



Spence

restoration nursery

www.spencenursery.com



Native Plants and Seeds

See inside cover for available resources

Wholesale Catalog

www.spencenursery.com



Visit our website... www.spencenursery.com

Plants

- View our list of available species along with cultural information
- Learn how our large vigorous plugs solve establishment problems

Seeds

- View our list of available seed species
- View or download our seed mixes for use in your projects

SW II Info

- Learn about native plant applications for NPDES Phase II Stormwater Regulations
- Vegetated Swales
- Stormwater Treatment Wetlands
- Stormwater Treatment Ponds
- Bioretention Areas

Source ID

- Learn about the Indiana Crop Improvement Association's Source Identification program
- View Specifications

FAQ

- View Answers to our Frequently Asked Questions

Newsletters

- An archive of our monthly e-Newsletter available for reference.

Rain Gardens and Bioretention Basins

- A stormwater application
- View a diagram of this application
- View information on Rain Gardens

Lake Edge Enhancement System

- Stormwater Pond Application
- Helps remove nutrients and other pollutants from the water
- Controls the movement of waterfowl
- Absorbs wave action erosion to prevent shoreline erosion
- Lowers maintenance of ponds and retention basins
- Download specifications for installation

Stormwater Treatment Wetlands

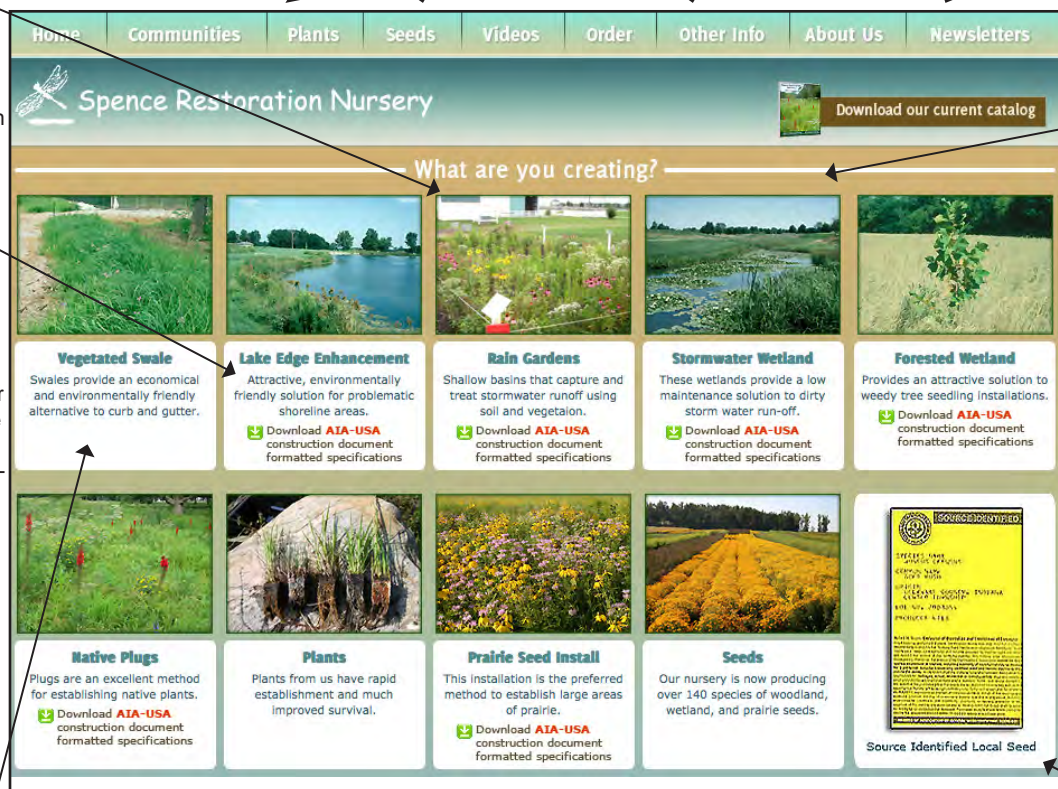
- These wetlands provide a low maintenance solution to dirty storm water runoff
- Download specifications for installation

Forested Wetland Understory

- Provides a solution for weedy tree plantings
- Applicable for Bioretention areas
- Provides a native understory as trees mature

Vegetated Swales

- A stormwater application
- View a list of appropriate species and communities



Native Plant Plug Installation

- Rapid establishment for high visibility areas
- Excellent for educational projects
- Download specifications for installation

Prairie Seed Installation

- The most economical method of prairie installation
- View pictures of prairie in developmental stages
- Download specifications for installation

Seeds

- View our list and available seeds and current market prices

Source Identified Local Seed

- Learn about the Yellow Tag Source Identification that certifies our seed origins.
- How to specify Yellow Tag seed



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On the cover...

Penstemon calycosus (Smooth Penstemon)

Spence Restoration Nursery plants and seeds are produced without the use of neonicotinoids.

Mission Statement

The mission of Spence Restoration Nursery is to provide high quality, nursery-propagated, native plant material for the restoration of native plant communities and the creation of environmentally sound natural landscapes. Our products have the potential to improve habitat for wildlife, reduce the need for expensive and polluting landscape maintenance, and serve to educate the public about the beauty and importance of our native flora. We are dedicated to providing products with the highest level of honesty and integrity. Further, we continually strive to improve our knowledge about the establishment of native plant communities so our customers may benefit from our experience and expertise. We do this with the hope of building long-term trusting relationships with our clients. We thank you for your interest in utilizing native plant material to improve the quality of life in the Midwest. Please let us know how we can tailor our products to meet your needs.

Greetings from Spence Restoration Nursery

Thank you for your interest in the use of native plants and seeds for ecological restoration, storm water treatment, and landscaping. We greatly appreciate your business and continue to expand our product line to meet your needs.

We are expanding our seed nursery to meet the growing demands for seed mixes for ecological restoration, conservation practices and pollinator plantings. With additional land purchase in 2016, we now have over 260 acres in seed production.

Our growing seed production ensures our ability to provide local origin seeds for projects in Indiana and adjacent states. We offer source-identified Yellow Tag seeds to ensure you receive material adapted to local conditions. Please see page 24 for more about the Yellow Tag program.

Our large plant inventory ensures availability of plugs for popular applications such as rain gardens, pond edge installations, and wetland mitigation basins. We continue to lead in providing effective species lists for storm water Best Management Practices. Please see pages 31 through 33 for more about vegetated BMPs and the appropriate species for these applications.

Please visit our website for a wealth of information about native plant applications, including free construction format specifications for installation of native plants and seeds in a variety of commercial applications. The website also contains instructional videos on installation and vital maintenance procedures for native plant communities. Please see the inside front cover for more about SpenceNursery.com.

Start a Naturalized Planting Utilizing Plugs

Plug installation is a very effective way to establish a native plant community. Results are much more reliable and rapid than seeding. A light organic mulch may be used to reduce weed growth and retain moisture. Watering is essential for the first several weeks until plugs are established. The following steps outline installation of a plug planting.

If the site is covered with weeds or lawn grasses, kill this vegetation either with a Glyphosate Herbicide (Roundup®) or through a sod-cutter, frequent tilling, or other mechanical means. This may not be necessary in shaded areas where vegetation is sparse.

The area may be covered with a black leaf compost or other rapidly decomposing organic mulch. This mulch will help reduce moisture loss and weed growth the first year. Mulch need not be reapplied in subsequent years. Wood chip or bark mulches are not recommended as they decompose slowly, possibly rotting the crowns of the native perennials and interfering with burn maintenance.

Install plugs on one foot centers. Woodland areas may be plugged more sparsely. Be certain that the soil is placed firmly around the roots. Water thoroughly twice a week until plugs are established.

Detailed specifications for plug installation are available on our website www.spencenursery.com

Mycorrhizal Inoculation: a vital part of plant community restoration

Long ago, plants evolved a symbiotic relationship with mycorrhizal fungi. These fungi are root-inhabiting organisms that colonize the root hairs to obtain sugars produced by the plant. The fungi strands provide the plant with greatly improved access to water and essential nutrients.

Establishment of a diverse native plant community requires the presence of a healthy mycorrhizal fungi network. Healthy soil is filled with vegetative strands (mycelia) that form this mycorrhizal network. This network allows a stable native plant community to thrive and resist invasion of weeds. Destruction of this network is the central event of soil disturbance and its re-establishment is essential to ecosystem restoration.

Mycorrhizal fungi inoculation is vital where the native fungi network has been destroyed or where soil structure has been disrupted by grading for commercial or residential development, mining, or mine reclamation. Other sites requiring reestablishment of the mycorrhizal network include those subjected to intensive agriculture, severe erosion, overgrazing, or domination by weedy species.

Native Plant Communities

Wooded Communities

Communities dominated by trees where the resulting shade dictate the understory composition.

Dry Woods

Occurs on well drained soil on ridges or slopes with south or west exposures. Soils are often thin sandy or gravelly. Overstory is typically oak-hickory.

Mesic Woods

Rich woodlands often dominated by beech and sugar maple. They occur on well-drained but moisture retentive soils in flat areas, as well as, north or east facing slopes.

Wet mesic Woods

Woodlands that are seasonally saturated or briefly inundated during flooding events. These woods occur typically on floodplains or along the border of wet upland woods. Common trees include Sycamore, Black Walnut, and Green Ash.

Wet Woods

Woods that are seasonally inundated, typically in the spring. These woods may occur on floodplains or flat upland woods. Characteristic overstory trees include red and silver maples, green ash, and several species of oaks.

Savannas

Areas dominated by widely spaced or scattered trees so that they canopy is open or not complete. Usually dominated by various oaks with a mixture of woodland, prairie, and edge species in the understory. Typically maintained by fire.

Prairies

Open communities of grasses, sedges, and rich variety of wildflowers typically maintained by fire.

Dry Prairies

Occur on well-drained upland soils, often on sloping, sandy, or gravelly sites. Typical grasses include Little Bluestem, Side-Oats Grama, and Prairie Dropseed.

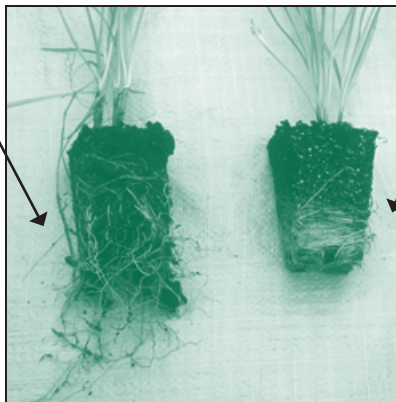
Root Development: A Critical Difference

Spence Restoration Nursery plants

The network of roots is spread throughout the container with no encircling tendencies. Our 2 3/8" square by 3 3/4" deep open bottom pot allows production of a healthy root system that spreads rapidly into the soil after the transplanting.

Open bottom pots allow water to move freely into and out of the pot.

Mycorrhizal inoculant enhances ability of roots to acquire moisture and nutrients from poor and dry soil conditions.



Plants from other growers

Due to the closed bottom and tapered shape of the pot, there is a mass of encircling roots at the bottom. When transplanted, roots are bound up and take longer to spread out into the soil.

The roots may become so dense as to clog drain holes in the bottom of the pot.

A lack of mycorrhizal inoculation may reduce establishment success on disturbed soil profiles.

Our Plugs are Bigger

Spence Restoration Nursery's Plugs are the biggest by volume in the industry. The volume of our open bottom pots means more soil and therefore more root development. This difference is most evident in the rapid establishment of our plugs when installed in the field.

Below are volume comparisons with other commonly used plug sizes.

<i>Container:</i> Our 2 3/8" square X 3 3/4" deep open-bottomed pot	38 Cone-tainer® cells	Traditional blown 2 1/2" pot
<i>Volume:</i> in cubic inches 21.15	16.82	15.5

Mesic Prairie

Occurs on well-drained rich moisture retentive soils in flat or gently rolling terrain. Typical grasses include Big Bluestem, Indian Grass, and Prairie Dropseed.

Wet Mesic Prairie

Occurs in seasonally saturated areas in flats prairies. Typical grasses are Big Bluestem and Switchgrass.

Wet Prairie

Prairies that are seasonally inundated in low spots or flat wet terrain. Typical grasses include Switchgrass, Blue-Joint Grass, and Prairie Cordgrass. Like all prairies it is typically maintained by fire.

Wetland Communities

Sedge Meadow

An open wetland community occurring on saturated or seasonally inundated locations. Typically dominated by various species of sedges, especially Tussock Sedge.

Shallow Water Emergent

An area typically inundated for much of the growing season, but with under 1 foot of water depth. These areas are often exposed in mid to late summer as the water level recedes. Typically dominated by Bulrushes, Burreed, Arrowhead, and Rushes.

Deep Water Emergent or Floating Leaf Community

Areas typically inundated with 1 to 3 feet of water. These areas are normally rarely exposed even in dry weather. Typically plants include water lilies and various submerged species.



Seed Mixes

We have developed the following seed mixes for restoration of native plant communities in natural and landscape settings. Unlike many commercial mixes that contain species that will only grow in sandy soils, our mixes are widely adapted to variety of soil conditions in the southern Great Lakes and Ohio Valley. These mixes are composed of seeds of known genotype produced here at our seed nursery. When we need to purchase seeds to complete a mix, we locate seed with an origin as close to the installation site as possible.

If a species is unavailable we will substitute an appropriate similar species. All of our mixes contain all of the species listed or an appropriate substitute, so rest assured that the diversity that you paid for is the diversity that you will receive. If one of our mixes does not meet your restoration goals, we will be happy to custom design a seed mix for your site. We have the experience and knowledge to design a regionally appropriate seed mix for your geology, soil, and desired plant community.

Please see our website to download our seed mixes for your specifications.

See note on page 6 about cover crops available for our seed mixes.

Upland Woodland Mix

This mix is suitable for well-drained partially shaded to shaded areas where a native herbaceous community is desired. It is excellent for restoration of areas formerly devoted to lawn or degraded woods where invasive shrub removal has taken place.

Grasses and Sedges oz/acre

- 1 Carex cephalophora (Short-Headed Bracted Sedge)
- 1 Carex gracillima (Graceful Wood Sedge)
- 1 Carex sparganioides (Burreed Sedge)
- 8 Diarrhena obovata (Beak Grass)
- 16 Elymus hystrix (Bottlebrush Grass)
- 16 Elymus riparius (Riverbank Wild Rye)
- 5 Elymus villosus (Silky Wild Rye)
- 48 Elymus virginicus (Virginia Wild Rye)
- 96

Forbs oz/acre

- 2 Ageratina altissima (White Snakeroot)
- 1 Aquilegia canadensis (Wild Columbine)
- 2 Eutrochium purpureum (Sweet Joe-Pye Weed)
- 3 Heliopsis helianthoides (False Sunflower)
- 2 Penstemon calycosus (Smooth Penstemon)
- 1 Solidago caesia (Blue-Stemmed Goldenrod)
- 2 Symphyotrichum cordifolium (Heart-leaved Blue Wood Aster)
- 1 Symphyotrichum lateriflorum (Side-Flowering Aster)
- 2 Symphyotrichum shortii (Short's Aster)
- 16

Forested Wetland Mix

This mix is suitable for restoration of a native herbaceous layer on floodplains or other wet woodland situations. It will tolerate sun in new tree seedling installations and suppress noxious weed growth. It is also recommended for degraded floodplain woods where invasive shrubs have been removed.

Grasses and Sedges oz/acre

- 2 Carex frankii (Frank's Sedge)
- 1 Carex granularis (Meadow Sedge)
- 2.5 Carex grayi (Burr Sedge)
- 2 Carex lupulina (Common Hop Sedge)
- 1 Carex muskingumensis (Palm Sedge)
- 0.5 Carex normalis (Spreading Oval Sedge)
- 1 Carex tribuloides (Pointed Oval Sedge)
- 2 Carex vulpinoidea (Fox Sedge)
- 2 Elymus hystrix (Bottlebrush Grass)
- 16 Elymus riparius (Riverbank Wild Rye)
- 64 Elymus virginicus (Virginia Wild Rye)
- 2 Glyceria striata (Fowl Manna Grass)
- 96

Forbs oz/acre

- 2 Actinomeris alternifolia (Wingstem)
- 0.5 Blephilia hirsuta (Hairy Wood Mint)
- 3.5 Helenium autumnale (Autumn Sneezeweed)
- 2 Heliopsis helianthoides (False Sunflower)
- 0.5 Lobelia siphilitica (Great Blue Lobelia)
- 1 Lycopus americanus (Water Horehound)
- 0.5 Mimulus ringens (Monkey Flower)
- 1 Penstemon calycosus (Smooth Penstemon)
- 1 Rudbeckia laciniata (Green-Headed Coneflower)
- 3 Silphium perfoliatum (Cupplant)
- 1.5 Solidago gigantea (Late Goldenrod)
- 2 Symphyotrichum lanceolatum (Panicled Aster)
- 2 Symphyotrichum lateriflorum (Side-Flowering Aster)
- 1 Symphyotrichum puniceum (Swamp Aster)
- 0.5 Veronicastrum virginicum (Culver's Root)
- 2 Zizia aurea (Golden Alexanders)
- 24

Mix	PLS lbs Graminoids per acre	PLS lbs Forbs per acre	PLS Seeds Per Acre	PLS Seeds per sq ft
Upland Woods	6 PLS lbs	1 PLS lb	2273000	52
Forested Wetland	6 PLS lbs	1.5 PLS lb	4952200	114

Diverse Prairie Mix

This mix is for establishment of a rich diverse prairie community including conservative species. It is most appropriate for mesic soil. Dormant fall sowing is highly recommended.

Grasses oz/acre

- 6 Andropogon gerardii (Big Bluestem)
- 16 Bouteloua curtipendula (Side-Oats Grama)
- 2 Carex bicknellii (Prairie Oval Sedge)
- 4 Carex brevior (Plains Oval Sedge)
- 2 Carex muhlenbergii (Sand Bracted Sedge)
- 48 Elymus canadensis (Canada Wild Rye)
- 2 Panicum virgatum (Switchgrass)
- 32 Schizachyrium scoparium (Little Bluestem)
- 8 Sorghastrum nutans (Indian Grass)
- 8 Sporobolus heterolepis (Prairie Dropseed)
- 128

Forbs oz/acre

- 1 Allium cernuum (Nodding Wild Onion)
- 1 Amorpha canescens (Leadplant)
- 1 Asclepias syriaca (Common Milkweed)
- 1 Baptisia alba (White False Indigo)
- 0.5 Baptisia bracteata (Cream Wild Indigo)
- 1 Coreopsis palmata (Plains Coreopsis)
- 2 Coreopsis tripteris (Tall Coreopsis)
- 1.5 Dalea purpureum (Purple Prairie Clover)
- 1 Drymocallis arguta (Prairie Cinquefoil)
- 1 Echinacea pallida (Pale Purple Coneflower)
- 3 Echinacea purpurea (Purple Coneflower)
- 2 Eryngium yuccifolium (Rattlesnake Master)
- 1 Helianthus grosseserratus (Sawtooth Sunflower)
- 1 Helianthus mollis (Downy Sunflower)
- 1 Helianthus occidentalis (Western Sunflower)
- 1 Helianthus pauciflorus (Showy Sunflower)
- 3 Heliopsis helianthoides (False Sunflower)
- 1 Lespedeza capitata (Round-Headed Bush Clover)
- 0.5 Liatris aspera (Rough Blazing Star)
- 1 Liatris pycnostachya (Prairie Blazing Star)
- 1 Liatris spicata (Dense Blazing Star)
- 0.5 Monarda fistulosa (Bergamot)
- 1 Oligoneuron riddellii (Riddell's Goldenrod) (sub: Sol ohi)
- 1 Oligoneuron rigidum (Stiff Goldenrod)
- 3 Parthenium integrifolium (Wild Quinine)
- 0.5 Penstemon digitalis (Foxglove Beardtongue)
- 0.5 Pycnanthemum virginianum (Mountain Mint)
- 4 Ratibida pinnata (Yellow Coneflower)
- 2 Rudbeckia hirta (Black-Eyed Susan)
- 3 Rudbeckia subtomentosa (Sweet Black-Eyed Susan)
- 2 Senna hebecarpa (Wild Senna)
- 2 Silphium integrifolium (Rosinweed)
- 2 Silphium laciniatum (Compass Plant)
- 3 Silphium terebinthinaceum (Prairie Dock)
- 0.5 Solidago juncea (Early Goldenrod)
- 1 Solidago nemoralis (Gray Goldenrod)
- 1 Solidago speciosa (Showy Goldenrod)
- 0.5 Symphyotrichum ericoides (Heath Aster)
- 1 Symphyotrichum laeve (Smooth Aster)
- 1 Symphyotrichum novae-angliae (New England Aster)
- 1 Symphyotrichum oolentangiense (Sky Blue Aster)
- 1 Tradescantia ohiensis (Ohio Spiderwort)
- 2 Vernonia fasciculata (Smooth Ironweed)
- 2 Vernonia gigantea (Tall Ironweed)
- 0.5 Veronicastrum virginicum (Culver's Root)
- 1.5 Zizia aurea (Golden Alexanders)
- 64

Low Stature Prairie Mix

This mix is suitable for well-drained soils in full sun. It is especially suitable for sandy or gravelly outwash soil. Low stature mixes require more mowing maintenance during the first three year to prevent establishment of aggressive perennial weeds. Not recommended for heavy soils that are wet in the spring.

Grasses oz/acre

- 32 Bouteloua curtipendula (Side-Oats Grama)
- 3 Carex brevior (Plains Oval Sedge)
- 1 Carex muhlenbergii (Sand-Bracted Sedge)
- 32 Elymus canadensis (Canada Wild Rye)
- 4 Elymus virginicus (Virginia Wild Rye)
- 48 Schizachyrium scoparium (Little Bluestem)
- 8 Sporobolus heterolepis (Prairie Dropseed)
- 128

Forbs oz/acre

- 1 Allium cernuum (Nodding Wild Onion)
- 2 Asclepias syriaca (Common Milkweed)
- 1 Asclepias tuberosa (Butterfly Weed)
- 1 Baptisia alba (White False Indigo)
- 1.5 Coreopsis lanceolata (Lance-Leaf Coreopsis)
- 2 Coreopsis palmata (Plains Coreopsis)
- 2 Dalea purpureum (Purple Prairie Clover)
- 1 Drymocallis arguta (Prairie Cinquefoil)
- 4 Echinacea purpurea (Purple Coneflower)
- 1.5 Eryngium yuccifolium (Rattlesnake Master)
- 2 Helianthus mollis (Downy Sunflower)
- 2 Helianthus occidentalis (Western Sunflower)
- 2 Lespedeza capitata (Round-Headed Bush Clover)
- 0.5 Liatris aspera (Rough Blazing Star)
- 1.5 Liatris spicata (Dense Blazing Star)
- 0.5 Monarda fistulosa (Bergamot)
- 1 Oligoneuron riddellii (Riddell's Goldenrod)
- 1.5 Oligoneuron rigidum (Stiff Goldenrod)
- 4 Parthenium integrifolium (Wild Quinine)
- 2 Penstemon digitalis (Foxglove Beardtongue)
- 1 Penstemon hirsutus (Hairy Beardtongue)
- 0.5 Pycnanthemum virginianum (Mountain Mint)
- 3 Ratibida pinnata (Yellow Coneflower)
- 2 Rudbeckia hirta (Black-Eyed Susan)
- 1 Solidago nemoralis (Gray Goldenrod)
- 1 Solidago speciosa (Showy Goldenrod)
- 0.5 Symphyotrichum ericoides (Heath Aster)
- 2 Symphyotrichum laeve (Smooth Aster)
- 1 Symphyotrichum oolentangiense (Sky Blue Aster)
- 1.5 Tradescantia ohiensis (Ohio Spiderwort)
- 0.5 Veronicastrum virginicum (Culver's Root)
- 48

Mix	PLS lbs Graminoids per acre	PLS lbs Forbs per acre	PLS Seeds Per Acre	PLS Seeds per sq ft
Diverse Prairie	8 PLS lbs	4 PLS lbs	3988979	92
Low Stature Prairie	8 PLS lbs	3 PLS lbs	2936600	67

Sedge Meadow Seed Mix

A mix of sedges, grasses and wildflowers recommended for soils that are saturated during most of the growing season. Use just above the normal waterline in the capillary zone in our Lake Edge Enhancement System.

Grasses and Sedges oz/acre

- 1 Carex comosa (Bristly Sedge)
- 1 Carex cristatella (Crested Sedge)
- 2 Carex frankii (Frank's Sedge)
- 2 Carex granularis (Meadow Sedge)
- 2 Carex hystericina (Porcupine Sedge)
- 2 Carex lurida (Lurid Sedge)
- 1 Carex tribuloides (Pointed Oval Sedge)
- 3 Carex vulpinoidea (Fox Sedge)
- 64 Elymus virginicus (Virginia Wild Rye)
- 2 Glyceria striata (Fowl Manna Grass)
- 2 Leersia oryzoides (Rice Cut Grass)
- 2 Panicum virgatum (Switchgrass)
- 1 Scirpus atrovirens (Dark Green Bulrush)
- 1 Spartina pectinata (Prairie Cordgrass)

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Forbs

- 2 Angelica atropurpurea (Angelica)
- 1 Asclepias incarnata (Swamp Milkweed)
- 2 Boltonia latisquama (False Aster)
- 1 Eupatorium perfoliatum (Boneset)
- 1 Eutrochium maculatum (Spotted Joe-Pye Weed)
- 3 Helenium autumnale (Autumn Sneezeweed)
- 2 Hibiscus moscheutos (Swamp Rose Mallow)
- 1 Liatris spicata (Dense Blazing Star)
- 0.25 Lobelia cardinalis (Cardinal Flower)
- 0.25 Lobelia siphilitica (Great Blue Lobelia)
- 0.5 Mimulus ringens (Monkey Flower)
- 1 Oligoneuron riddellii (Riddell's Goldenrod)
- 1 Penstemon digitalis (Foxglove Beardtongue)
- 0.5 Pycnanthemum virginianum (Mountain Mint)
- 2 Rudbeckia fulgida speciosa (Showy Black-Eyed Susan)
- 2 Rudbeckia subtomentosa (Sweet Black-Eyed Susan)
- 2 Senna hebecarpa (Wild Senna)
- 2 Silphium integrifolium (Rosinweed)
- 2 Silphium perfoliatum (Cupplant)
- 2 Silphium terebinthinaceum (Prairie Dock)
- 1 Solidago patula (Swamp Goldenrod)
- 0.5 Symphyotrichum firmum (Shining Aster)
- 0.5 Symphyotrichum novae-angliae (New England Aster)
- 0.5 Symphyotrichum puniceum (Swamp Aster)
- 1 Verbena hastata (Blue Vervain)
- 1 Vernonia fasciculata (Smooth Ironweed)
- 0.5 Veronicastrum virginicum (Culver's Root)
- 0.5 Zizia aurea (Golden Alexanders)

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Basic Prairie Mix

This mix contains inexpensive adaptable species for a wide variety of upland sites. It is good for landscaping where diversity is not critical.

Grasses oz/acre

- 16 Andropogon gerardii (Big Bluestem)
- 16 Bouteloua curtipendula (Side-Oats Grama)
- 32 Elymus canadensis (Canada Wild Rye)
- 16 Elymus virginicus (Virginia Wild Rye)
- 16 Schizachyrium scoparium (Little Bluestem)
- 16 Sorghastrum nutans (Indian Grass)

112

Forbs

- 0.5 Asclepias syriaca (Common Milkweed)
- 3 Echinacea purpurea (Purple Coneflower)
- 0.5 Eryngium yuccifolium (Rattlesnake Master)
- 3 Heliopsis helianthoides (False Sunflower)
- 0.5 Monarda fistulosa (Bergamot)
- 1 Oligoneuron rigidum (Stiff Goldenrod)
- 1 Penstemon digitalis (Foxglove Beardtongue)
- 4 Ratibida pinnata (Yellow Coneflower)
- 3 Rudbeckia hirta (Black-Eyed Susan)
- 3 Senna hebecarpa (Wild Senna)
- 2 Silphium integrifolium (Rosinweed)
- 2 Silphium terebinthinaceum (Prairie Dock)
- 0.5 Symphyotrichum novae-angliae (New England Aster)

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A note about cover crops...

We do not automatically include a temporary matrix with you seed mixture as it is unnecessary if you are no-till drilling into an undisturbed soil. However, if you are sowing on bare soil or newly graded site, we recommend including the following temporary seed per acre for erosion control:

- 6 lbs Annual Reygrass (*Lolium multiflorum*)
- 32 lbs Seed Oats (*Avena sativa*)

We can include this with your order for an additional \$ 35.00 per acre. If you have a larger number of acres, we recommend obtaining these commonly available temporary seeds locally as they are heavy, resulting in considerable shipping cost for significant quantities.

Mix	PLS lbs Graminoids per acre	PLS lbs Forbs per acre	PLS Seeds Per Acre	PLS Seeds per sq ft
Sedge Meadow	6 PLS lbs	3 PLS lbs	6751300	155
Basic Prairie	7 PLS lbs	1.5 PLS lbs	1581400	36

Mesic Prairie Mix

A widely adaptable mix recommended for areas of medium soil moisture. Use above the wet mesic mix in our Lake Edge Enhancement System. The best mix to use to replace large lawn areas in commercial landscaping.

Grasses oz/acre

- 16 Andropogon gerardii (Big Bluestem)
- 32 Elymus canadensis (Canada Wild Rye)
- 12 Elymus virginicus (Virginia Wild Rye)
- 4 Panicum virgatum (Switchgrass)
- 32 Schizachyrium scoparium (Little Bluestem)
- 16 Sorghastrum nutans (Indian Grass)
- 112

Forbs

- 1.5 Asclepias syriaca (Common Milkweed)
- 1 Baptisia alba (White False Indigo)
- 2 Coreopsis tripteris (Tall Coreopsis)
- 1 Dalea purpureum (Purple Prairie Clover)
- 1 Drymocallis arguta (Prairie Cinquefoil)
- 3 Echinacea purpurea (Purple Coneflower)
- 2 Eryngium yuccifolium (Rattlesnake Master)
- 1 Helianthus grosseserratus (Sawtooth Sunflower)
- 1 Helianthus occidentalis (Western Sunflower)
- 0.5 Helianthus pauciflorus (Showy Sunflower)
- 3 Heliopsis helianthoides (False Sunflower)
- 2 Liatris pycnostachya (Prairie Blazing Star)
- 0.5 Monarda fistulosa (Bergamot)
- 2 Oligoneuron riddellii (Riddell's Goldenrod)
- 1 Oligoneuron rigidum (Stiff Goldenrod)
- 0.5 Penstemon digitalis (Foxglove Beardtongue)
- 0.5 Pycnanthemum virginianum (Mountain Mint)
- 4 Ratibida pinnata (Yellow Coneflower)
- 2 Rudbeckia hirta (Black-Eyed Susan)
- 3 Rudbeckia subtomentosa (Sweet Black-Eyed Susan)
- 2 Senna hebecarpa (Wild Senna)
- 2 Silphium integrifolium (Rosinweed)
- 2 Silphium laciniatum (Compass Plant)
- 3 Silphium terebinthinaceum (Prairie Dock)
- 1 Symphyotrichum laeve (Smooth Aster)
- 1 Symphyotrichum novae-angliae (New England Aster)
- 4 Vernonia gigantea (Tall Ironweed)
- 0.5 Veronicastrum virginicum (Culver's Root)
- 48

Wet Mesic Prairie Mix

A mix of sedges, grasses and wildflowers that will tolerate seasonal saturation, as well as drier conditions during summer and fall. Use above the sedge meadow mix in our Lake Edge Enhancement System.

Grasses and Sedges oz/acre

- 16 Andropogon gerardii (Big Bluestem)
- 2 Carex annectans xanthocarpa (Yellow Fox Sedge)
- 2 Carex frankii (Frank's Sedge)
- 6 Carex vulpinoidea (Fox Sedge)
- 32 Elymus canadensis (Canada Wild Rye)
- 32 Elymus virginicus (Virginia Wild Rye)
- 2 Glyceria striata (Fowl Manna Grass)
- 4 Panicum virgatum (Switchgrass)
- 16 Sorghastrum nutans (Indian Grass)
- 112

Forbs

- 1 Asclepias syriaca (Common Milkweed)
- 1 Baptisia alba (White False Indigo)
- 3 Coreopsis tripteris (Tall Coreopsis)
- 3 Echinacea purpurea (Purple Coneflower)
- 2 Eryngium yuccifolium (Rattlesnake Master)
- 0.5 Euthamia graminifolia (Grass-Leaved Goldenrod)
- 1 Helianthus grosseserratus (Sawtooth Sunflower)
- 4 Heliopsis helianthoides (False Sunflower)
- 2 Liatris spicata (Dense Blazing Star)
- 0.5 Monarda fistulosa (Bergamot)
- 1 Oligoneuron riddellii (Riddell's Goldenrod)
- 2 Oligoneuron rigidum (Stiff Goldenrod)
- 0.5 Penstemon digitalis (Foxglove Beardtongue)
- 0.5 Pycnanthemum virginianum (Mountain Mint)
- 4 Ratibida pinnata (Yellow Coneflower)
- 3 Rudbeckia fulgida speciosa (Showy Black-Eyed Susan)
- 3 Rudbeckia hirta (Black-Eyed Susan)
- 3 Rudbeckia subtomentosa (Sweet Black-Eyed Susan)
- 3 Senna hebecarpa (Wild Senna)
- 2 Silphium integrifolium (Rosinweed)
- 4 Silphium terebinthinaceum (Prairie Dock)
- 0.5 Symphyotrichum firmum (Shining Aster)
- 1 Symphyotrichum novae-angliae (New England Aster)
- 2 Vernonia fasciculata (Smooth Ironweed)
- 0.5 Veronicastrum virginicum (Culver's Root)
- 48

Mix	PLS lbs Graminoids per acre	PLS lbs Forbs per acre	PLS Seeds Per Acre	PLS Seeds per sq ft
Mesic Prairie	7 PLS lbs	3 PLS lbs	2901020	67
Wet Mesic	7 PLS lbs	3 PLS lbs	3514000	81

Soil Stabilization Mix

This mix contains grasses and sedges selected for their ability to prevent erosion with their aggressive root growth. Temporary cover is vital to its success and included with this mix.

Grasses and Sedges oz/acre

32	Andropogon gerardii (Big Bluestem)
16	Bouteloua curtipendula (Side-Oats Grama)
2	Carex brevior (Plains Oval Sedge)
48	Elymus canadensis (Canada Wild Rye)
32	Elymus virginicus (Virginia Wild Rye)
14	Panicum virgatum (Switchgrass)
32	Schizachyrium scoparium (Little Bluestem)
32	Sorghastrum nutans (Indian Grass)
208	

Cover Crop

800	Avena sativa (Seed Oats)
160	Lolium multiflorum (Annual Ryegrass)
960	

Bioswale Seed Mix

A mix of grasses, sedges and forbs suitable for swales utilized to convey storm water. This mix will do well in areas that are wet during and soon after storms, but dry down between rain events. It is the recommended mix for installation under erosion control blanket in swales. Temporary cover should be utilized with this mix.

Grasses and Sedges

4	Carex annectans xanthocarpa (Yellow Fox Sedge)
4	Carex frankii (Frank's Sedge)
2	Carex granularis (Meadow Sedge)
1	Carex molesta (Field Oval Sedge)
1	Carex scoparia (Lance-Fruited Oval Sedge)
6	Carex vulpinoidea (Fox Sedge)
16	Elymus riparius (Riverbank Wild Rye)
48	Elymus virginicus (Virginia Wild Rye)
8	Panicum virgatum (Switchgrass)
16	Schizachyrium scoparium (Little Bluestem)
3	Scirpus atrovirens (Dark Green Bulrush)
2	Scirpus pendulus (Reddish Bulrush)
1	Scirpus cyperinus (Woolgrass)
112	

Forbs

1	Asclepias incarnata (Marsh Milkweed)
1	Eupatorium perfoliatum (Boneset)
2.5	Helenium autumnale (Autumn Sneezeweed)
4	Hibiscus moscheutos (Swamp Rose Mallow)
2	Liatris spicata (Dense Blazing Star)
0.25	Lobelia cardinalis (Cardinal Flower)
0.25	Lobelia siphilitica (Great Blue Lobelia)
0.5	Lycopus americanus (Water Horehound)
2	Oligoneuron riddellii (Riddell's Goldenrod)
1	Penstemon digitalis (Foxglove Beardtongue)
0.5	Pycnanthemum virginianum (Mountain Mint)
3	Rudbeckia fulgida speciosa (Showy Black-Eyed Susan)
2	Rudbeckia hirta (Black Eyed Susan)
2	Senna hebecarpa (Wild Senna)
1	Symphyotrichum firmum (Shining Aster)
1	Symphyotrichum novae-angliae (New England Aster)
1	Verbena hastata (Blue Vervain)
2	Vernonia fasciculata (Smooth Ironweed)
1	Zizia aurea (Golden Alexanders)
28	

Mix	PLS lbs Graminoids per acre	PLS lbs Forbs per acre	PLS Seeds Per Acre	PLS Seeds per sq ft
Soil Stabilization Mix	13 PLS lbs	none	4006000	92
Bioswale Seed Mix	7 PLS lbs	1.75 PLS lbs	5314000	122

Emergent Wetland Mix

This mix is for wetlands that hold water most of the time. It should be installed at the water's edge or in shallow water less than 6 inches deep. Many of the species will eventually spread into water depths of up to 12 to 18 inches.

Grasses and Sedges

- 4 Carex comosa (Bristly Sedge)
- 3 Carex hystericina (Porcupine Sedge)
- 4 Carex lurida (Lurid Sedge)
- 5 Carex vulpinoidea (Fox Sedge)
- 1 Eleocharis erythropoda (Creeping Spike Rush)
- 0.5 Juncus effusus (Soft Rush)
- 2 Leersia oryzoides (Rice Cut Grass)
- 0.5 Schoenoplectus acutus (Hard-Stemmed Bulrush)
- 1.5 Schoenoplectus tabernaemontani (Softstem Bulrush)
- 1.5 Scirpus atrovirens (Dark Green Bulrush)
- 1 Scirpus cyperinus (Woolgrass)
- 24

Forbs

- 1 Acorus americanus (Sweet Flag)
- 1 Alisma subcordatum (Water Plantain)
- 3 Asclepias incarnata (Marsh Milkweed)
- 4 Boltonia latisquama (False Aster)
- 1 Cephalanthus occidentalis (Buttonbush)
- 3 Eutrochium maculatum (Spotted Joe-Pye Weed)
- 4 Helenium autumnale (Autumn Sneezeweed)
- 10 Hibiscus moscheutos (Swamp Rose Mallow)
- 1 Iris virginica shrevei (Blue Flag)
- 0.5 Lobelia cardinalis (Cardinal Flower)
- 0.5 Lobelia siphilitica (Great Blue Lobelia)
- 3 Lycopodium americanus (Water Horehound)
- 0.5 Mimulus ringens (Monkeyflower)
- 6 Peltandra virginica (Arrow Arum)
- 1 Penthorum sedoides (Ditch Stonecrop)
- 3 Pontedaria cordata (Pickerel Weed)
- 1.5 Sagittaria latifolia (Common Arrowhead)
- 3 Sparganium eurycarpum (Giant Burreed)
- 1 Verbena hastata (Blue Vervain)
- 48

Wet Tolerant Low Stature Mix

Typically, low stature mixes perform poorly in seasonally wet soils. This mix utilizes our exclusive wet-tolerant little bluestem and prairie dropseed originating from a wet prairie, along with a variety of sedges and forbs to create a low stature mix that performs well in wet mesic conditions. We recommend it for clay soils and flat areas on glacial till plains.

Grasses

- 2 Carex annectans var xanthocarpa (Yellow Fox Sedge)
- 2 Carex frankii (Frank's Sedge)
- 2 Carex scoparia (Lance Fruited Oval Sedge)
- 16 Elymus canadensis (Canada Wild Rye)
- 32 Elymus virginicus (Virginia Wild Rye)
- 48 Schizachyrium scoparium (Little Bluestem)
- 10 Sporobolus heterolepis (Prairie Dropseed)
- 112

Forbs

- 2 Allium cernuum (Nodding Wild Onion)
- 0.5 Asclepias incarnata (Marsh Milkweed)
- 0.5 Asclepias syriaca (Common Milkweed)
- 1 Baptisia alba (White False Indigo)
- 2 Coreopsis palmata (Plains Coreopsis)
- 4 Echinacea purpurea (Purple Coneflower)
- 2 Eryngium yuccifolium (Rattlesnake Master)
- 1 Euthamia graminifolia (Grass-leaved Goldenrod)
- 3 Filipendula rubra (Queen of the Prairie)
- 3 Liatris spicata (Dense Blazing Star)
- 0.5 Monarda fistulosa (Bergamot)
- 2 Oligoneuron riddellii (Riddell's Goldenrod)
- 3 Parthenium integrifolium (Wild Quinine)
- 1 Penstemon calycosus (Smooth Beardtongue)
- 1 Penstemon digitalis (Foxglove Beardtongue)
- 2 Physostegia virginiana (Obedient Plant)
- 0.5 Pycnanthemum tenuifolium (Narrowleaf Mountain Mint)
- 1 Pycnanthemum virginianum (Mountain Mint)
- 2 Ratibida pinnata (Yellow Coneflower)
- 4 Rudbeckia fulgida speciosa (Showy Black-Eyed Susan)
- 2 Rudbeckia hirta (Black-Eyed Susan)
- 0.5 Symphyotrichum ericoides (Heath Aster)
- 2 Symphyotrichum firmum (Shining Aster)
- 2 Symphyotrichum novae-angliae (New England Aster)
- 2 Tradescantia ohimensis (Ohio Spiderwort)
- 0.5 Veronicastrum virginicum (Culver's Root)
- 3 Zizia aurea (Golden Alexander's)
- 48

Mix	PLS lbs Graminoids per acre	PLS lbs Forbs per acre	PLS Seeds Per Acre	PLS Seeds per sq ft
Emergent Wetland Seed Mix	1.5 PLS lbs	2 PLS lbs	7070140	162
Wet Tolerant Low Stature Mix	7 PLS lbs	3 PLS lbs	4128600	95

Early Successional Wetland Mix

This mix contains tough, adaptable wetland species for detention ponds, stormwater wetlands or other situations with difficult hydrology or water quality. An economical mix for difficult situations.

Grasses and Sedges oz/acre

4	Carex frankii (Frank's Sedge)
1	Carex granularis (Meadow Sedge)
1	Carex hystericina (Porcupine Sedge)
4	Carex vulpinoidea (Fox Sedge)
10	Elymus riparius (Riverbank Wild Rye)
64	Elymus virginicus (Virginia Wild Rye)
2	Glyceria striata (Fowl Manna Grass)
2	Leersia oryzoides (Rice Cut Grass)
2	Panicum virgatum (Switchgrass)
2	Scirpus atrovirens (Dark Green Bulrush)
4	Spartina pectinata (Prairie Cordgrass)
96	

Forbs

1	Alisma subcordatum (Water Plantain)
2	Asclepias incarnata (Swamp Milkweed)
1	Boltonia latisquama (False Aster)
1	Eupatorium perfoliatum (Boneset)
2	Eutrochium maculatum (Spotted Joe-Pye Weed)
1	Helenium autumnale (Autumn Sneezeweed)
1	Lycopus americanus (Water Horehound)
1	Mimulus ringens (Monkeyflower)
1	Oligoneuron riddellii (Riddell's Goldenrod)
1	Penstemon digitalis (Foxglove Penstemon)
2	Senna hebecarpa (Wild Senna)
3	Silphium perfoliatum (Cupplant)
1	Solidago gigantea (Late Goldenrod)
1	Symphyotrichum firmum (Shining Aster)
1	Symphyotrichum lanceolatum (Panicked Aster)
2	Verbena hastata (Blue Vervain)
2	Vernonia fasciculata (Smooth Ironweed)
24	

Mix	PLS lbs Graminoids per acre	PLS lbs Forbs per acre	PLS Seeds Per Acre	PLS Seeds per sq ft
Early Successional Wetland	6 PLS lbs	1.5 PLS lb	6220600	143

Mesic Pollinator Mix

This mix is designed to provide maximum pollinator value throughout the growing season for upland mesic conditions. Flowering will begin at the end of April and continue until early October. Low stature grasses are included to maintain a stable community. Dormant sowing is highly recommended for maximum forb recruitment.

Grasses and Sedges oz/acre

32	Elymus canadensis (Canada Wild Rye)
32	Schizachyrium scoparium (Little Bluestem)
4	Sporobolus heterolepis (Prairie Dropseed)
68	

Forbs

1	Allium cernuum (Nodding Wild Onion)
4	Asclepias syriaca (Common Milkweed)
2	Asclepias tuberosa (Butterflyweed)
2	Baptisia alba (White Wild Indigo)
4	Chamaecrista fasciculata (Partridge Pea)
3	Coreopsis lanceolata (Lance-leaf Coreopsis)
3	Dalea purpurea (Purple Prairie Clover)
6	Echinacea purpurea (Purple Coneflower)
3	Eryngium yuccifolium (Rattlesnake Master)
1	Helianthus occidentalis (Western Sunflower)
3	Heliopsis helianthoides (False Sunflower)
2	Liatris pycnostachya (Prairie Blazing Star)
1	Monarda fistulosa (Bergamot)
1	Oligoneuron riddellii (Riddell's Goldenrod)
1	Oligoneuron rigidum (Stiff Goldenrod)
2	Penstemon digitalis (Foxglove Beardtongue)

1	Pycnanthemum virginianum (Mountain Mint)
4	Ratibida pinnata (Yellow Coneflower)
3	Rudbeckia hirta (Black-eyed Susan)
2	Rudbeckia subtomentosa (Sweet Black-Eyed Susan)
3	Senna hebecarpa (Wild Senna)
2	Silphium integrifolium (Rosinweed)
2	Silphium terebinthinaceum (Prairie Dock)
1	Symphyotrichum laeve (Smooth Aster)
1	Symphyotrichum novae-angliae (New England Aster)
2	Tradescantia ohiensis (Ohio Spiderwort)
2	Vernonia gigantea (Tall Ironweed)
2	Zizia aurea (Golden Alexanders)
64	

Mix	PLS lbs Graminoids per acre	PLS lbs Forbs per acre	PLS Seeds Per Acre	PLS Seeds per sq ft
Mesic Pollinator Mix	4.25 PLS lbs	4 PLS lbs	2422400	56

Spence Restoration Nursery Conservation Seed Mixes for Wildlife and Pollinators

For those enrolled in CRP or another conservation practice funded by NRCS, FSA, or the US Fish and Wildlife Service, Spence Restoration Nursery will be happy to help you with the native seeds or plugs required to complete your conservation plan. Please email your specified seed mix or plug list to sales@spencenursery.com for a quote. We provide native grasses and wildflowers of Indiana genetic origin, preventing the problems associated with aggressive grass selections originating from western sources. We can provide the Yellow-tag Source Identified seed recommended for the CP-25 Rare and Declining Habitat practice. Our local genotype seed is well adapted to the climate and soils of the eastern Midwest and helps support local business.

Spence Restoration Nursery can help with the following conservation practices:

CP-2 Establishment of Permanent Native Grasses

CP-23 Wetland Restoration

CP-25 Rare and Declining Habitat

CP-33 Habitat Buffers for Upland Birds

CP-38E Native Grass for Wildlife Enhancement

CP-42 Pollinator Habitat

Please contact us for your conservation seed needs.



This highly successful prairie restoration at Fisher Oak Savanna in Jasper County, Indiana is owned and managed by the NICHES Land Trust. It was seeded in late 2009 with an entirely Indiana genotype seed mix from Spence Restoration Nursery that was partially funded by Farm Bill programs. The installation has developed into one of the finest prairie dropseed dominated prairie restorations in the Midwest.

Installation and Maintenance of Native Seed

Whether you're utilizing plugs or seeds for installation, starting with a clean weed-free site is the first vital step. All existing perennial plants should be killed or removed prior to installation. This is most effectively performed with a glyphosate-based herbicide. Areas that have been old fields or pastures typically have difficult perennial weeds such as Canada thistle, smooth brome, quackgrass, or Canada goldenrod. Eradicating these weeds requires 3 to 4 herbicide treatments over the course of an entire growing season.

Seeding season

Native seeds are best installed as a dormant sowing in late fall or early winter. Dormant sowing allows the seed to naturally moist stratify in the soil. The seed may then germinate early in the spring as soon as soil temperatures are sufficiently warm, enabling the plants to become well established prior to the hot dry spells of summer.

The second acceptable time to install native seed is spring from late March until mid June. Soil moisture is typically sufficient for germination and establishment during these months. Species that require a long period of moist stratification or cool soil temperatures for germination may not germinate until the second year if they are sown in the spring.

Sowing native seed in late summer or early fall is generally not recommended. Slow developing prairie seedlings may have sufficient time to germinate, but will not be well established before winter which may jeopardize their survival.

Seed Installation

For areas that are one acre or larger, seed installation is best performed with a no-till prairie seed drill. These implements are pulled behind a tractor and designed to handle the various seed types and low seeding rates that characterize native seed mixes. They typically have three seed boxes designed to sow cover crop, fluffy grass seed, and small, dense forb seed. Each box must be calibrated independently according to the owner's manual. The drill should be set to sow as shallow as possible, as most prairie seed germinates best in the top ¼ inch of soil. If sowing onto bare soil, the tubes leading from the forb seed box may be removed to allow the seed to drop directly on the soil surface for optimal germination.

Native seed may also be effectively broadcast sown on a firm prepared seed bed. The seed should then be firmed in to the soil utilizing a roller or a culti-packer. Make sure the broadcast equipment will handle the fluffy prairie grass seed. Broadcast sowing is most effectively performed in two passes, one for the large fluffy seed and one for the small forb seed.

Maintenance

Year 1

During the first growing season, it is vital to begin a maintenance program to encourage establishment of the native seedlings and discourage weed growth. Mowing the installation at a height of 4 to 6 inches monthly, or each time weed growth reaches 10 inches in height, is ideal. Spot herbicide application is generally not recommended in year one as most the weed pressure will be annual weeds that do not represent a long-term threat to the prairie. At the end of the growing season, the installation may be mown down to 3 inches in height.



Forb seedlings at the end of the first growing season including Yellow Coneflower (*Ratibida pinnata*) and Bergamot (*Monarda fistulosa*).

Year 2

At least one mowing should occur in the first half of May in the second year. This will remove the flowers and seed heads from cool-season weeds and any remaining cover crop. If weed pressure is light, the planting may be allowed to grow for the remainder of the season. If there are significant quantities of biennial and perennial weeds such as sweet clover, Queen Anne's lace, or Canada thistle, monthly mowing should continue through August. The planting should be mowed to 3 inches in height during the dormant season following the second growing season.



Prairie in mid-summer of the 2nd growing season showing Mountain Mint (*Pycnanthemum virginianum*), Canada Wild Rye (*Elymus canadensis*) and Yellow Coneflower (*Ratibida pinnata*)

Year 3

By the third growing season, the prairie should be sufficiently established to allow it to grow without mowing. If there are small patches of problematic perennial weeds, this is the time when selective herbicides may be utilized to control them. For example, selective broadleaf herbicides may be utilized on aggressive species like Canada thistle.

If burn maintenance is an option, there is typically sufficient fuel after three growing seasons to enable a prescribed fire. Please remember that burning is a regulated activity that requires air quality permits and trained, experienced crews to perform safely.

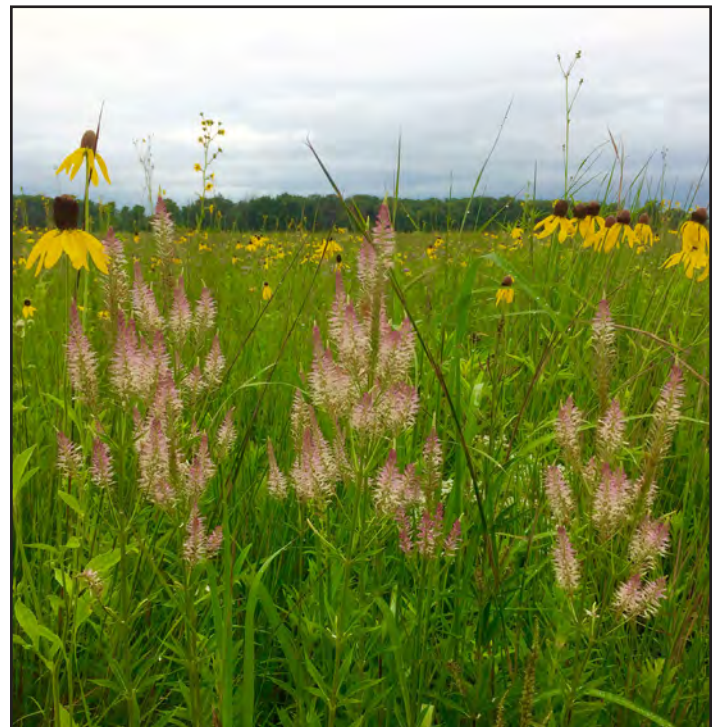


Prairie in mid-summer of the 3rd growing season showing Yellow Coneflower (*Ratibida pinnata*), Bergamot (*Monarda fistulosa*), Canada Wild Rye (*Elymus canadensis*), and Rosinweed (*Silphium integrifolium*).

Year 4 and beyond

While the planting is considered mature at this stage, it will continue to evolve for the first decade. During this mature stage, the planting should be monitored for invasive plant species and unwanted woody plant recruitment twice a year, typically in late spring and again in early fall. This monitoring will allow targeted applications of selective herbicides while weed infestations are small, limiting damage to the desired plant community. Unwanted woody species should be cut and treated with an appropriate herbicide in early fall each year.

Herbaceous communities may be maintained by burning or mowing. Burning is more effective because it removes the thatch. In urban areas where burning may not be an option, raking and removing the clippings following mowing every third year will help prevent thatch buildup. Thatch accumulation is much greater on a tallgrass planting, so this removal may not be necessary for lower stature plantings that generate less thatch. Burning or mowing should be performed during the dormant season between November 1st and April 1st. Spring burns are not recommended as they favor the dominance of warm season grasses,



Mature prairie in mid-summer of its 8th growing season showing Culver's Root (*Veronicastrum virginicum*), Yellow Coneflower (*Ratibida pinnata*), and Compassplant (*Silphium laciniatum*) in the background.

Designing an Outdoor Laboratory?

Utilize these lists to Attract Wildlife

Attracting Songbirds

Coreopsis spp (Coreopsis)
 Echinacea spp (Purple Coneflowers)
 Helianthus spp (Sunflowers)
 Liatris spp (Blazing Stars)
 Ratibida pinnata (Yellow Coneflower)
 Rudbeckia spp (Black-Eyed Susans)
 Senna hebecarpa (Wild Senna)
 Silphium integrifolium (Rosinweed)
 Silphium laciniatum (Compass Plant)
 Silphium perfoliatum (Cupplant)
 Silphium terebinthinaceum (Prairie Dock)

Attracting Hummingbirds

Aquilegia canadensis (Wild Columbine)
 Lobelia cardinalis (Cardinal Flower)
 Physostegia virginiana (Obedient Plant)
 Silene regia (Royal Catchfly)

Butterfly Nectar Sources



Asclepias spp (Milkweeds)
 Boltonia latisquama (False Aster)
 Cephalanthus occidentalis (Buttonbush)
 Coreopsis spp (Coreopsis)
 Dalea purpurea (Purple Prairie Clover)
 Echinacea spp (Purple Coneflowers)
 Eutrochium spp (Joe-Pye Weeds)
 Helianthus spp (Sunflowers)
 Heliopsis helianthoides (False Sunflower)
 Liatris spp (Blazing Stars)
 Monarda fistulosa (Bergamot)
 Oligoneuron spp (Goldenrods)
 Pycnanthemum virginianum (Mountain Mint)
 Ratibida pinnata (Yellow Coneflower)
 Rudbeckia spp (Black-Eyed Susans)
 Silphium integrifolium (Rosinweed)
 Silphium laciniatum (Compass Plant)
 Silphium perfoliatum (Cupplant)
 Silphium terebinthinaceum (Prairie Dock)
 Solidago spp (Goldenrods)
 Symphyotrichum spp (Asters)
 Vernonia spp (Ironweeds)

Native Groundcover Species

We are working hard to find members of our native flora that will make suitable groundcovers for use in commercial and residential landscaping. Unfortunately, many of the non-native species used as ground cover such as Myrtle (Vinca minor), Purpleleaf Winter creeper (Euonymus fortunei), and Crownvetch (Coronilla varia) escape to become invasive weeds in nearby natural areas. By replacing these invasive species with the species listed below, we can help reduce the threat to our urban natural areas from unwanted weeds.

When using native species as groundcovers, it is very important to match the species to the correct habitat. While many of the aggressive non-native species thrive in a variety of conditions, most native species need more specific light and moisture conditions to thrive. Therefore, we have assembled the following table to aid in selecting the appropriate native groundcover for your site. We look forward to adding a greater diversity to this list in the future.

Species		Moisture	Light	O'C' Spacing
Carex granularis	(Meadow Sedge)	mesic-wet	shade	10"
Carex cephalophora	(Short-Headed Bracted Sedge)	mesic-dry	shade	10"
Carex muskingumensis	(Palm Sedge)	mesic-wet	shade	10"
Carex pensylvanica	Common Oak Sedge	mesic-dry	psun-shade	12"
Carex gracillima	(Graceful Sedge)	mesic	shade	8"
Carex radiata	(Straight Styled Wood Sedge)	mesic	shade	8"
Diarrhena obovata	(Beak Grass)	mesic	shade	12"
Sedum ternatum	(Wild Stonecrop)	mesic	shade	8"
Packera aurea	(Golden Ragwort)	mesic-wet	psun-shade	10"
Packera obovata	(Round-Leaved Ragwort)	mesic-dry	psun-shade	8"
Solidago flexicaulis	(Zig Zag Goldenrod)	mesic	shade	10"
Sporobolus heterolepis	(Prairie Dropseed)	mesic-dry	sun	12"

Latin Nomenclature Changes

DNA analysis has resulted in considerable reclassification of native plants. This catalog reflects this new nomenclature. The below table lists the former Latin name utilized in previous additions of our catalog on the left and the new Latin name used in this addition on the right to allow you to locate species alphabetized by the new Latin name in the seed mixes, cultural table and order form.

Former Latin Name	New Latin Name
Acorus calamus	Acorus americanus
Aster azureus	Symphyotrichum oolentangiense
Aster cordifolius	Symphyotrichum cordifolium
Aster ericoides	Symphyotrichum ericoides
Aster firmus	Symphyotrichum firmum
Aster laevis	Symphyotrichum laeve
Aster lateriflorus	Symphyotrichum lateriflorum
Aster novae-angliae	Symphyotrichum novae-angliae
Aster puniceus	Symphyotrichum puniceum
Aster shortii	Symphyotrichum shortii
Aster umbellatus	Doellingeria umbellata
Baptisia leucantha	Baptisia alba
Baptisia leucophaea	Baptisia bracteata
Cassia hebecarpa	Senna hebecarpa
Helianthus rigidus	Helianthus pauciflorus
Eupatorium rugosum	Ageratina altissima
Eupatorium coelestinum	Conoclinium coelestinum
Eupatorium fistulosum	Eutrochium fistulosum
Eupatorium maculatum	Eutrochium maculatum
Eupatorium purpureum	Eutrochium purpureum
Hibiscus palustris	Hibiscus moscheutos
Petalostemum candidum	Dalea candida
Petalostemum purpureum	Dalea purpurea
Potentilla arguta	Drymocallis arguta
Senecio obovatus	Packera obovata
Senecio aureas	Packera aurea
Solidago graminifolia	Euthamia graminifolia
Solidago ohioensis	Oligoneuron ohioense
Solidago riddellii	Oligoneuron riddellii
Solidago rigida	Oligoneuron rigidum
Vernonia altissima	Vernonia gigantea
Diarrhena americana	Diarrhena obovata
Hystrix patula	Elymus hystrix

Scirpus acutus	Schoenoplectus acutus
Scirpus fluviatilis	Bolboschoenus fluviatilis
Scirpus pungens	Schoenoplectus pungens
Scirpus validus	Schoenoplectus tabernaemontani

Spence Restoration Nursery Native Seed

Spence Restoration Nursery continues to expand its local genotype seed availability. Our seed nursery is now producing nearly 140 species of various woodland, wetland, and prairie seeds in commercial quantities. All of these seeds are produced on our four seed production properties totaling around 260 acres. We have increased production of seeds for a variety of habitats, including wetlands, woodlands, and prairies. All of our seed production plots have been developed from seed originally collected from native remnants primarily across central and northern Indiana. Many of our prairie species originate in northwest Indiana, about 75 miles southeast of Chicago, providing appropriate genotypes for restoration in the Chicagoland region. We are happy to share information about the origin of any of our seeds.

Source Identified Local Seed...

We have worked with the Indiana Crop Improvement association to be the first nursery in Indiana to have source-identified local genotype seeds. We have always maintained detailed records of the locations of all of our foundation seed collections. We have used these records along with site visits accompanied by Crop Improvement personnel to establish a database of source identified collection sites. This database has been used to produce the first Source Identified Seed Labels from the Indiana Crop Improvement Association. These Yellow Tag Source ID labels list the genetic origin of each species by county and township. We continue to work together to provide a greater diversity of Indiana Source Identified Seed.

Why is local genotype seed important?

- Adaptation to local soil conditions
- Adaptation to local climate including temperature extremes and growing season length.
- Prevent non-local genotypes from invading natural areas adjacent to plantings
- Assurance that species are locally native
- Preservation of the local genetic material of declining native species
- Support the local seed production industry

High Quality Native Seed

Spence Restoration Nursery strives to produce the finest quality native seed available. We continue to expand our seed cleaning facility to improve purity and cleaning efficiency. Our mechanized prairie grass seed cleaning facility assures that we can produce high quality prairie grass seed at a price competitive with other large producers. All of our seed is tested by an independent seed laboratory for purity & noxious, germination, and dormant seed, ensuring that the customer is receiving a high quality product free of noxious weed seed and excessive chaff. Our seed is stored in climate-controlled conditions that maximize viability. If you are interested in large quantities of seed, please call us at (765) 286-7154 or email us at sales@spencenursery.com for availability and wholesale discounts.

Please visit our website SpenceNursery.com for current market prices for seed of individual species

Cultural Information at a Glance - Forbs (Wildflowers)

Latin Name	Common Name	Community	Sun	Height	Flower Season
<i>Acorus americanus</i>	Sweet Flag	sedge meadow, shallow water emergent	sun	2-3 ft	May-June
<i>Actinomeris alternifolia</i>	Wingstem	wet mesic woods	psun-shade	4-7 ft	July-Sept
<i>Ageratina altissima</i>	White Snakeroot	mesic woods	psun-shade	2-4 ft	Sept
<i>Alisma subcordatum</i>	Water Plantain	sedge meadow, shallow water emergent	sun	1-2 ft	June-Sept
<i>Allium cernuum</i>	Nodding Wild Onion	mesic prairie, dry woods, mesic savanna	sun-psun	1-2 ft	July-Aug
<i>Angelica atropurpurea</i>	Angelica	sedge meadow	sun-psun	5-8 ft	June
<i>Aquilegia canadensis</i>	Columbine	dry woods	psun-shade	2-3 ft	May-June
<i>Asclepias incarnata</i>	Marsh Milkweed	sedge meadow, wet prairie	sun	3-4 ft	July-Aug
<i>Asclepias sullivantii</i>	Sullivant's Milkweed	wet prairie mesic prairie	sun	3 ft	July-Aug

<i>Asclepias syriaca</i>	Common Milkweed	mesic prairie, dry prairie	sun	3-4 ft	June-Aug
<i>Asclepias verticillata</i>	Whorled Milkweed	dry prairie	sun	1 ft	July-Sept
<i>Baptisia alba</i>	White False Indigo	mesic prairie, dry prairie	sun-psun	3-4 ft	June-July
<i>Baptisia australis</i>	Blue False Indigo	wet-mesic prairie	sun-psun	2-4 ft	May-June
<i>Baptisia bracteata</i>	Cream Wild Indigo	mesic-dry prairie	sun	1 ft	May
<i>Blephilia hirsuta</i>	Hairy Wood Mint	mesic woods	shade	1-3 ft	July-Aug
<i>Boltonia latisquama</i>	False Aster	sedge meadow	sun	3-6 ft	Aug-Sept
<i>Caltha palustris</i>	Marsh Marigold	sedge meadow	psun-shade	1-2 ft	April
<i>Chelone glabra</i>	White Turtlehead	sedge meadow	partial shade	2-4 ft	Aug-Sept
<i>Chelone obliqua</i>	Pink Turtlehead	sedge meadow	partial shade	2-4 ft	Aug-Sept
<i>Conoclinium coelestinum</i>	Blue Mist Flower	wet mesic woods	psun	1-2 ft	Sept-Oct
<i>Coreopsis lanceolata</i>	Lance-leaved Coreopsis	dry prairie	sun	1-2 ft	May-June
<i>Coreopsis palmata</i>	Plains Coreopsis	dry prairie	sun	1-2 ft	July-Aug
<i>Coreopsis tripteris</i>	Tall Coreopsis	mesic prairie	sun	6-8 ft	Aug-Sept
<i>Dalea purpurea</i>	Purple Prairie Clover	mesic prairie, dry prairie	sun	1-2 ft	July-Aug
<i>Decodon verticillatus</i>	Swamp Loosestrife	emergent	sun	3-4 ft	July-Aug
<i>Desmodium illinoiense</i>	Illinois Tick Trefoil	mesic prairie	sun	3-5 ft	July-Sept
<i>Doellingeria umbellata</i>	Flat-Topped Aster	sedge meadow, wet prairie	sun	3-5 ft	Sept-Oct
<i>Drymocallis arguta</i>	Prairie Cinquefoil	mesic prairie, dry prairie	sun	2-3 ft	July-Aug
<i>Echinacea purpurea</i>	Purple Coneflower	mesic prairie, mesic savanna, dry woods	sun-psun	3-4 ft	June-Aug
<i>Eryngium yuccifolium</i>	Rattlesnake Master	mesic prairie, dry prairie	sun	3-4 ft	July-Sept
<i>Eupatorium perfoliatum</i>	Boneset	sedge meadow, wet prairie	sun	3-5 ft	Aug-Sept
<i>Euthamia graminifolia</i>	Grass-Leaved Goldenrod	sedge meadow, wet mesic prairie	sun	3-4 ft	Sept-Oct
<i>Eutrochium fistulosum</i>	Hollow Joe-Pye Weed	sedge meadow	sun	7-10 ft	Aug -Sept
<i>Eutrochium maculatum</i>	Spotted Joe-Pye Weed	sedge meadow	sun	4-6 ft	Aug - Sept
<i>Eutrochium purpureum</i>	Sweet Joe-Pye Weed	mesic woods	psun-shade	4-6 ft	July-Aug
<i>Filipendula rubra</i>	Queen of the Prairie	sedge meadow	sun	4-7 ft	June-July
<i>Gentiana andrewsii</i>	Bottle Gentian	sedge meadow, wet prairie, wet-mesic prairie	sun	1-2 ft	Sept-Oct
<i>Geranium maculatum</i>	Wild Geranium	mesic woods	shade	1-2 ft	Apr-May
<i>Helenium autumnale</i>	Autumn Sneezeweed	sedge meadow, wet prairie	sun-psun	3-5 ft	Sept-Oct
<i>Helianthus grosseserratus</i>	Sawtooth Sunflower	wet mesic prairie, mesic prairie	sun	5-10 ft	Aug-Sept
<i>Helianthus mollis</i>	Downy Sunflower	mesic prairie , dry prairie	sun	2-4 ft	Aug-Sept
<i>Helianthus occidentalis</i>	Western Sunflower	mesic prairie , dry prairie	sun	2-3 ft	Aug-Sept
<i>Helianthus pauciflorus</i>	Showy Sunflower	mesic prairie , dry prairie	sun	3-5 ft	Aug-Sept
<i>Heliopsis helianthoides</i>	False Sunflower	mesic prairie , mesic woods , mesic savanna	sun-psun	3-5 ft	July-Sept
<i>Hibiscus moscheutos</i>	Swamp Rose Mallow	sedge meadow	sun	3-6 ft	July-Sept
<i>Iris versicolor</i>	Wild Iris	sedge meadow, shallow water emergent	sun-psun	2-3 ft	May-June
<i>Iris virginica shrevei</i>	Blue Flag Iris	sedge meadow	sun-psun	2-3 ft	May-June
<i>Justicia americana</i>	Water Willow	emergent	sun	1-2 ft	June-July
<i>Lespedeza capitata</i>	Round-Headed Bush Clover	mesic prairie, dry prairie	sun	2-4 ft	Aug-Sept

<i>Liatris aspera</i>	Rough Blazing Star	mesic prairie, dry prairie	sun	1-3 ft	Aug-Sept
<i>Liatris pycnostachya</i>	Prairie Blazing Star	mesic prairie	sun	3-5 ft	July-Aug
<i>Liatris scariosa nieuwlandii</i>	Savanna Blazing Star	mesic prairie, mesic savanna	sun-psun	2-3 ft	Aug-Sept
<i>Liatris spicata</i>	Dense Blazing Star	mesic prairie, wet mesic prairie, sedge meadow	sun	3-5 ft	July-Aug
<i>Lobelia cardinalis</i>	Cardinal Flower	wet woods, sedge meadow	sun-shade	1-3 ft	Aug-Sept
<i>Lobelia siphilitica</i>	Great Blue Lobelia	wet woods, sedge meadow	sun-shade	1-3 ft	Aug-Sept
<i>Lycopus americanus</i>	Common Water Horehound	sedge meadow	sun	1-2 ft	July-Aug
<i>Mimulus ringens</i>	Monkeyflower	sedge meadow	sun	2-4 ft	July- Sept
<i>Monarda fistulosa</i>	Bergamot	mesic prairie	sun	2-4 ft	July-Aug
<i>Oenothera pilosella</i>	Prairie Sundrops	sedge meadow, wet mesic prairie	sun	1 ft	May-June
<i>Oligoneuron ohioense</i>	Ohio Goldenrod	sedge meadow	sun	2-3 ft	Sept
<i>Oligoneuron riddellii</i>	Riddell's Goldenrod	sedge meadow, wet-mesic prairie	sun	2-4 ft	Sept-Oct
<i>Oligoneuron rigidum</i>	Stiff Goldenrod	mesic prairie, dry prairie	sun	3-5 ft	Sept-Oct
<i>Packera aurea</i>	Golden Ragwort	sedge meadow, wet woods	psun-sun	1 ft	May
<i>Packera obovata</i>	Round-Leaf Ragwort	dry woods,mesic woods	psun-shade	1ft	April-May
<i>Parthenium integrifolium</i>	Wild Quinine	mesic prairie, mesic savanna	sun-psun	2-3 ft	July-Aug
<i>Peltandra virginica</i>	Arrow Arum	shallow water emergent	sun	2-3 ft	June-July
<i>Penstemon calycosus</i>	Smooth Penstemon	wet mesic woods, mesic woods	psun-shade	2-3 ft	June
<i>Penstemon digitalis</i>	Foxglove Penstemon	wet mesic prairie,mesic prairie,	sun-psun	2-3 ft	June
<i>Penstemon hirsutus</i>	Hairy Penstemon	mesic prairie, dry prairie, mesic savanna	sun-psun	1-2 ft	May-June
<i>Physostegia virginiana</i>	Obedient Plant	sedge meadow, wet prairie, wet mesic prairie	sun	2-4 ft	Aug-Sept
<i>Pontederia cordata</i>	Pickrel Weed	shallow water emergent	sun	2-3 ft	July-Sept
<i>Pycnanthemum tenuifolium</i>	Narrow-Leaf Mountain Mint	mesic prairie, dry prairie	sun	1-2 ft	July-Aug
<i>Pycnanthemum virginianum</i>	Common Mountain Mint	sedge meadow, wet prairie, mesic prairie	sun	1-2 ft	July-Aug
<i>Ratibida pinnata</i>	Yellow Coneflower	mesic prairie	sun	3-5 ft	July-Aug
<i>Rudbeckia fulgida speciosa</i>	Showy Black-Eyed Susan	sedge meadow, wet mesic prairie	sun	2-3 ft	Aug-Sept
<i>Rudbeckia laciniata</i>	Green-Headed Cone-flower	wet-mesic woods	psun	5-8 ft	July-Aug
<i>Rudbeckia subtomentosa</i>	Sweet Black-Eyed Susan	mesic prairie, wet mesic prairie	sun	3-5 ft	Aug-Sept
<i>Sagittaria latifolia</i>	Common Arrowhead	shallow water emergent	sun	1-3 ft	July-Sept
<i>Saururus cernuus</i>	Lizard's Tail	shallow water emergent, sedge meadow	sun-shade	1-2 ft	June-July
<i>Scutellaria incana</i>	Downy Skullcap	mesic woods	shade-psun	2 ft	July-Aug
<i>Sedum ternatum</i>	Wild Stonecrop	mesic woods	shade	3 in	May
<i>Senna hebecarpa</i>	Wild Senna	sedge meadow, wet prairie	sun-psun	3-5 ft	July-Aug
<i>Silene regia</i>	Royal Catchfly	mesic prairie	sun	2-4 ft	July-Aug
<i>Silphium integrifolium</i>	Rosinweed	mesic prairie, wet mesic prairie	sun	3-6 ft	July-Aug
<i>Silphium laciniatum</i>	Compass Plant	mesic prairie	sun	5-8 ft	July-Sept
<i>Silphium perfoliatum</i>	Cup Plant	wet mesic woods, wet mesic prairie	sun-psun	5-9 ft	July-Sept
<i>Silphium terebinthinaceum</i>	Prairie Dock	wet mesic prairie, mesic prairie	sun	5-10 ft	July-Sept
<i>Solidago caesia</i>	Blue-stemmed Goldenrod	mesic woods, dry woods	shade	1-2 ft	Sept-Oct

<i>Solidago flexicaulis</i>	Zig-Zag Goldenrod	wet mesic woods, mesic woods	shade	1-2 ft	Sept-Oct
<i>Solidago gigantea</i>	Late Goldenrod	sedge meadow, wet mesic prairie, wet mesic woods	sun-shade	3-5 ft	Sept-Oct
<i>Solidago juncea</i>	Early Goldenrod	mesic prairie, dry prairie	sun	1-2 ft	July-Aug
<i>Solidago nemoralis</i>	Grey Goldenrod	mesic prairie, dry prairie	sun	1-2 ft	Sept-Oct
<i>Solidago patula</i>	Swamp Goldenrod	sedge meadow	sun-psun	3-6 ft	Sept
<i>Solidago rugosa</i>	Wrinkled Goldenrod	sedge meadow	sun-psun	2-3 ft	Sept
<i>Solidago speciosa</i>	Showy Goldenrod	mesic prairie, dry prairie, mesic savanna	sun-psun	1-3 ft	Sept-Oct
<i>Sparganium eurycarpum</i>	Giant Burreed	shallow water emergent	sun	3-6 ft	June-July
<i>Stylophorum diphyllum</i>	Celandine Poppy	mesic woods	shade	1-2 ft	April-May
<i>Symphyotrichum cordifolium</i>	Heart-Leaved Blue Wood Aster	mesic woods	psun-shade	1-3 ft	Sept-Oct
<i>Symphyotrichum ericoides</i>	Heath Aster	dry prairie, mesic prairie	sun	1-2 ft	Sept-Oct
<i>Symphyotrichum firmum</i>	Shining Aster	sedge meadow, wet prairie	sun	3-4 ft	Sept-Oct
<i>Symphyotrichum laeve</i>	Smooth Aster	mesic prairie, dry savanna	sun-psun	3-5 ft	Sept-Oct
<i>Symphyotrichum lanceolatum</i>	Panicled Aster	sedge meadow, wet mesic prairie, wet mesic woods	sun-psun	3-5 ft	Sept-Oct
<i>Symphyotrichum lateriflorum</i>	Side-Flowering Aster	mesic woods, wet-mesic woods	shade	1-3 ft	Sept-Oct
<i>Symphyotrichum novae-angliae</i>	New England Aster	sedge meadow, wet prairie, wet-mesic prairie, mesic prairie	sun	3-5 ft	Sept-Oct
<i>Symphyotrichum oolentangiense</i>	Sky-Blue Aster	dry prairie, mesic prairie, mesic savanna	sun-psun	1-2 ft	Sept
<i>Symphyotrichum puniceum</i>	Swamp Aster	sedge meadow	sun-psun	3-6 ft	Sept-Oct
<i>Symphyotrichum shortii</i>	Short's Aster	mesic woods	shade	2-3 ft	Sept-Oct
<i>Tradescantia ohiensis</i>	Ohio Spiderwort	mesic prairie, dry prairie	sun	2-4 ft	May – July
<i>Verbena hastata</i>	Blue Vervain	sedge meadow	sun	3-5 ft	July-Sept
<i>Vernonia gigantea</i>	Tall Ironweed	wet mesic prairie, mesic prairie, mesic savanna	sun-psun	5-10 ft	Aug-Sept
<i>Vernonia fasciculata</i>	Smooth Ironweed	wet mesic prairie	sun	3-6 ft	Aug-Sept
<i>Veronicastrum virginicum</i>	Culver's Root	wet mesic prairie	sun-psun	3-6 ft	July-Aug
<i>Zizia aurea</i>	Golden Alexanders	sedge meadow, wet mesic prairie, mesic prairie	sun-psun	2-3 ft	May

Graminoids (Grasses, Rushes, & Sedges)

Latin Name	Common Name	Community	Sun	Height	Flower Season
<i>Andropogon gerardii</i>	Big Bluestem	mesic prairie, wet mesic prairie	sun	5-8 ft	July-Aug
<i>Bouteloua curtipendula</i>	Side-Oats Grama	dry prairie	sun	1-3 ft	July-Aug
<i>Bromus latiglumis</i>	Tall Brome	wet-mesic woods	psun-shade	3-4 ft	July-Aug
<i>Bolboschoenus fluviatilis</i>	River Bulrush	shallow water emergent	sun	3-7 ft	May-June
<i>Calamagrostis canadensis</i>	Blue-Joint Grass	sedge meadow, wet prairie	sun	2-4 ft	June-July
<i>Calamovilfa longifolia</i> var <i>magna</i>	Sand Reed	sand dunes	sun	4-6 ft	July-Aug
<i>Carex annectans</i> var <i>xanthocarpa</i>	Yellow Fox Sedge	sedge meadow, wet-mesic prairie	sun	2-3 ft	May-June
<i>Carex aquatilis</i>	Water Sedge	sedge meadow, shallow water emergent	sun	2-3 ft	May
<i>Carex bicknellii</i>	Prairie Oval Sedge	dry prairie, mesic prairie	sun	1-2 ft	May

Carex brevior	Plains Oval Sedge	dry prairie	sun	1-2 ft	May-June
Carex bromoides	Brome Hummock Sedge	wet woods, sedge meadow	psun-shade	1-2 ft	May
Carex cephalophora	Short-headed Bracted Sedge	mesic woods, dry woods	psun-shade	1 ft	May
Carex comosa	Bristly Sedge	shallow water emergent , sedge meadow	sun	1-3 ft	June-July
Carex crinita	Fringed Sedge	sedge meadow	sun-shade	2-4 ft	May-June
Carex cristatella	Crested Sedge	sedge meadow	sun-psun	2-3 ft	May-June
Carex davisii	Davis Wood Sedge	mesic woods	psun-shade	2 ft	May
Carex emoryi	Riverbank Tussock Sedge	sedge meadow	sun-psun	2 ft	May
Carex frankii	Frank's Sedge	sedge meadow, wet mesic woods	sun-shade	1-2 ft	June-July
Carex gracillima	Gracefull Wood Sedge	mesic woods	shade	1-2 ft	May
Carex granularis	Meadow Sedge	sedge meadow, wet mesic woods	sun-shade	1-2 ft	May-June
Carex grayi	Burr Sedge	wet mesic woods	psun-shade	1-2 ft	May-June
Carex hystericina	Porcupine Sedge	sedge meadow	sun	1-2 ft	May-June
Carex lacustris	Lake Sedge	sedge meadow, shallow water emergent	sun-shade	2-4 ft	May
Carex lupulina	Hop Sedge	wet woods	psun-shade	1-2 ft	May-June
Carex lurida	Lurid Sedge	sedge meadow	sun-psun	1-2 ft	May-June
Carex molesta	Field Oval Sedge	sedge meadow	sun-psun	2 ft	May-June
Carex muhlenbergii	Sand Bracted Sedge	dry prairie, dry savanna	sun-psun	1-2 ft	May-June
Carex muskingumensis	Palm Sedge	wet woods, wet mesic woods	shade	1-2 ft	May-June
Carex normalis	Spreading Oval Sedge	wet mesic woods, mesic woods	psun-shade	1-3 ft	May-June
Carex pellita	Wooly Sedge	sedge meadow, wet mesic prairie	sun	1-2 ft	May
Carex pensylvanica	Common Oak Sedge	dry woods, dry savanna	psun-shade	6 in	April
Carex radiata	Straight-Styled Wood Sedge	wet mesic woods, mesic woods	shade	1 ft	April-May
Carex scoparia	Lance-Fruited Oval Sedge	sedge meadow, wet mesic prairie	sun	2-3 ft	May
Carex shortiana	Short's Sedge	sedge meadow, wet mesic woods	sun-psun	2-3 ft	May
Carex sparganioides	Burreed Sedge	mesic woods	psun-shade	1-2 ft	May
Carex squarrosa	Narrow-Leaved Cattail Sedge	sedge meadow, wet woods	psun-shade	1-2 ft	May
Carex stipata	Awl-Fruited Sedge	sedge meadow	sun-shade	2-3 ft	May
Carex stricta	Tussock Sedge	sedge meadow	sun-psun	2 ft	May
Carex tribuloides	Pointed Oval Sedge	sedge meadow, wet woods	sun-shade	2-3 ft	May
Carex vulpinoidea	Fox Sedge	sedge meadow- wet mesic	sun-psun	2-3 ft	May-June
Chasmanthium latifolium	Northern Sea Oats	mesic woods	psun-shade	2-3 ft	July-Aug
Cinna arundinacea	Common Wood Reed	wet-mesic woods	shade	3-5 ft	Aug-Sept
Deschampsia cespitosa	Tufted Hair Grass	sedge meadow	sun	2-3 ft	May-June
Diarrhena obovata	Beak Grass	mesic woods	shade	1-2 ft	Aug
Eleocharis erythropoda	Creeping Spike-Rush	shallow water emergent	sun	1-2 ft	May-July
Elymus canadensis	Canada Wild Rye	mesic prairie, dry prairie, mesic savanna	sun-psun	3-4 ft	June-July
Elymus hystrix	Bottlebrush Grass	mesic woods	psun-shade	3-5 ft	June-Aug
Elymus riparius	Riverbank Wild Rye	wet mesic woods, mesic woods	psun-shade	3-5 ft	July-August
Elymus villosus	Silky Wild Rye	mesic woods	shade	1-2 ft	June

<i>Elymus virginicus</i>	Virginia Wild Rye	mesic woods, wet-mesic woods	sun-shade	2-3 ft	June-July
<i>Glyceria striata</i>	Fowl Manna Grass	sedge meadow, wet woods	sun-shade	2-4 ft	May-June
<i>Juncus effusus</i>	Soft Rush	shallow water emergent	sun-psun	2-4 ft	May-June
<i>Juncus torreyi</i>	Torrey's Rush	sedge meadow	sun	1-2 ft	June
<i>Koeleria macrantha</i>	June Grass	dry prairie, dry savanna	sun-psun	1-2 ft	May-June
<i>Leersia oryzoides</i>	Rice-Cut Grass	sedge meadow	sun-psun	2-4 ft	Aug-Sept
<i>Panicum virgatum</i>	Switch Grass	wet-mesic prairie	sun	3-5 ft	July-Aug
<i>Schizachyrium scoparium</i>	Little Bluestem	mesic prairie, dry prairie	sun	2-3 ft	Aug-Sept
<i>Schoenoplectus acutus</i>	Hardstem Bulrush	sedge meadow, shallow water emergent	sun	4-6 ft	May-June
<i>Schoenoplectus pungens</i>	Three-Square Bulrush	sedge meadow, shallow water emergent	sun	2-5 ft	June
<i>Schoenoplectus tabernaemontani</i>	Soft-Stem Bulrush	sedge meadow, shallow water emergent	sun	4-8 ft	May-June
<i>Scirpus atrovirens</i>	Dark Green Bulrush	sedge meadow	sun	3-5 ft	May-June
<i>Scirpus cyperinus</i>	Woolgrass	sedge meadow	sun	3-5 ft	July-Aug
<i>Scirpus pendulus</i>	Reddish Bulrush	sedge meadow	sun	3-5 ft	May-June
<i>Sorghastrum nutans</i>	Indian Grass	mesic prairie, dry prairie	sun	4-6 ft	Aug-Sept
<i>Spartina pectinata</i>	Prairie Cordgrass	wet mesic prairie, wet prairie, sedge meadow	sun	4-7 ft	July-Aug
<i>Sporobolus heterolepis</i>	Prairie Dropseed	mesic prairie, dry prairie	sun	1-3 ft	July-Sept

Woody Plants

Latin Name	Common Name	Community	Sun	Height	Flower Season
<i>Amorpha canescens</i>	Leadplant	mesic prairie, dry prairie, mesic savanna	sun-psun	1-3 ft	June-July
<i>Ceanothus americanus</i>	New Jersey Tea	mesic prairie, dry prairie, mesic savanna	sun-psun	1-3 ft	June-July
<i>Cephalanthus occidentalis</i>	Buttonbush	shallow water emergent, sedge meadow	sun-shade	6-10 ft	June-Aug



Conditions of Sale

Ordering

Our customers may place and order via:

Phone: (765) 286-7154

Fax: (765) 286-0264

Email: sales@spencenursery.com

Nursery visits are by appointment only:

2220 E. Fuson Road, Muncie, IN 47302

Shipping

Plants

Spence Restoration Nursery offers UPS ground or expedited delivery, delivery by truck, or orders may be picked up at the nursery by appointment during business hours Monday-Friday 8 AM to 3:30 PM. We ship plants via UPS on Mondays and Tuesdays for arrival by the end of the week. Please allow for 30 % of the cost of the plants for UPS shipping. We deliver on our truck within a 300 mile radius of Muncie for a fee of \$ 2.00 per mile round trip. Truck deliveries will be utilized for orders large enough to make them more cost effective than UPS shipping. Large orders may also be shipped on pallets via common carrier if more cost effective or the distance exceeds 300 miles.

Seeds

Seeds are typically shipped UPS, depending on the size of the order and the insurance value of the seed. Please allow 10-20% of the seed cost for UPS shipping. Large orders of bulk grasses may be shipped on a pallet via common carrier. Large orders with a high insurance value may be delivered on our truck.

Minimum Orders

Plants

Our minimum plant order is \$ 600.00. The minimum order per species is one flat of either 32 or 49 plants. Plants must be ordered in multiples of 32 or 49. For orders exceeding 3 flats of one species, please order in multiples of 49. We do not sell mixed flats or quantities below 1 full flat.

Seeds

Our minimum seeds order when packaged by individual species is \$ 100.00. Minimum order per species is one ounce. No partial ounce orders will be accepted. Minimum seed mix order is ¼ acre. We are happy to make custom seed orders provided they meet our minimums. Please contact us for a quote on custom mixes.

Plant Container Size

Our standard contain is a 2 3/8" square X 3 ¾" deep open-bottomed plastic pot that are sold in a 17" X 17" flat that holds 49 plants or a 10" X 20" flat that holds 32 plants.

Terms

The prices in this catalog are effective January 1, 2020. Non-retail resale customers, such as installers, architects, engineers, parks departments and land conservancies, contact amy@spencenursery.com to request plant pricing for your projects. The content of this catalog cancels all previous catalogs and any conditions of sale contained therein. Payment must be made by cash, check, or credit card (VISA, Mastercard, or Discover accepted) before

the order will be shipped if credit has not been approved. If credit has been approved and the account is in good standing, customers have terms of net 30 days. A 2% monthly bookkeeping charge will be assessed on all overdue accounts. A credit application is available on the next page. Any customer who has a returned check will be charged a \$25.00 NFS fee and will be subject to service charges. If an account must be turned over to an attorney or collection agency, the purchaser agrees to pay all legal and/or collection fees. All terms and prices listed here are subject to change without notice.

Contract Growing

We welcome contract grow orders. With adequate notice we will be able to meet your requirements, including production from provided seed, optional container sizes, or production of species not offered in our catalog. We do require a 25 % non-refundable deposit, and any provided seeds are not returnable. Terms for custom orders may vary from our standard terms.

Claims

Claims must be reported within 48 hours or two business days of receipt of the material. All shipments turned over to a carrier become your property. Claims for loss from shipping damage are the carrier's responsibility, however we will help as necessary to recover your claim.

Cancellations

To cancel an order, please contact us to see if a cancellation fee will apply. We must receive notification at least two weeks prior to your scheduled ship date. Cancelled orders are subject to a 25% restocking fee. Plant orders cannot be cancelled once they are loaded or boxed for shipment.

Returning Seed

If you wish to return seed, contact us for specific instructions. Only seed packaged by individual species may be eligible to be returned. Mixes are not returnable. Custom seed mix orders cannot be returned or cancelled after they have been mixed.

Sales Tax

Indiana residents must add 7% state sales tax. Illinois residents must add 6.25% usage tax. Businesses that are sales tax exempt must provide a copy of your Indiana Sales Tax Exemption Certificate. Sales tax will be applied to your order until we have your certificate on file. Government agencies and tax exempt organizations must forward a tax exempt number.

Guarantee

We guarantee species to be true to name. However, we give no warranty, expressed or implied, as to performance or longevity. It is mutually agreed that our liability for any errors or other issues is confined to the replacement or refund not to exceed the original purchase price.

SPENCE RESTORATION NURSERY

UNIFORM CONFIDENTIAL CREDIT APPLICATION & PURCHASE ORDER AGREEMENT

(For the wholesale trade; NOT for consumer or retail use)

We welcome your interest in doing business with Spence Restoration Nursery! **Phone: (765) 286-7154 Fax: (765) 286-0264**

In order to serve our customers more effectively, we encourage establishment of an open account. All information submitted will be held in strictest confidence and used solely to determine your line of credit. It is not mandatory that all items be completed; however, the greater your participation, the more quickly your application can be acted upon (allow two weeks minimum for processing)

FIRM NAME: _____ TELEPHONE: (____) _____

Name of parent company if subsidiary: _____

ADDRESS: _____ CITY: _____ STATE: _____ ZIP: _____

LEGAL STATUS: (T) _____ PROPRIETORSHIP _____ PARTNERSHIP _____ INCORP. In (STATE): _____ 20 _____

YEAR ESTABLISHED: _____ AT PRESENT LOCATION SINCE: _____ OWNED: _____ LEASED FROM: _____

NATURE OF BUSINESS: (i.e. Retail, Landscape, etc.) _____

OFFICERS / OWNERS NAMES:	TITLES:	TELEPHONES:
_____	_____	(____) _____
_____	_____	(____) _____

(____) _____	_____	_____
_____	_____	_____

(Please place a check mark beside person responsible for accounts payable)

TRADE REFERENCES: (Firms from whom you are currently purchasing an open account)

NAME:	ADDRESS:	CITY:	STATE:	ZIP:	FAX NUMBERS:
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_____ (____)

_____ (____)

_____ (____)

_____ (____)

BANK REFERENCE: NAME AND BRANCH: _____ PHONE (____) _____

Address: _____ Officer / Dept.: _____ Ck. Account #: _____

Loan Account: _____ Savings Account #: _____ With: _____

AMOUNT OF CREDIT DESIRED: \$ _____

(Note: For amounts larger than \$ _____ fill in the attached sheet of supplemental information.)

TERMS: Applicant is hereby advised that our regularly stated terms are: 30 days NET. Past due accounts will be assessed a charge of 2 % per month or at a rate not to exceed lawful limits. All claims for errors or unsatisfactory stock must be reported upon receipt and confirmed by written memorandum within 10 days lest all consideration be waived.

ADDITIONAL PROVISIONS OF OUR COMPANY INCLUDE:

In the event it becomes necessary for our firm to file suit to enforce payment, we shall be entitled to court costs, attorney's fees, and interest at the rate of 2 % per month on all amounts due and payable.

CORPORATION OFFICERS HEREWITH ACKNOWLEDGE AND ASSUME PERSONAL RESPONSIBILITY FOR DEBTS INCURRED IN THE

NAME OF THE FIRM:

Individual: _____ Individual: _____

Signature	Title	Date	Signature	Title	Date
Individual: _____			Individual: _____		

Visit our website: www.spencenursery.com

- **Download free specifications**

- 1 *Lake Edge Enhancement System*
- 2 *Forested Wetland Understory*
- 3 *Prairie Seed Installation*
- 4 *Prairie Plant Installation*
- 5 *Stormwater Treatment Wetlands*

- **Download our seed mixes**

- **Learn about NPDES Phase II vegetated Best Management Practices**

- **View Pictures of mature installations**

- **Learn about the benefits of our Lake Edge Enhancement System**

- **View Plant and Seed Lists for Various Applications**

- **View answers to our Frequently Asked Questions**

- **View Instructional Videos on Native Plant Topics**

Specify Source Identified Plants and Seeds to Ensure the Success of Your Projects

In 1997, Spence Restoration Nursery began working with the Indiana Crop Improvement Association to develop a Source Identification Program for our local genotype plants and seeds. We have always maintained detailed records of the remnant native plant communities from which we made our foundation seed collections. We have used these records along with site visits accompanied by Crop Improvement personnel to establish a database of source identified collection sites.

This database was used to produce the first Source Identified Seed Labels from the Indiana Crop Improvement Association in 1998. We continue to work together to provide a greater diversity of Indiana Source Identified Seed.

This voluntary certification program ensures that the proper identity of native grass and forb reproductive material is maintained through all phases of production. Reproductive material refers to seeds, seedlings, or transplants.

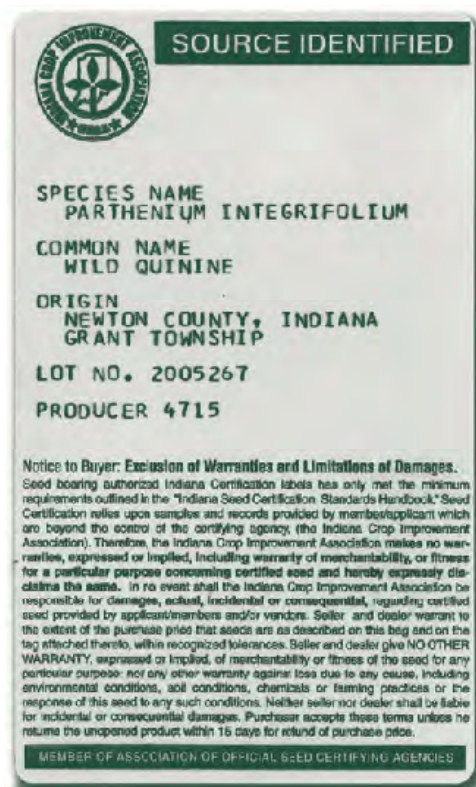
Source identified material is comprised of the unselected Indiana germplasm and is considered to be relatively genetically diverse. Spence Restoration Nursery's Source Identified seed is produced on our seed nursery properties from plants produced from our certified foundation seed collections.

Source identified plants are those grown from our source identified seed. Source identified tags are available for most of our plant species.

The following statements may be used to specify Source Identified Seeds and Plants:

Seed must be source identified by the Indiana Crop Improvement Association through the Yellow Tag certification program.

Plants must be source identified by the Indiana Crop Improvement Association through the Yellow Tag certification program.



Wholesale Order Form

2200 E. Fuson Road, Muncie, Indiana 47302
 Phone: 765-286-7154 Fax: 765-286-0264
 E-Mail: sales@spencenursery.com

Sold To

Name _____

Address _____

City _____ State _____

ZIP _____ Contact Person _____

Phone (____) _____ Fax (____) _____

Requested date to receive order _____

Shipping _____ UPS _____ Customer Pickup _____

_____ Delivery (\$2 per mile round trip)

Ship To (if different)

Name _____

Address _____

City _____ State _____

ZIP _____ Contact Person _____

Phone (____) _____ Fax (____) _____

Method of Payment

_____ Check/Money Order # _____

_____ Purchase order # _____

_____ Accounts Receivable

Net 30; credit pre-approval required.

Allow 2 weeks for approval.

_____ VISA _____ MasterCard Exp. Date _____

Card # _____

Minimum Plant order \$600

Forbs (Wildflowers)

Listed prices are wholesale only, clients purchasing plants for resale will be subject to retail pricing.
 Large plant orders qualify for price discounts! Please contact us for details.

Latin Name	Common Name	Price	Pot Quantity	Total Price
Acorus americanus	Sweet Flag	\$1.50		
Actinomeris alternifolia	Wingstem	\$1.50		
Ageratina altissima	White Snakeroot	\$1.50		
Alisma subcordatum	Water Plantain	\$2.50		
Allium cernuum	Nodding Wild Onion	\$1.50		
Angelica atropurpurea	Angelica	\$1.70		
Aquilegia canadensis	Columbine	\$2.00		
Asclepias incarnata	Marsh Milkweed	\$1.60		
Asclepias sullivantii	Sullivant's Milkweed	\$2.00		
Asclepias syriaca	Common Milkweed	\$1.60		
Asclepias verticillata	Whorled Milkweed	\$1.70		
Baptisia alba	White False Indigo	\$2.30		
Baptisia australis	Blue False Indigo	\$2.00		
Baptisia bracteata	Cream False Indigo	\$2.30		
Blephilia hirsuta	Hairy Wood Mint	\$1.70		
Boltonia latisquama	False Aster	\$1.60		
Caltha palustris	Marsh Marigold	\$2.00		
Chelone glabra	White Turtlehead	\$1.80		
Chelone obliqua	Pink Turtlehead	\$1.80		
Conoclinium coelestinum	Blue Mist Flower	\$1.60		
Coreopsis lanceolata	Lance-Leaf Coreopsis	\$1.50		
Coreopsis palmata	Plains Coreopsis	\$1.70		

Latin Name	Common Name	Price	Pot Quantity	Total Price
Coreopsis tripteris	Tall Coreopsis	\$1.50		
Dalea purpurea	Purple Prairie Clover	\$1.70		
Decodon verticillatus	Swamp Loosestrife	\$2.00		
Doellingeria umbellata	Flat-Topped Aster	\$1.70		
Drymocallis arguta	Prairie Cinquefoil	\$1.60		
Echinacea purpurea	Purple Coneflower	\$1.50		
Eryngium yuccifolium	Rattlesnake Master	\$1.50		
Eupatorium perfoliatum	Boneset	\$1.50		
Euthamia graminifolia	Grass-Leaved Goldenrod	\$1.50		
Eutrochium fistulosum	Hollow Joe-Pye Weed	\$1.70		
Eutrochium maculatum	Spotted Joe-Pye Weed	\$1.50		
Eutrochium purpureum	Sweet Joe-Pye Weed	\$1.70		
Filipendula rubra	Queen of the Prairie	\$1.90		
Gentiana andrewsii	Bottle Gentian	\$2.00		
Geranium maculatum	Wild Geranium	\$2.30		
Helenium autumnale	Autumn Sneezeweed	\$1.70		
Helianthus grosseserratus	Sawtooth Sunflower	\$1.70		
Helianthus mollis	Downy Sunflower	\$1.50		
Helianthus occidentalis	Western Sunflower	\$1.70		
Helianthus pauciflorus	Showy Sunflower	\$1.70		
Heliopsis helianthoides	False Sunflower	\$1.50		
Hibiscus moscheutos	Swamp Rose Mallow	\$1.70		
Iris versicolor	Wild Iris	\$1.90		
Iris virginica shrevei	Blue Flag Iris	\$1.70		
Justicia americana	Water Willow	\$2.20		
Lespedeza capitata	Round-Headed Bush Clover	\$1.70		
Liatris aspera	Rough Blazing Star	\$1.70		
Liatris pycnostachya	Prairie Blazing Star	\$1.70		
Liatris scariosa nieuwlandii	Savanna Blazing Star	\$2.00		
Liatris spicata	Dense Blazing Star	\$1.70		
Lobelia cardinalis	Cardinal Flower	\$1.70		
Lobelia siphilitica	Great Blue Lobelia	\$1.70		
Lycopus americanus	Common Water Horehound	\$1.70		
Mimulus ringens	Monkeyflower	\$1.50		
Monarda fistulosa	Bergamot	\$1.50		
Oenothera pilosella	Prairie Sundrops	\$1.70		
Oligoneuron ohioense	Ohio Goldenrod	\$1.70		
Oligoneuron riddellii	Riddell's Goldenrod	\$1.70		
Oligoneuron rigidum	Stiff Goldenrod	\$1.50		
Packera aurea	Golden Ragwort	\$1.60		
Packera obovata	Round-leaved Ragwort	\$1.60		
Parthenium integrifolium	Wild Quinine	\$1.50		
Peltandra virginica	Arrow Arum	\$3.00		
Penstemon calycosus	Smooth Penstemon	\$1.50		
Penstemon digitalis	Foxglove Penstemon	\$1.50		
Penstemon hirsutus	Hairy Penstemon	\$1.50		
Physostegia virginiana	Obedient Plant	\$1.70		

Latin Name	Common Name	Price	Pot Quantity	Total Price
<i>Pontederia cordata</i>	Pickereel Weed	\$3.00		
<i>Pycnanthemum tenuifolium</i>	Narrow-Leaf Mountain Mint	\$1.70		
<i>Pycnanthemum virginianum</i>	Common Mountain Mint	\$1.50		
<i>Ratibida pinnata</i>	Yellow Coneflower	\$1.50		
<i>Rudbeckia fulgida speciosa</i>	Showy Black-Eyed Susan	\$1.50		
<i>Rudbeckia laciniata</i>	Green-Headed Coneflower	\$1.50		
<i>Rudbeckia subtomentosa</i>	Sweet Black-Eyed Susan	\$1.50		
<i>Sagittaria latifolia</i>	Common Arrowhead	\$2.00		
<i>Saururus cernuus</i>	Lizard's Tail	\$2.30		
<i>Scutellaria incana</i>	Downy Skullcap	\$1.70		
<i>Sedum ternatum</i>	Wild Stonecrop	\$1.70		
<i>Senna hebecarpa</i>	Wild Senna	\$1.50		
<i>Silene regia</i>	Royal Catchfly	\$2.30		
<i>Silphium integrifolium</i>	Rosinweed	\$1.50		
<i>Silphium laciniatum</i>	Compass Plant	\$1.70		
<i>Silphium perfoliatum</i>	Cup Plant	\$1.50		
<i>Silphium terebinthinaceum</i>	Prairie Dock	\$1.70		
<i>Solidago caesia</i>	Blue-stemmed Goldenrod	\$1.70		
<i>Solidago flexicaulis</i>	Zig-Zag Goldenrod	\$1.90		
<i>Solidago gigantea</i>	Late Goldenrod	\$1.60		
<i>Solidago juncea</i>	Early Goldenrod	\$1.70		
<i>Solidago nemoralis</i>	Grey Goldenrod	\$1.70		
<i>Solidago patula</i>	Swamp Goldenrod	\$1.50		
<i>Solidago rugosa</i>	Wrinkled Goldenrod	\$1.50		
<i>Solidago speciosa</i>	Showy Goldenrod	\$1.50		
<i>Sparganium eurycarpum</i>	Giant Burreed	\$3.00		
<i>Stylophorum diphyllum</i>	Celandine Poppy	\$2.00		
<i>Symphyotrichum cordifolium</i>	Heart-Leaved Blue Wood Aster	\$1.60		
<i>Symphyotrichum ericoides</i>	Heath Aster	\$1.60		
<i>Symphyotrichum firmum</i>	Shining Aster	\$1.60		
<i>Symphyotrichum laeve</i>	Smooth Aster	\$1.50		
<i>Symphyotrichum lateriflorum</i>	Side-Flowering Aster	\$1.60		
<i>Symphyotrichum novae-angliae</i>	New England Aster	\$1.50		
<i>Symphyotrichum oolentangiense</i>	Sky-Blue Aster	\$1.50		
<i>Symphyotrichum puniceum</i>	Swamp Aster	\$1.50		
<i>Symphyotrichum shortii</i>	Short's Aster	\$1.60		
<i>Tradescantia ohimensis</i>	Ohio Spiderwort	\$1.60		
<i>Verbena hastata</i>	Blue Vervain	\$1.50		
<i>Vernonia gigantea</i>	Tall Ironweed	\$1.70		
<i>Vernonia fasciculata</i>	Smooth Ironweed	\$1.70		
<i>Veronicastrum virginicum</i>	Culver's Root	\$1.70		
<i>Zizia aurea</i>	Golden Alexanders	\$1.70		

Graminoids (Grasses, Rushes, & Sedges)

Latin Name	Common Name	Price	Pot Quantity	Total Price
Andropogon gerardii	Big Bluestem	\$1.50		
Bouteloua curtipendula	Side-Oats Grama	\$1.50		
Bromus latiglumis	Tall Brome	\$1.70		
Bolboschoenus fluviatilis	River Bulrush	\$2.20		
Calamagrostis canadensis	Blue-Joint Grass	\$1.50		
Calamovilfa longifolia var magna	Sand Reed	\$2.00		
Carex annectans var xanthocarpa	Yellow Fox Sedge	\$1.70		
Carex aquatilis	Water Sedge	\$1.70		
Carex bicknellii	Prairie Oval Sedge	\$1.70		
Carex brevior	Plains Oval Sedge	\$1.70		
Carex bromoides	Brome Hummock Sedge	\$1.70		
Carex cephalophora	Short-headed Bracted Sedge	\$1.70		
Carex comosa	Bristly Sedge	\$1.50		
Carex crinita	Fringed Sedge	\$1.50		
Carex cristatella	Crested Sedge	\$1.50		
Carex emoryi	Riverbank Tussock Sedge	\$1.90		
Carex frankii	Frank's Sedge	\$1.50		
Carex gracillima	Gracefull Wood Sedge	\$1.70		
Carex granularis	Meadow Sedge	\$1.70		
Carex grayi	Burr Sedge	\$1.70		
Carex hystericina	Porcupine Sedge	\$1.50		
Carex jamesii	Grass Sedge	\$2.50		
Carex lacustris	Lake Sedge	\$3.00		
Carex lupulina	Hop Sedge	\$1.70		
Carex lurida	Lurid Sedge	\$1.50		
Carex molesta	Field Oval Sedge	\$1.50		
Carex muhlenbergii	Sand Bracted Sedge	\$1.50		
Carex muskingumensis	Palm Sedge	\$1.70		
Carex normalis	Spreading Oval Sedge	\$1.50		
Carex pellita	Wooly Sedge	\$2.30		
Carex pennsylvanica	Oak Sedge	\$2.90		
Carex prairea	Fen Panicked Sedge	\$1.70		
Carex radiata	Straight-Styled Wood Sedge	\$1.70		
Carex scoparia	Lance-Fruited Oval Sedge	\$1.50		
Carex shortiana	Short's Sedge	\$1.70		
Carex sparganioides	Burreed Sedge	\$1.70		
Carex stipata	Awl-Fruited Sedge	\$1.50		
Carex stricta	Tussock Sedge	\$1.70		
Carex tribuloides	Pointed Oval Sedge	\$1.50		
Carex vulpinoidea	Fox Sedge	\$1.50		
Chasmanthium latifolium	Northern Sea Oats	\$1.70		
Cinna arundinacea	Common Wood Reed	\$1.50		
Deschampsia cespitosa	Tufted Hair Grass	\$1.50		
Diarrhena obovata	Beak Grass	\$1.70		
Eleocharis erythropoda	Creeping Spike-Rush	\$2.00		

Latin Name	Common Name	Price	Pot Quantity	Total Price
<i>Elymus canadensis</i>	Canada Wild Rye	\$1.50		
<i>Elymus hystrix</i>	Bottlebrush Grass	\$1.50		
<i>Elymus riparius</i>	Riverbank Wild Rye	\$1.50		
<i>Elymus villosus</i>	Silky Wild Rye	\$1.50		
<i>Elymus virginicus</i>	Virginia Wild Rye	\$1.50		
<i>Glyceria striata</i>	Fowl Manna Grass	\$1.50		
<i>Juncus effusus</i>	Soft Rush	\$1.50		
<i>Juncus torreyi</i>	Torrey's Rush	\$1.50		
<i>Koeleria macrantha</i>	June Grass	\$1.50		
<i>Leersia oryzoides</i>	Rice-Cut Grass	\$1.50		
<i>Panicum virgatum</i>	Switch Grass	\$1.50		
<i>Schizachyrium scoparium</i>	Little Bluestem	\$1.50		
<i>Schoenoplectus acutus</i>	Hardstem Bulrush	\$2.20		
<i>Schoenoplectus pungens</i>	Three-Square Bulrush	\$1.70		
<i>Schoenoplectus tabernaemontani</i>	Soft-Stem Bulrush	\$1.50		
<i>Scirpus atrovirens</i>	Dark Green Bulrush	\$1.50		
<i>Scirpus cyperinus</i>	Woolgrass	\$1.50		
<i>Scirpus pendulus</i>	Reddish Bulrush	\$1.50		
<i>Sorghastrum nutans</i>	Indian Grass	\$1.50		
<i>Spartina pectinata</i>	Prairie Cordgrass	\$1.50		
<i>Sporobolus heterolepis</i>	Prairie Dropseed	\$1.70		

Woody Plants

Latin Name	Common Name	Price	Pot quantity	Total price
<i>Amorpha canescens</i>	Leadplant	\$1.90		
<i>Ceanothus americanus</i>	New Jersey Tea	\$2.20		
<i>Cephalanthus occidentalis</i>	Buttonbush	\$1.50		

Pot Tags Now Available for Retail Plant Sales

Spence Restoration Nursery can now supply plant tags for retail sales. We can print tags with just the common and Latin name of species for \$ 0.05 per tag.

Seed Mixes see page 4-10 for species composition
Please visit our website for current mix prices.

Mix	PLS lbs Graminoids Per Acre	PLS lbs Forbs Per Acre	PLS Seeds Per Acre	PLS Seeds Per Sqft
Basic Prairie	7 PLS lbs	1.5 PLS lbs	1581400	36
Bioswale Seed Mix	7 PLS lbs	1.75 PLS lbs	5314000	122
Diverse Prairie	8 PLS lbs	4 PLS lbs	3988979	92
Early Successional Wetland	6 PLS lbs	1.5 PLS lb	6220600	143
Emergent Wetland Seed Mix	1.5 PLS lbs	2 PLS lbs	7070140	162
Forested Wetland	6 PLS lbs	1.5 PLS lb	4952200	114
Low Stature Prairie	8 PLS lbs	3 PLS lbs	2936600	67
Mesic Prairie	7 PLS lbs	3 PLS lbs	2901020	67
Mesic Pollinator Mix	4.25 PLS lbs	4 PLS lbs	2422400	56
Sedge Meadow	6 PLS lbs	3 PLS lbs	6751300	155
Soil Stabilization Mix	13 PLS lbs	none	4006000	92
Upland Woods	6 PLS lbs	1 PLS lb	2273000	52
Wet Mesic	7 PLS lbs	3 PLS lbs	3514000	81
Wet Tolerant Low Stature Mix	7 PLS lbs	3 PLS lbs	4128600	95



All claims must be made within 48 hours or two business days after the receipt of goods.

Our terms to those who have an established open account are Net 30 Days from date of invoice.

Service charge of 2% per month on all overdue accounts. If you do not have an established open account, payment must be received before shipment.

This list cancels previous quotations. All prices subject to change without notice.

Total Price of Plants Ordered

Total Price of Seeds Ordered

Subtotal

30% Shipping Deposit

Sales Tax (7% for IN/6.25% IL)

Total Due

What Plants are most attractive and functional in rain gardens?

Rain Gardens, also known as Bio-Retention Basins, have become a highly favored Storm Water Best Management Practice. While effectively filtering pollutants, they also infiltrate runoff, alleviating stress on our overtaxed storm water systems.

Plant species for bio-retention must be able to tolerate the alternating cycles of wet and dry that occur in these BMPs. They may be classified according to the length of time that they will tolerate being inundated. The table below contains some of the most attractive and effective species for this application, including their inundation tolerance.

Although it may be tempting to include only showy wildflowers in a rain garden, remember that it is the grasses and sedges that lend stability to the community through their dense fibrous root systems. Further, these roots are continually dying and regenerating, leaving root channels that increase infiltration over time.

Grasses and Sedges

Common Name	Latin Name	Exposure	Flower Season	Height	Flower Color	Inundation Tolerance	Salt Tolerant	Drought Tolerant
Yellow Fox Sedge	<i>Carex annectans</i> var <i>xanthocarpa</i>	Sun - P-sun	May-June	1-2 ft	Brown	> 24 hours	Yes	Yes
Brome Hummock Sedge	<i>Carex bromoides</i>	Sun-Shade	May-June	1 ft	Green	2-24 hours		
Riverbank Tussock Sedge	<i>Carex emoryi</i>	Sun-Psun	May-June	2 ft	Green	> 24 hours	Yes	Yes
Frank's Sedge	<i>Carex frankii</i>	Sun-Shade	May-July	1-2 ft	Green	> 24 hours	Yes	Yes
Meadow Sedge	<i>Carex granularis</i>	Sun-Shade	May-June	1 ft	Green	2-24 hours	Yes	Yes
Burr Sedge	<i>Carex grayii</i>	Psun -Shade	May-July	1-2 ft	Green	> 24 hours	Yes	Yes
Field Oval Sedge	<i>Carex molesta</i>	Sun-Psun	May-July	1-2 ft	Green	> 24 hours	Yes	Yes
Palm Sedge	<i>Carex muskingumensis</i>	Shade	May-July	1-2 ft	Green	> 24 hours	Yes	Yes
Lance-Fruited Oval Sedge	<i>Carex scoparia</i>	sun	May-July	1-2 ft	Brown	> 24 hours	Yes	Yes
Fox Sedge	<i>Carex vulpinoidea</i>	Sun-Psun	May-June	1-2 ft	Brown	> 24 hours	Yes	Yes
Tufted Hair Grass	<i>Deschampsia caespitosa</i>	Sun	May-June	1-2 ft	Brown	2-24 hours	Yes	Yes
Switchgrass	<i>Panicum virgatum</i>	Sun	July-August	3-5 ft	Brown	> 24 hours	Yes	Yes
Little Bluestem	<i>Schizachyrium scoparium</i>	Sun	July-August	2-3 ft	Brown	2-24 hours	Yes	Yes
Reddish Bulrush	<i>Scirpus pendulus</i>	Sun	June-July	3-4 ft	Brown	> 24 hours	Yes	Yes
Prairie Dropseed	<i>Sporobolus heterolepis</i>	Sun	August-Sept	1-2 ft	Brown	2-24 hours	Yes	Yes

Wildflowers

Common Name	Latin Name	Exposure	Flower Season	Height	Flower Color	Inundation Tolerance	Salt Tolerant	Drought Tolerant
Marsh Milkweed	<i>Asclepias incarnata</i>	Sun	July-August	3-4 ft	Pink	> 24 hours	Yes	
Sullivant's Milkweed	<i>Asclepias sullivantii</i>	Sun	July-August	3-4 ft	Pink	2-24 hours	Yes	
Blue False Indigo	<i>Baptisia australis</i>	Sun-Psun	May-June	3-5 ft	Blue	< 2 hours	Yes	Yes
White Turtlehead	<i>Chelone glabra</i>	Psun	August-Sept	2-4 ft	White	2-24 hours		
Pink Turtlehead	<i>Chelone obliqua</i>	Psun	August-Sept	2-4 ft	Pink	2-24 hours		
Blue Mist Flower	<i>Conoclinium coelestinum</i>	Psun	August-Sept	1-2 ft	Blue	2-24 hours		
Flat-topped Aster	<i>Doellingeria umbellata</i>	Sun	August-Sept	4-5 ft	White	2-24 hours		
Purple Coneflower	<i>Echinacea purpurea</i>	Sun-Psun	July-August	2-3 ft	Pink	< 2 hours	Yes	Yes
Boneset	<i>Eupatorium perfoliatum</i>	Sun	August-Sept	3-4 ft	White	2-24 hours		
Hollow Joe-Pye Weed	<i>Eutrochium fistulosum</i>	Sun	August-Sept	5-8 ft	Pink	2-24 hours		

Wildflowers continued

Spotted Joe-Pye Weed	<i>Eutrochium maculatum</i>	Sun	August-Sept	4-6 ft	Pink	2-24 hours		
Queen of the Prairie	<i>Filipendula rubra</i>	Sun	June-July	3-5 ft	Pink	2-24 hours		
Bottle Gentian	<i>Gentiana andrewsii</i>	Sun-Psun	Sept-October	1-2 ft	Blue	2-24 hours		
Autumn Sneezeweed	<i>Helenium autumnale</i>	Sun-Psun	Sept-October	3-4 ft	Yellow	> 24 hours	Yes	
Swamp Rose Mallow	<i>Hibiscus moscheutos</i>	Sun	July-August	4-5 ft	Rose/ Pink/ White	>24 hours	Yes	
Blue Flag	<i>Iris virginica</i> var. <i>shrevei</i>	Sun-shade	May-June	1-2 ft	Blue	> 24 hours	Yes	
Prairie Blazing Star	<i>Liatris pycnostachya</i>	Sun	July-August	3-5 ft	Purple	2-24 hours		Yes
Dense Blazing Star	<i>Liatris spicata</i>	Sun	July-August	3-5 ft	Purple	2-24 hours		Yes
Cardinal Flower	<i>Lobelia cardinalis</i>	Sun-shade	August-Sept	2-3 ft	Red	2-24 hours		
Great Blue Lobelia	<i>Lobelia siphilitica</i>	Sun-shade	August-Sept	2-3 ft	Blue	2-24 hours		
Monkeyflower	<i>Mimulus ringens</i>	Sun-Psun	July-August	2-4 ft	Lavender	> 24 hours		
Riddell's Goldenrod	<i>Oligoneuron riddelli</i>	Sun	Sept-October	2-3 ft	Yellow	2-24 hours	Yes	Yes
Golden Ragwort	<i>Packera aurea</i>	Sun-shade	April-May	1-2 ft	Yellow	2-24 hours		
Smooth Penstemon	<i>Penstemon calycosus</i>	Sun-shade	May-June	1-2 ft	Purple	2-24 hours		
Foxglove Beardtongue	<i>Penstemon digitalis</i>	Sun-Psun	May-June	1-2 ft	White	2-24 hours		
Obedient Plant	<i>Physostegia virginiana</i>	Sun	August-Sept	2-3 ft	Pink	2-24 hours	Yes	Yes
Mountain Mint	<i>Pycnanthemum virginianum</i>	Sun	July-August	1-2 ft	White	2-24 hours		Yes
Yellow Coneflower	<i>Ratibida pinnata</i>	Sun	July-August	3-4 ft	Yellow	< 2 hours		Yes
Showy Black-Eyed Susan	<i>Rudbeckia fulgida</i> var. <i>speciosa</i>	Sun	August-Sept	1-2 ft	Gold	2-24 hours		
Sweet Black-Eyed Susan	<i>Rudbeckia subtomentosa</i>	Sun-Psun	August-Sept	4-5 ft	Yellow	> 24 hours	Yes	Yes
Wild Senna	<i>Senna hebecarpa</i>	Sun	July-August	3-6 ft	Yellow	> 24 hours	Yes	
Wrinkled Goldenrod	<i>Solidago rugosa</i>	Sun-Psun	August-Sept	2-3 ft	Yellow	2-24 hours	Yes	
Heath Aster	<i>Symphyotichum ericoides</i>	Sun	Sept-October	1-2 ft	White	< 2 hours	Yes	Yes
Shining Aster	<i>Symphyotrichum firmum</i>	Sun	Sept-October	3-4 ft	Lavender	2-24 hours		
New England Aster	<i>Symphyotrichum novae-angliae</i>	Sun	Sept-October	3-4 ft	Purple	2-24 hours		Yes
Smooth Ironweed	<i>Vernonia fasciculata</i>	Sun	August-Sept	3-4 ft	Purple	> 24 hours		Yes
Culver's Root	<i>Veronicastrum virginicum</i>	Sun-Psun	July-August	3-4 ft	White	2-24 hours		
Golden Alexanders	<i>Zizia aurea</i>	Sun-shade	May-June	1-2 ft	Yellow	2-24 hours	Yes	

NPDES Phase II Applications

Vegetated Swales

Vegetated swales, commonly referred to as eco-swales or bio-swales, are an increasingly popular green practice. Rather than utilizing curb and gutter to channel runoff into storm sewers where there is no chance to mitigate its quality or quantity, runoff is funneled through swales planted with appropriate native vegetation.



Vegetated swales serve to remove sediment, nutrients and other contaminants, in-

crease infiltration, and beautify the development. These low maintenance plant communities may be established wherever runoff must be transported from impermeable surfaces to detention areas. Plant communities established in these swales normally utilize species of wet-mesic prairie and sedge meadow.

Grasses and sedges are the workhorses of these installations. Their dense fibrous root systems not only hold the soil, they form numerous root channels that result in increased infiltration over time. It is vital to include rhizomatous species that thrive in flowing water. The rhizomes knit the community together, binding the soil after the erosion blanket has deteriorated. Engineering variables for vegetated swales include grade, water volume, soil type, and infiltration rate.

Bio-Retention Areas and Rain Gardens

The most popular and effective way to treat storm water is with bio-retention areas, also known as rain gardens. These basins are designed to capture and infiltrate storm water in a vegetated ponding area. The basin may use existing soil if the soils have a high infiltration rate, or they may contain an engineered soil mix with an under drain in areas with slow infiltration. The basins are typically designed to drain out in less than 48 hours. They are usually densely plugged with native herbaceous vegetation to absorb nutrients and filter pollutants. Native grasses and sedges should make up at least one third of the vegetation. Their dense fibrous roots help exclude weed invasion and improve infiltration over time.



Rain gardens are suitable for both commercial and residential settings. It is important to use the information in the preceding table to select species with the appropriate inundation tolerance. Be sure to include species that flower in spring, summer and fall. By choosing an attractive combination of plants, bio-retention areas can provide an aesthetically pleasing landscape feature while treating and infiltrating storm water.



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Restored wet-mesic prairie at Fisher Oak Savanna Nature Preserve in Jasper County, Indiana seeded in 2009 with 100 % Indiana genotype seed from Spence Restoration Nursery.

