



IOWA

Wetland Seedling *Guide*

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Cover:

Jones County wetland mitigation project.

Photo by Wes Gibbs, Jones County Roadside Manager.

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Wetland Seedling Guide



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Introduction





Introduction

Historically, wetlands have been maligned and their function on the landscape misunderstood. Wide-scale drainage of wetlands occurred throughout much of the 19th and 20th centuries, the pace of which accelerated as new technologies developed. In Iowa, more than 90% of wetlands on the landscape prior to Euroamerican settlement have been drained.

Today, we better understand the vital and multiple roles wetlands play on the landscape and the positive contribution they make to quality of life in Iowa. Among the most biologically productive natural systems on earth, wetlands provide benefits to water quality, groundwater, wildlife, and recreation.

While wetland losses still occur, the rate of loss has substantially decreased through passage of the Clean Water Act. Wetland mitigation related to regulatory efforts, and programs such as the Wetland Reserve Program are other important tools for minimizing wetland loss and restoring wetland functions.

Restoring wetlands is not always an easy task. Because wetlands tend to be dynamic systems, conditions are not consistently favorable for establishing plantings. As a result, it is important to identify native and weed seedlings early in the process to proactively identify problems.

This guide is intended to help natural resource professionals, students, and the general public identify plants, their seeds, and seedlings common to wetlands in Iowa. It includes drawings, photographs, and written descriptions specific to seedlings. Comparisons are also provided for seedlings of plants that might be easily confused with one another.

Although efforts were made to include images and descriptions that help with field identification, some species and groups of plants pose special challenges in identification at the seedling stage, and sometimes even as adult plants. This is particularly true of wetland grass, sedges, and rushes. Identifying these young wetland plants can be challenging, but with practice is an attainable goal.

Note: The “Prairie Seedling and Seeding Evaluation Guide,” available from the Iowa DOT, complements this wetland seedling guide with descriptions of upland and wetland buffer seedlings.

What’s on each plant page?

The pages in this guide include information with both the wetland professional and amateur native plant enthusiast in mind. Each page includes photos of seed and seedling(s) as well as a line drawing of a mature plant. Following is a brief summary of the written information included with each page.

Common name:

A generally accepted non-scientific name for a particular plant. Some plants may have several common names, depending on the region and the personal experience of the person describing the plant.

Scientific name:

Also referred to as the Latin name of a plant. There may be several scientific name synonyms for a particular plant. We have included frequently applied scientific names for each plant and included a list of synonyms in the back of the guide to help sort out name changes that have taken place the last few decades.

Wetland Habitat:

Includes descriptive, non-technical terms for habitat settings where a species is commonly encountered such as wet meadow, seasonally flooded wetlands, wet roadsides, farmed wetlands, etc.

Flowers:

Typical month(s) for blooming.

Seedling Description:

This section focuses on seedling descriptions, identifying features that can be observed in the field. Features of the species at maturity may also be described here.

Look Alikes

This section gives basic clues on how to differentiate between wetland restoration plants with similar characteristics.

Distinguishing Characteristics:

Weed pages include general characteristics helpful for field identification of weeds.

Wetland Seedlings

Species Descriptions

Grasses & Grass-like Plants



Big Bluestem

Andropogon gerardii

Wetland Habitat:

Wet prairie, wetland edge, roadsides

Flowers:

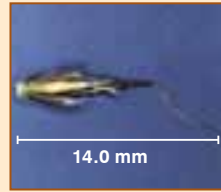
June-August

Seedling description:

Seedlings are upright and rigid. Leaves are long, narrow (2-4 mm on plants under 30 cm), and often form a graceful arch from the main stem. Ligule is thin and short, with fine hairs. Seedlings can range from hairy to smooth, and may or may not have a waxy bloom. Leaf and stem base color can also vary substantially and are therefore not the most reliable field indicators.

Look alike:

Big bluestem is perhaps most easily confused with switchgrass and sideoats grama *Bouteloua curtipendula*. Big bluestem has an obvious ligule, and seedlings typically have hairs extending well up the leaf blade while switchgrass often only has a patch of hairs at the base of each leaf. Sideoats has stiff hairs that protrude distinctively outward from leaf margins, while big bluestem is often more densely hairy, with hairs in areas other than the leaf margin.



Science Museum of Minnesota

Seed



Iowa DNR

Seedling



Adult Plant

Bluejoint Grass

Calamagrostis canadensis

Wetland Habitat:

Sedge meadow, seasonally flooded wetlands, wet prairie

Flowers:

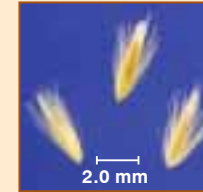
June

Seedling description:

Seedlings tend to have fine, narrow leaves that are smooth. Seedlings often have a blue-green cast. Leaf sheaths are long and membranes have a jagged top. As seedlings become more developed, this color becomes easier to notice than the leaf sheaths. Leaves eventually become 4-8 mm wide and rough on the top and bottom surfaces, while the stem is smooth. Seedlings tend to develop slowly.

Look alike:

Perhaps most similar in appearance to prairie cordgrass when seedlings are small. Prairie cordgrass tends to be more stiff and wiry. As plants grow, bluejoint remains more "fine-featured" than cordgrass, which develops much longer leaves with sharp teeth on the margins (capable of cutting persons that run their skin across the edge from leaf tip to base). Switchgrass has a patch of hairs at leaf bases.



Steve Hurst- USDA-NRCS

Seeds



Iowa DNR

Seedlings



Adult Plant

Bulrush, Dark Green

Scirpus atrovirens

Wetland Habitat:

Sedge meadow, floodplains, wet roadsides

Flowers:

June-July

Seedling description:

Dark green bulrush seedlings form a basal rosette. Leaves quickly develop an m-shaped cross-section and are a bright green color. As seedlings mature, successive leaves become wider and eventually reach as great as 2 cm in width. The sheaths of leaves are brownish or green (not red).

Look alikes:

Because the m-shaped leaves are similar to several species of sedges common to wetland restorations, dark green bulrush may be confused with bottlebrush sedge, hop sedge, or similarly wide-leaved wetland sedges. As dark green bulrush matures and flowers, it may reach 1-1.5 m and overtop similar-looking sedge species, which generally do not exceed two feet in height. Wool grass has leaves that are v-shaped in cross section.



Seeds

Steve Hurst- USDA-NRCS



Seedlings



Adult Plant

Bulrush, Hardstem

Schoenoplectus acutus

Wetland Habitat:

Marshes, shallow open water, lake shores

Flowers:

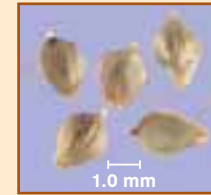
June-August

Seedling description:

Seedlings develop round, stiffly upright stems that often curve slightly to one side. The base of each stem has several membranous leaf sheaths which wrap around the stem. As seedlings, these sheaths have small leaf blades. As plants mature these leaf blades are generally absent, or if present they are generally small and inconspicuous. Stems are stiffly honeycombed inside and moderately difficult to crush between fingers. Foliage is dull, dark green and smooth, with tapering stems.

Look alikes:

Hardstem and softstem bulrush both have small leaves as seedlings and none as mature plants. Softstem bulrush has softer, easier to crush stems. As a mature plant, hardstem bulrush tends to be smaller in stature and is less common than softstem bulrush. Rushes have flat leaves as seedlings and adult plants. River bulrush develops triangular stems as do sedges commonly used in wetland restoration plantings.



Seeds

Steve Hurst- USDA-NRCS



Seedlings



Inflorescence

Bulrush, River

Schoenoplectus fluviatilis

Wetland Habitat:

Marshes, seasonally flooded wetlands, farmed wetlands

Flowers:

June-July

Seedling description:

Plants are relatively slow-developing. Seedlings may take, as much as three years to mature. Leaves of seedlings are held stiffly upward at about 45 to 60 degree angles. The m-shaped leaf cross section and sharply triangular stem become evident as the seedlings mature

Look alikes:

Several sedge species and dark green bulrush have leaves with m-shaped cross sections and may be confused with river bulrush. However, river bulrush is typically taller and more tolerant of growing in standing water, forming many-stemmed mats. Dark green bulrush leaves are up to 8 mm wide, while river bulrush leaves may reach 16 mm in width.



Seeds



Seedlings



Inflorescence

Bulrush, Softstem

Schoenoplectus tabernaemontani

Wetland Habitat:

Marshes; shallow, standing water; wet roadsides

Flowers:

June-July

Seedling description:

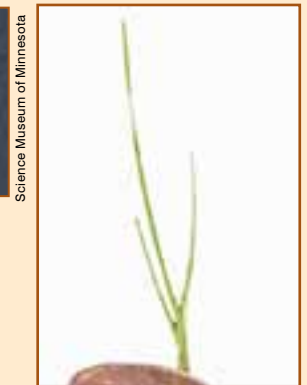
Small seedlings are similar to other rushes. As softstem bulrush seedlings mature, successive leaves originate from the base of the plant and are round in cross-section. The chambered stems are easily crushed between thumb and forefinger.

Look alikes:

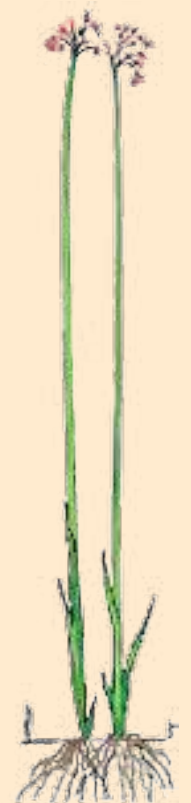
Small seedlings are similar in appearance to and difficult to distinguish from other rushes. Hardstem bulrush has a stem that is more difficult to crush between thumb and forefinger than softstem bulrush. River bulrush has triangular stems. Woolgrass and dark green bulrush develop a large number of basal leaves. Other rushes, such as Torrey's and Canada rush are shorter, seldom exceeding 0.6 meters.



Seeds



Seedling



Adult Plant

Fowl Manna Grass

Glyceria striata

Wetland Habitat:

Marshes, seasonally flooded wetlands

Flowers:

June-July

Seedling description:

Seedlings develop semi-flattened, oval-shaped stems early. Stems are smooth and often have a reddish base. New leaves emerge folded. As plants continue to grow they develop evenly spaced, flat leaves that are held in an upright manner, or gently arched. The upper leaf surface of mature plants is green to grayish blue with a slightly rough surface. The lower leaf surface is smooth and green. Ligules of fowl manna grass are white and membranous and the leaf sheaths medium green, finely veined, and hairless.

Look alikes:

Giant manna grass also has oval-shaped stems but has yellow-green foliage and slightly folded leaves. It also develops to a much larger stature than fowl manna grass. Rice cutgrass has abundant, grabby hairs (spinules) on foliage. Mature fowl manna grass plants have the appearance of oversized bluegrass but lack the hairs on lemmas that are characteristic for the bluegrass genus. Fowl bluegrass also has leaf tips that appear boat-like. Barnyard grass has a semi-flattened stem but with swollen, red bases.



Seed & Lemmas



Seedling



Inflorescence & Spikelets

Giant Manna Grass

Glyceria grandis

Wetland Habitat:

Marshes, stream banks, seasonally flooded wetlands

Flowers:

June-July

Seedling description:

Giant manna grass tends to develop stout, upright stems with shiny, yellow-green foliage. New leaves emerge folded from an oval-shaped stem. Leaf sheaths are frequently closed. When mature, manna grass stems are often several to a plant, and at five feet in height, overtops most other wetland grasses.

Look alikes:

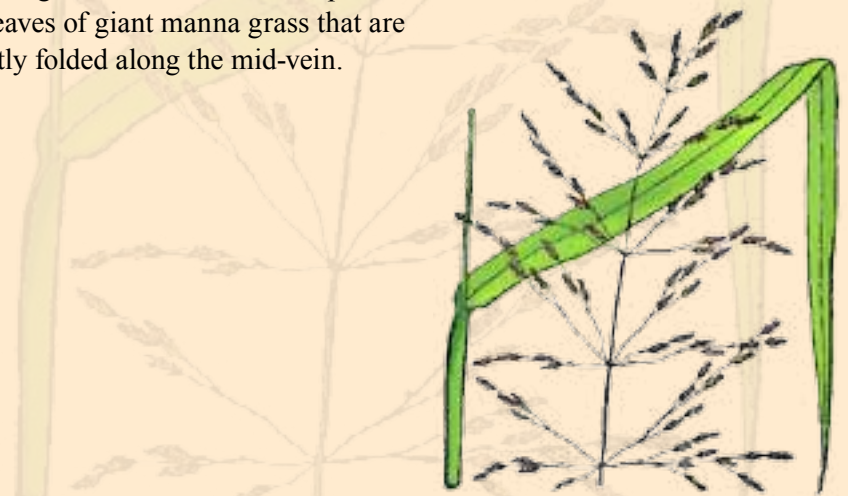
May be confused with species of cutgrass *Leersia spp.*, which also have light green foliage, but are much more “grabby” due to abundant spinules. Rice cutgrass has flat leaves compared to the leaves of giant manna grass that are slightly folded along the mid-vein.



Seed & Lemma



Seedlings



Adult Plant

Prairie Cordgrass

Spartina pectinata

Wetland Habitat:

Wet prairie,
wet roadsides

Flowers:

July-August

Seedling description:

Leaves are just over 1 mm wide when plants are approximately 10 cm tall.

Seedling leaves are stiff and pointed upward, about 30-45 degrees from the main stem. Leaves are smooth, with the exception of the leaf margin, which is detectably rough when rubbed from tip to base.

As plants develop, leaves become long, arching and gradually taper to a narrow point

Look alike:

Porcupine grass *Stipa spartea* and prairie dropseed *Sporobolus heterolepis* both have long, arching leaves that narrow to a sharp point. Prairie cordgrass leaves have a strong mid-rib, are over 5 mm wide, and have sharply serrated edges. Porcupine grass has leaves 2-5 mm wide. Prairie dropseed leaves are even narrower with edges rolled inward on the upper surface. Porcupine grass and prairie dropseed are upland plants, unlikely to be found in wet areas.



Science Museum of Minnesota

Seed



Seedlings



Inflorescence

Rice Cutgrass

Leersia oryzoides

Wetland Habitat:

Seasonally flooded wetlands, wet roadsides, mud flats

Flowers:

June

Seedling description:

Seedlings are stout, with broad, yellow-green leaves. New leaves emerge rolled.

Although relatively smooth as small seedlings, rice cutgrass develops clear spinules (miniature spines) on the leaf margins. These make the leaves feel rough and "grabby" when rubbed by hand or walked through. These spinules are visible

in larger plants with minimal magnification.

Similar to the leaf margins, the leaf sheaths are also rough. As plants develop, stems tend to sprawl across the ground and have the ability to root from the stem nodes.

Look alike:

The wide and flat leaves, together with the roughness of leaf margins, leaf sheaths, and hairy stem nodes, make rice cutgrass relatively easy to distinguish from other wetland grasses.



Steve Hurst - USDA-NRCS

Seeds



Patrick J. Alexander - USDA-NRCS

Spinules



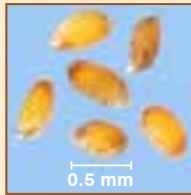
Adult Plant

Rush, Common

Juncus effusus

Wetland Habitat:

Marshes, wet prairie, sedge meadows, and wet roadsides



Seeds



Seedlings

Flowers:

Seedling description:

Seedlings are relatively slow to develop and superficially resemble other rushes and spike rushes when very small. Seedlings and mature plants are medium-green in color, and often have red bases (basal sheaths). Stems have a round cross-section and lack leaves. Mature plants reach approximately one meter in height, forming tufts of unbranched stems. Common rush is a relatively showy grass-like plant and occasionally planted for ornamental purposes in wetland gardens

Look alikes:

The absence of alternate leaves along the soft stems of common rush help distinguish this species from most other rushes. Baltic rush *Juncus balticus* also lacks leaves, but has stems that form a looser bunch. Softstem bulrush superficially resembles common rush in general appearance, but is much taller, growing to 1-2 m, compared to 0.5-1 m for common rush.



Inflorescence

Rush, Dudley's

Juncus dudleyi

Wetland Habitat:

Marshes, wet prairie, sedge meadow, wet roadsides



Floret



Seedlings

Flowers:

June-July

Seedling description:

Seedlings develop slowly and are difficult to differentiate from other rushes when small. Stems are round, smooth and light green, sometimes with reddish-brown bases. Stems are also typically stiff and upright with leaves originating from near the base of the plant. Distinguishing characteristics include the ear-like lobes at the top of each leaf sheath and, leaf blades that are often recurved with upturned margins. Upper leaf surfaces of some seedlings have a rippled surface. Leaf sheaths for Dudley's rush turn from light green to tan over the course of the growing season. In mature plants, leaf blades are up to about 30 cm long and are 1 mm wide, medium green, flat, and smooth.

Look alikes:

Easy to confuse with a number of other rushes such as Torrey's rush and inland rush, especially when plants are immature. Torrey's rush is larger and develops more leaves (2-5) than Dudley's rush. Hardstem and softstem bulrush also have round, leafless stems as small seedlings, but develop round leaves rather than flat leaves. River bulrush develops triangular stems as do sedge species commonly used in most wetland restoration plantings.



Inflorescence

Rush, Inland

Juncus interior

Wetland Habitat:

Marshes, wet prairie, sedge meadows, and wet roadsides

Flowers:

June - July

Seedling description:

Seedlings are relatively slow to develop and superficially resemble other rushes and spike rushes when small. Seedlings and mature plants are medium-green in color with round stems. As plants mature, they form tufts of stems. Basal leaves are one to two (or less commonly three). Leaf blades may be flat, channeled or sometimes rolled inward. Leaf auricles are whitish or purplish tinged. Mature plants generally range from about 0.2 to 0.8 m in height.

Look alikes:

Torrey's rush is taller and develops more leaves (2-5). Baltic rush *Juncus balticus*, and soft rush *Juncus effusus* lack leaves. Dudley's rush *Juncus dudleyi* has ear-like lobes at the top of each leaf sheath and leaf blades that are often recurved with upturned margins. Softstem bulrush has a much taller stature, growing to 1-2 m.



Seed



Seedling



Adult Plant

Rush, Spike

Eleocharis spp.

Wetland Habitat:

Marshes, wet prairie, sedge meadows, and wet roadsides

Flowers:

June - July

Seedling description:

Spike rush species are difficult to differentiate from each other as seedlings and mature plants. They may form tufts, or mats, be annual or perennial, and readily hybridize with one another. Spike rush seedlings are fine, and hair-like with stems which may be round, 3-5 angled or flat depending on the species. Stems are spongy with internal air cavities. Stems lack leaf blades, but may have up to two basal "teeth" at the top of sheath(s) at the base of the stem. The inflorescence of most spike rush species is single spikelet at the top of each stem. *Eleocharis compressa* has flat leaves about 1mm in width, with plants ranging from 0.2 to 0.5 m in plant height. *Eleocharis acicularis* has round to compressed, sometimes arching stems with 3-12 ridges and often forms large rooted mats or floating masses, which often do not flower when submerged.

Look alikes:

Species of rushes such as hardstem and softstem bulrush, and *Juncus* species also have round stems, basal leaves and may appear hair-like as seedlings, but develop into much taller, more robust plants than spike rushes.



E. obtusa Seed



E. palustris Seed



Seedlings of *E. acicularis*



Adult *E. palustris*

Rush, Torrey's

Juncus torreyi

Wetland Habitat:

Marshes, wet prairie, sedge meadow, and wet roadsides

Flowers:

June – July

Seedling description:

Seedlings typically have red bases on smooth, round, stout stems. Successive alternate leaves (2-5 total) are up to 6 mm wide with a channel on the upper surface. Leaves often exceed the inflorescence. The sheath at the base of each leaf blade is membranous and translucent when young and later dries to light brown or tan. The inflorescence is globe-shaped clusters that are shiny and yellow- to reddish-green, later turning chocolate brown. Plants have rhizomes that are tuberous (inflated) in some areas, where they give rise to new shoots. Loose colonies of plants may form such offshoots.

Look alikes:

Juncus nodosus has slender, pointed seed capsules but smaller seed heads with fewer florets. Common rush lacks alternate leaves along the soft stems. Baltic rush *Juncus balticus* has stems that form a loose bunch. Dudley's rush *Juncus dudleyi* has fewer leaves. Hardstem and softstem bulrush develop round leaves rather than flat leaves.



Seeds

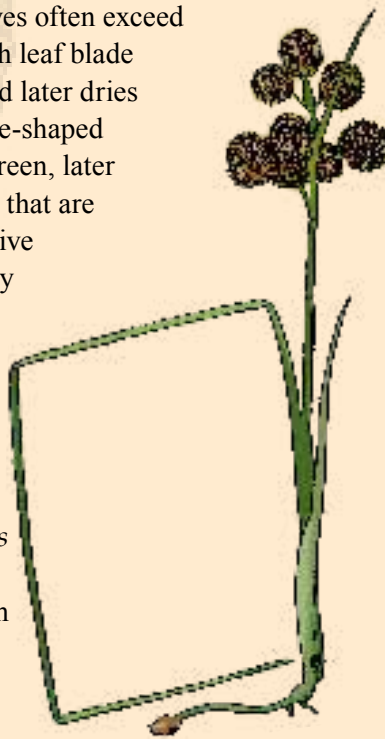


Floret

Hurd, E.G., S. Goodrich & Shaw, USDA-NRCS



Seedling



Adult Plant

Sedge, Bottlebrush

Carex comosa

Wetland Habitat:

Marshes, sedge meadow, and wet roadsides

Flowers:

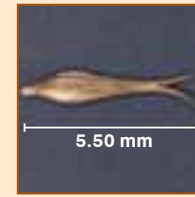
June

Seedling description:

Seedlings of bottlebrush sedge become easier to identify after reaching approximately four or more inches in height. The relatively wide leaf of bottlebrush sedge and its m-shaped cross section are characteristic. Leaves form a bushy-looking basal rosette in mature plants.

Look alikes:

Other sedges common to restoration plantings that are similar in growth characteristics include porcupine sedge *C. hystericina* and common hop sedge. Most other sedges tend to stand more upright even as young plants, and typically have narrower leaves (e.g., tussock sedge and lakebank sedge). Bottlebrush sedge may also be confused with dark green bulrush, which also forms a basal rosette.



Perigynia



Seedlings



Adult Plant

Sedge, Fox

Carex vulpinoidea

Wetland Habitat:

Sedge meadow, wet prairie, stream banks, wet roadsides

Flowers:

June

Seedling description:

Fox sedge forms somewhat loose, fountain-like clumps. Leaves are flat or nearly so, and 2-5 mm wide. The leaf sheath on the side of the stem opposite the leaf blade is sparsely red-dotted. The inflorescence of this plant typically becomes yellow-green as it matures. Fox sedge is generally fast-developing compared to most other sedge species. It may flower in the first, or more likely the second year after seeding

Look alike:

Several sedge species common to restoration plantings have similar growth form, including awl-fruited sedge *C. stipata*, crowfoot fox sedge *C. crus-corvi*, and broom sedge *C. scoparia*. These are most easily differentiated when the plants flower/produce fruit.



Perigynia



Seedlings



Seedlings



Adult Plant

Sedge, Hop

Carex lupulina

Wetland Habitat:

Marshes, sedge meadows, wet woods

Flowers:

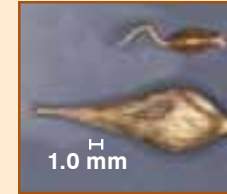
June

Seedling description:

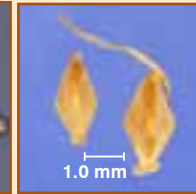
Seedlings have light green sheaths that persist and later turn brownish to reddish in color. Leaves have cross-veins visible with a hand lens, even as seedlings and later develop indented central veins. Seedlings and adult plants have sturdy, smooth, triangular stems with spongy bases. Plants occur in relatively close bunches of one to several stems. As plants mature, leaves are arch downward. Rhizomes result in colonies of somewhat widely spaced, upright stems. Mature plants typically range from about 0.2 to 1.0 meter in height.

Look alike:

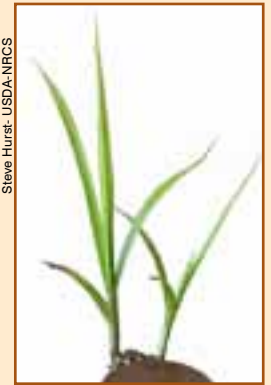
Bottlebrush sedge forms bushier tufts than hop sedge, has drooping fruiting bodies and long, spreading teeth (1–2 mm) on its perigynia which is less inflated than those of similar sedges. Lurid sedge *Carex lurida* develops distinctive spikelets that turn yellowish as fruits mature.



Achene & Perigynia



Achenes



Seedlings



Adult Plant

Sedge, Lakebank

Carex lacustris

Wetland Habitat:

Sedge meadows, marsh edges

Flowers:

June

Seedling description:

Once seedlings start getting over about four inches tall, the characteristic m-shaped cross section of leaves becomes more evident, as do prominent teeth on the leaf margins. The red bases and feather-like (pinnate) pattern of fibers along the lower stem are not evident in small plants. Stems tend to be rigid and upright, sometimes developing a bluish-green cast as plants mature.

Look alikes:

Leaves of lakebank sedge are wider than those of most other bunch-forming sedges used in wetland restorations (8-15 mm in larger, mature plants). Sedges pose special challenges for identification, sometimes even when in fruit. Utilizing an original seedling list in a process of elimination may be helpful.



Perigynia



Seedling



Adult Plant

Sedge, Lurid

Carex lurida

Wetland Habitat:

Sedge meadows, wet woods, marsh edges

Flowers:

June

Seedling description:

Seedlings develop smooth, sharply triangular stems with bases that are light brown and then more often purplish in mature plants. Leaves of seedlings appear somewhat crowded and are held upright to somewhat arching. As plants mature, a total of one to three alternate leaves develop. Stem edges are rough beneath the inflorescence of mature plants. Leaf blades are smooth, light to medium green and channeled along leaf mid-ribs. The inner leaf sheath is membranous and varies from truncate to somewhat concave. Consistent with its common name, fruiting spikelets turn yellow as they mature

Look alikes:

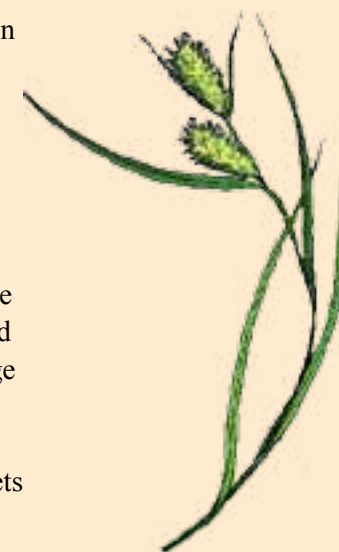
Hop sedge and hop-like sedge *Carex lupuliformis* have larger perigynia. Hop-like sedge has diamond-shaped achenes (fruit inside the inflated, papery perigynia) that are as broad as they are long, while the achenes of hop sedge are somewhat flattened and longer than broad. Bottlebrush sedge and porcupine sedge *Carex hystericina* have smaller perigynia, and spikelets that nod or droop rather than being held stiffly.



Achene Perigynia



Seedling



Adult Plant

Sedge, Tussock

Carex stricta

Wetland Habitat:

Sedge meadow; shallow, standing water

Flowers:

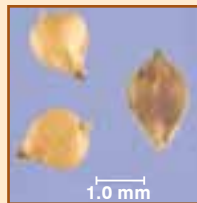
June

Seedling description:

The characteristic m-shaped cross section of leaves becomes more evident as the plant matures, as do the teeth on the leaf margins. As seedlings become more developed, stem bases develop ladder-like fibers caused by splitting of the leafy sheaths. Leaf width increases along with plant size, eventually reaching 3-8 mm. Stems tend to be stiff and upright, and sometimes develop a bluish-green color as plants mature. Plants develop into raised tussock as they mature.

Look alikes:

Other sedges common to restoration plantings tend to have wider leaves and/or less upright stems. Lakebank sedge also has stiff, upright growth character and is bunch forming, but has wider leaves and feather-like fibers at leaf bases rather than ladder-like fibers. Hayden's sedge *Carex haydenii* lacks fibrillose fibers at stem bases.



Achenes



Seedling



Adult Plant

Switchgrass

Panicum virgatum

Wetland Habitat:

Wet prairie, wet roadsides

Flowers:

June-July

Seedling description:

Switchgrass seedlings are stiffly upright. Seedling leaf widths generally range from 3-5 mm, with mature plants having leaves 5-15 mm wide. As seedlings grow, they develop a triangular patch of hairs at the base of each leaf, and a densely hairy ligule.

Look alikes:

Switchgrass is perhaps most easily confused with big bluestem, Indian grass *Sorghastrum nutans* and sideoats grama *Bouteloua curtipendula*. Unlike switchgrass, big bluestem and Indian grass have an obvious ligule. Big bluestem seedlings typically have hairs extending well up the leaf blade, while switchgrass has a triangular patch of hairs at the base of each leaf. Sideoats grama, an upland plant, has stiff hairs that protrude distinctively outward from leaf margins. Indian grass seedlings are sometimes difficult to discern from big bluestem, but develop a stouter, keeled mid-rib on each leaf.



Seeds



Seedlings



Inflorescence

Virginia Wildrye

Elymus virginicus

Wetland Habitat:

Stream banks, wet woods, wet prairie, and roadsides

Flowers:

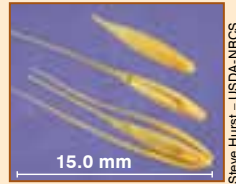
June-July

Seedling description:

Leaves of young plants are about 4 mm wide, reaching 10 mm as the plant matures. Both the upper and lower leaf surfaces are somewhat rough to the touch. This species shows substantial variation in physical characteristics across its geographic range. Stems have reddish color at base, leaf auricles are prominent and sharply pointed.

Look alike:

Canada wildrye is similar, however, its leaves are not rough on both sides. Canada wildrye may only have one, or no rough leaf surfaces. The auricles of Canada wildrye are generally larger than those of Virginia wildrye, and may clasp the stem. Switchgrass has more slender leaves and tufts of hair at the leaf bases.



Seeds



Seedling



Inflorescence

Woolgrass

Scirpus cyperinus

Wetland Habitat:

Marsh edges, sedge meadows, and wet roadsides

Flowers:

June-July

Seedling description:

Woolgrass seedlings are difficult to identify when small. As seedlings develop, they form basal rosettes of leaves that are v-shaped in cross section. Woolgrass tends to germinate well, but develops slowly and may take three years to reach flowering. Leaf sheaths are brownish or green.

Look alike:

Dark green bulrush forms similar-looking basal rosettes, but its leaves have an m-shaped cross section compared to the v-shaped cross section of woolgrass leaves.



Seeds



Seedlings



Adult Plant

Wetland Seedlings

Species Descriptions

Forbs



Aster, False

Boltonia asteroides

Wetland Habitat:

Floodplains, wet woods, wet prairie

Flowers:

July-October

Seedling description:

Seedling leaves are oval to rounded, with the first true leaves forming a fountain-like basal rosette of diamond-shaped leaves with rounded edges. As the plant matures, leaves become more lance-shaped and narrow, appearing stalkless to slightly clasping on the stem. The leaf margins are rough to the touch. Stems are smooth and stout. As the plant develops and flowers, it has often a shrubby, crowded appearance with a remarkable number of blooms.

Look alike:

Several aster species common to wetland edges are similar as seedlings, and difficult to distinguish from false aster. Look for the smooth stems and characteristic leaf shape of false aster as seedlings develop.



Seed



Seedling



Adult Plant

Aster, Flat-topped

Doellingeria umbellata

Wetland Habitat:

Wet prairie, sedge meadows, seeps

Flowers:

July-September

Seedling description:

Even as small seedlings, flat-topped aster leaves have the open, net-like vein pattern on leaves also found in more mature plants. Seedlings have stems and leaves with short, but dense hairs (mostly at the outer edges). Lance-shaped leaves develop alternately along the stem.

Look alike:

Spotted joe-pye weed, boneset, and blue vervain have opposite leaf arrangement on the stem. Red-stemmed aster develops clasping leaves. The hairy stem and outer leaf edges combined with the alternate leaf arrangement help distinguish flat-topped aster from other wetland asters.



Seeds



Seedlings



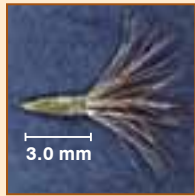
Leaf Detail Adult Plant

Aster, New England

Symphotrichum novae-angliae

Wetland Habitat:

Sedge meadow, wet prairie, floodplains, wet roadsides



Seed



Seedling

Flowers:

September-November

Seedling description:

Seedlings of New England aster develop characteristics of adult plants early. They lose seedling leaves rather quickly. True leaves and stems on seedlings are similar to those of adults, having stiff hairs on leaf undersides and margins. Toothless lanceolate to spoon-shaped leaves vary somewhat in shape with blunt leaf tips and wide leaf bases that clasp the stem as the plant develops.

Look alike:

Heath aster looks similar as a seedling, but develops linear leaves compared to the clasping leaves of New England aster. New England aster can also be easily confused with red-stemmed aster. It develops pointed leaves that often have shallow, distantly spaced teeth.



Adult Plant

Aster, Panicked

Symphotrichum lanceolatum

Wetland Habitat:

Sedge meadow, wet prairie, floodplains, wet roadsides



Seed



Seedling

Flowers:

July-November

Seedling description:

Seedlings have oval-shaped leaves with sharp teeth on the outer edge. As seedlings continue to grow, leaves become more elongate in a basal rosette, with sharp teeth concentrated at the outer edge. Leaves are smooth, with the exception of tiny hairs along the mid-vein. As plants mature, branching occurs from points where leaves meet the stem. Leaves do not typically clasp the stem.

Look alike:

Red-stemmed aster looks similar as a seedling, but has stiff, readily visible hairs concentrated along the leaf stalks and leaves that clasp the stem in mature plants. Panicked aster is perhaps most easily confused with calico aster *Symphotrichum lateriflorum*, a woodland edge aster that is more variable in hairiness.



Adult Plant

Aster, Red-stemmed

Symphyotrichum puniceum

Wetland Habitat:

Sedge meadow, seeps, marsh edges

Flowers:

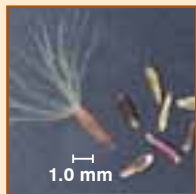
July-September

Seedling description:

Seedlings have leaves with coarse, stiff, whitish hairs, especially toward the outer edges of leaves and on the stems – a characteristic carried through to adult plants. Seedlings may have reddish leaf margins. Leaf stems are wide and become lobed at the base (clasping the stem) as the plants mature.

Look alikes:

Leaves of red-stemmed aster are similar to New England aster, which has a more crowded appearance to leaves and typically green stems. Red-stemmed aster is tolerant of wetter soils than New England aster.



Seeds



Seedling



Adult Plant

Blazingstar, Meadow

Liatris ligulistylis

Wetland Habitat:

Wet prairie, roadsides

Flowers:

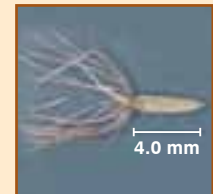
June-August

Seedling description:

Seedling leaves and the first true leaf have the appearance of a blade and hilt of a sword. Successive basal leaves develop at or just below ground, forming a rosette. Leaves lack teeth and have sparse to dense minute, soft hairs, or slightly longer hairs that generally lie in one direction. Leaves are about 4-17 mm wide and 90-150 mm long with a prominent central nerve. Plants develop slowly and seedlings are difficult to spot under taller vegetation.

Look alikes:

Rough blazingstar *L. aspera* also has pubescent leaves, short stiff hairs on the stem, but prefers dry, upland prairie. Prairie blazingstar has scattered white hairs, faint veins parallel on either side of the mid-rib vein, and leaves less than 12 mm wide. Blueflag iris has more robust seedlings with stiffly upright, folded leaves through which new leaves emerge. Sweetflag leaves have a strong, citrus-like aroma.



Seed



Seedling



Inflorescence

Blazingstar, Prairie

Liatris pycnostachya

Wetland Habitat:

Wet prairie, roadsides

Flowers:

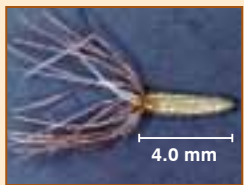
July-November

Seedling description:

Seed leaves and the first true leaf have the appearance of a sword. Leaves are narrow and long, and often appear slightly bent along the flat axis of the leaf. Leaves may have a slightly wavy edge. The distinctive central vein often has a pale appearance with two additional faintly visible veins on either side. Successive leaves emerge from ground level or below and develop into a basal rosette of flat, thinly fleshy leaves.

Look alikes:

The first few true leaves of young prairie blazingstar, are about 1.5-2 mm wide, while leaves of rough blazingstar, *L. aspera* and meadow blazingstar seedlings are wider (3-5 mm). Leaves of seedling marsh blazingstar *L. spicata* often exceed 5 mm in width. Blueflag iris is much more robust, with new leaves that emerge in the fold of previous leaves. Perhaps the greatest problem in identifying blazingstar seedlings is spotting them at all, as they tend to be very inconspicuous.



Seed



Seedling



Adult Plant

Blueflag Iris

Iris shrevei

Wetland Habitat:

Wet prairie, sedge meadows, stream banks, wet roadsides

Flowers:

May-June

Seedling description:

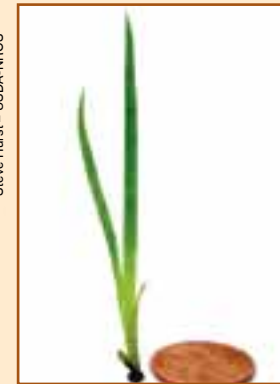
Sword-like leaves develop from a flattened stem base, with each new leaf becoming successively longer. In cross-section, each leaf is somewhat swollen at the center and folded at the mid-rib, forming a slot from which later leaves emerge. The leaf margin appears somewhat translucent.

Look alikes:

Blueflag iris is most readily confused with wet meadow and wetland species such as cattail, which has a round stem base, and sweetflag *Acorus calamus* which has a similar leaf, but is not folded over at the mid-rib. Sweetflag has a prominent, citrus-like aroma. Blazingstar species have a similar leaf shape, but seedlings are smaller and new leaves do not emerge from the fold of previous leaves.



Seeds



Seedling



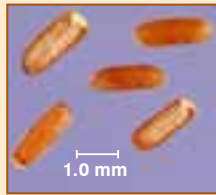
Adult Plant

Blue Vervain

Verbena hastata

Wetland Habitat:

Wet prairie, sedge meadow, wet woods, pastures, roadsides



Seeds



Steve Hurst - USDA-NRCS



Flowers:

July-August

Seedling description:

Seedlings have hairy, narrowly oblong leaves held opposite each other. Even small seedlings have sharp, forward-pointing teeth. As the plant continues to develop, the square stem becomes more evident.

Look alikes:

May be confused with spotted joe-pye weed when young. As seedlings mature, joe-pye weed develops whorls of 4-5 leaves on a round stem, while blue vervain has leaves opposite each other on a square stem. Blue vervain seedlings could also be confused with the non-native weed, stinging nettle, which has stiff, long hairs and a much more angular square stem. Stinging nettle also has the undesirable characteristic of causing stinging on contact.



Adult Plant

Boneset

Eupatorium perfoliatum

Wetland Habitat:

Wet prairie, sedge meadow, wet pastures, roadsides



Seeds



Science Museum of Minnesota

Iowa DNR

Seedlings

Seedling description:

Seedling leaves are round in shape with stems as long as the leaves. The first true leaves develop with a few rounded teeth. Successive leaves have an increasing number of teeth and become coarsely hairy. As the plant matures, opposite leaves grow together (perfoliate) around the hairy stem.

Look alikes:

Boneset seedlings may be confused with spotted joe-pye weed, which is less hairy and develops whorls of 4-5 leaves around the stem rather than two leaves opposite on the stem fusing together. Blue vervain has opposite, somewhat hairy leaves with stems (rather than clasping each other and the stem).



Adult Plant

Bottle Gentian

Gentiana andrewsii

Wetland Habitat:

Wet prairie, sedge meadow, roadside prairies

Flowers:

August-October

Seedling description:

Bottle gentian seedlings develop slowly and tend to be susceptible to damping off, a condition where seedling stems are attacked near the soil surface by one of several pathogens. Seedlings form basal rosettes of fleshy green and shiny leaves. Leaves of the youngest plants are nearly round and crowd each other in a tight rosette. As the plant matures, leaves become more elongate with a sharper point and a stronger mid-vein. Leaves have a slight upward fold. Seeing the small and slowly developing seedlings is often the greater challenge in identification.

Look alike:

The waxy, thinly fleshy feel and shiny appearance of the leaves of bottle gentian make it fairly easy to distinguish from other plants. Cream gentian may be confused with bottle gentian, but generally occupies upland prairie, savanna, and woodland habitats. Cardinal flower and great blue lobelia also have waxy, fleshy leaves that form basal rosettes, but have teeth and tend to develop faster than bottle gentian.



Science Museum of Minnesota

Seeds



Seedling



Adult Plant

Canada Anemone

Anemone canadensis

Wetland Habitat:

Wet prairie, sedge meadow, roadsides

Flowers:

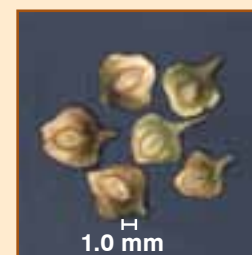
May-July

Seedling description:

Seedling leaves are oval to elliptic in shape and held close to the ground. The first true leaves have rounded bases with a general shape similar to a red maple or grape leaf. Leaf veins (3-5) radiate out from a central point near the base of the leaf. As the plant grows, successive leaves develop 3-5 prominent lobes with coarse teeth. Although difficult to see without magnification, leaves have fine hairs on both top and bottom surfaces. As seedlings mature, Canada anemone begins spreading by rhizomes. Depending on the amount of available root space and competitiveness of surrounding plants, Canada anemone may form a compact mat or spread with stems more widely spaced.

Look alike:

Canada anemone seedlings look much like those of its upland cousins, tall anemone *A. virginiana* and long-headed thimbleweed *A. cylindrica*. Neither tall anemone nor thimbleweed is tolerant of standing water or saturated soils.



Science Museum of Minnesota

Seeds



Seedling



Adult Plant

Alexis Knispel - University of Manitoba

Cardinal Flower

Lobelia cardinalis

Wetland Habitat:

Stream banks, wet woods

Flowers:

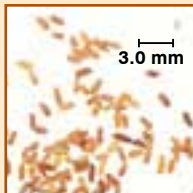
July - September

Seedling description:

Seedlings form basal rosettes of fleshy, shiny dark green leaves, often with light green to whitish mid-rib and veins. Leaves are typically smooth, but sometimes hairy. Leaves of very small seedlings may have sharp teeth that give appearance of white dots on the end each tooth. As seedlings develop, leaves develop short stems and leaf margins with shallow, wavy teeth. Leaf undersides are often burgundy to purplish. Cardinal flower produces a milky sap evident when stem and leaves are broken.

Look alike:

Great blue lobelia has wider and more rounded leaves that may lack teeth or have rounded shallow teeth on a wavy leaf margin. Ragwort *Senecio spp.* have flat leaf bases and narrow, unwinged leaf stems. Monkey flower also develops very slowly but has fleshy leaves that clasp the stem. Obedient plant seedlings lack teeth on leaves but go on to develop sharply toothed, fleshy leaves



Seeds



Seedlings



Adult Plant

Common Arrowhead

Sagittaria latifolia

Wetland Habitat:

Marshes; sedge meadows; shallow, standing water

Flowers:

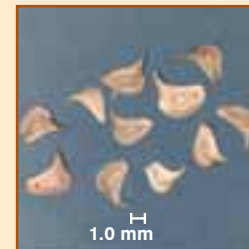
June-August

Seedling description:

Seedlings generally germinate and begin development in saturated soil conditions to a few inches of water. The first leaves of arrowhead seedlings are narrow with nearly parallel sides, tapering to a blunt point. After the first three or four true leaves, the plant begin forming what looks like a rosette of splayed out triangular-shaped leaves, seedlings become increasingly easier to identify. Typical arrowhead leaf shape develops later.

Look alike:

The basal whorl of triangular-shaped leaves is relatively characteristic for seedlings. As plants develop further, the arrowhead leaf shape makes positive identification easy. Water plantain develops very narrow, linear leaves. The leaves of pickerel plant *Pontederia cordata* are triangular, with a pointed (rather than blunt) tip.



Seeds



Seedlings



Adult Plant

Cream Gentian

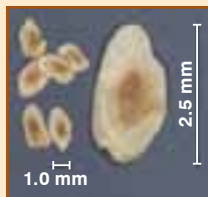
Gentiana alba

Wetland Habitat:

Wet prairie, roadsides

Flowers:

July - September



Seeds



Seedlings

Seedling description:

Cream gentian seedlings develop very slowly with the first leaves being rounded, spongy and forming small rosettes. Successive leaves become heart-shaped, ovate, or broadly lanceolate with a slight fold along the mid-vein. Leaves also have two side veins that parallel the leaf margin. Leaf color may vary from yellowish to olive green. As plants mature, leaves occur in pairs opposite each other and strongly clasp a round stem.

Look alikes:

Bottle gentian is very similar to cream gentian as seedlings. As plants develop, leaves of cream and bottle gentian retain a similar texture. Bottle gentian leaves are generally narrower than those of cream gentian, with their widest point close to half way up the leaf. Cream gentian leaves are broader at the base, narrow at the tip and clasp the stem.



Adult Plant

Culver's Root

Veronicastrum virginicum

Wetland Habitat:

Wet prairie, wet woodlands, roadsides

Flowers:

June-July

Seedling description:

Plants develop slowly, sometimes taking several years to reach the point where they can flower. Young plants have narrowly elliptic, finely to sharply toothed leaves that are opposite one another on an often dark-colored, hairy stem. As plants continue to develop, new leaf sets are in whorls of 3 at first, and eventually 5-6. Leaves are hairy or smooth underneath.

Look alikes:

As a seedling, Culver's root is perhaps most easily confused with hoary vervain *Verbena stricta*, an upland plant which is more coarsely toothed (and not toothed all the way to the leaf base). Another upland plant, butterfly milkweed *Asclepias tuberosa*, has a similarly hairy stem, but lacks teeth on the leaves. After Culver's root plants begin forming whorls of leaves, they are easier to distinguish from other prairie seedlings.



Seed



Seedling



Adult Plant

Cup Plant

Silphium perfoliatum

Wetland Habitat:

Wet prairie, floodplains, wet roadsides

Flowers:

June-August

Seedling description:

Coarse leaves have stiff, short hairs and a relatively short, winged leaf stem. Early leaves are somewhat round in a basal rosette. Later leaves develop a more prominent point, are opposite on the stem, and eventually clasp each other across the stem (forming the distinctive cup).

Look alikes:

Cup plant seedlings are perhaps most easily confused with those of wild goldenglow which develops deep lobes after getting a few (smooth or fuzzy) true leaves. Cup plant has thicker, more rigid and coarse leaves.



Seeds



Seedling



Adult Plant

Evening Primrose

Oenothera biennis

Wetland Habitat:

Wetland edges, roadsides

Flowers:

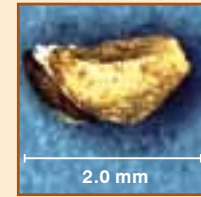
June-August

Seedling description:

A basal rosette forms of ovate to lanceolate leaves. Leaf stems may be short, tapering from the leaf blade, or lack a leaf stem altogether. Leaf margins vary from slightly wavy to smooth. Plants may vary from smooth to grayish fuzzy.

Look alikes:

Of plants that form basal rosettes, great blue lobelia is perhaps most similar. It has fleshier, shorter leaves that lack a grayish appearance. Great blue lobelia leaves typically have teeth on leaf margins that are more readily evident than those of evening primrose.



Seed



Seedling



Adult Plant

Germander

Teucrium canadense

Wetland Habitat:

Wet prairie, wet woods, floodplains, and roadsides

Flowers:

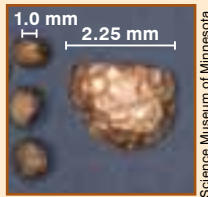
July - September

Seedling description:

Seedling leaves are heart-shaped with short stalks, and develop strongly toothed leaves held opposite on a hairy stem. Impressed veins are prominent, giving a seersucker-like appearance to leaves. As seedlings grow, the square stem with four prominent ridges on stem corners becomes readily evident. In more mature plants, the lower leaves have short, stout stems while the upper leaves lack stems. The broadly ovate or lanceolate leaves of adult plants are coarsely serrated, and up to 13 cm long and 6 cm across. Germander readily spreads by rhizomes to form sizeable colonies. Leaves have an unpleasant taste.

Look alike:

Blue vervain cotyledons are oval- to spoon-shaped, while germander's are larger and heart-shaped. Blue vervain seedlings develop variable-sized teeth on leaf margins, and red stems and leaves. Culver's root and spotted joe-pye weed have round stems. The non-native, stinging nettle is also similar, but has long, stiff hairs on stem and leaves that cause stinging on contact.



Seeds



Seedling



Adult Plant

Golden Alexanders

Zizia aurea

Wetland Habitat:

Wet prairie, and roadsides

Flowers:

May-June

Seedling description:

Seedling leaves are short and ribbon-like with sharp points. The first true leaves are round with sharp to somewhat rounded, shallow teeth along a slightly irregular leaf edge. Subsequent leaves progress to having deeper lobes until 3 deep lobes appear on each leaf. Juvenile and adult plants eventually have leaflet stems and 1-3 sets of 3 leaflets per leaf. Leaves are smooth.

Look alike:

Leaves of alumroot *Heuchera richardsonii* seedlings have a similar appearance, but are finely hairy and deeply toothed. Prairie cinquefoil *Potentilla arguta* seedlings have coarse and sharp teeth. Alumroot and cinquefoil, both upland plants, have veins that radiate from one spot at the base of the leaf when plants are young. However, cinquefoil seedlings lose this characteristic after a few true leaves are formed, and develop readily visible brownish hairs on the stem. This species can also be confused with heartleaf alexanders *Zizia aptera*.



Seed



Seedling



Adult Plant

Goldenrod, Giant

Solidago gigantea

Wetland Habitat:

Wet prairie, floodplains, pastures, roadsides

Flowers:

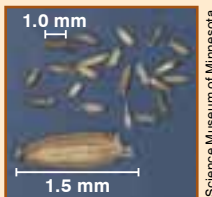
July – September

Seedling description:

Seedling leaves of giant goldenrod are small and spatulate in shape. Seedlings have coarse hairs on the leaf stems and smaller hairs on leaf margins that are best viewed with a hand lens. Leaf margins have 2-4 short, forward pointing teeth toward the outer half of the leaf (away from the stem). As plants mature, the smooth, waxy leaves and stems of this species become more prominent. Mature plants develop light green stems that often have a whitish, waxy bloom throughout the plant, including the inflorescence.

Look alike:

Giant goldenrod seedlings are easily confused with several other goldenrods and asters. Smooth blue aster is smooth and waxy, but has leaves that clasp the stem, and tend to be bluish-green. Canada goldenrod *Solidago canadensis* develops rough pubescence on leaves, stem and inflorescence. Canada goldenrod is found in upland settings, while giant goldenrod may occur in both upland and wetland edge areas.



Seeds



Seedling



Adult Plant

Goldenrod, Grass-leaved

Euthamia graminifolia

Wetland Habitat:

Wet prairie, roadsides

Flowers:

June-September

Seedling description:

Leaves of seedlings have a grainy and rubber-like appearance and lack hairs. As seedlings continue to develop, leaves become more linear and grass-like with three veins visible without magnification. As plants mature, they spread by rhizomes. A single plant can occupy a large area with many stems.

Look alike:

Panicled aster and Riddell's goldenrod have smooth, nearly linear leaves, but widen near the end. Some upland asters also have linear leaves, but typically do not occur in the same habitat as grass-leaved goldenrod.



Seeds



Seedlings



Adult Plant

Goldenrod, Riddell's

Oligoneuron riddellii

Wetland Habitat:

Wet prairie, sedge meadows, seeps

Flowers:

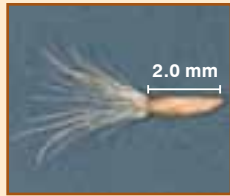
July-September

Seedling description:

Seedlings have leaves that are at first elliptic in shape. As the plants mature, the smooth and waxy-feeling leaves become increasingly linear with a pointed tip, and folded along the mid-rib. When viewed from the side, leaves appear sickle-shaped. New leaves emerge rolled. Leaves have a prominent mid-vein that is light green in color with a secondary set of smaller veins that appear almost net-like. These net-like veins become less evident as the plant matures. Foliage tends to turn burgundy and then in rich brown in the fall. Upper leaves are stalkless and clasp the stem. Riddell's goldenrod has a flat-topped flowering head with a pubescent inflorescence.

Look alike:

Several species of aster are similar to Riddell's goldenrod. The smooth, linear leaves of Riddell's goldenrod help distinguish it from similar species, particularly as seedlings become more developed. Panicked aster is perhaps the easiest to confuse.



Seed



Seedling



Adult Plant

Great Blue Lobelia

Lobelia siphilitica

Wetland Habitat:

Wet prairie, sedge meadows, floodplains, wet roadsides

Flowers:

June-August

Seedling description:

Leaves form a basal rosette of thinly fleshy, green to purple-red leaves that are easily crushed. Leaf margins are wavy-toothed. The short, wide, leaf stem tapers from the base of the leaf. Because there are two varieties of this species in the Upper Midwest, leaves may have fine hairs or be smooth, with wavy edges.

Look alike:

Great blue lobelia may be confused with ragworts *Senecio spp.*, which have flat leaf bases and narrow, unwinged leaf stems. Culver's root leaves can look similar, but have sharply toothed margins on the outer half of the leaf and do not form basal rosettes.



Seed



Seedling



Adult Plant

Great St. Johnswort

Hypericum ascyron

Wetland Habitat:

Wet prairie, roadsides

Flowers:

June-September

Seedling description:

Leaves of seedlings are opposite on the stem and elliptic in shape. As seedlings mature, leaves reach about 4 cm in length. Leaves lack teeth and are attached directly to the stem. Lacking a leaf stalk, leaves sometimes clasp the stem. Stems are yellow-green and smooth. Leaves are darker yellow-green than leaf mid-veins, lateral veins, and stem. Leaves tend to turn yellow- to orange-brown color in fall.

Look alikes:

Riddell's goldenrod and panicled aster have more linear leaves, held opposite on stems. Monkeyflower and obedient plant leaves have teeth.



Science Museum of Minnesota

Seed



Seedling



Adult Plant

Ironweed

Vernonia fasciculata

Wetland Habitat:

Floodplains, wet prairie, wet woods, roadsides

Flowers:

July-August

Seedling description:

Seedling leaves are spatula-shaped. The first true leaves are elliptic in shape with a prominent light green to whitish mid-vein and several lateral veins extending periodically outward. Leaves have slightly in-rolled leaf margins and shallow, forward-pointing teeth that are at times difficult to notice. As seedlings mature, leaves become increasingly longer than wide with coarsely saw-toothed leaves. The mid-vein on the underside of the leaf also becomes more prominent as the plant matures.

Look alikes:

Seedlings of ironweed are fairly easy to confuse with other members of the composite family, including goldenrods and asters. Positive identification becomes easier as seedlings mature and the characteristics mentioned above become more prominent.



Science Museum of Minnesota

Seeds



Seedling



Adult Plant

Marsh Milkweed

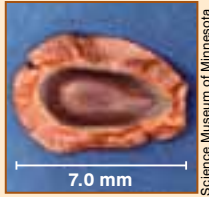
Asclepias incarnata

Wetland Habitat:

Wet prairie, floodplains, sedge meadows, roadsides

Flowers:

July-September



Seed



Seedling

Seedling description:

Seed leaves are oblong with long stems. Often appearing crowded on the plant, true leaves are lanceolate in shape with short leaf stems. Leaves on seedlings vary from softly fuzzy to smooth. Seedlings develop a milky sap just a few weeks after germination, about the time they are approximately 10 cm tall.

Look alike:

Common milkweed *Asclepias syriaca* seedlings have a somewhat similar leaf shape and can be distinguished from marsh milkweed by the more oblong rather than lanceolate leaf of marsh milkweed, which is wider at the base and narrows to a sharper point.



Adult Plant

Monkey Flower

Mimulus ringens

Wetland Habitat:

Sedge meadows, floodplains, roadsides

Flowers:

June-September



Seed



Seedlings

Seedling description:

Seedlings are slow to develop and may take three years to flower from seed. Seedlings are also very small, making them difficult to spot. Smooth leaves become lance-shaped to somewhat linear with sharp, forward-pointing teeth. Leaf bases clasp the square stem, which is sometimes winged.

Look alike:

May be confused with turtlehead, and skullcaps *Scutellaria spp.*, some species of which have similar leaves. Spotted joe-pye weed and blue vervain have hairy leaves. Obedient plant has smooth leaves with teeth, but its leaves are longer and narrower than those of monkey flower, with a heavier, waxy feel.



Adult Plant

Mountain Mint

Pycnanthemum virginianum

Wetland Habitat:

Wet prairie, sedge meadow, marsh edges, moist roadsides

Flowers:

June-August

Seedling description:

Seedlings usually have deep green foliage, and are often reddish-purple tinged. Leaves are lanceolate to narrow and opposite each other on a square stem. Leaf margins are smooth and leaves appear crowded on seedlings. Spearmint-like smell of foliage is evident when rubbed between fingers. Because this plant develops slowly, it tends to be one of the harder seedlings to spot in restoration plantings.

Look alike:

Even as a seedling, the minty smell of foliage distinguishes this plant from others that have a similar appearance. Wild bergamot, which has a more pungent minty smell reminiscent of Earl Grey tea, is larger, and develops to maturity more quickly.



Seeds



Seedlings



Adult Plant

Nodding Beggarticks

Bidens cernua

Wetland Habitat:

Moist soil, mud flats, seasonally flooded wetlands

Flowers:

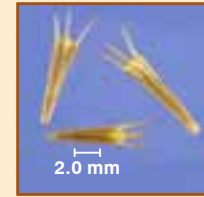
August - October

Seedling description:

Nodding beggarticks is an annual plant adept at taking advantage of recently exposed mudflats, shorelines and other wet, bare soil areas. Seedlings have strap-like leaves that persist past development of several sets of true leaves. Leaves are held opposite on the stem, are sessile, or clasp and nearly surround the stem. Stems are often red. Leaves lack lobes. Flower and seed heads nod, and achenes have four awns.

Look alike:

Devil's beggartick *Bidens frondosa* and swamp beggarticks *Bidens discordea* develop 3-7 leaflets per leaf with distinct petioles that are winged or unwinged. Leaves of purplestem beggarticks *Bidens connata* do not clasp the stem.



Seedling



Adult Plant

Obedient Plant

Physostegia virginiana

Wetland Habitat:

Sedge meadows, marsh edges, stream banks

Flowers:

June-September



Seeds



Seedlings

Seedling description:

Seedling leaves are oblong in shape. True leaves develop in a basal rosette with successive leaves increasing in size. Basal leaves eventually reach a proportion of having leaf blades about 4-5 times as long as wide, with leaf stems nearly equal to the blade length. Leaves have a spongy appearance when viewed up close, and are even more so when viewed with a hand lens. Leaf mid-veins may be light green to reddish. Seedling leaf margins may be smooth or with fine, shallow teeth.

Look alike:

The fleshy leaves have a spongy appearance, red-tinged mid-veins, and habit of forming a basal rosette causing obedient plant to have an appearance similar to the non-native weed curly dock. Curly dock leaves lack teeth.



Adult Plant

Pennsylvania Smartweed

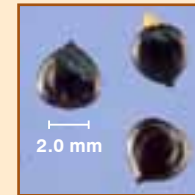
Polygonum pensylvanicum

Wetland Habitat:

Wet prairie, wet roadsides

Flowers:

June - September



Seeds



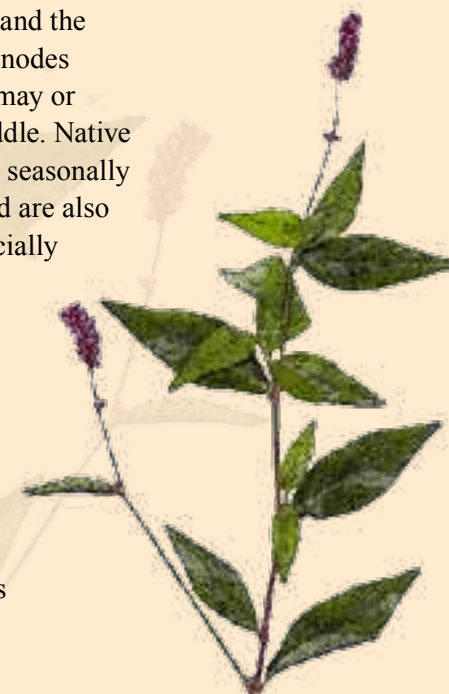
Seedlings

Seedling description:

Seedling leaves are elliptic to lanceolate with white hairs along the margins. The first true leaves of this annual plant -- as well as successive leaves -- are alternate, lanceolate in shape, and hairy on the upper surface. As plants mature, leaves are usually only slightly hairy and the papery sheath that encircles the stem nodes becomes quite conspicuous. Leaves may or may not have a purple spot in the middle. Native smartweeds play an important role in seasonally flooded wetlands. Seeds of smartweed are also highly prized by many wildlife, especially waterfowl, because of their high protein and nutrient content.

Seedling look alike:

Marsh milkweed develops milky sap. The papery leaf sheaths of smartweeds make them relatively easy to distinguish from other species a few weeks after germination.



Adult Plant

Sneezeweed

Helenium autumnale

Wetland Habitat:

Floodplains, wet prairie, marsh edges, wet woods, roadsides

Flowers:

August-October

Seedling description:

Seedlings form basal rosettes of fleshy, smooth (to finely fuzzy) leaves that have a prominent yellow-green central vein and shallow, rounded teeth. As successive leaves form in the rosette, leaves become more linear with teeth concentrated toward the outer third. As the plant grows, the main stem is winged with leaves held alternate of each other.

Look alikes:

Great blue lobelia, cardinal flower, and bottle gentian also form basal rosettes. Bottle gentian leaves are reliably smooth, while those of cardinal flower and great blue lobelia may be finely hairy, similar to sneezeweed.



Seeds



Seedlings



Adult Plant

Spotted Joe-pye Weed

Eupatoriadelphus maculatus

Wetland Habitat:

Wet prairie, sedge meadow, marsh edges, moist roadsides

Flowers:

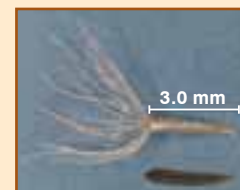
July-September

Seedling description:

Seedling leaves are narrowly elliptic with the successive true leaves forming opposite of each other. The first true leaves have only a few teeth, rounded bases, and leaf stalks about one-fourth as long as the leaf itself. Leaves of young plants have one prominent mid-vein, and two relatively distinct veins on either side. The leaves have coarse, but sharp teeth that point toward the tip. Hairs are visible on leaf margins and leaf surface, and are especially prominent on new leaves as they emerge and expand. As the plant matures, purple spots become more evident on the stem and leaves develop in whorls of four or five.

Look alikes:

Boneset and blue vervain also have opposite leaves that are hairy. As spotted joe-pye weed matures, leaves develop in whorls of 4-5.



Seeds



Seedling



Adult Plant

Sunflower, Maximillian

Helianthus maximilliani

Wetland Habitat:

Wet prairie, roadsides

Flowers:

July - October



Seeds



Seedling

Seedling description:

Seedling leaves are round to spatulate. Stem and leaves have stiff, flattened hairs. The first 2-4 pairs of leaves on seedlings lack teeth. Leaves of mature plants may lack teeth or have about 6-8 shallow, inconspicuous forward-pointing teeth. Leaf margins are often whitish in appearance. Leaves are opposite, slightly folded, arching and about 6-7 times long as wide. Leaves and stems have a rough, sandpaper-like feel. Plants typically have a light green or grayish appearance, and may occasionally have reddish stems.

Look alikes:

Sawtooth sunflower seedling leaves are more round than those of Maximillian sunflower, and its leaves develop teeth early that are visible without magnification. Maximillian sunflower leaves lack leaf stems. Sawtooth sunflower and giant sunflower *Helianthus giganteus* lack dense, white hairs on foliage and have shorter, wider leaves with more pronounced teeth.



Adult Plant

Sunflower, Sawtooth

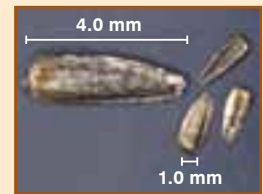
Helianthus grosseserratus

Wetland Habitat:

Wet prairie, sedge meadow, floodplains, roadsides

Flowers:

July - September



Seeds



Seedling

Seedling description:

Seedling leaves are oblong to spatulate. Leaves in pairs on lower stem, with oppositely arranged leaves on upper stems. Leaves, and leaf margins have coarse, stiff hairs resulting in a sandpapery texture. Leaves develop teeth that are visible without magnification after about the third set of true leaf pairs are developed. Stems are smooth often red, and have a waxy bloom, giving a whitish cast to the stem. Leaves are arching and slightly folded along the mid-vein.

Look alikes:

Maximillian sunflower leaves are narrower and lack leaf stems. Giant sunflower *Helianthus giganteus* has stems that are rough, with coarse hairs. Sawtooth sunflower has more pronounced teeth on the leaf margins than either giant or Maximillian sunflower. Both Sawtooth and giant sunflower are rhizomatous, Maximillian sunflower is not.



Adult Plant

Sweet Coneflower

Rudbeckia subtomentosa

Wetland Habitat:

Wet prairie, wet woods, moist roadsides

Flowers:

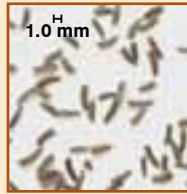
July - September

Seedling description:

Leaf texture varies from softly coarse to fuzzy. True leaves of seedlings are ovate to heart-shaped, and sometimes elliptic in shape. Leaves of young plants often lack teeth, have leaf stems about as long as the leaf blade, and are often slightly folded along the mid-vein. As plants mature, leaves gain an increasing number of teeth and develop 3 deep lobes common to lower leaves, a characteristic of adult plants. Plant stems may be slightly fuzzy and somewhat ridged.

Look alikes:

Purple coneflower *Echinacea purpurea* quickly develops larger, coarser leaves. Brown-eyed susan *Rudbeckia triloba* has thinner leaves, wide leaf stems and longer, coarser hairs. Wild goldenglow eventually develops deep lobes with coarser teeth and is smooth to very softly pubescent.



Seeds



Seedling



Adult Plant

Sweetflag

Acorus calamus

Wetland Habitat:

Marshes; sedge meadows; wet roadsides; shallow, standing water

Flowers:

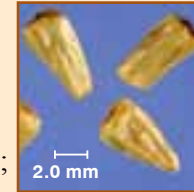
June-July

Seedling description:

Even as seedlings, crushed leaves give off a characteristic citrusy, aromatic odor that smells much like citronella. Also known as calamus, sweet flag has sword-like, light green leaves that are narrowly diamond-shaped in cross section. As the plant matures, it develops successive leaves in an expanding bunch. Mid-veins and secondary veins are prominent throughout the length of leaves. Seed hulls are often borne on the tip of the first leaf, giving an opportunity to identify very small seedlings by looking closely at the seed.

Look alikes:

This plant is similar in appearance to blueflag iris. However, blueflag iris tends to have darker green leaves and does not have the citrus-like odor when its leaves are crushed. Iris leaves also have a sharp fold from which new leaves emerge.



Seeds



Seed Hull

Seedlings



Adult Plant

Tall Meadow Rue

Thalictrum dasycarpum

Wetland Habitat:

Wet prairie, floodplains, marsh edges, moist roadsides



Seed

Flowers:

May-June

Seedling description:

Leaves of young plants are initially round-shaped. Subsequent leaves have lobes that resemble the distinctly 3-lobed leaves of adult plants. Leaves are smooth on top and sometimes finely hairy underneath with a thinly fleshy feel.

The stems of small plants are wiry and often purple-blue in color. Plants often develop a waxy coating on the green to purplish stems, giving them a whitish cast.

Look alike:

Tall meadow rue is perhaps most easily confused with seedlings of prairie larkspur *Delphinium virescens*, a dry prairie species not commonly included in prairie plantings. Prairie larkspur seedlings also have a 3-lobed leaves, but they are deeper and more sharply pointed.



Seedling



Adult Plant

Turk's Cap Lily

Lilium michiganense

Wetland Habitat:

Wet prairie, sedge meadow, moist woods, roadsides

Flowers:

June-July



Seeds

Seedling description:

Seedling leaves are smooth and oblong with short leaf stems. Subsequent leaves are narrow and in pairs, and then later in whorls. Foliage is smooth and waxy stem. Leaves on the upper stems of flowering plants occur as individuals and alternate on the stem. Leaf margins and veins on the underside of leaves are commonly roughly hairy. Mature plant stems are brittle and prone to snap easily when folded over. Small plants may persist inconspicuously for many years, and form widely spaced colonies from vegetative offshoots.

Look alike:

The big challenge with identifying Turk's cap lily seedlings and juveniles is finding them at all. Plants develop slowly and may take several years to match the height of surrounding plants. Butterfly milkweed seedlings develop hairy stems and foliage a few weeks after germination. Small, vegetative shoots of starry false Solomon's seal *Smilacina stellata* and false Solomon's seal *Smilacina racemosa* have broader leaves, with sharper leaf tips. Vegetative offshoots of Turk's cap lily closely resemble seedlings of wood lily *Lilium philadelphicum*, which is found on mesic, or more commonly, dry prairie.



Seedling



Adult Plant

Turtlehead

Chelone glabra

Wetland Habitat:

Sedge meadow, wet woods, floodplains, moist roadsides

Flowers:

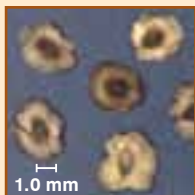
July-September

Seedling description:

Seedlings have somewhat rounded leaves that become linear to lance-ovate in shape as seedlings mature. Leaves have very short stems, or lack them altogether. Smooth leaves are opposite on stem, with sharp teeth that point toward the leaf tip. Leaf veins are typically prominent, including a central vein and several lateral veins. Stems are four-angled and may have a waxy, whitish cast (glaucous bloom).

Look alike:

Turtlehead seedlings may be confused with skullcaps *Scutellaria spp.*, which have similar leaves. As turtlehead matures, leaves become longer and narrower than those of skullcap. Spotted joe-pye weed and blue vervain have hairy leaves. Marsh milkweed has milky sap. Monkeyflower has similar leaves, but more crowded teeth and a more net-like vein pattern on leaves.



Seeds



Seedlings



Adult Plant

Water Hemlock

Cicuta maculata

Wetland Habitat:

Wet prairie, sedge meadow, marsh edges, moist roadsides

Flowers:

July-September

Seedling description:

Seedling leaves are needle-shaped and, when bruised, give off a distinct mouse-like odor. First true leaves are compound with 3-toothed leaflets. As the plants mature, leaves become progressively larger and more finely dissected. Mature poison hemlock plants have distinctly purple-spotted, hollow stems that lack hairs.

Look alike:

May be confused with poison hemlock, which is leafier and tends to grow in tall, dense stands. Poison hemlock stems have purple spots and streaks. Water hemlock tends to grow as scattered stems in wetter soils. Both of these attractive plants are highly poisonous.



Seeds



Seedling



Adult Plant

DANGER: Roots and stem are extremely poisonous to humans and livestock. They contain cicutoxin, which causes paralysis of the nervous system in as little as 15 minutes. One ingested root is sufficient to kill a cow or horse.

Water Plantain

Alisma subcordatum

Wetland Habitat:

Marshes; sedge meadows; mud flats; shallow, standing water

Flowers:

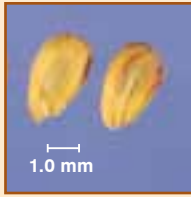
June-July

Seedling description:

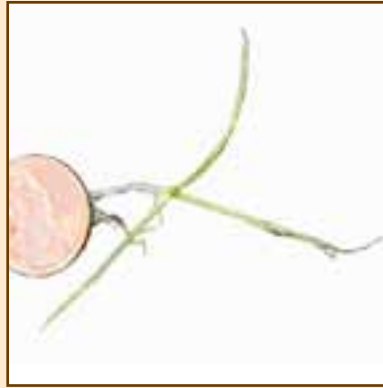
Seeds may germinate in shallow water or open mud flats. Seedlings have small, fine, linear leaves. As seedlings continue to grow they develop upright, elliptic leaves, eventually becoming broad, flat blades that may be rounded or tapered at the base. Seedlings develop relatively quickly in favorable settings.

Look alikes:

Similar emergent and wetland edge species include arrowhead and pickerel plant *Pontederia cordata*. Arrowhead seedlings have short, broad, thick, strap-like leaves with rounded tips. Pickerel plant develops leaves as a seedling that are similar to those of arrowhead, but with a much sharper leaf tip. Water plantain leaves are much narrower than those of either arrowhead or pickerel plant as a seedling.



Seeds



Adult Plant

Wild Bergamot

Monarda fistulosa

Wetland Habitat:

Wet prairie, moist roadsides

Flowers:

June-July

Seedling description:

Even as a seedling, all plant parts have a pleasant, minty aroma similar to that of Earl Grey tea. The aroma is easily detected by gently rubbing foliage. Stems, leaf stems, and leaf bases often have a pinkish- to purplish-green color, and are generally about one-fourth to one-third the length of the leaf blade. Paired opposite each other on a square stem, leaves are light to dark green, and are slightly rounded-triangular to heart-shaped. Leaves often have sharp to rounded teeth, but are sometimes without. Plants can vary from smooth to finely hairy.

Look alikes:

Bergamot seedlings might be confused in general appearance with oxeye sunflower *Heliopsis helianthoides* or common evening primrose. Neither of these species has a minty aroma.



Seed



Seedling



Adult Plant

Wild Goldenglow

Rudbeckia laciniata

Wetland Habitat:

Floodplains, wet woods, moist roadsides

Flowers:

June-August

Seedling description:

The first true leaves of wild goldenglow seedlings are nearly round, with stalks almost as long as the leaf blades, and a few coarse teeth toward the outermost edges. As seedlings mature, leaves become increasingly dissected and the veins of the leaves often have a light green to whitish color. Leaves are borne alternately on a stem that is often slightly ribbed.

Look alike:

Wild goldenglow seedlings could be confused with those of cup plant. However, cup plant leaves are thicker, more firm, and coarser to the touch than wild goldenglow seedlings. Also, goldenglow leaves become increasingly dissected as the plant matures, whereas cup plant leaves remain entire, become stalkless, and eventually clasp the square stem.



Seeds



Seedling



Adult Plant

Wetland Seedlings

Species Descriptions

Weeds

Barnyard Grass

Echinochloa crusgalli

Wetland Habitat:

Wet, disturbed ground; floodplains; farmed wetlands; moist roadsides

Flowers:

June-August

Distinguishing Characteristics:

Barnyard grass seedlings and adult plants have a pronounced flattened stem and hairless leaf blades and sheaths. The base of the stem is usually red and sometimes bulbous in appearance. When the leaf blade is bent over parallel to the stem, no ligule is visible. Barnyard grass has no claw-like appendages encompassing the stem (auricles) at the base of the leaf blade.



Seeds



Seedling

Adult Plant

Canada Thistle

Cirsium arvense

Wetland Habitat:

Wetland edges, disturbed ground, crop fields, roadsides

Flowers:

June-August

Distinguishing Characteristics:

Seed leaves (cotyledons) are oblong to broadly oval in shape, dull green, and thick. Joined at the base, the seed leaves form a small cup. True leaves are at first egg-shaped with bristly hairs on the upper and lower surfaces. Seedlings form small rosettes with the first true leaves paired at right angles to seed leaves. Later leaves are wavy-edged, somewhat hairy underneath, and irregularly lobed with spiny edges. Plants appear compressed to the ground early, with clasping leaves more widely spaced along the main stem as plants mature.



Adult Plant

Cocklebur

Xanthium strumarium

Wetland Habitat:

Pastures, waste areas, recently submerged land

Flowers:

June-August

Distinguishing Characteristics:

Seed leaves (cotyledons) are large, thick, waxy and lanceolate in shape. True leaves have three prominent lobes. Seedlings consist of a slender, straight, whitish-green stem 2-7 cm tall. Two strap-shaped green leaves cap this stem, each about 3 cm long and less than 1 cm wide. Mature plants can be distinguished from spiny clotbur by broader cockleburs, more ovoid leaves on long leaf stalks (petioles), and lack of spines.

This is a native species that may be prominent during the “weedy” early stages of plantings.



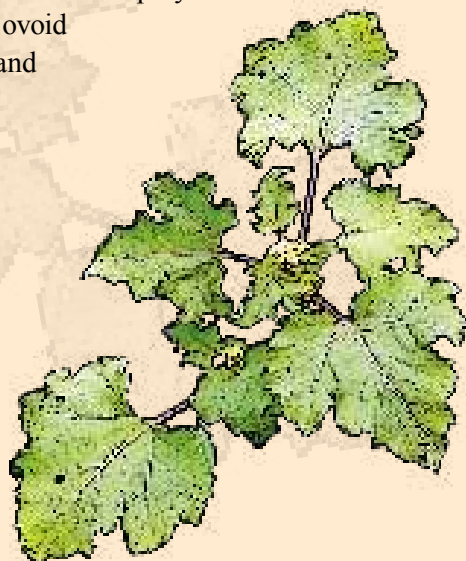
MN Dept. of Agriculture



MN Dept. of Agriculture



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Adult Plant

Curly Dock

Rumex crispus

Wetland Habitat:

Wetland edges, disturbed ground, roadsides

Flowers:

June-August

Distinguishing Characteristics:

The sheath is hairless and the stem is flattened. Long hairs are present only at the base of the leaf blade. The base of the leaf sheath for this species is often reddish/purple.



MN Dept. of Agriculture



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Adult Plant

Giant Ragweed

Ambrosia trifida

Habitat:

Disturbed areas,
roadsides, moist soils

Flowers:

June-August



MN Dept. of Agriculture

Seed



Seedling

Distinguishing Characteristics:

Seed leaves (cotyledons) are large, round to oblong, and thick. The stem below the seed leaves is often purple. First true leaves are not lobed.

They are lanceolate in shape, with toothed margins. Subsequent leaves are increasingly large and deeply 3-lobed (less commonly 5-lobed), opposite each other on the stem, and have a rough surface.

This is a native species that may be prominent during the “weedy” early stages of plantings.



Lambsquarters

Chenopodium album

Wetland Habitat:

Wetland edge,
disturbed ground,
farmed wetlands

Flowers:

June-August



MN Dept. of Agriculture

Seed



MN Dept. of Agriculture

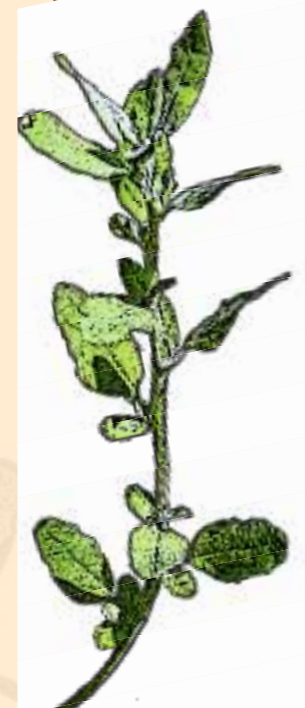
Seedling

Distinguishing Characteristics:

Seed leaves appear small and linear in shape, and have nearly parallel sides. First true leaves are opposite and ovate in shape with smooth edges. Seed leaves and early true leaves are dull blue-green above and often purple below. True leaves will begin to appear whitened above with a red-violet appearance on the underside.



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Adult Plant

Perennial Sow-thistle

Sonchus arvensis

Wetland Habitat:

Wetland edges, disturbed ground, farmed wetlands

Flowers:

June-August

Distinguishing Characteristics:

All leaves, including seedling leaves, have a milky sap. Seed leaves (cotyledons) are round to oval in shape with slight indentations at the tips. Although they tend to wither, the seed leaves usually remain until true leaves develop. First few true leaves are alternate, elliptical to oval in shape, narrower at the base than at the tips, and have toothed edges with soft prickles. Plants form a basal rosette. Leaf margins become wavy to lobed, and contain spiny teeth that point backwards. Lower surfaces of mature leaves often have a powdery white to purplish film.



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Adult Plant

Poison Hemlock

Conium maculatum

Wetland Habitat:

Disturbed ground, wet roadsides

Flowers:

June-August

Distinguishing Characteristics:

Seed leaves are narrow, lanceolate, and have long leaf stalks (petioles). First true leaves have two or more leaflet divisions (pinnately compound), are hairless and often purple at the base. Plants form basal rosettes of finely divided, fern-like leaves during the first year. Mature plants have distinctly purple-spotted stems without hairs.



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Adult Plant

WARNING: Although rarely eaten, plant is poisonous to cattle, hogs, poultry, horses, goats, and sheep.

Purple Loosestrife

Lythrum salicaria

Wetland Habitat:

Disturbed wetlands, wet roadsides

Flowers:

June-August

Distinguishing Characteristics:

Seed leaves (cotyledons) are linear in appearance and hairless. First true leaves are alternate, strongly egg-shaped (ovate), and have a deep notch or indentation at the tip. The leafstalks or petioles of the true leaves are purple. As the seedlings mature, the stem becomes very rough and hairy.



Seeds



Seedling



Adult Plant

Reed Canary Grass

Phalaris arundinacea

Wetland Habitat:

Drained/disturbed wetlands, pastures, wet roadsides

Flowers:

June-August

Distinguishing Characteristics:

Ligule is prominent and membranous, and the stem is hollow. Small clasp ing auricles are present at the base of the leaf. The leaves are flat, hairless and smooth, with the exception of somewhat rough edges.



Seeds



Seedling



Adult Plant

Stinging Nettle

Urtica dioica

Wetland Habitat:

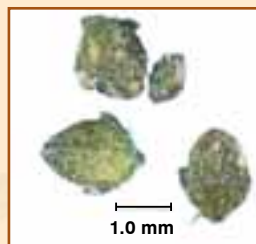
Waterways, moist roadsides and disturbed areas

Flowers:

June-July

Distinguishing Characteristics:

Stinging nettle is a perennial weed that reaches 1 to 2 m in height. It has widely spreading rhizomes and stolons, which are bright yellow as are the roots. The soft leaves have strongly serrated margins, heart-shaped bases, and narrowly pointed leaf tips. Leaves are opposite. Small greenish or brownish flowers occur in dense axillary clusters. Leaves and stems are hairy with non-stinging as well as stinging hairs. When touched, the tips of stinging hairs come off, transforming them into a needle that injects a cocktail of several chemicals into the skin, resulting burning and itching sensations.



Seeds



Seedling



Adult Plant

Yellow Foxtail

Setaria glauca

Wetland Habitat:

Wetland edges, disturbed ground, farmed wetlands

Flowers:

June-August

Distinguishing Characteristics:

The sheath is hairless and the stem is flattened. Long hairs are present only at the base of the leaf blade. The base of the leaf sheath for this species is often reddish/purple.



Seeds



Seedling



Adult Plant

Yellow Nutsedge

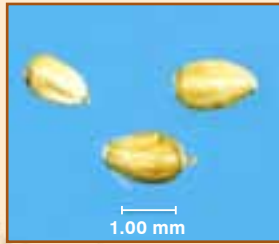
Cyperus esculentus

Wetland Habitat:

Wetland Edge

Flowers:

June-September



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Seeds

Seedling

Distinguishing Characteristics:

Plants may reach 0.7 m in height. The stems are distinctly three-sided and triangular in cross section. Leaves are shiny and yellow to green. In mature plants, leaves are 5 to 8 mm wide and have a distinct ridge along the mid-vein. Leaves are produced in groups of three from the base of the plant. Leaves are hairless, have no auricles or ligules, and taper to a sharp point. Yellow to brown spikelets occur at the ends of the solitary flowering stems. Reproduction is primarily from tubers and rhizomes, with establishment from seed being less common. Mature plants have the ability to produce several hundred tubers in a single growing season. Tubers can remain viable in the soil for about 4-5 years, making this plant one of the more problematic weeds to control in areas where it has a chance to become established.



Adult Plant

Water Hemp

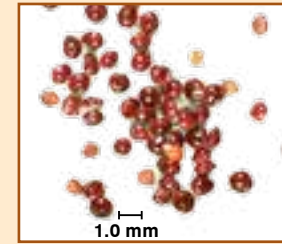
Amaranthus rudis

Wetland Habitat:

Farmed wetlands and other moist, disturbed ground

Flowers:

June-August



Seeds



Ohio State University

Seedling

Distinguishing Characteristics:

The seed leaves are shaped like oars with the first true leaves being lance-shaped. Leaves on young plants may have a slight notch at the tip. Seedlings and mature water hemp plants are smooth and hairless, a characteristic feature for this species compared to other common *Amaranthus* species. Water hemp has long, narrow leaves with wavy leaf margins. There is considerable variation among stands of water hemp plants based on how recently the ground was disturbed, soil type, and how moist the soil is during plant development. As a result, mature plant height may range from 0.6 to 2.5 m, and stem and leaf color may range from reddish-purple to green.



Adult Plant

Appendix



List of Synonyms for Common and Scientific Names

Having trouble finding a plant you're looking for? Below is a list of some of the more frequently used synonyms for plants that are known by more than one common and/or scientific name.

Common name (synonym)	Scientific name (synonym)
Common arrowhead (Duck potato)	<i>Sagittaria latifolia</i>
Cream gentian	<i>Gentiana alba</i> (<i>Gentiana flavida</i>)
Flat-topped aster	<i>Doellingeria umbellata</i> (<i>Aster umbellatus</i>)
Grass-leaved goldenrod	<i>Euthamia graminifolia</i> (<i>Solidago graminifolia</i>)
Great St. Johnswort	<i>Hypericum ascyron</i> (<i>Hypericum pyramidalatum</i>)
Marsh milkweed (Swamp milkweed)	<i>Asclepias incarnata</i>
New England aster	<i>Symphyotrichum novae-angliae</i> (<i>Aster novae-angliae</i>)
Nodding beggarticks (Nodding bur marigold)	<i>Bidens cernua</i>
Obedient Plant (False dragonhead)	<i>Physostegia virginiana</i>
Panicled aster	<i>Symphyotrichum lanceolatum</i> (<i>Aster lanceolatus</i>) (<i>Aster simplex</i>)
Pennsylvania smartweed	<i>Polygonum pennsylvanicum</i> (<i>Persicaria pennsylvanica</i>)
Red-stemmed aster (Swamp aster)	<i>Symphyotrichum puniceum</i> (<i>Aster puniceus</i>)
Riddell's goldenrod	<i>Oligoneuron riddellii</i> (<i>Solidago riddellii</i>)

Common name (synonym)	Scientific name (synonym)
River bulrush	<i>Schoenoplectus fluviatilis</i> (<i>Scirpus fluviatilis</i>)
Softstem bulrush	<i>Schoenoplectus tabernaemontani</i> (<i>Scirpus validus</i>)
Spotted Joe-pye weed	<i>Eupatoriadelphus maculatus</i> (<i>Eupatorium maculatum</i>)
Yellow coneflower (Gray-headed coneflower)	<i>Ratibida pinnata</i>



Glossary of Technical Terms

We have made an effort to avoid using technical botanical terms in this guide. Despite our good intentions, some botanical terms were included. We hope this glossary helps.

Achene – A dry fruit with a relatively thin wall that stays closed at maturity.

Acute – Sharp-pointed.

Annual – A plant that completes its life cycle in one year or less.

Auricle – Appendages or lobes at the base of the leaf blade.

Axil – The area or angle formed between the base of an organ and the structure from which it originated, such as between the leaf base and the stem.

Axillary – Growing in an axil.

Basal – Pertaining to the base of the plant.

Biennial – A plant that requires two years to complete a life cycle; the first year typically forming a basal rosette, the second year forming an inflorescence.

Bipinnate – Twice pinnately compound.

Bract – A reduced leaf or scale, typically below a flower stalk or group of flowers. It also can refer to small leaves on a stem.

Compound – Leaves that are divided into distinct leaflets.

Cordate – Heart-shaped.

Cotyledon – A seed leaf; the first leaf (or leaves) to appear during the development of a seedling.

Cultivar – A cultivated variety of a particular species of plant, usually selected or manipulated for specific traits.

Elliptic – A circular shape widest about the middle.

Entire – Leaf margins without teeth; even though the margin may have hairs.

Fruit – Structure that bears the seeds.

Glabrous – Smooth, in the sense of not possessing hairs.

Glaucous – Covered by a white or pale, often waxy, bloom.

Hirsute – With stiff, usually straight, hairs.

Inflorescence – The flowering part of a plant or arrangement of flowers on a stalk.

Lanceolate – Lance-shaped, broadest below the middle, long-tapering above the middle, several times longer than wide.

Leaflet – One segment of a compound leaf. Leaflets may resemble leaves, but differ principally in that buds are not found in the axils of leaflets, and leaflets all lie in the same plane.

Ligule – Small structure, often membranous, where a grass blade meets the leaf.

Linear – Very long and narrow, with nearly or quite parallel margins.

Lobe – Any segment or division, particularly if blunt.

Mid-nerve, Mid-rib, Mid-vein – The central or principal vein of a leaf, bract, sepal, or petal.

Nerve – Same as a vein.

Node – The point along a stem which gives rise to leaves, branches, or inflorescences.

Oblong – Several times longer than wide with nearly, or parallel sides.

Ovate – Egg-shaped.

Palmate – Radiately lobed or divided, with individual segments originating at a common point or nearly so.

Parallel-veined – A feature where veins are parallel to each other and the mid-rib, or nearly so.

Pedicel – The stalk of a single flower in a cluster.

Pendulous – Drooping.

Perennial – A plant that lives for more than two years.

Perigynia – Bristle, scale, or bottle-shaped appendage about the fruiting structure in sedges.

Perfoliate – Condition where the stem appears to pass through the leaf.

Petiole – A leafstalk.

Pinnate – Leaf structure that is compound or deeply divided, the principal divisions arranged along each side of a common axis.

Pubescent – Hairy.

Recurved – Directed backward or downward.

Reflexed – Abruptly turned or bent downward.

Rhizomatous – Bearing rhizomes.

Rhizome – An underground stem, typically horizontal.

Serrate – With sharp, typically forward-pointing teeth.

Sessile – Without a stalk.

Sheath – Lower part of the grass leaf that encloses the stem.

Spikelet – Part of a grass plant inflorescence.

Stipule – An appendage or bract situated at either side of a leaf axil.

Tomentose – Dense, matted hairs.

Translucent – Between opaque and transparent; allows some light to pass through.

Truncate – Ending abruptly; appearing to be cut off.

Vegetative – Plants or plant parts not involved in flowering or seed/fruit production.

Vein – A wire-like bundle of tissue in a leaf or other plant part. Same as nerve.

Weed – A plant growing in an undesired location. In wetland restorations, this typically refers to non-native, invasive species that can potentially crowd out desirable native plants.

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