meadows (RZ2, RZ3)

Mowing requirements:

Once yearly

Salt tolerance:

Limited

Drought tolerance:

Fairly good once established

Invasive potential:

Limited

Physical description: Black-eyed Susan is a rhizomatous perennial with large golden yellow flowers with brown centers. The leaves of this plant are dark green, hairy, and have prominent veins. The basal leaves are about 5 inches long and half as wide, oblong to lance-shaped, while the stem leaves are toothed and smaller. The flowerheads are 3.5 to 5 inches across, and has 1 to 2 inch long, bright, golden yellow petals surrounding a velvety, dark brown center. It blooms in late summer to fall.

Optimal growing conditions: Although Black-eyed Susan adapts to a wide variety of soil conditions, the optimal condition for this plant is moderately fertile, somewhat moist, heavy but well-drained soil that does not dry out, in full sun or partial shade. It tolerates clay soil and mild droughts.

Susceptibility to pests and diseases: Slugs and snails feed on young plants, and aphids, powdery mildew, rust, smut, and leaf spots can occur.



Photos by Andrew Senesac, Cornell Cooperative Extension



Scientific name:

Sedum acre

Common name:

Gold-moss stonecrop,
Golden carpet stonecrop,
Yellow sedum, Wall pepper

Region of origin:

Europe, North Africa

Highlights:

Weed Suppressive Rating:

Good—Excellent

Hardiness:

Zones 4-9

Height x Spread:

2 to 4 in. x indefinite

Season of bloom:

Summer

Flower color:

Bright yellow-green

Exposure:

Full sun to partial shade

Soil requirements:

Well-drained, gravelly soil

Moisture requirements:

Drought tolerant

Salt tolerance:

Moderate to good

Roadside uses:

Suitable vegetation zones:

Managed beds in medians,
roundpoints, walls, and focal
points (RZ1, RZ2, RZ3)

Mowing requirements:

None

Salt tolerance:

Moderate to good

Drought tolerance:

Very good

Invasive potential:

May become invasive

Physical description: Gold-moss stonecrop is a creeping groundcover with smooth-margined, triangular, light green leaves on thick woody stems. Forms evergreen mats of foliage less than 4" high, and produces small (1/2"), bright yellow-green blooms in summer.

Optimal growing conditions: Prefers sandy or gravelly soil, but tolerates everything from rich dirt to sandy soils, even growing in cracks in masonry and rocks. Does well in full sun to partial shade, but not in dense shade when water is limiting (although the species is drought tolerant when in full sun). Acceptable soil pH ranges from neutral to slightly alkaline. Winter hardiness: Zones 4-9.

Susceptibility to pests and diseases: Mealybugs, scales, slugs, and snails can be problematic.

Additional details: Attractive to bees, butterflies, and birds. May become invasive.



Photo courtesy R. A. Howard, The Smithsonian Institution



Photo courtesy Michael Clayton, Univ. of Wisconsin

Scientific name:

Sedum reflexum

Common name:

Spruced-leaved stonecrop,
Spruce stonecrop, Jenny's
stonecrop, Prickmadam

Region of origin:

Europe

Highlights:

Weed Suppressive Rating:

Fair - Good

Hardiness:

Zone 3

Height x Spread:

8 to 10 in. x indefinite

Season of bloom:

Mid-summer

Flower color:

Bright yellow

Exposure:

Full sun

Soil requirements:

Well-drained, slightly acidic
soil

Moisture requirements:

Drought tolerant

Salt tolerance:

Good

Roadside uses:

Suitable vegetation zones:

Managed beds in medians,
roundpoints, walls, and focal
points (RZ1, RZ2, RZ3)

Mowing requirements:

None, but removal of dead
foliage in spring is needed

Salt tolerance:

Moderate to good

Drought tolerance:

Exceptional

Invasive potential:

Can spread vegetatively

Physical description: Spruce-leaved stonecrop is a mat-forming herbaceous perennial plant that reaches 8 to 10 in. tall and spreads indefinitely. The evergreen leaves are bluish green, linear, alternate, pointed, and are about ½ in. long. Flowering occurs in mid-summer, and bright yellow flowers, which are borne atop upright stems, form 1 to 1 ½ in. wide clusters.

Optimal growing conditions: This plant performs best in well-drained, slightly acidic soils in full sun. It is drought tolerant, but a little watering may be necessary during extend heat periods. This plant is easy to establish and growth is moderate under good conditions. Winter hardiness: hardy to Zone 3.

Susceptibility to pests and diseases: Slugs, nematodes, aphids, and weevils have been sometimes noticed. This species has no serious disease problems.



Photos by Andrew Senesac, Cornell Cooperative Extension



Scientific name:

Sedum spurium

Common name:

Stonecrop, Two-row stonecrop

Region of origin:

Asia

Highlights:

Weed Suppressive Rating:

Fair - Good

Hardiness:

Zones 3-8

Height x Spread:

About 3 in. x 3 to 12 in.

Season of bloom:

Late spring to early fall

Flower color:

Pink/magenta

Exposure:

Full sun to partial shade

Soil requirements:

Well drained soil

Moisture requirements:

Drought tolerant

Roadside uses:

Suitable vegetation zones:

Roadside medians, meadows, naturalized zones and conservation areas

(RZ1, RZ2, RZ3)

Mowing requirements:

Once yearly

Salt tolerance:

Moderate

Drought tolerance:

Very good once established

Invasive potential:

Moderate

Physical description: This plant is a vigorous, mat-forming perennial with semi-evergreen, scalloped, fleshy green leaves with serrated edges. The cultivar 'John Creech' bears many pink flowers above the foliage from late spring to early fall.

Optimal growing conditions: This plant is easily grown in average, moderately fertile, well-drained soil in full sun. It tolerates light shade, heat, drought, and poor soil conditions.

Susceptibility to pests and diseases: Mealybugs, scale insects, slugs, and snail can become problems.

Additional Notes: This plant can cause mild stomach upset if ingested. Also, contact with the sap may irritate skin.



Photo by Stan Shebs, Wikipedia.

Scientific name:

Silene saxifraga

Common name:

Tufted catchfly

Region of origin:

European Alps

Highlights:

Weed Suppressive Rating:

Fair - Good

Hardiness:

Zone 4

Height:

4 to 8 in. x 4 to 6 in.

Season of bloom:

May to August

Flower color:

White

Exposure:

Sunny

Soil requirements:

Well-drained soil

Moisture requirements:

Dry soil

Roadside uses:

Suitable vegetation zones:

Managed beds in full sun, naturalized areas, and focal points (RZ2, RZ3)

Mowing requirements:

None

Salt tolerance:

Limited

Drought tolerance:

Very good; prefers well-drained soils and warm sites

Invasive potential:

Limited

Physical description: Tufted catchfly is a long-lived herbaceous plant that forms dense, round tufts measuring 4 to 6 inches in length. Leaves are long and narrow, sometimes lanceolate with finely serrated margins. Each spindly, 2-inch stem, which is pubescent at the base, supports a solitary flower. Flowers are typically white to greenish-white and sometimes yellowish in color with a white calyx. Reproduction is usually by seed. Propagation may be accomplished by dividing these plants in the summer and fall, and via cuttings in the late summer.

Optimal growing conditions: Ideal for rock gardens since these plants grow well on limestone and in rock crevices. Prefers well drained, dry soils with a sunny exposure. Will tolerate winter weather, as long as protection is provided against winter wetness.

Susceptibility to pests and diseases: No serious pest or disease problems have been reported for this species



Photo by Andrew Senesac, Cornell Cooperative Extension

Silene uniflora

Double bladder campion

Scientific name:

Silene uniflora

Common name:

Double bladder campion

Region of origin: Europe**Highlights:****Weed Suppressive Rating:**

Fair - Good

Hardiness:

Zones 3-7

Height x Spread:

About 6 in. x 8 in.

Season of bloom:

Summer

Flower color:

White

Exposure:

Full sun

Soil requirements:

Well-drained, moderately fertile, neutral or lightly alkaline soil

Moisture requirements:

Moist soil

Physical description: This deeply rooting, horizontally growing perennial plant has a prostrate habit and reaches 6 in. tall and spreads 8 in. wide. The semi-evergreen leaves are fleshy, opposite, entire, lance-shaped, and colored gray-green. They reach $\frac{3}{4}$ in. long and are slightly hairy. Flowering occurs in summer, and double white flowers 1 in. across are produced densely on branchy stems. They are solitary, or borne in few-flowered clusters.

Optimal growing conditions: This species does well in well-drained, moderately fertile, neutral to lightly alkaline soils. It prefers full sun but light shade is acceptable. Winter hardiness: Zones 3-7.

Susceptibility to pests and diseases: Pests such as slugs, snails, whiteflies, spider mites, and aphids are sometimes problematic. Concerning diseases, rust, smut, and leaf fungi are common.



Photo by Andrew Senesac, Cornell Cooperative Extension

Roadside uses:**Suitable vegetation zones:**

Low-growing focal points

(RZ2, RZ3)

Mowing requirements:

None

Salt tolerance:

Limited

Drought tolerance:

Limited

Invasive potential:

Limited

Scientific name:

Solidago cutleri

Common name:

Alpine goldenrod, Cutler's alpine goldenrod

Region of origin:

Northeastern United States

Highlights:

Weed Suppressive Rating:

Fair - Good

Hardiness:

Zones 4-9

Height x Spread:

About 12 in. x 30 in.

Season of bloom:

July - September

Flower color:

Yellow gold

Exposure:

Full sun

Soil requirements:

Well-drained soils

Moisture requirements:

Drought tolerant once established

Roadside uses:

Suitable vegetation zones:

Medians, roundabouts, maintained beds

(RZ1, RZ2, RZ3)

Mowing requirements:

None

Salt tolerance:

Very High

Drought tolerance:

High

Invasive potential:

Limited

Physical description: Alpine goldenrod is a great ornamental plant that blooms in late summer with masses of yellow flower clusters. The plant grows uniformly in compact mounds, producing densely packed, four-inch-long rods of tiny individual yellow gold florets. It reaches about one foot tall and spreads to about 2 feet wide.

Optimal growing conditions: Alpine goldenrod performs best in well-drained soils under full sun. The plant is completely winter hardy and quite drought tolerant once established. Winter hardiness: Zones 4 to 9.

Susceptibility to pests and diseases: The plant is susceptible to rust and other fungal diseases.



Photo by Andrew Senesac, Cornell Cooperative Extension



Photo by G. Bryant

Solidago sphacelata

Autumn goldenrod

Scientific name:

Solidago sphacelata

Common name:

Autumn goldenrod

Region of origin: Southeastern US

Highlights:**Weed Suppressive Rating:**

Good - Excellent

Hardiness:

Zones 2-8

Height x Spread:

About 18 in. x 2 ft.

Season of bloom:

Late summer

Flower color:

Bright yellow

Exposure:

Full sun

Soil requirements:

Well-drained, low-fertile, sandy soil. Very salt tolerant

Moisture requirements:

Dry to medium moisture.
Drought tolerant

Roadside uses:**Suitable vegetation zones:**

Low- growing medians, front of wildflower beds and in managed sites (R22, R23)

Mowing requirements:

None

Salt tolerance:

Exceptional

Drought tolerance:

Very good once established

Invasive potential:

Limited

Physical description: This perennial plant has a clumping habit and reaches 18 in. tall and 2 ft. across. The alternate leaves are 2 to 5 in. long, are colored medium green, and have serrated margins. Flowering occurs in late summer, and the small bright yellow flowers, which are 1/12 to 1/8 in. wide, are borne in large panicles up to 10 in. long.

Optimal growing conditions: Autumn goldenrod prefers full sun, although it can tolerate light to moderate shade. It performs best in poor to moderately fertile soils, especially in sandy soils; in high fertility soils, growth is more rampant. Good drainage is necessary, and this plant is moderately drought-resistant. Also, this species is very tolerant to high salt conditions, making it well suited to roadsides. Winter hardiness: Zones 2-8.

Susceptibility to pests and diseases: This species has no serious insect pest problems, but diseases such as powdery mildew, rust, and some fungal spots sometimes occur.

Additional notes: Thought by many to be the cause of allergies, but this is not so. The culprit is ragweed, which blooms at the same time but is less conspicuous. The foliage of goldenrod and ragweed are also quite different; the leaves of goldenrod are smooth-edge and either pointed or lobed, while those of ragweed are strongly notched.



Photo courtesy Missouri Botanical Garden

Scientific name:

Stachys byzantina

Common name:

Lamb's ear, Woolly hedgenettle, Woolly betony, Woolly woundwort

Region of origin:

Southwestern Asia

Highlights:

Weed Suppressive Rating:

Good - Excellent

Hardiness:

Zones 4-8

Height x Spread:

12 to 18 in. x 24 to 36 in.

Season of bloom:

Summer

Flower color:

Pink to purple

Exposure:

Full sun

Soil requirements:

Well-drained, low-fertile soil

Moisture requirements:

Drought tolerant, but prefers moist soil

Roadside uses:

Suitable vegetation zones:

Managed plantings in medians, roundabouts or focal points (RZ3)

Mowing requirements:

Best growth if mowed after flowering

Salt tolerance:

Limited

Drought tolerance:

Good once established

Invasive potential:

Limited

Physical description: This herbaceous perennial plant reaches 12-18 in. tall and can spread up to 3 ft wide. Unlike most groundcovers, the flowers, colored pink to purple and reaching ½ in. long, are not the most ornamental attribute of this plant; the leaves are considered more attractive. Evergreen, light gray, and covered with velvety white hairs, they really look like lamb's ears, and are quite attractive when crushed. They reach 4 in. long. The visual effect of the leaves is so important that some gardeners recommend removing the flowers as they develop when the flowering begins, in June and until frost, because flowers can spoil the visual impact of the plant.

Optimal growing conditions: Lamb's ears performs best in moist but well-drained soils (good drainage is especially important in humid regions), under full sun. The growth is better in low-fertility soils. The plant is soil- and drought-tolerant to some extent, but performs best with water (sub-irrigation is better than overhead watering). In good conditions, the growth rate is moderate to fast. In the second year, tall inflorescences fall and decompose, disfiguring the plant. Trimming will prevent this problem. Winter hardiness: Zones 4 to 8.

Susceptibility to pests and diseases: If summers are hot, especially at night, the hairy foliage traps moisture and dew, resulting in significant disease problems. Under good conditions, Lamb's ears has few serious disease and pest problems, although aphids and soil mealybugs may be occasional pests.



Andrew Senesac, Cornell Cooperative Extension

Photo by

Scientific name:

Teucrium canadensis

Common name:

American germander, Wild germander, Wood sage

Region of origin:

North America

Highlights:

Weed Suppressive Rating:

Good - Excellent

Hardiness:

Zones 5-8

Height x Spread:

12 to 36 in. x 24 to 30 in.

Season of bloom:

July - Sept.

Flower color:

Purple, cream, or pink

Exposure:

Full sun to partial shade

Soil requirements:

Well-drained soil

Moisture requirements:

Prefers constant moisture, but is drought tolerant

Physical description:

American germander is a clump-forming perennial that grows to 2 to 3 feet. It is a member of the mint family, and the foliage of this plant resembles that of miniature oak leaves; this plant has crisp, bright green leaves that smell musky when crushed. The small, tubular flowers bloom from July to September, and are colored purple, cream, or pale pink.

Optimal growing conditions:

This plant grows best in moist, well-drained soil in full sun, but tolerates partial shade, drought, and salt spray. It is best if moisture is relatively constant.

Susceptibility to pests and diseases:

American germander has no serious pest or disease problem.



Photo by Andrew Senesac, Cornell Cooperative Extension

Roadside uses:

Suitable vegetation zones:

Medians, roundabouts, maintained beds with soils with consistent moisture levels (RZ3)

Mowing requirements:

None

Salt tolerance:

Limited

Drought tolerance:

Moderate

Invasive potential:

Limited

Scientific name:

Thymus praecox

Common name:

Creeping thyme, Mother-of-thyme, Woolly thyme

Region of origin:

Europe

Highlights:

Weed Suppressive Rating:

Fair - Good

Hardiness:

Zones 5-7

Height x Spread:

About ½ in. x 18 in.

Season of bloom:

Late spring to early summer

Flower color:

Rose-purple

Exposure:

Full sun or partial shade

Soil requirements:

Well-drained soil

Moisture requirements:

Drought tolerant

Roadside uses:

Suitable vegetation zones:

Managed sunny beds
(RZ1, RZ2, RZ3)

Mowing requirements:

None

Salt tolerance:

Moderate

Drought tolerance:

Very good

Invasive potential:

Limited

Physical description: This herbaceous perennial plant is mat forming, and may reach ½ in. tall with an 18 in. spread. The small evergreen leaves are opposite, entire, dark green, and are ¼ in. long and wide. They are also aromatic and have an attractive fragrance. Flowering occurs in late spring to early summer, and flowers are very tiny, ½ in. across, and are colored rose-purple. The flowers are attractive to bees, and the fruit is non-ornamental.

Optimal growing conditions: Creeping thyme performs best in full sun, but can tolerate partial shade. A wide range of soils is acceptable, but a good drainage is necessary. This species is drought-resistant and has a rapid rate of growth. Winter hardiness: Zones 5-7.

Susceptibility to pests and diseases: Pests such as aphids, soil mealy bugs, slugs, and snails may do some damage. Fungal diseases and root rot may be problematic in poorly drained soils.



Photo courtesy Wikimedia

Scientific name:

Thymus serpyllum

Common name:

Wild thyme, Creeping thyme, Mother-of-thyme

Region of origin:

Europe, Western Asia, and Northern Africa

Highlights:

Weed Suppressive Rating:

Good - Excellent

Hardiness:

Zones 3-8

Height x Spread:

3 to 6 in. x about 18 in.

Season of bloom:

Late spring and early summer

Flower color:

Purple

Exposure:

Full sun

Soil requirements:

Moderately acidic to neutral, low-fertility soil

Moisture requirements:

Prefers dry sites; very drought tolerant

Roadside uses:

Suitable vegetation zones:

Managed sunny beds

(RZ1, RZ2, RZ3)

Mowing requirements:

None

Salt tolerance:

Moderate

Drought tolerance:

Very good

Invasive potential:

Moderate

Physical description: This perennial plant has a creeping habit, and forms mats reaching 3 to 6 in. tall. The evergreen leaves are dark green, ¼ to 1/3 in. long, opposite, and oval-shaped to oblong. They are lightly pubescent on both sides and have a strong odor of mint. Flowering occurs in late spring and early summer; purple flowers are ¼ in. across, and are borne in a small spike inflorescence. Flowers have an attractive fragrance and attract bees.

Optimal growing conditions: Wild thyme performs best in moderately acidic to neutral soil, with low fertility, under full sun. Organic soils are acceptable if drainage is excellent. It may also tolerate light shade. It is very drought-resistant, and grows better in warm, dry places. Growth is slow to moderate under good conditions. Winter hardiness: Zones 3-8.

Susceptibility to pests and diseases: This plant has no serious pest problems, although slugs and snails sometimes cause damage. Concerning diseases, leaf blight may occur during cold, rainy periods, especially in winter.



Photo by Andrew Senesac, Cornell Cooperative Extension

Scientific name:*Tiarella cordifolia***Common name:**Foamflower, False miterwort,
Miterwort**Region of origin:**

Eastern North America

Highlights:**Weed Suppressive Rating:****Poor****Hardiness:**

Zones 3-8

Height x Spread:

10 to 12 in. x 12 to 15 in.

Season of bloom:

Late spring to early summer

Flower color:

White or light pink

Exposure:

Full sun to partial shade

Soil requirements:

Well-drained soil

Moisture requirements:Prefers moist, well drained
soil**Roadside uses:****Suitable vegetation zones:**Shaded roadside medians
and managed beds, round-
abouts (RZ3)**Mowing requirements:**

None

Salt tolerance:Unknown but suspected to
be less tolerant**Drought tolerance:**Moderate, but prefers moist,
well-drained soil higher in
organic matter, but not wet
soils,**Invasive potential:**

Non-invasive

Physical description: Foamflower is a vigorous, stoloniferous plant that has very attractive, heart-shaped, pale green leaves that turn bronze-red in autumn and winter. The foliage is red veined and deeply dissected, and spreads by runners. Foamflower bears creamy white flowers in spring and summer.

Optimal growing conditions: Although this plant tolerates a wide range of soil conditions, it prefers moist, humus-rich, well-drained soil in full sun to partial shade. Dried out soil, as well as excessive winter moisture, should be avoided.

Susceptibility to pests and diseases: Foamflower is prone to rust and slugs.



Scientific name:

Veronica peduncularis

Common name:

Creeping speedwell, Creeping veronica

Region of origin:

Garden hybrid (Waterperry School of Horticulture)

Highlights:

Weed Suppressive Rating:

Fair - Good

Hardiness:

Zones 5-8

Height x Spread:

4 to 6 in. x about 12 in.

Season of bloom:

Spring

Flower color:

Lavender blue with white eyes

Exposure:

Full sun to partial shade

Soil requirements:

Poor to moderately fertile, well-drained soil

Moisture requirements:

Moist soil

Roadside uses:

Suitable vegetation zones:

Managed beds for low-growing vegetation in sun or shade (RZ2, RZ3)

Mowing requirements:

Trim once yearly

Salt tolerance:

Moderate

Drought tolerance:

Minimal to moderate, but tolerates all sun and soil conditions

Invasive potential:

Limited

Physical description: This is a low-growing, creeping, mound-forming groundcover that grows to 6 inches. The small, shiny, deep green leaves are flushed with burgundy as the weather gets cooler, and the color intensifies as the temperature drops. In spring, it covers itself with 1/2 -inch lavender blue flowers with white eye and dark blue veins that can re-bloom on and off throughout the summer and fall.

Optimal growing conditions: This plant grows well in any poor to moderately fertile, well-drained soil in full sun to partial shade. Should be grown in protected areas in locations colder than Zone 6.

Susceptibility to pests and diseases: This plant has no serious insect or disease problems. However, scale insects, downy mildew, powdery mildew, rust, leaf smut, and root rot can occur.



Courtesy Missouri Botanical Garden Plantfinder

Plant Material Descriptions

II. Grasses

Key to layout of the species description pages – Grasses

Identifier bar (top of page): Scientific name and principal common name. The bar for grasses is gray since grasses are similar in color and have inconspicuous blooms.

Name/Origin Box: Scientific name, common name(s), and region of origin

Basic Plant Information

- **Physical description**: Growth habit, color, height, etc. (see glossary for botanical terms)
- **Optimal growing conditions**: Conditions conducive to optimal growth of the species (see glossary for terms pertaining to soil pH and texture).
- **Susceptibility to pests and diseases**: Notable insect and disease problems.
- **Additional considerations**: Special notes, if applicable.

Highlights box

- **Weed Suppressive Rating**: This rating is based on literature research, field tests at Cornell, and field tests on NYSDOT rights of way.
- **Hardiness**: New York is divided into hardiness zones (Appendix 3 map) that measure a species' ability to tolerate cold. The higher a number, the lower the cold tolerance.
- **Height x spread**: This item includes plant height and whether it will spread to cover ground. Use it as an aid in calculating density of seeding.
- **Season of bloom and Flower color**: If aesthetics are a concern, these items state when/if the grass blooms, and the bloom color.
- **Exposure**: This item helps match plant and roadside conditions. A grass listed as "full sun to partial shade" will not do well under a bridge or in forested right of way.
- **Soil requirements**: This item helps match plant and soil. NYSDOT right of way soil quality varies; planting in less than suitable soil will likely result in poor grass establishment.
- **Moisture requirements**: This item helps match plant and local rainfall, or your ability to water grasses after establishment. Appendix 4 shows typical annual precipitation in NY.
- **Salt tolerance**: If you have areas that receive high quantities of salt, use this item to avoid grasses that will die or suffer from exposure to salt.

Roadside Uses box

- **Suitable Vegetation Zones**: This item lists the general roadside zone (RZ) where the grass would be effective. Appendix 2 shows the RZ's cited in this section. This item also lists specific places in the roadside (walls, beds, medians) where the grass might be used. [NOTE: For this study, we did not test plants under guiderrails because of safety concerns and uncertainty about plant survival in these marginal soils. However, we do note grasses that might work in Zone 1; these are educated guesses about plant survival in a difficult environment without impairing the working of guiderrails or causing pavement break-up with roots.]
- **Mowing requirements**: This item lists any special issues with mowing. You should avoid mowing some grasses, while others actually grow better after a mowing.
- **Salt tolerance**: This item indicates whether a grass can tolerate salt encountered in roadside situations. Avoid planting salt-sensitive grasses in areas where salt levels will be high.
- **Drought tolerance**: This item indicates the degree to which a plant tolerates lack of water.
- **Invasive potential**: This item indicates whether a plant is likely to spread uncontrollably.

Scientific name:

Agropyron cristatum

Common name:

Crested wheatgrass, Fairway crested wheatgrass, Wheatgrass

Region of origin:

Russian and Siberian steppe habitats, Eurasia

Highlights:

Weed Suppressive Rating:

Good - Excellent

Hardiness:

Zones 2-5

Height x Spread:

1½ to 3 ft. x widely spreading up to 4 ft.

Season of bloom:

Late spring

Flower color:

Bluish-green

Exposure:

Full sun

Soil requirements:

Well-drained, sandy to clay loams

Moisture requirements:

Drought tolerant

Roadside uses:

Suitable vegetation zones:

Medians, wildflower beds, and managed meadows

(RZ2, RZ3)

Mowing requirements:

Once yearly

Salt tolerance:

Moderate

Drought tolerance:

Very good once established

Invasive potential:

Limited

Physical description: A cool season, perennial bunch grass of medium height, 1½ to 3 feet, bluish-green in appearance. Growth begins in early spring, with flowering in late spring. If adequate soil moisture is present, grass may regrow in the fall. Propagation by seed and tillers. The root system is fibrous and finely branched with most roots extending to a depth of 3.3 feet, but may penetrate to a depth of 8 feet. Crested wheatgrass has a short-broad, very distinct flattened seedhead measuring 1½ to 3 inches in length and tapering toward the tip. Each cluster of flowers making up the spike are overlapping and flat, and each seed tapers into a short awn. Leaves measure 6 to 10 inches in length with flat blades, 1/16 to 1/4 inches in width. The upper surface is slightly pubescent and coarse while the lower surface is smooth. Short, membranous ligules are present at the junction of the sheath and blade, as are short auricles that are pointed and clasping. Leaves are rolled in the bud. Stems are long and slender, 2 to 3 feet in height, and found growing in dense clumps.

Optimal growing conditions: Since crested wheatgrass is deep rooted, it thrives well in drought and cold conditions. It grows in a wide variety of soil types, but is best adapted to medium textured, loamy soils that provide adequate drainage. This grass will tolerate moderate levels of salt and alkaline and weakly acidic conditions. Winter hardiness: Zones 2, 3, 5.

Susceptibility to pests and diseases: No serious disease problems have been reported for this species. However grass stands can be severely damaged by insects, particularly the black grass bug (*Labops hesperius*). Other pests include billbugs, grubs, leafhoppers, and mature click beetles.



Photo by Andrew Senesac, Cornell Cooperative Extension

Scientific name:

Agrostis stolonifera; *A. alba*

Common name:

Creeping bentgrass, Redtop

Region of origin:

Eurasia

Highlights:

Weed Suppressive Rating:

Good - Excellent

Hardiness:

Zones 3-8

Height x Spread:

2-5 feet x 3 feet

Season of Bloom:

June—September

Flower Color:

Reddish

Exposure:

Full Sun

Soil requirements:

Establishes well in most soils

Moisture requirements:

Moderate

Roadside uses:

Suitable vegetation zones:

Roadside medians, roundabouts, naturalized areas, and reclamation sites (RZ3)

Mowing requirements:

Moderate; prefers mowing or grazing for best density

Salt tolerance:

Moderate to good

Drought tolerance:

Limited

Invasive potential:

Limited

Physical description:

A creeping cool-season perennial grass that grows 2-5 feet tall. An isolated plant can spread vegetatively to a diameter of 3 feet. The leaf blades are up to 8" long and 1/3" across; they are green, blue-green, or grey-blue, linear in shape, hairless, and flat. Creeping bentgrass blooms from June to September. Reddish flowers have tall, narrow leaves and fine stems. Creeping bentgrass is a sod-forming grass that forms dense vegetative colonies. It also readily reseeds itself.

Optimal growing conditions:

Creeping bentgrass does best in moderately well-drained, loamy soils. Tolerates heat, cold, frequent flooding, acidic soils, and is moderately salt tolerant. Adapted to a wide range of soil and climatic conditions; pH 4.5 to 8.0. Full sun. Good for ditches, unmowed highway banks, and median strips with frequent salt applications. Winter hardiness: Zones 3-8.

Susceptibility to pests and diseases:

Not particularly susceptible to insects and diseases. Competes best with weeds when established in monoculture.

Additional considerations:

Drought and shade intolerant



Scientific name:

Andropogon gerardii

Common name:

Big bluestem, Bluejoint, Turkeyfoot bluestem

Region of origin:

North America

Highlights:

Weed Suppressive Rating:

Fair - Good

Hardiness:

Zones 3-9

Height x Spread:

4 to 8 ft. x 2 to 3 ft.

Season of bloom:

September to February

Flower color:

Purplish red

Exposure:

Full sun

Soil requirements:

Light, fertile soil

Moisture requirements:

Prefers moist soil. Does not tolerate excessive winter moisture. Drought tolerant once established.

Roadside uses:

Suitable vegetation zones:

Medians, wildflower beds and managed meadows

(RZ3)

Mowing requirements:

Once yearly

Salt tolerance:

Limited

Drought tolerance:

Very good once established

Invasive potential:

Limited

Physical description: Big bluestem is a tall perennial bunch grass that forms large erect clumps of stems with attractive foliage that changes color seasonally - the leaves that are blue-green in spring, develop red tinges as they mature in summer, then turn copper-brown by fall. Reddish cast with lavender tones appears after frost. In late summer, flowering stems rise above the foliage, bearing three finger-like branches resembling turkey feet that are purplish in color. Big bluestem grass usually grows to 4-8 feet, but can grow taller in moist soils.

Optimal growing conditions: Big bluestem grass grows well in most growing conditions with varying moisture/fertility/ pH level of soil, but prefers light, moist, fertile soils under full sun. This plant does not tolerate excessive winter moisture. It develops an extensive root system that saturates the top 2 ft of soil and reaches up to 12 ft below ground. Once established, it is drought-tolerant.

Susceptibility to pests and diseases: There are no serious pest or disease problems for Big bluestem.



Above photo by Andrew Senesac, Cornell Cooperative Extension



Scientific name:
Buchloe dactyloides

Common name:
Buffalograss

Region of origin:
North America

Highlights:

Weed Suppressive Rating:
Fair

Hardiness:
Zones 1-8

Height x Spread:
4 to 8 in.; Moderate spread

Season of bloom:
Flowerless

Exposure:
Full sun to shade

Soil requirements:
Tolerates compacted soil

Moisture requirements:
Drought/flood tolerant

Roadside uses:

Suitable vegetation zones:
Roadside medians, meadows, naturalized areas, conservation areas (RZ2, RZ3)

Mowing requirements:
Once yearly

Salt tolerance:
Moderate

Drought tolerance:
Very good once established

Invasive potential:
Limited

Physical description: Buffalograss is a warm-season, low growing, fine-leaved perennial that forms an attractive turf with a soft blue green color. Without mowing, the narrow leaves curl downward to give a soft, prairie look.

Optimal growing conditions: Buffalograss grows best in dry areas with less than 25 inches of annual rainfall. It tolerates prolonged droughts, very high or low temperatures (+120 to -30 degrees Fahrenheit), periods of flooding, and compacted soil. When there is limited water supply, buffalograss is very competitive against weeds. Because of this, it can be used as an effective weed barrier. Buffalograss is slow in establishing.

Susceptibility to pests and diseases: Buffalograss has no serious pest or disease problems.

Additional Notes: Mowing shorter than 1.5 inches can cause thinning.



Scientific name:

Calamagrostis canadensis

Common name:

Bluejoint reedgrass, Bluejoint, Meadow pinegrass, Canadian reedgrass, Marsh pinegrass, Marsh reedgrass

Region of origin:

North America, Siberia

Highlights:

Weed Suppressive Rating:

Good - Excellent

Hardiness:

Zones 3-7

Height x Spread:

60 in. x N/A

Season of bloom:

May to August

Flower color:

Purplish

Exposure:

Partial shade

Soil requirements:

Moderately well-drained, mineral soils; can adapt to a wide range of soil texture

Moisture requirements:

Moist soil. Drought tolerant once established

Roadside uses:

Suitable vegetation zones:

Medians, wildflower beds, and managed meadows (RZ3)

Mowing requirements:

Once yearly

Salt tolerance:

Limited

Drought tolerance:

Very good once established

Invasive potential:

Limited

Physical description: This plant is a prairie grass that spreads by rhizomes. It has very narrow (< 1/3" wide), elongated, bluish leaves that are not hairy, but rough to the touch. The delicate panicle is purplish with spreading branches and is between 4 in. to 8 in. long. The formation of the panicle occurs between May and August.

Optimal growing conditions: Bluejoint reedgrass thrives in boreal and temperate regions in moderately well-drained mineral soils. The grass cannot germinate in drought conditions, but once it is established it is very drought resistant. Growth is very fast. Winter hardiness: Zones 3 to 7.

Susceptibility to pests and diseases: This plant is susceptible to insect or fungal damage of the lower stems, a condition referred to as white top.



Photo by Andrew Senesac, Cornell Cooperative Extension

Scientific name:

Carex glauca (Carex flacca, Carex firma)

Common name:

Blue sedge, Carnation grass, Glaucous sedge; Heath sedge

Region of origin:

Europe, Northern Africa, North America

Physical description: Blue sedge is a dense, clump-forming sedge with narrow, blue-gray to blue-green evergreen foliage that grows to 6 to 12 inches. Although it blooms on terminal, cylindrical spikes in late spring, this plant is grown mainly for its foliage effect.

Optimal growing conditions: Blue sedge tolerates a wide range of soil conditions, and exposures; it can adapt to areas with fairly heavy shade, is very drought tolerant, withstands light foot traffic, is hardy to about 0°F (-18°C). It prefers moist soil.

Susceptibility to pests and diseases: There are no serious pest or disease problems for this plant.

Highlights:

Weed Suppressive Rating:

Good - Excellent

Hardiness:

Zones 4-8

Height x Spread:

6 to 12 in. x 12 to 15 in.

Season of bloom:

Late spring

Flower color:

Flowers are insignificant

Exposure:

Full sun to shade

Moisture requirements:

Prefers moist soil, but drought tolerant.



Roadside uses:

Suitable vegetation zones:

Medians, roundabouts and managed beds in sun or shade (RZ2, RZ3)

Mowing requirements:

None

Salt tolerance:

Good

Drought tolerance:

Very good once established

Invasive potential:

Limited

Scientific name:

Carex morrowi

Common name:

Japanese sedge, Morrow's sedge

Region of origin:

Japan

Highlights:

Weed Suppressive Rating:

Fair - Good

Hardiness:

Zones 6-9

Height x Spread:

About 12 in. x 12 to 18 in.

Season of bloom:

Early to mid-spring

Flower color:

Brown

Exposure:

Shade

Soil requirements:

Organically rich, fertile soil

Moisture requirements:

Moist soil

Roadside uses:

Suitable vegetation zones:

Limited but thought to be allelopathic or weed suppressive when established in large masses (RZ3)

Mowing requirements:

None

Salt tolerance:

Unknown

Drought tolerance:

Minimal

Invasive potential:

Limited

Physical description: This plant has a grass-like habit and forms a dense, compact tuft. It may reach 12 in. or more in height in very fertile soil, and 12 to 18 in. wide. The semi-evergreen leaves are flat, thick, and reach 12 in. long and ¼ in. wide. They are dark green with narrow white edges. Flowering occurs in early to mid-spring, and the brown, short-lived flowers are clustered in groups of four to six. It is important to note that flowers are non-ornamental.

Optimal growing conditions: Japanese sedge performs best in shade; this unusual trait is not common for true ornamental grasses. It does well in organically rich soils with high fertility, but is not very drought tolerant; watering during the summer can be useful. Winter hardiness: Zones 6 to 9.

Susceptibility to pests and diseases: Japanese sedge has no serious disease or insect problems.



Photos by Andrew Senesac, Cornell Cooperative Extension



C. morrowi in winter

Scientific name:
Elymus canadensis

Common name:
Canada wild rye

Region of origin:
North America

Highlights:

Weed Suppressive Rating:
Good - Excellent

Hardiness:
Zones 3-8

Height x Spread:
36 to 60 in. x 4 to 24 in.

Season of bloom:
Late summer to early autumn

Flower color:
Red brown

Exposure:
Full sun

Soil requirements:
Well-drained, moderately fertile soil

Moisture requirements:
Moist soil. Drought tolerant

Roadside uses:

Suitable vegetation zones:
Medians, wildflower beds
(RZ3)

Mowing requirements:
Once yearly

Salt tolerance:
Limited

Drought tolerance:
Very good once established

Invasive potential:
Limited

Physical description: This perennial ornamental grass forms tufts with erect stems that reach 4-6 ft tall, and spreads 24 inches wide. Leaves are medium-green to blue-green, have a rough texture, and reach 8-14 in. long. Flowering occurs in late summer and early autumn. Flowers are 8-10 in. long, colored red-brown, and are borne in dense spikes.

Optimal growing conditions: Canada wild rye performs best in well-drained soils with a medium fertility, and can tolerate humid conditions. It prefers full sun. Winter hardiness: Zones 3-8.

Susceptibility to pests and diseases: A number of diseases may infect Canada wild rye. The list includes damping off, ergot, cat-tail, powdery mildew, tar spot, rust, smut, brown patch and some fungal spot.



Photo courtesy Virginia Kline



Winter photo of *E. canadensis* by Andrew Senesac, Cornell Cooperative Extension

Scientific name:*Elymus junceus***Common name:**

Russian wild rye

Region of origin:

Russia

Highlights:**Weed Suppressive Rating:****Good - Excellent****Hardiness:** Very winter hardy**Height x Spread:**

6 to 18 inches; Little to no spread

Season of Bloom:

Early spring

Flower Color:

Yellow

Exposure: Full sun**Soil requirements:**

Prefers well-drained, fertile loams

Moisture requirements: Low moisture use. Drought tolerant but intolerant to flooding**Roadside uses:****Suitable vegetation zones:**

Roadside medians, road edges, naturalized areas

(RZ2, RZ3)

Mowing requirements:

Moderate; a vigorous bunch-grass that performs best when mowed or grazed

Salt tolerance:

Limited to moderate

Drought tolerance:

Good to excellent, but prefers well-drained soils with some moisture

Invasive potential:

Physical description: A very hardy, cool-season bunch grass with an abundance of long, dense, basal leaves that are 6 to 18 inches long and up to 1/4 inch in width. Plants vary from light to dark green, with many shades of blue-green. The erect, naked stems, about 36 inches tall, have flowering heads that form a dense, erect spike.

Optimal growing conditions: It can be grown on a fairly wide range of soil types, but does best on well-drained fertile loams with a pH between 6.5-9.0. It is exceptionally tolerant of cold and drought and is highly tolerant of salinity.

Susceptibility to pests and diseases: Grasshoppers, cutworms and other insects are sometimes problematic, but no troublesome diseases have been noted.

Additional Notes: Does not do well on heavy clay or soils of low fertility. Intolerant of shade and flooding.



Photo courtesy California Lutheran University

Scientific name:

Festuca arundinacea cv.
Rebel exceda

Common name:

Tall fescue

Region of origin:

Europe

Highlights:

Weed Suppressive Rating:

Fair to Good

Hardiness:

1,3,5-8,12 and upper parts
of zone 9.

Height x Spread:

48 inches x N/A

Season of bloom:

Mid Spring

Flower color:

Yellow

Exposure:

Full sun to partial shade

Soil requirements:

Grows best in deep, well-
drained soils

Moisture requirements:

Drought resistant

Roadside uses:

Suitable vegetation zones:

High traffic areas such as
sports fields, alleyways,
overpasses, medians

(RZ2, RZ3)

Mowing requirements:

Multiple times yearly

Salt tolerance:

Moderate

Drought tolerance:

Moderate to good

Invasive potential:

Limited

Physical description: A cool-season bunching grass with moderately fine-textured leaves. It is densely growing, dark green, and will grow to 48 inches or more in height and is similar in appearance to ryegrass. Tall fescue flowers in the spring and seeds mature in early summer. Seeds are 4 to 7 mm long. This direct-seeded grass tolerates high traffic and soil compaction well

Optimal growing conditions: Tall fescue is tolerant of heat, shade, drought, and low fertility. It is adapted to a wide range of soil and climatic conditions, but performs best on well drained clay soils. It is tolerant of low soil pH but is most productive when the soil pH is 5.8 to 6.5. Winter hardiness zones: 1,3,5-8,12 and upper parts of zone 9.

Susceptibility to pests and diseases: Fescues have few major pest problems. The Rebel Exceda cultivar is more disease resistant than others, including greater tolerance to brown patch and leaf spot.

Additional Notes: Mowing lower than 1.5 inches can cause thinning.



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Scientific name:
Festuca longifolia

Common name:
Hard fescue

Region of origin:
Europe

Highlights:

Weed Suppressive Rating:
Good - Excellent

Hardiness:
Zones 3-8

Height x Spread:
8 to 12 inches x N/A

Season of bloom:
Mid-late Spring

Flower color:
Yellow

Exposure:
Full sun to partial shade

Soil requirements:
Grows best in deep, well-drained soils

Moisture requirements:
Drought resistant

Roadside uses:

Suitable vegetation zones:
Roadside medians, road-sides, reclamation areas, roundpoints, full sun and shaded sites, naturalized settings or meadows
(RZ2, RZ3)

Mowing requirements:
Once yearly, if any

Salt tolerance:
Moderate to good

Drought tolerance:
Very good once established

Invasive potential:
Limited

Physical description: Hard fescue, a cool-season grass, is one of the “hardest” of the fescues. Its leaves are medium to dark green and narrow -- tough and almost needle-like, and stay green for longer than warm-season grasses. Grows slowly in bunch formations with an extensive root system and, if left uncut, reaches a mature height of only 8 to 12 inches.

Optimal growing conditions: Hard fescue is well-adapted to infertile, acidic soils and tolerates shade, cold temperatures, and drought better than other cool-season grasses. Irrigation and fertilizer restrict development. It is very salt tolerant and is good for non-mowed slopes, ditch banks, and median strips. Grows best in deep, well-drained soils. Winter hardiness: zones 3-8.

Susceptibility to pests and diseases: Highly resistant to diseases. It is generally healthier than the other fescues.

Additional Notes: Low heat tolerance; not adapted to close mowing.



Photo courtesy Onego.ru

Scientific name:

Festuca rubra subsp. *commutata*

Common name:

Chewings fescue

Region of origin:

Europe

Highlights:

Weed Suppressive Rating:

Good - Excellent

Hardiness:

Zones 3,5,6, and 7

Height x Spread:

8 to 12 inches x N/A

Exposure:

Partial sun to heavy shade

Soil requirements:

Tolerates poor soil as long as it is relatively dry. Grows best in deep, well-drained soils

Moisture requirements:

Drought resistant

Roadside uses:

Suitable vegetation zones:

Roadside medians, roadsides, reclamation areas, roundpoints, full sun and shaded sites, naturalized settings or meadows

(RZ2, RZ3)

Mowing requirements:

Once yearly, if any

Salt tolerance:

Moderate to good

Drought tolerance:

Very good once established

Invasive potential:

Limited

Physical description: A cool-season, densely tufted bunching grass that grows slowly and, if left uncut, reaches a mature height of only 8 to 12 inches. Stays green longer than warm-season grasses. Leaf blades of Chewings fescue are thin, bristle-like and stiff.

Optimal growing conditions: Chewings fescue is tolerant of dry, shady, windy, and cold conditions. It is adapted to a wide range of soil conditions, including acidic and infertile soils, but prefers sandy soils. Irrigation and fertilizer restrict development. Winter hardiness: Zones 3,5,6, and 7.

Susceptibility to pests and diseases: The fescues have few major pest problems. However, under wet conditions they can be attacked by red thread and leaf spot.



Photo courtesy Wikimedia

Scientific name:

Festuca rubra
subsp. *trichophylla*

Common name:

Creeping red fescue

Region of origin:

Europe

Highlights:

Weed Suppressive Rating:

Good - Excellent

Hardiness:

1,3,4,5-8, and upper parts of zone 9.

Height x Spread:

8 to 24 inches; Moderate spread

Season of bloom:

Mid-late spring

Flower color:

Yellow

Exposure:

Full sun to heavy shade

Soil requirements:

Grows best in deep, well-drained soils

Moisture requirements:

Drought tolerant

Roadside uses:

Suitable vegetation zones:

Roadside medians, road-sides, reclamation areas, roundpoints, naturalized settings or meadows
(RZ2, RZ3)

Mowing requirements:

Once yearly, if any

Salt tolerance:

Moderate to good

Drought tolerance:

Very good once established

Invasive potential:

Limited

Physical description: Creeping red fescue is a cool-season grass that will grow slowly and if left uncut reach a mature height of 8 to 24 inches. It is similar in appearance to chewings fescue except it has a creeping growth pattern. Its leaf blades are thin, bristle-like and deeply ridged above and stay green longer than warm-season grasses.

Optimal growing conditions: Tolerant of acidic soil, shade, and drought. Irrigation and fertilizer restrict development. Must be sown thickly to get a dense cover (6 pounds per 1,000 square feet). Grows best in deep, well-drained soils. Winter hardiness: Zones 1,3,4,5-8, and upper parts of zone 9.

Susceptibility to pests and diseases: The fescues have few major pest problems. However, under wet conditions they can be attacked by red thread and leaf spot.



Photo courtesy Wikimedia

Scientific name:

Koeleria cristata (syn. *K. macrantha*, *K. pyramidata*)

Common name:

Junegrass, Prairie junegrass, Koeler grass

Region of origin:

North America

Highlights:**Weed Suppressive Rating:**

Fair - Good

Hardiness:

Zones 3-9

Height x Spread:

1½ to 2 ft. x 2 to 6 in.

Season of bloom:

Late Spring (May - June)

Flower color:

Yellow or gold

Exposure:

Full sun to partial shade

Soil requirements:

Medium to coarse texture soils

Roadside uses:**Suitable vegetation zones:**

Reclamation areas, mowed roadsides, medians and meadows (RZ2, RZ3)

Mowing requirements:

Several times yearly

Salt tolerance:

Moderate

Drought tolerance:

Very good

Invasive potential:

Can grow aggressively once established and crowd out other species

Physical description: This plant is a tall, erect, tufted bunchgrass that reproduces from seeds and tillers. It typically grows in small bunches 2 to 6 inches in diameter and reaches heights of 18 to 26 inches. The root system is shallow and fibrous. Growth begins in May, flowering in June and July, and seed production occurs through September. If adequate soil moisture is present, grass may regrow in the fall. Produces an attractive silvery-green spike-like panicle, 1 to 5 inches in length, with a fine pubescence below the seedhead. Leaves are primarily basal in orientation with narrow blades (folded in the bud), 1½ to 5 inches in length, somewhat pubescent or glabrous, especially the lower leaves. Blades are flat with a rough upper surface (due to coarse ribbing) and finely striate on the lower surface. Sheaths are distinctly veined. Short, membranous ligules and no auricles are present.

Optimal growing conditions: Junegrass is primarily found in sandy or coarser soils, but can survive in clay loam soils. It is usually found in soils with pH between 5.5 and 8.0, and has moderate tolerance to soils that are acidic or alkaline. It does not respond well to soils with high salinity, but thrives in soils with low nutrient content. Tolerant to drought. Winter Hardiness: Zones 3 to 9. Predominantly located in open woods and dry upland meadows.

Susceptibility to pests and diseases: No serious pest or disease problems have been reported for this species.



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Scientific name:

Leymus arenarius

Common name:

Blue lyme grass, Sand rye-grass, Blue dune grass, Sea lyme grass, Beach wild rye, Rancheria grass

Region of origin:

Europe, Asia

CAUTION: This species is likely to become invasive.

Highlights:

Weed Suppressive Rating:

Good - Excellent

Hardiness:

Zones 3-9

Height x Spread:

2 to 4 ft. x indefinite

Season of bloom:

Summer

Flower color:

Blue-gray

Exposure:

Full sun

Soil requirements:

Well-drained soil

Moisture requirements:

Very drought tolerant

Roadside uses:

Suitable vegetation zones:

Medians, wildflower beds and managed meadows (RZ2, RZ3)

Mowing requirements:

Once yearly

Salt tolerance:

High

Drought tolerance:

Very good

Invasive potential:

High: rhizomes can resprout

Physical description: This plant is an ornamental grass that spreads by underground stems (rhizomes). The growth habit is compact, even if it arches over when the stems become too long. It reaches 2 to 4 feet tall and spreads indefinitely. The evergreen leaves are 12 in. long and ½ in. wide, rough, and colored a deep bluish green. Flowering occurs in summer, and flowers are borne in dense spikes that reach 5 to 7 in. in length. Although the foliage is very attractive, the same cannot be said for the flowers. The fruit is non-ornamental, too. This species reproduces by thick, rapidly growing underground stems or rhizomes, leading to its ability to spread invasively.

Optimal growing conditions: Blue lyme grass is soil-tolerant, but performs best in well-drained soil under full sun. It can develop in extremes of heat and cold, and is very drought resistant. Growth is fast, but may become slow during hot summers. Winter hardiness: Zones 3 to 9.

Susceptibility to pests and diseases: No serious pest or disease problems have been reported for this species



Photos by Andrew Senesac, Cornell Cooperative Extension



Scientific name:

Liriope spicata

Common name:

Creeping lily-turf

Region of origin:

China and Japan

Highlights:

Weed Suppressive Rating:

Good - Excellent

Hardiness:

Zones 4-10

Height x Spread:

8 to 12 in. x 6 to 12 in.

Season of bloom: Summer

Flower color:

Pale violet to white

Exposure:

Partial shade

Soil requirements:

Prefers fertile, well-drained soil

Moisture requirements:

Drought tolerant, but prefers moist soil

Physical description: This evergreen perennial plant reaches 8-12 in. in height and spreads 6 to 12 in. in width. Grass-like leaves are ¼ in. wide and may reach 18 in. long. The leaves are dark green, but in northern areas may become pale green-brown during the winter. Flowering occurs in summer, and flowers are ¼ in. wide, pale violet to white, and arranged in terminal racemes. The fruit looks like a blue-black berry.

Optimal growing conditions: Although tolerant of a wide range of soils, heat, drought, and light exposure, creeping lily-turf performs best in light shade and a moist, fertile, and well-drained soil. Its drought tolerance makes it especially suitable for dry and sunny places. Growth is moderate. Winter hardiness: Zones 4-10.

Susceptibility to pests and diseases: No serious pest or disease problems. Snails and slugs may do some damage, and scale insects and mealybugs are sometimes problematic.



Photos by Andrew Senesac, Cornell Cooperative Extension

Roadside uses:

Suitable vegetation zones:

Shaded roadsides, sunny medians, roundabouts, and managed beds (RZ2, RZ3)

Mowing requirements:

None

Salt tolerance:

Good

Drought tolerance:

Very good once established

Invasive potential:

Spreads rapidly to establish a monoculture



Lolium perenne

Perennial ryegrass "Palmer" & "Prelude"

Scientific name:

Lolium perenne cv. *Palmer*
(types III-V) & cv. *Prelude*
(types III, IV, & GLS)

Common name:

Perennial ryegrass

Region of origin:

Europe

Highlights:**Weed Suppressive Rating:**

Good - Excellent

Hardiness:

Zones 5-8, and upper 9 &
12

Height x Spread:

12 to 24 inches; Moderate
spread

Exposure:

Full sun to partial shade

Soil requirements:

Somewhat poorly drained

Moisture requirements:

Moderate (9-10 mm per day)

Roadside uses:**Suitable vegetation zones:**

Roadside medians, rights of
way, roundabouts, managed
turf settings (RZ3)

Mowing requirements:

Multiple times yearly

Salt tolerance:

Limited

Drought tolerance:

Limited to Moderate

Invasive potential:

Limited

Physical description: A cool-season, fine-textured, dark green grass with a bunch-type growth habit. Its leaves have a shiny underside with parallel veins running the length of the leaf. Grows to a height of 12 to 24 inches.

Optimal growing conditions: Perennial ryegrass prefers full sun but will tolerate partial shade, has a moderately low tolerance for heat and drought, and has a high tolerance for cold temperatures. It does best between 5.5-6.5 pH. Winter hardiness: Zones 5-8, and upper 9 & 12.

Susceptibility to pests and diseases: Palmer and Prelude have improved resistance to insects and gray leaf spot.

Additional considerations: Limited to moderate drought tolerance; requires watering under hot, dry conditions.



Photo courtesy Wikimedia

Scientific name:
Schizachyrium scoparium

Common name:
 Little bluestem

Region of origin:
 Eastern North America

Highlights:

Weed Suppressive Rating:
Good - Excellent

Hardiness:
 Zones 5-9

Height x Spread:
 20 to 40 in. x 1 to 2 ft.

Season of bloom:
 Late summer to mid-autumn

Flower color:
 Non ornamental

Exposure:
 Full sun

Soil requirements:
 Well-drained, moderately-fertile soil

Moisture requirements:
 Drought tolerant

Roadside uses:

Suitable vegetation zones:
 Mowed medians, wildflower beds and managed meadows (RZ2, RZ3)

Mowing requirements:
 Once yearly

Salt tolerance:
 Moderate

Drought tolerance:
 Moderate

Invasive potential:
 Limited

Physical description: This perennial grass forms dense tufts of erect stems that spread slowly. Plants may reach 3 ft. tall and 12 in. wide. Leaves are linear, medium green to gray-green, and reach 18 in. long. They often turn orange-red in autumn. Flowering occurs in late summer to mid-autumn, and racemes of spikelets are 6 inches long.

Optimal growing conditions: Little bluestem does well in well-drained soil with a medium fertility. It prefers full sun. Winter hardiness: Zones 5-9.

Susceptibility to pests and diseases: Little bluestem has no serious insect or disease problems.



Photo of dormant *S. scoparium* by Andrew Senesac, Cornell Cooperative Extension

Scientific name:

Sporobolus heterolepis

Common name:

Prairie dropseed, Northern dropseed

Region of origin:

Native to the Great Lakes

Highlights:

Weed Suppressive Rating:

Good - Excellent

Hardiness:

Zones 3-4

Height x Spread:

2 to 4 ft. x 18 to 24 in.

Season of bloom:

Late July-August

Flower color:

Reddish to purplish

Exposure:

Full sun

Soil requirements:

Well-drained, sand, loam soil

Moisture requirements:

Drought tolerant

Roadside uses:

Suitable vegetation zones:

Mowed medians, roadsides, conservation sites

(RZ2, RZ3)

Mowing requirements:

Once to several times yearly

Salt tolerance:

Moderate

Drought tolerance:

Moderate to good

Invasive potential:

Limited

Physical description: This ornamental grass with deep green foliage grows as a short, compact, tufted grass with individuals clearly separated. Each clump forms a fountain of fine, long, narrow blades from which airy panicles of florets and seeds grow. It reaches 2 to 4 feet tall. The emerald green leaves are about 24 in. long and 1/8 in. wide. They are covered with hairs that are about 1/8 in. long. The leaves tend to brown on the end. Flowering occurs in the summer, and flowers produce a seed head that has a faint but unmistakable fragrance.

Optimal growing conditions: Prairie dropseed prefers a well-drained soil in a sunny location. It is heat and drought tolerant but does appreciate water during droughty periods. Winter zone: 3-4.

Susceptibility to pests and diseases: No serious pests or diseases are reported for this species.



Photo courtesy J.S. Peterson