

Iowa Riverside Plant Selection Tool

The purpose of this tool is to provide guidance about native plant species selections for river restoration and stability projects, based on what has been observed as surviving at various elevations along the bank profiles of Iowa rivers. A matrix of native plants with varieties of root depths, and structural characteristics such as matted versus highly fibrous, is a key component in long term stability and success, after a project has been properly designed to consider channel and floodplain characteristics. Many plant communities could be established with this list. When the goal is holding soils in place for initial stability, generally a well-established mix of grasses, forbs, and sedges that are submergence tolerant will usually be the most successful.

Main headings are organized for various design situations such as full sun, shade, and trail edges (low growers). Below each “Main” heading, the planting tool is organized by elevation along the cross section of a typical bank restoration because many restoration projects in Iowa involve shaping banks and low floodplains to more stable conditions. As such, many species names are repeated throughout the list because some thrive under multiple conditions. If it is repeated, the record has an entry in the “Elevation Along Bank” column so the user knows where else it appears in the same design situation headings. Maps are included to show county-level presence based on botanical records, published by the Biota of North America Program at bonap.org, and it is recommended to roughly adhere to the distributions shown. The various other columns provide information specific to the success of each species, such as soil type, germination requirements, root descriptions, and establish.

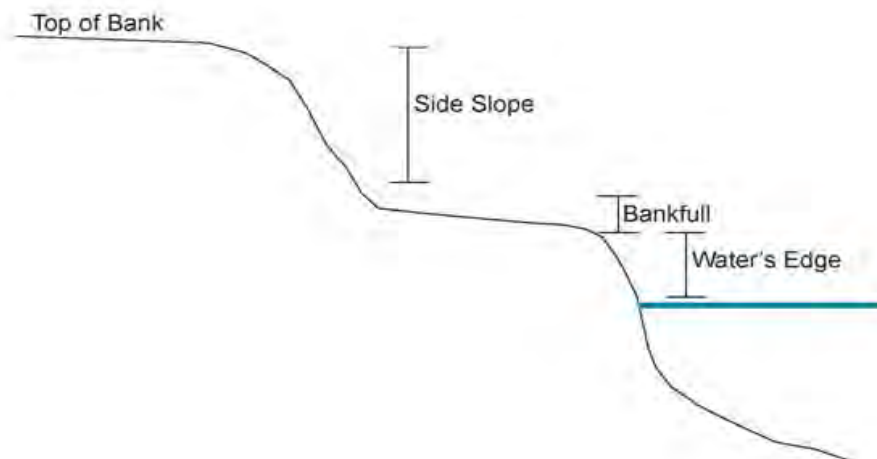
Like all resources involving rivers, this tool is a work in progress. More research based on monitoring reports of germination success, length of survivability, and advise on planting is welcome. If you are monitoring planting projects, please share what you have learned and send information to Nate.Hoogeveen@dnr.iowa.gov.

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Riverside Plant Species for seed mix, plugs, or transplant

*Found at multiple elevations along the bank



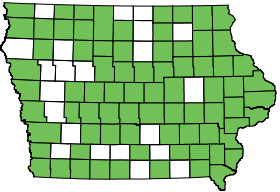
The purpose of this list is to provide guidance about which native species are advisable to plant in river restoration projects, based on what has been observed as surviving at various elevations along the bank profiles of Iowa rivers. More research and monitoring is needed. If you are monitoring survivability in projects, please share what you have learned and send information to Nate.Hoogeveen@dnr.iowa.gov.

Wetland Indicator Descriptions:

- OBL - Obligate Wetland (Almost always occurs in wetlands)
- FACW - Faculative Wetland (Usually occurs in wetlands)
- FAC - Faculative (Equally likely to occur in wetland or non-wetland areas)
- FACU - Faculative Upland (Usually occurs in non-wetlands)
- UPL - Upland Obligate (Almost always occurs in non-wetlands)

| Common name | Genus / species | Elevations along the bank | Germination Requirements | | Weight/ acre (bulk seed) | Seeds/oz | Region of Iowa (BONAP) |
|---|-----------------|-----------------------------|--------------------------|-----------|--------------------------|--|------------------------|
| Comments (Special planting instructions, special values, cautions, or usage instructions.) | | Wetland indicator (Midwest) | Sunlight requirements | Soil Type | Habitat | | |
| Erosion Control Mix (used for quick cover of soils after disturbance on all bank elevations to mitigate erosion) | | | | | | Green indicates there is a botanical record of the species and it is appropriate to plant within that county. | |

Warm-Season Cover Crop (For early spring to late fall plantings)

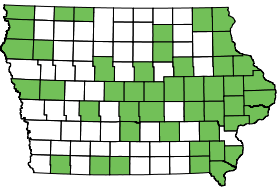
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| Virginia Wild Rye | <i>Elymus virginicus</i> | all elevations | No seed pretreatment necessary | | 12lbs/acre *when used in conjunction with Annual Rye Grass | 4,200 |  |
| Moist conditions; fibrous root system; great cover crop for erosion control; easily grown from seed; tends to give way to other species over five years | | FACW | Full sun to shade | Fertile soil; loam, clay loam, sandy, can survive in a variety of soil types | Bottomland woodlands, riparian areas, riverbanks, streambanks, moist prairies, roadsides, bluffs, moist savannas, disturbed areas | | |
| Annual Rye Grass | <i>Lolium multiflorum</i> (<i>Lolium perenne</i> ssp. <i>multiflorum</i>) | all elevations | No seed pretreatment necessary | | 12lbs/acre *when used in conjunction with Virginia Wild Rye | N/A | *this is a non-native species |
| Moist to average soil conditions; fibrous root system; self-seeding; annual; fast growth rate | | N/A | Full to partial sunlight | Can survive in a variety of soil types | Fields, roadsides, waste areas, disturbed soils | | |

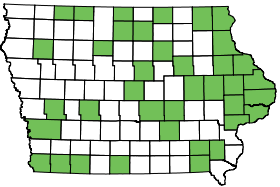
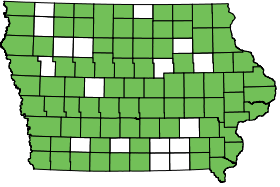
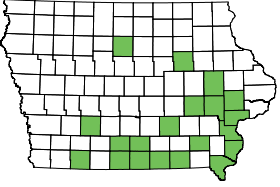
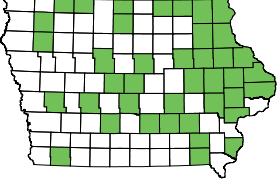
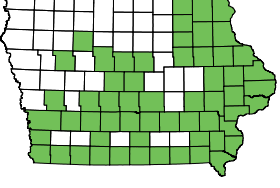
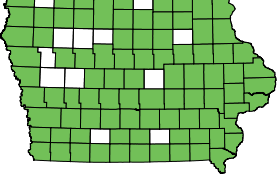
Cool-Season Cover Crop (For late fall to late winter plantings)

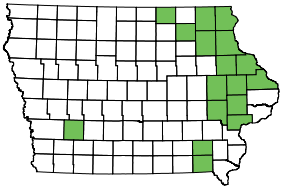
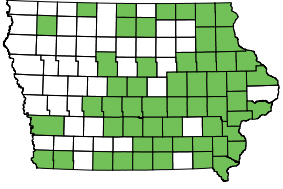
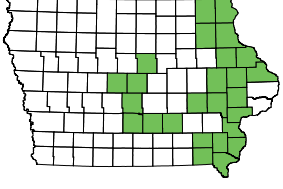
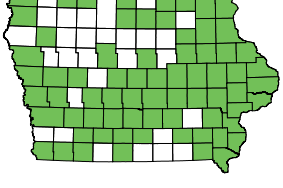
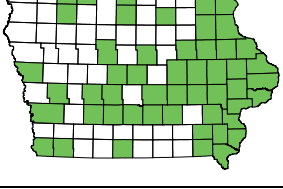
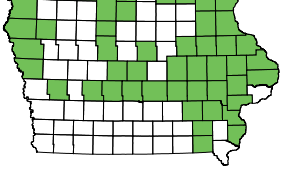
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| Oats | <i>Avena sativa</i> | all elevations | No seed pretreatment necessary | | 30-40lbs/acre | | *this is a non-native species |
| Moist, well-drained conditions; fibrous root system; fast growth rate; winterkill | | UPL | Full to partial sunlight | Can survive in a variety of soil types | Roadsides, waste areas, disturbed soils | | |
| Winter Rye; Cereal Rye | <i>Secale cereale</i> | all elevations | No seed pretreatment necessary | | 50-60 lbs/acre | N/A | *this is a non-native species |
| Well-drained conditions; extensive deep root system; fast growth rate | | N/A | Full to partial sunlight | Can survive in a variety of soil types | Roadsides, waste areas, disturbed soils | | |

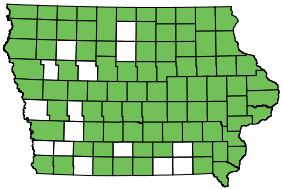
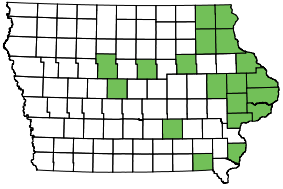
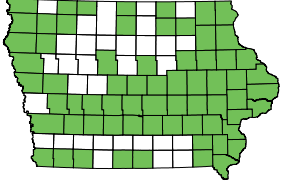
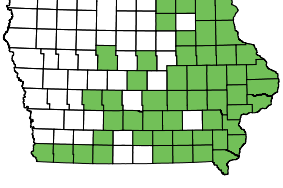
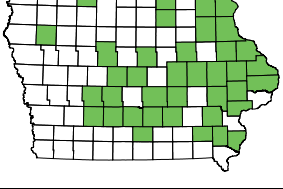
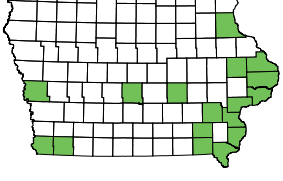
Top of Bank, PART-SHADE (Ecologically an alluvial open forest or woodland)

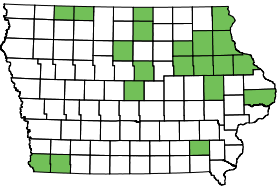
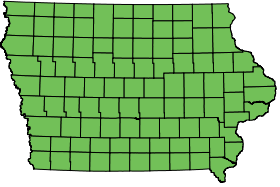
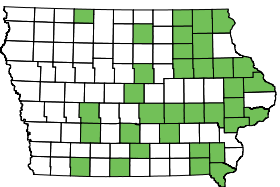
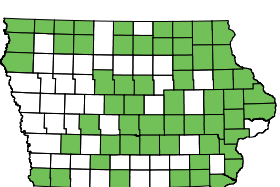
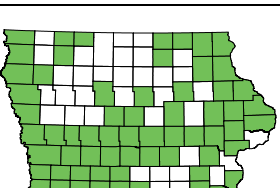
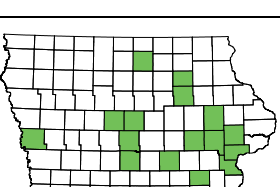
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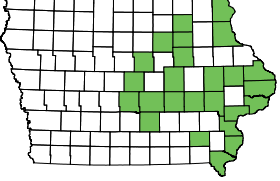
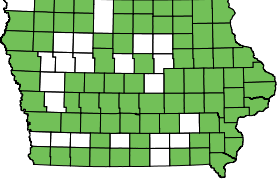
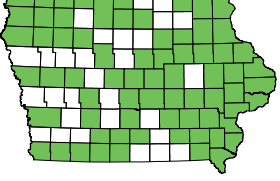
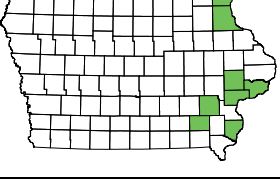
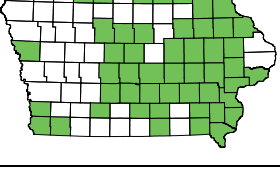
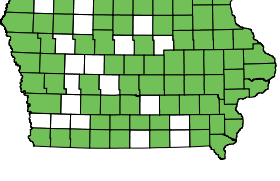
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| Yellow giant hyssop | <i>Agastache nepetoides</i> | | Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds. | | 0.5oz/acre | 90,000 |  |
| Moist conditions; fibrous and rhizomatous root system; excellent pollinator | | FACU | Partial sunlight | Fertile, loamy soils | Woodland edges, open woodlands, thickets, shady meadows | | |

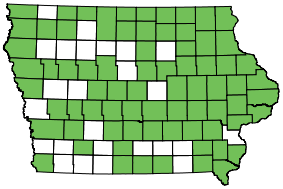
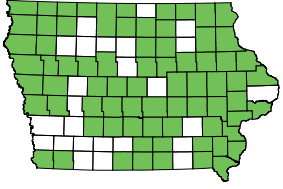
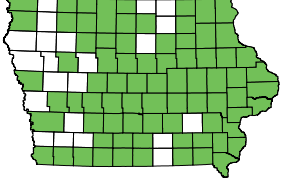
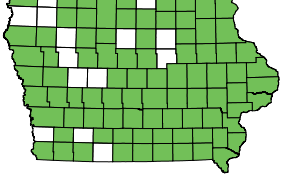
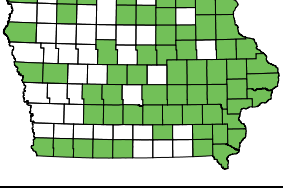
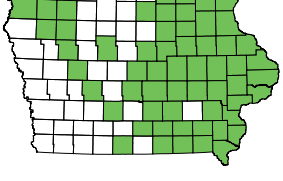
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| Purple giant hyssop; Giant hyssop | <i>Agastache scrophulariifolia</i> | | Cold, moist stratification for a minimum of 30 days or fall planting. Needs light to germinate, surface sow seeds. | 0.5oz/acre | 93,000 |  |
| | Moist conditions; excellent pollinator; rhizomatous, often forms colonies | N/A | Full to partial sunlight | Well-drained, disturbed, moist soils; sand | Disturbed areas, meadows, thickets, upper floodplain woodlands | |
| *White snakeroot | <i>Ageratina altissima (Eupatorium rugosum)</i> | *top shade, wooded trail | Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds. | 0.25oz/acre | 150,000 |  |
| | A synonymous scientific name is <i>Eupatorium rugosum</i> , which is used by many nurseries. Slightly dry to moist conditions; rhizomatous and fibrous root system; can be considered weedy; easily grown from seed | N/A | Partial sunlight | Loam, clay loam | Deciduous woodlands, thickets, woodland edges, bluffs, meadows, disturbed areas | |
| Swamp agrimony | <i>Agrimonia parviflora</i> | | N/A | N/A | N/A |  |
| | Wet to moist conditions; fibrous and rhizomatous root system, often forms colonies | FACW | Full to partial sunlight | Well-drained soils; gravelly, sandy, loamy, silty | Open floodplain woodlands, swamps, moist thickets, ditches, moist prairies | |
| *Wild leek | <i>Allium tricoccum</i> | *top shade, side slope | Cold, moist stratification for a minimum of 60 days, or fall planning. | 1oz/acre | 1,400 |  |
| | Slightly dry to moist conditions; ovoid bulb with fibrous roots; transplants are generally the most successful propagation type | FACU | Light shade | Fertile, loamy soils | Upland woodlands, floodplain woodlands, wooded slopes | |
| Green dragon | <i>Arisaema dracontium</i> | | Cold, moist stratification for a minimum of 60 days or fall planting. | 2oz/acre | 600 |  |
| | Wet to moist conditions; root system with tubers; propagation through tuber division or seeds most successful; | FACW | Light to partial shade | Well-drained moist soils; loam | Moist deciduous woodlands, shady springs, seeps, floodplain woodlands | |
| Jack in the pulpit | <i>Arisaema triphyllum</i> | | Sow seeds immediately after collection. May need to allow two full years for germination. | *Transplant/plugs most successful | 500 |  |
| | Moist conditions; root system consists of a corm; propagation through corms most successful | FACW | Partial sunlight | Fertile, rich, soils | Moist woodlands, swamps, marshes | |

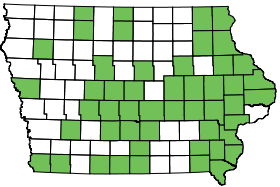
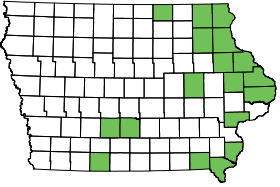
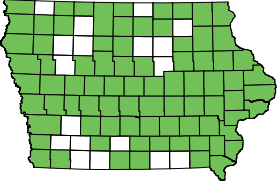
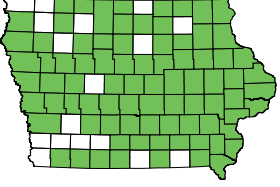
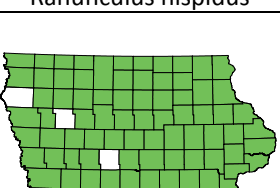
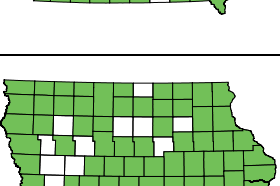
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| Great Indian plantain | <i>Arnoglossum reniforme</i> (<i>Cacalia muhlenbergii</i>) | | Cold, moist stratification for a minimum of 60 days, or fall planning. | 3oz/acre | 4,000 |  |
| | A synonymous older scientific name is <i>Cacalia muhlenbergii</i> ; Slightly dry to moist conditions; rhizomatous root system | N/A | Full to partial sunlight | Moist soils | Floodplain woodlands, roadsides, prairies, woodland edges | |
| *Wild ginger | <i>Asarum canadense</i> | *top shade, wooded trail, side slope | Sow seeds immediately after collection. May need to allow one full year for germination. | 1oz/acre | 4,400 |  |
| | Slightly dry to moist conditions; shallow rhizomatous root system, often forms colonies; most successful propagation through plugs or root division | FACU | Full to partial shade | Moist soil; Loam, slightly rocky soil | Floodplain and upland woodlands, bluffs, wooded slopes | |
| *Hairy wood mint | <i>Blephilia hirsuta</i> | *top shade, side slope | Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds. | 0.5oz/acre | 240,000 |  |
| | Moist conditions; fibrous and rhizomatous root system, often forms colonies | FACU | Full to partial sunlight | Loamy, rocky soils | Woodland edges, thickets, limestone glades, woody slopes | |
| *American bellflower; Tall Bellflower | <i>Campanulastrum americanum</i> (<i>Campanula americana</i> , old scientific name) | *top shade, wooded trail | Cold, moist stratification for a minimum of 30 days or fall planting. Needs light to germinate, surface sow seeds. | 0.25oz/acre | 170,000 |  |
| | Moist conditions; low drought tolerance; readily germinates; excellent pollinator; taproot; annual | FAC | Partial shade | Fertile, moist soil; loam | Moist woodlands, disturbed woodland areas, thickets, streambanks | |
| *Cutleaf toothwort | <i>Cardamine concatenata</i> (<i>Dentaria laciniata</i>) | *top shade, side slope | Cold, moist stratification for a minimum of 60 days or fall planting. | 1oz/acre | 22,000 |  |
| | A synonymous scientific name is <i>Dentaria laciniata</i> ; moist conditions; rhizomatous root system, often form colonies; propagation through transplant/root division most successful | FACU | Partial shade | Well-drained soils | Floodplain woodlands, woody slopes, bluffs | |
| *Blue cohosh | <i>Caulophyllum thalictroides</i> | *top shade, side slope | Sow seeds outdoors in the fall. May take up to 3-4 years to establish. | *Transplants/plugs most successful | 70 |  |
| | Moderately moist conditions; rhizomatous and fibrous; long-lived; difficult to germinate through seeds | N/A | Light shade | Well-drained, fertile soils; loam | Moist woodlands, bluffs, woody slopes, undisturbed habitats | |

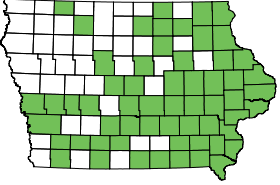
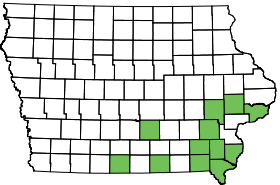
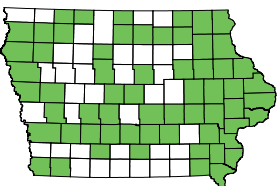
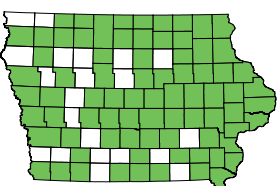
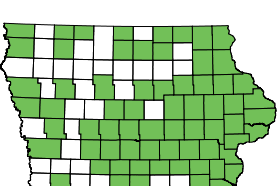
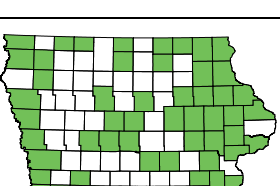
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| *Canadian Honewort | <i>Cryptotaenia canadensis</i> | *top shade, wooded trail | Cold, moist stratification for a minimum of 60 days or fall planting. | 0.5oz/acre | 7,000 |  |
| | Moist conditions; taproot; self-seeding | FAC | Partial shade | Well-drained, loamy, fertile | Floodplain woodlands, shady bluffs, slightly disturbed areas, woodland edges | |
| *Squirrel corn | <i>Dicentra canadensis</i> | *top shade, side slope | Sow seeds immediately after collection. | *Transplants/plugs most successful | N/A |  |
| | Moderately moist conditions; root system consists of corms; propagation through transplants/plugs most successful | N/A | Partial shade | Loamy, sandy soils | Deciduous woodlands, woody slopes, shady streambanks, ravines | |
| *Dutchman's breeches | <i>Dicentra cucullaria</i> | *top shade, side slope | Sow seeds immediately after collection, or requires cold, moist stratification for a minimum of 60 days. | 0.5oz/acre | 17,500 |  |
| | Moist conditions; root system consists of tubers; excellent pollinator; propagate through seeds or division | N/A | Partial shade | Fertile soils | Deciduous woodlands, ravines, slopes, valleys, streambanks, undisturbed areas | |
| Wild yam | <i>Dioscorea villosa</i> | | Cold, moist stratification for a minimum of 60 days, or fall planting. | 1oz/acre | 2,800 |  |
| | Moist conditions, herbaceous vine with a rhizomatous root system; easily grown from seed | FAC | Full to partial sunlight | sandy loam, loamy, rocky | Savannas, woodland edges, thickets, sandy prairies, bluffs, open woodlands | |
| *False rue anemone | <i>Enemion biternatum</i> (<i>Isopyrum biternatum</i>) | *top shade, side slope | Likely needs cold, moist stratification for a minimum of 60 days or fall planting. | 1oz/acre | 11,000 |  |
| | Another scientific name for False Rue Anemone is <i>Isopyrum biternatum</i> . Fibrous root system, often forms colonies; can be propagated through seeds or root division | FAC | Partial shade | loamy soils, fertile soils | Floodplain woodlands, floodplains, wooded slopes | |
| Late boneset | <i>Eupatorium serotinum</i> | | Likely needs cold, moist stratification for a minimum of 30 days or fall planting. | N/A | N/A |  |
| | Moist conditions; fibrous and rhizomatous root system; excellent pollinator | FAC | Full to partial sunlight | Moist soils; loamy | Meadows, moist prairies, savannas, meadows, plains, swamps, disturbed areas | |

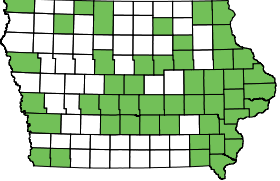
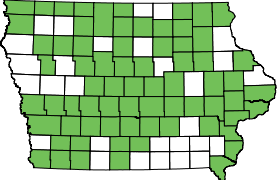
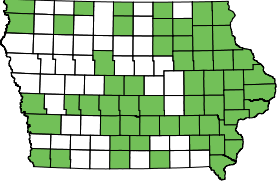
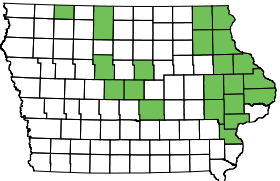
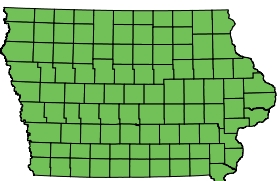
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| *Yellow avens | <i>Geum aleppicum</i> | *top shade, bankfull | Cold, moist stratification for a minimum of 60 days or fall planting. | | 1oz/acre | 20,000 |  |
| | Moist to wet conditions | FACW | Partial shade | Moist soils | Low woodlands, fens, shady seeps, thickets, marshes, swamps, bogs | | |
| White avens | <i>Geum canadense</i> | | Likely needs cold, moist stratification for a minimum of 30 days or fall/early spring planting. | | N/A | N/A |  |
| | Slightly dry to moist conditions; rhizomatous root system with taproot; can become aggressive and be considered weedy | FAC | Partial sunlight | clay loam, loam, sandy loam | Floodplain woodlands, thickets, disturbed areas, woodland edges | | |
| *Giant St. Johnswort | <i>Hypericum ascyron</i> (<i>Hypericum pyramidatum</i>) | *top shade, top sun, bankfull, side slope | Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds. | | 1oz/acre | 190,000 |  |
| | A synonymous scientific name is <i>Hypericum pyramidatum</i> ; moist conditions; rhizomatous root system; excellent pollinator; propagation through seeds or plugs are successful | FAC | Full to partial sunlight | Can survive in a variety of soil types | Open woodlands, riverbanks, moist thickets, wooded slopes, meadows, marshes | | |
| *Spotted touch-me-not; Orange jewelweed | <i>Impatiens capensis</i> | *top shade, shady stream edge, wooded trail, bankfull | Sow seeds immediately after collection. | | 0.25oz/acre | 4,000 |  |
| | Wet to moist conditions; annual; taproot; self-seeding; readily germinates from seed; excellent pollinator; shade tolerant; can become aggressive | FACW | Full to partial shade | Moist, fertile, clay, loam, sand | Shady bogs, floodplain woodlands, swamps, shady streambanks, wet ditches, seeps | | |
| *Pale touch-me-not; Yellow jewelweed | <i>Impatiens pallida</i> | *top shade, shady stream edge, wooded trail, bankfull | Sow seeds immediately after collection. | | 1oz/acre | 1,600 |  |
| | Wet to moist conditions; taproot; annual; readily germinates from seeds; excellent pollinator; can become aggressive | FACW | Partial shade | Moist soils; loamy, mucky | Swamps, open floodplain woodlands, muddy streambanks, woody edges of marshes | | |
| *Purple rocket | <i>Iodanthus pinnatifidus</i> | *top shade, side slope, wooded trails | N/A | | N/A | N/A |  |
| | Moist to wet conditions; taproot; self-seeding; easily grown from seed; excellent pollinator; tolerates seasonal flooding | FACW | Partial sunlight | Fertile, loamy soils | Floodplain woodlands, floodplain slopes, meadows | | |

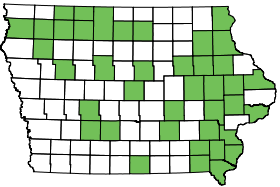
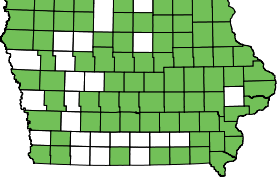
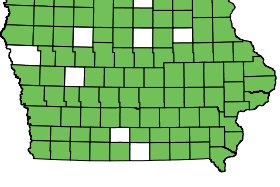
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| *Cardinal Flower | <i>Lobelia cardinalis</i> | *top shade, bankfull, shaded stream edge | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | | *Transplants/plugs most successful | 400,000 |  |
| Wet to moist conditions; propagation through transplants or plugs are usually most successful; longevity sometimes limited; central taproot | | OBL | Full sun to light shade | Sandy, loamy, gravelly, clay soils | | Wet prairies, marsh edges, open floodplain woodlands, ditches, wet meadows, streambanks, swamps | |
| *Great Blue Lobelia; Blue Cardinal Flower | <i>Lobelia siphilitica</i> | *top shade, bankfull, shaded stream edge, wooded trail | Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds. | | 0.125oz/acre | 500,000 |  |
| Wet to moist conditions; can be established without stratification; central taproot | | OBL | Full sun to partial sunlight | Fertile soil; loam, sandy loam, clay | | Wet prairies, open floodplain woodlands, wet meadows, riverbanks, ditches, swamps | |
| *Fringed loosestrife | <i>Lysimachia ciliata</i> | *top shade, top sun | Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds. | | 1oz/acre | 39,000 |  |
| Moist to wet conditions; rhizomatous root system with a taproot; excellent pollinator; propagation through seeds or root division most successful | | FACW | Full to partial sunlight | Fertile soils; loam | | Floodplain woodlands, swamps, wet thickets, marshes, streambanks, wet prairies, seeps | |
| Lanceleaf loosestrife | <i>Lysimachia lanceolata</i> | | N/A | | N/A | N/A |  |
| Moist conditions; rhizomatous root system with taproot | | FAC | Full to partial sunlight | Can survive in a variety of soil types | | Moist black soil prairies, thickets, swamps, open floodplain woodlands, limestone glades, meadows | |
| *Virginia bluebell | <i>Mertensia virginica</i> | *top shade, woodland trails | Best if sown in the fall or immediately after collection. Otherwise requires cold, moist stratification for a minimum of 60 days. | | 0.5oz/acre | 9,700 |  |
| Prefers moist, well-drained conditions; often forms colonies; taproot | | FACW | Partial to full shade | Fertile, moist soil; loam, rock | | Floodplain woodlands, shady bluffs, riverbanks and streambanks | |
| *Wild Bergamot; Beebalm | <i>Monarda fistulosa</i> | *top shade and top sun, sunny and woodland trails | No seed pretreatment necessary | | 0.25oz/acre | 70,000 |  |
| Moist, well-drained to partially dry conditions; rhizomatous with deep roots; excellent pollinator; easily grown from seed; can become aggressive; very hardy and thrives in disturbed areas; drought tolerant | | FACU | Full to partial sunlight | Can survive in a variety of soil types | | Open woodlands, fields, moist meadows, ditches, edges of forests, prairies, savannas, thickets, disturbed areas | |

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| *Sweet cicely | <i>Osmorhiza claytonii</i> | *top shade, side slope | Early fall planting or requires a warm, moist stratification for a minimum of 30 days, followed by a period of cold, moist stratification for a minimum of 60 days. | 1oz/acre | 2,500 |  |
| | Moderately moist conditions; fibrous root system | FACU | Partial shade | Can survive in a variety of soil types | Wooded slopes, woodland edges; deciduous woodlands | |
| *Anise root | <i>Osmorhiza longistylis</i> | *top shade, side slope | Not fully known, likely needs cold, moist stratification for a minimum of 60 days, or fall planting. | *Transplants/plugs most successful | N/A |  |
| | Moderately moist conditions; rhizomatous root system; propagation through transplants or plugs is most successful; limited local commercial availability | FACU | Partial shade | Fertile loamy soil | Floodplain woodlands; wooded slopes, deciduous woodlands, wooded ravines | |
| Dotted smartweed | <i>Persicaria punctata</i> (<i>Polygonum punctatum</i>) | | Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds. | 1oz/acre | 7,800 |  |
| | A synonymous scientific name is <i>Polygonum punctatum</i> ; wet to moist conditions; rhizomatous root system; excellent pollinator | OBL | Full to partial sunlight | Mucky, loamy soils | Open floodplain forests, prairie swales, marsh edges, swamps, wet ditches, streambanks, seeps | |
| *Woodland phlox; Wild blue phlox | <i>Phlox divaricata</i> | *top shade, wooded trail | Cold, moist stratification for a minimum of 60 days or fall planting. | 1oz/acre | 12,500 |  |
| | Slightly dry to moderately moist conditions; rhizomatous root system; propagation through seeds or root division most successful | FACU | Partial shade | Can survive in a variety of soil types | Deciduous woodlands, bluffs, seasonal floodplains, streambanks, wooded paths | |
| *Clearweed | <i>Pilea pumila</i> | *top shade, wooded trails | N/A | N/A | N/A |  |
| | Wet to moist conditions; self-seeding; easily grown from seed; annual | FACW | Partial sunlight | Fertile, loamy soils | Floodplain woodlands, streambanks, seeps, woodland edges | |
| *Jacob's ladder; Greek valerian | <i>Polemonium reptans</i> | *tops shade, wooded trail | Cold, moist stratification for a minimum of 60 days or fall planting. | 1oz/acre | 18,000 |  |
| | Moderately moist to slightly dry conditions; fibrous root system; self-seeding; excellent pollinator | FAC | Partial sunlight | Fertile, loamy soils | Deciduous woodlands, streambanks, fens, moist prairies, woodland edges, wooded paths | |

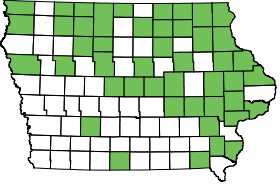
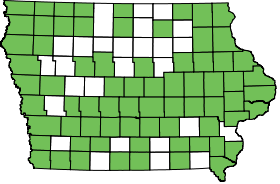
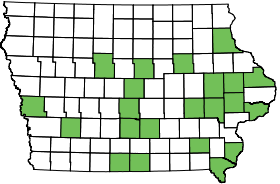
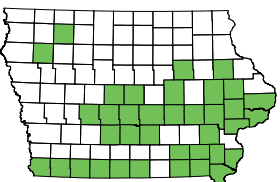
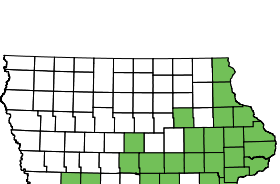
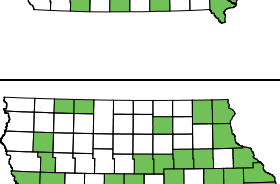
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| Jumpseed | <i>Polygonum virginianum</i> (<i>Persicaria virginiana</i>) | | Cold, moist stratification for a minimum of 60 days, or fall planting. | 0.5oz/acre | 3,500 |  |
| | A synonymous scientific name is <i>Persicaria virginiana</i> ; moist conditions; rhizomatous root system; self-seeding; can become aggressive | FAC | Partial shade | Can survive in a variety of moist soil types | Wooded slopes, ravines, floodplain woodlands | |
| *Leafcup; whiteflower leafcup | <i>Polymnia canadensis</i> | *top shade, side slope | Cold, moist stratification for a minimum of 60 days or fall planting. | 1oz/acre | 6,200 |  |
| | Slightly dry to moderately moist conditions; fibrous root system; | N/A | Partial shade | Rocky, limestone, loamy | Limestone bluffs, floodplain woodlands, wooded slopes, algific talus slopes, shady ravines, shaded streambanks | |
| *Kidney leaf buttercup | <i>Ranunculus abortivus</i> | *top shade, wooded trail | N/A | N/A | N/A |  |
| | Moist conditions; fibrous root system; self-seeding; can be considered weedy; easily grown from seed | FACW | Partial sunlight | Fertile soils; clay loam, loam | Woodlands, riverbanks, wooded paths, railroads, ditches, woodland edges, fields, disturbed areas | |
| Swamp buttercup | <i>Ranunculus septentrionalis</i> (<i>Ranunculus hispidus</i>) | | Cold, moist stratification for a minimum of 60 days or fall planting. (<i>Ranunculus hispidus</i>) | 0.5oz/acre | 12,000 (<i>Ranunculus hispidus</i>) |  |
| | Variable species, some authorities consider swamp buttercup to be a sub-species of <i>Ranunculus hispidus</i> . Fibrous root system; can spread rapidly, propagate through seeds or division | FAC (<i>Ranunculus hispidus</i>) | Partial sunlight | Fertile, loamy soil | Swamps, shady seeps, moist deciduous woodlands, ditches, meadows, riverbanks, pond edges | Ranunculus hispidus |
| *Black-eyed Susan | <i>Rudbeckia hirta</i> | *Top shade & sun, side slope, sunny trail | Cold, moist stratification for a minimum of 30 days or fall planting. | 0.5oz/acre | 92,000 |  |
| | Opportunistic species, does well in disturbed areas; fast maturation; slightly moist to dry conditions; can tolerate above-average rainfall in well-drained conditions; central taproot; biennial | FACU | Full to partial sunlight | Fertile soil; clay loam, sandy loam | Slightly wet to dry prairies, meadows, roadside ditches, savannas, rocky areas, and disturbed sites | |
| *Tall coneflower; Green-head coneflower; Cutleaf coneflower | <i>Rudbeckia laciniata</i> | *shady stream edge, bankfull, top shade, side slope | Cold, moist stratification for a minimum of 30 days or fall planting. Needs light to germinate, surface sow seeds. | 1.5oz/acre | 14,000 |  |
| | Moist to wet conditions; easily grown from seed; rapid growth rate through rhizomes; flood tolerant; excellent pollinator; can be considered weedy | FACW | Full to partial sunlight, shade | Moist soil; loam | Floodplain woodlands, shady riverbanks, moist meadows, sloughs, lowland thickets and fields | |

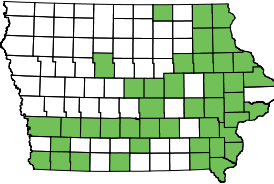
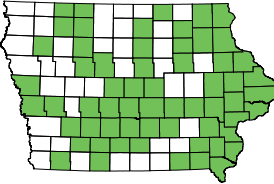
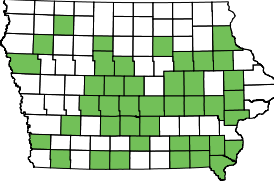
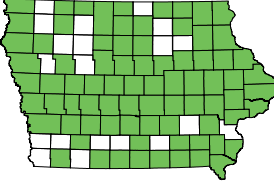
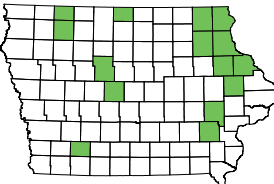
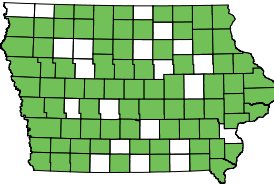
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| *Brown-eyed Susan | <i>Rudbeckia triloba</i> | *top sun, top shade, woodland trails | Cold, moist stratification for a minimum of 30 days or fall planting. | 1oz/acre | 34,000 |  |
| | Moist conditions; fibrous root system; self-seeding; drought tolerant; biennial | FACU | Full to partial sunlight | Fertile soil; loamy, gravelly, clay, sandy | Prairies, savannas, open forests, riverbanks, streambanks, tickets, roadsides, disturbed areas | |
| Smooth ruellia; Smooth Wild Petunia | <i>Ruellia strepens</i> | | Cold, moist stratification for a minimum of 60 days or fall planting. | 1oz/acre | 6,800 |  |
| | Moist conditions; seed propagation most successful | FAC | Partial sunlight | Loamy, rocky soil | Wooded slopes, rocky streambanks, thickets, open woodlands | |
| Bloodroot | <i>Sanguinaria canadensis</i> | | Sow seeds immediately after collection, do not allow seeds to dry out. | 1oz/acre | 1,700 |  |
| | Slightly dry to moderately moist conditions; rhizomatous root system; excellent pollinator; easily grown from seed | FACU | Partial shade | Fertile, loamy, humusy soil | Deciduous upland woods, ravines, floodplain woodlands, bluff edges, shaded riverbanks, | |
| Common black snakeroot | <i>Sanicula odorata</i> (<i>Sanicula gregaria</i>) | | N/A | N/A | N/A |  |
| | Moderately moist conditions; fibrous root system; propagation through seeds most successful; limited commercial availability | FAC | Partial sunlight | Loamy | Floodplain woodlands, thickets, shady seeps, degraded woodland habitats | |
| False Solomon's Seal | <i>Smilacina racemosa</i> (<i>Maianthemum racemosum</i>) | | Cold, moist stratification for a minimum of 90 days, or fall planting. | 1.5oz/acre | 400 |  |
| | A synonymous scientific name is <i>Maianthemum racemosum</i> ; moderately moist conditions; rhizomatous root system; propagation through seeds or root division most successful | FACU | Partial shade | Loam, sandy loam, rocky-loam | Woodlands, bluffs | |
| Upright carrion flower | <i>Smilax ecirrhata</i> | | Likely needs a period of warm, moist stratification for a minimum of 60 days followed by a period of cold, moist stratification for a minimum of 90 days. | N/A | N/A |  |
| | Moist conditions; self-seeding; easily grown from seed | N/A | Partial sunlight | Loam, clay loam, sandy loam | Upland woodlands, ravines wooded streambanks, thickets, open woodlands | |

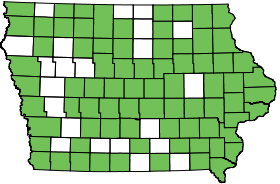
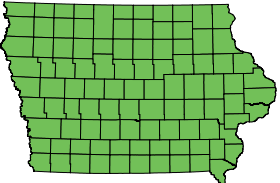
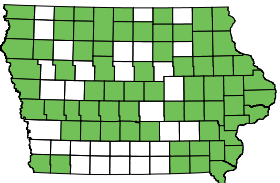
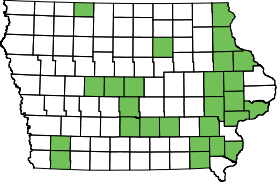
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| *Smooth Hedge nettle; Hedge nettle | <i>Stachys tenuifolia</i> | *top shade, water's edge, shaded stream edge | N/A | N/A | N/A |  | |
| Wet conditions; rhizomatous root system with taproot, forms colonies | | OBL | Partial sun | Wet soil; clay, loam, sand | Floodplain woodlands, streambanks, thickets, swamps, seeps, ditches, meadows, wet fields, marshes, moist prairies | | |
| *Panicked aster; Lance leaf aster | <i>Symphotrichum lanceolatum (Aster lanceolatus)</i> | *top shade, top sun | No seed pretreatment necessary | | 0.5oz/acre | 156,000 |  |
| An older synonymous scientific name is <i>Aster lanceolatus</i> , which is used by many nurseries; moist conditions; fibrous and rhizomatous root system; excellent pollinator; can be propagated through seeds or division; | | FAC | Full to partial sunlight | Can survive in a variety of soil types | Low prairies; open floodplain woodlands; thickets; seeps; marsh edges; ditches; moist shorelines; disturbed areas | | |
| Calico aster; Side-flowering aster | <i>Symphotrichum lateriflorum (Aster lateriflorus)</i> | | No seed pretreatment necessary. | | 0.5oz/acre | 250,000 |  |
| A synonymous scientific name is <i>Aster lateriflorus</i> Wet to moist conditions; fibrous and rhizomatous root system; excellent pollinator | | FACW | Partial sunlight | Can survive in a variety of soil types; clay loam | Floodplain woodlands, loess bluffs, fields, thickets, meadows, swamps, disturbed areas | | |
| Ontario aster | <i>Symphotrichum ontarionis (Aster ontarionis)</i> | *top shade, wooded trails | Likely requires cold, moist stratification for a minimum of 60 days or fall planting. | | N/A | N/A |  |
| An older synonymous scientific name is <i>Aster ontarionis</i> , which is used by many nurseries. Moist conditions; rhizomatous and fibrous root system | | FAC | Partial sunlight | Rich, loamy soils | Floodplain woodlands, open woodlands, wooded streambanks, savannas, meadows | | |
| Crooked stem aster | <i>Symphotrichum prenanthoides (Aster prenanthoides)</i> | | Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds. | | 0.5oz/acre | 120,000 |  |
| A synonymous scientific name is <i>Aster prenanthoides</i> ; excellent pollinator | | FAC | Partial sunlight | Can survive in a variety of soil types; loam | Disturbed areas, woodland edges, wooded ravines | | |
| *American germander | <i>Teucrium canadense</i> | *top shade, top sun | Cold, moist stratification for a minimum of 60 days or fall planting. | | 0.125oz/acre | 20,000 |  |
| Moist conditions; fibrous and rhizomatous root system, forms colonies; can become aggressive; considered weedy; readily germinates from seeds | | FACW | Partial sunlight | Well-drained soils; loamy, sandy, loam clay | Wet prairies, meadows, marshes, ditches, moist woods | | |

| | | | | | | |
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| *Meadow parsnip; Hairy-jointed meadow parsnip | <i>Thaspium barbinode</i> | *top shade, side slope | Likely does well with fall planting | N/A | N/A |  |
| Moderately moist conditions; taproot | | FACU | Full to partial sunlight | Can survive in a variety of soil types | Moist prairies, open wooded slopes, sandy savannas, bluffs, lake edges | |
| Wingstem | <i>Verbesina alternifolia</i> (<i>Actinomeris alternifolia</i> , old scientific name) | | Cold, moist stratification for a minimum of 30 days or fall planting. | 1 oz/acre | 9,000 |  |
| Wingstem used to be classified in the <i>Actinomeris</i> genus, which is still used by many nurseries; moist conditions; rhizomatous, forms colonies; excellent pollinator; readily germinates from seed | | FACW | Full to partial sunlight | Fertile soils | Floodplain woodlands, moist prairies, fields, meadows, savannas, shady streambanks, moist deciduous woodlands, ditches | |
| *Blue Vervain; Swamp Verbena | <i>Verbena hastata</i> | *top shade, top sun, side slope, bankfull, water's edge | Cold, moist stratification for a minimum of 30 days or fall planting. Needs light to germinate, surface sow seeds. | 0.25oz/acre | 93,000 |  |
| Collect seeds in late summer to early fall; moist planting conditions; tolerates temporary standing water; most successful propagation by seeds; excellent pollinator; fibrous and rhizomatous root system | | FACW | Full to partial sunlight | Fertile loam or wet muck | River-bottom prairies, meadows, roadside ditches, pastures, marshes, and riverbanks | |
| *Yellow violet | <i>Viola pubescens</i> | *top shade, side slope | Best if sown in the fall. Otherwise, requires cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds. | 1.5oz/acre | 8,500 |  |
| Moderately moist conditions; rhizomatous root system; propagation through seeds most successful | | FACU | Partial sunlight | Fertile soil, loam, sandy loam | Deciduous woodlands, thickets, floodplain woodlands, sandy woodlands, wooded slopes | |
| *Common blue violet | <i>Viola sororia</i> | *top shade, wooded trails, sunny trails, side slope | Best if sown in the fall. Otherwise, requires cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds. | 0.5oz/acre | 23,000 |  |
| Moderately moist conditions; rhizomatous root system; self-seeding; easily grown from seed; can become aggressive in optimum conditions | | FAC | Partial sunlight | Fertile soil; loam, clay loam | Moist black prairies, savannas, wooded slopes along streams, woodland edges, open floodplain woodlands | |

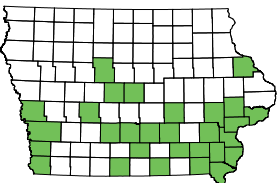
Grasses, Sedges, & Rushes (Top of bank PART-SHADE)

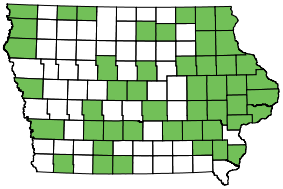
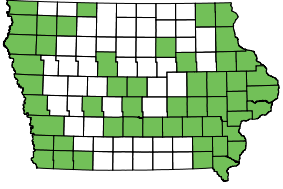
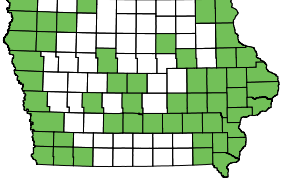
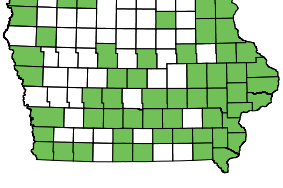
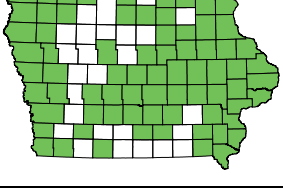
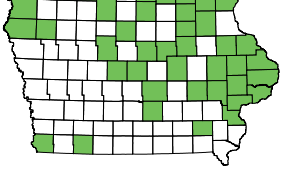
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| *Earlyleaf brome | <i>Bromus latiglumis</i> | *top shade, side slope | Cold, moist stratification for a minimum of 30 days or fall planting. | 1oz/acre | 7,600 |  |
| Moist conditions; fibrous root system; propagation through seeds most successful | | FACW | Partial shade | Clay, loam, sand | Floodplain woodlands, meadows, fields, wooded slopes, low-land prairies, streambanks, | |
| Common wood sedge | <i>Carex blanda</i> | | Cold, moist stratification for a minimum of 60 days, or fall planting. | 1oz/acre | 12,500 |  |
| Moderately moist conditions; fibrous and rhizomatous root system; can become aggressive in recently disturbed areas | | FAC | Partial sunlight | Can survive in a variety of soil types | Moist woodlands, riverbanks, thickets, meadows, savannas, vacant lots, waste areas, disturbed areas | |
| *Soft fox sedge | <i>Carex conjuncta</i> | *top shade, bankfull | Likely needs cold, moist stratification for a minimum of 60 days, or fall planting. | 1oz/acre | 22,000 |  |
| Moist conditions; fibrous and rhizomatous root system | | FACW | Partial sunlight | Fertile, loamy soils | Floodplain woodlands, thickets, shady meadows, moist prairies, streambanks | |
| *Awned Graceful Sedge; Davis' Sedge | <i>Carex davisii</i> | *top of bank shade, side slope, woodland edge | Not fully known, but cold, moist stratification for a minimum of 60 days or fall planting likely needed. May need light to germinate, surface sow seeds. | 1oz/acre | 9,000 |  |
| Moist to wet conditions; flood tolerant; fibrous and rhizomatous root system | | FAC | Partial sun | Moist soil; loam | Upland and floodplain woodlands, field edges, wooded slopes, riverbanks, moist meadows, slightly disturbed areas | |
| *Gray's sedge; Bur sedge | <i>Carex grayi</i> | *stream edge shade, top shade, side slope, woodland trails, bankfull | Fall planting is recommended. | 2oz/acre | 1,200 |  |
| Wet to moist conditions; tolerant to seasonal flooding; full sun tolerable in wet conditions; fibrous and rhizomatous root system | | FACW | Partial shade | Fertile soil; loam, sand, silt | Moist, deciduous woodlands, sandy swamps, shady streambanks, marshes | |
| Wood gray sedge; inflated narrow-leaf sedge | <i>Carex grisea</i> | | Cold, moist stratification for a minimum of 60 days, or fall planting. | 1.5oz/acre | 9,000 |  |
| Moist conditions; fibrous and rhizomatous root system; | | FAC | Full to partial sunlight | Fertile, loamy soils | Moist deciduous woodlands, floodplain woodlands, ditches, woodland edges | |

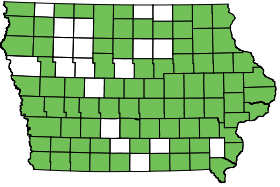
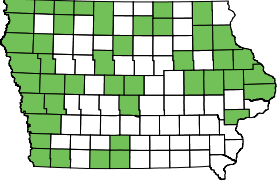
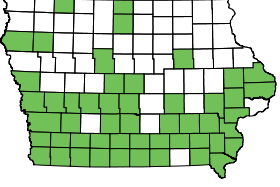
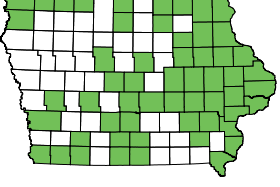
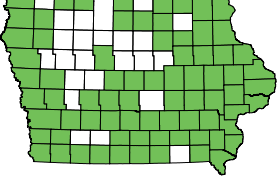
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| *Greater Straw Sedge; Spreading Oval Sedge | <i>Carex normalis</i> | *top shade, side slope, bankfull, shaded stream edge | Cold, moist stratification for a minimum of 60 days, or fall planting. | 0.25oz/acre | 25,000 |  |
| Moist to wet conditions; fibrous and rhizomatous root system; self-seeding | FACW | Full sun to partial shade | Fertile soils | Open woodlands, pond edges, ditches, streambanks, prairies, meadows, fields, disturbed areas | | |
| Woodreed; sweet woodreed | <i>Cinna arundinacea</i> | | Cold, moist stratification for a minimum of 60 days or fall planting. | 0.5oz/acre | 81,000 |  |
| Wet to moist conditions; fibrous and rhizomatous root system | FACW | Partial sunlight | Fertile, loamy soils | Floodplain woodlands, thickets, swamps, moist savannas, seeps, moist ravines | | |
| *Beak grass | <i>Diarrhena obovata</i> | *top shade, side slope | Sow seeds outdoors in the late fall. Otherwise, requires cold, moist stratification for a minimum of 60 days. | 2oz/acre | 2,500 |  |
| Slightly dry to moderately moist conditions; fibrous and rhizomatous root system, often forms colonies; propagate through seeds or root division | FAC | Partial sunlight | Silt-loam, loam | Wooded slopes, upland woodlands, ravines, shaded limestone bluffs, floodplain woodlands | | |
| *Bottlebrush Grass; Eastern Bottlebrush grass | <i>Elymus hystrix (Hystrix patula)</i> | *woodland trails, top shade | No seed pretreatment necessary | 3oz/acre | 7,600 |  |
| Highly shade tolerant; moist to slightly dry conditions; a synonymous scientific name is <i>Hystrix patula</i> ; drought tolerant; self-seeding; fibrous root system; forms small colonies | FACU | Filtered sunlight to partial shade | Loamy, rocky soil, clay, can survive in a variety of soil types | Moist deciduous woodlands, rocky upland forests, edges of woodland trails, savannas, rocky glades, shady riverbanks | | |
| *Riverbank Wild Rye | <i>Elymus riparius</i> | *side slope, top shade, bankfull, shaded stream edge | No seed pretreatment necessary | 0.5lb/acre | 2,900 |  |
| Moist to wet conditions; low drought tolerance; high fire tolerance; self-seeding; great for erosion control; rhizomatous root system | FACW | Partial shade to shade | Loam, sand, clay | Meadows, streambanks, riverbanks, moist prairies, fields | | |
| *Silky Wild Rye; Downy Wild-Rye; Hairy Wildrye | <i>Elymus villosus</i> | *woodland trails, top shade, side slope | No seed pretreatment necessary | 0.5lb/acre | 5,500 |  |
| Moist to slightly dry conditions; fibrous roots | FACU | Partial Sun | Fertile soil; loam | Woodlands, edges of forests, rocky wooded slopes, savannas, floodplains of rivers and streams | | |

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| *Virginia Wild Rye | <i>Elymus virginicus</i> | *top shade, top sun, shaded stream edge, sunny trails, wooded trails | No seed pretreatment necessary | 1lb/acre | 4,200 |  |
| Moist conditions; fibrous root system; great cover crop for erosion control; easily grown from seed; tends to give way to other species over five years | | FACW | Full sun to shade | Fertile soil; loam, clay loam, sandy, can survive in a variety of soil types | Bottomland woodlands, riparian areas, riverbanks, streambanks, moist prairies, roadsides, bluffs, moist savannas, disturbed areas | |
| *Fowl Manna Grass | <i>Glyceria striata</i> | *top shade, bankfull, water's edge, shady stream | No seed pretreatment necessary. Needs light to germinate, surface sow seeds. | 0.5oz/acre | 90,000 |  |
| Wet to moist conditions; fibrous root system; self-seeding; can tolerate more sun exposure in wetter conditions | | OBL | Partial sunlight to shade | Fertile soil, loam | Swamps, marshes, streambanks, pond edges, bogs, seeps, ditches | |
| *White Grass | <i>Leersia virginica</i> | *top shade, bankfull, water's edge, shaded stream edge, side slope | No seed pretreatment necessary | N/A | N/A |  |
| Moist conditions; fibrous and rhizomatous root system; limited local commercial availability | | FACW | Partial shade | Fertile soil, loam | Swamps, floodplain woodlands, shady pond edges, streambanks, marshes, moist wooded areas, shaded slopes, disturbed areas | |
| *Woodland bluegrass | <i>Poa sylvestris</i> | *top shade, wooded trails, side slope | N/A | N/A | N/A |  |
| Moist conditions; fibrous root system; propagation through seeds only | | FAC | Partial sunlight | Fertile, loamy soils | Floodplain woodlands, wooded slopes, wooded ravines | |

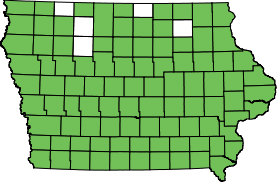
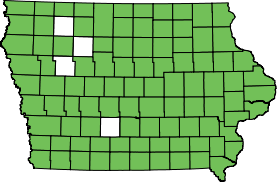
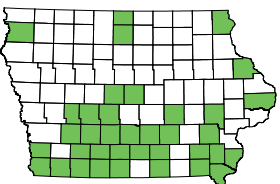
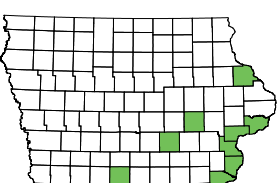
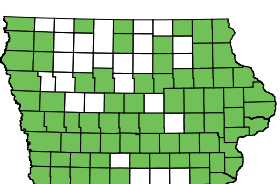
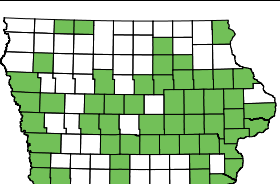
Shrubs & Vines (Top of bank PART-SHADE)

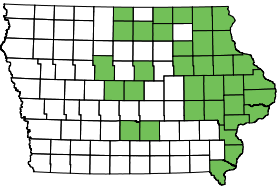
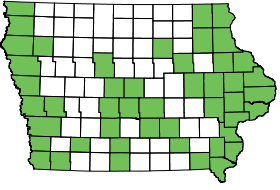
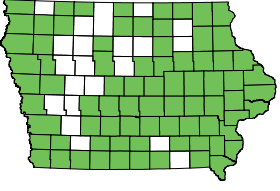
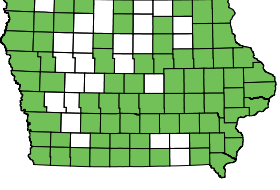
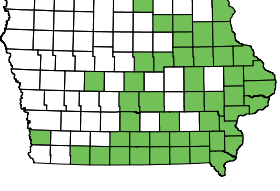
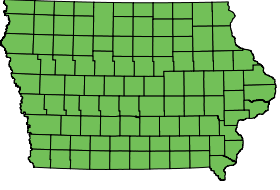
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| Eastern Redbud; Judas-tree | <i>Cercis canadensis</i> | | Acid bath scarification followed by cold, moist stratification for a minimum of 30 days and sown in spring. | N/A | N/A |  |
| Slightly dry to somewhat moist conditions; deep taproot with wide lateral roots; seed and transplant propagation most successful; excellent pollinator | | FACU | Full sun to partial shade | Alkaline soils; loam, clay loam, limestone | Wooded slopes, savannas, limestone glades, limestone bluffs, moist woodlands, riverbanks | |

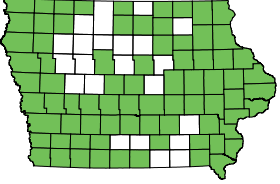
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| Virgin's bower; Devil's darning needles | <i>Clematis virginiana</i> | | Cold, moist stratification for a minimum of 30 days, or fall planting. | .125oz/acre | 16,000 |  |
| | Moderately moist to moist conditions; self-seeding; can become aggressive; excellent pollinator; easily grown from seed; vine | FAC | Partial sunlight | Fertile, moist soils; silt-loam, loam | Moist floodplain meadows, streambanks, thickets, woodland edges, moist railroads, drainage ditches, fence rows, open floodplain woodlands | |
| *Rough-leaved Dogwood | <i>Cornus drummondii</i> | *top shade, side slope | Sow seeds immediately after collection. Otherwise scarification and cold, moist stratification for a minimum of 30 days is necessary. | N/A | N/A |  |
| | Slightly dry to moist conditions; woody taproot; adaptable; excellent pollinator; invasive to prairies | FAC | Partial sun | Can survive in a variety of soil types | Marshes, lake edges, streambanks, swamps, open floodplain woodlands | |
| Gray Dogwood | <i>Cornus racemosa</i> | | Sow seeds immediately after collection. Otherwise scarification and cold, moist stratification for a minimum of 30 days is necessary. | N/A | N/A |  |
| | Moist conditions; rhizomatous root system, forms colonies; slow growth rate; propagation by seeds or cuttings | FAC | Full to partial sunlight | Can survive in a variety of soil types | Thickets, riverbanks, open woodlands, savannas, limestone glades, prairies, roadsides | |
| *Wahoo; Eastern Wahoo; Burningbush | <i>Euonymus atropurpureus</i> | *stream edge shade, top shade, side slope | Not fully known, best propagation may be through plugs or cuttings. Seeds may need both a warm followed by a cold stratification period of 60-90 days. | N/A | N/A |  |
| | Moist conditions; taproot; self-seeding; best propagation may be through plugs or cuttings | FAC | Partial shade | Fertile soil; loam, can survive in a variety of soil types | Floodplain woodlands, streambanks, moist meadows, woodland edges | |
| *Chokecherry | <i>Prunus virginiana</i> | *top shade wooded trails | Cold, moist stratification for a minimum of 60 days, or fall planting. | N/A | N/A |  |
| | Slightly dry to somewhat moist conditions; deep, spreading, rhizomatous root system; seed or root cutting propagation; excellent pollinator | FACU | Full sun to partial shade | Can survive in a variety of soil types, including acidic soils | Streambanks, bluffs, roadsides, woodlands, thickets, fields, disturbed areas | |
| *Wild Black Currant | <i>Ribes americanum</i> | *top shade, top sun, bankfull | Scarification and cold, moist stratification for a minimum of 60 days, or fall planting. | N/A | N/A |  |
| | Moist to wet conditions; self-seeding; excellent pollinator, propagate through seeds | FACW | Partial sunlight | Can survive in a variety of soil types | Swamps, meadows, fens, seeps, ravines, shaded streambanks, open floodplain woodlands | |

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| *Elderberry; American Elder | <i>Sambucus nigra canadensis</i> (formerly: <i>Sambucus canadensis</i>) | *top shade, bankfull | Acid bath scarification for 20 minutes followed by cold, moist stratification for a minimum of 60 days. | N/A | N/A |  |
| | Moist conditions; shallow, rhizomatous root system; fast growth rate; <i>Sambucus nigra canadensis</i> was formerly considered a separate species: <i>Sambucus canadensis</i> , this name is still often used; propagate through cuttings or seeds (cuttings may be fastest and easiest way) | N/A | Full to partial sunlight | Fertile soils, slightly acidic soils | Bogs, ditches, wet prairies, open woodlands, thickets, wet meadows, streambanks, railroads, fields | |
| *Western Snowberry; Wolfberry | <i>Symphoricarpos occidentalis</i> | *top sun, sunny trails | Warm stratification for a minimum of 90 days followed by cold stratification for a minimum of 120 days. | N/A | N/A |  |
| | Moist to slightly dry conditions; rhizomatous root system; stem and root cutting propagation; seed propagation is difficult; excellent pollinator | UPL | Full to partial sun | Can survive in a variety of soil types | Ditches, streambanks, floodplains, open swales, open woodlands, prairies, bluffs; disturbed areas | |
| Buckbrush; Coralberry | <i>Symphoricarpos orbiculatus</i> | top shade | Can sow outdoors with no pretreatment but plant will not germinate for 2 or more years. Otherwise scarification and three phases of stratification; cold, warm, cold for 60 days are necessary. | 1oz/acre | 5,600 |  |
| | Slightly dry to somewhat moist conditions; branching taproot; seed or cutting propagation; excellent pollinator | FACU | Full sun to partial shade | Sandy, loamy, clay soils | Open woodlands, thickets, limestone glades, streambanks, riverbanks | |
| *Nannyberry; Sheepberry | <i>Viburnum lentago</i> | *top shade, side slope | Not fully known, fall planting or cold, moist stratification for a minimum of 60 days likely needed. | N/A | N/A |  |
| | Moist conditions; shallow, woody and fibrous root system; seed or cutting propagation (cuttings may be the more successful technique) | FAC | Full sun to partial shade | Can survive in a variety of soil types | Woodlands, roadsides, streambanks, thickets, swamp edges, wooded slopes | |
| *Prickly-ash | <i>Zanthoxylum americanum</i> | *top shade, side slope | Sow seeds immediately after collection or scarification with an acid bath for 2 hours followed by cold, moist stratification for a minimum of 90 days. | N/A | N/A |  |
| | Slightly dry to somewhat moist conditions; roots have long underground runners, forms colonies; thorny; seed or cutting propagation; painful to walk through, not suitable for trails, parks, or high-use areas | FACU | Full sun to partial shade | Can survive in a variety of soil types | Riverbanks, thickets, woodlands, bluffs, savannas, roadsides streambanks, rocky hillsides | |

Trees (Top of bank PART-SHADE)

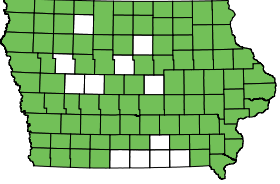
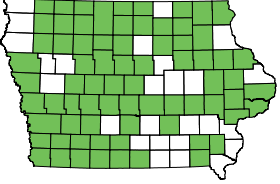
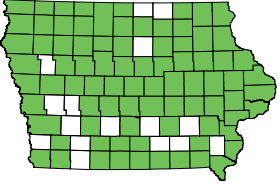
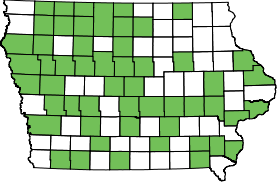
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| *Boxelder | <i>Acer negundo</i> | *top shade, bankfull | Cold, moist stratification for a minimum of 60 days, or fall planting. | N/A | N/A |  |
| | Moist conditions; shallow, fibrous root system; fast growth rate; short-lived; flood tolerant; easily grown from seed | FAC | Partial shade | Can survive in a variety of soil types | Floodplain woodlands, thickets, streambanks, ditches, roadsides, disturbed areas | |
| *Silver Maple | <i>Acer saccharinum</i> | *top shade, bankfull | Do not allow seeds to dry out. Immediate planting after seed collection is recommended. | N/A | N/A |  |
| | Moist conditions; fibrous, shallow, spreading root system; extremely rapid growth rate; seed and cutting propagation are successful; susceptible to high winds and ice; shade intolerant | FACW | Full to partial sunlight | Moist, slightly acidic soils, alluvial soils | Floodplain woodlands, riverbanks, lake shores, swamps | |
| Ohio buckeye; American Buckeye; Stinking Buckeye | <i>Aesculus glabra</i> | | Cold, moist stratification for a minimum of 90 days or fall planting. | N/A | N/A |  |
| | Moist conditions; lateral roots and taproot; self-seeding; difficult to transplant; leaves, bark, and fruit are highly toxic when ingested; not suitable for grazing area | FAC | Full sun to shade | Fertile, moist soils; loamy soils | Floodplain woodlands, riverbanks, streambanks, wooded rocky slopes | |
| *Shell-bark Hickory; Kingnut Hickory | <i>Carya laciniosa</i> | * top shade, bankfull | Cold, moist stratification for a minimum of 90 days or fall planting. | N/A | N/A |  |
| | Moist conditions; deep taproot with smaller lateral roots; self-seeding; difficult to transplant; slow growth rate; fire tolerant | FACW | Full to partial sunlight | Fertile moist soils; loam, silt | Floodplain woodlands, valleys, swamps, savannas | |
| *Hackberry | <i>Celtis occidentalis</i> | *top shade, side slope | Cold, moist stratification for a minimum of 90 days or fall planting. | N/A | N/A |  |
| | Moist to slightly dry conditions; deep, spreading lateral roots; self-seeding; fast growth rate; seed and cutting propagation are successful | FAC | Full sun to partial shade | Fertile soil, loam | Floodplain woodlands, savannas, moist upland woods | |
| *Downy Hawthorn | <i>Crataegus mollis</i> | *top shade, top sun | Not fully known, but warm stratification followed by cold stratification likely needed. Plants may not germinate until second spring. | N/A | N/A |  |
| | Moist conditions; woody, branching root system; excellent pollinator; self-seeding | FAC | Full to partial sunlight | Fertile soil, loamy | Forest edges, fields, roadsides, moist savannas, thickets, riverbanks, open floodplain woodlands | |

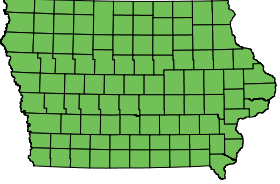
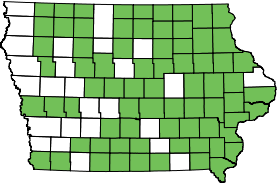
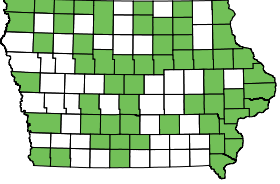
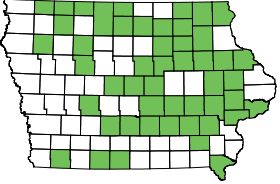
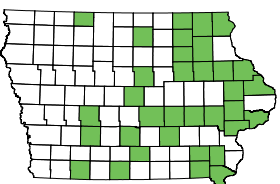
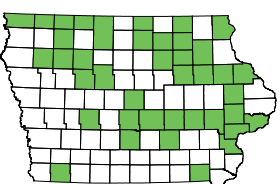
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| Black ash | <i>Fraxinus nigra</i> | | Room temperature, moist stratification for a minimum of 60 days followed by cold, moist stratification for a minimum of 90 days, or fall planting. Make take 2 years for germination. | N/A | N/A |  |
| | Wet conditions; shallow, widespread root system; self-seeding; tolerant of seasonal flooding | FACW | Full to partial sunlight | Loam, sandy loam, clay loam, peat, muck | Swamps, streambanks, seeps, springs, woody bogs, floodplain woodlands, ravines, terraces | |
| Kentucky Coffeetree | <i>Gymnocladus dioicus</i> | | Scarify seeds in an acid bath for 4-6 hours. | N/A | N/A |  |
| | Moist, well-drained conditions; seed or root cutting propagation are successful; sometimes colonies can form from root suckers; many parts of the tree are poisonous | N/A | Full to partial sunlight | Fertile soil; loamy, sandy loam soils | Floodplain woodlands, riverbanks, woodlands, lowland slopes | |
| Butternut | <i>Juglans cinerea</i> | | Cold, moist stratification for a minimum of 90 day, or fall planting. | N/A | N/A |  |
| | Moderately moist to slightly dry conditions; deep and widespread roots, with deep taproot; rapid growth rate; short-lived; mature trees are shade intolerant | FACU | Full sun to light shade | Well-drained, loose soils | Streambanks, coves, slopes, talus rock ledges, floodplain woodlands | |
| Black walnut | <i>Juglans nigra</i> | | Cold, moist stratification for a minimum of 90 days, or fall planting. | N/A | N/A |  |
| | Moist conditions; wide spreading roots with a deep taproot; self-seeding; propagation through seeds most successful; | FACU | Full to partial sunlight | Loam, silty-loam, sandy loam | Floodplain woodlands, valleys, streambanks, bluff or slope bases | |
| *Swamp White Oak | <i>Quercus bicolor</i> | *top shade, top sun, bankfull | No seed pretreatment necessary. Best results if planted immediately after collection. | N/A | N/A |  |
| | Wet to moist conditions; wide, woody root system with taproot; fast growth rate; best propagation through seeds | FACW | Full sun | Moist acidic soils, can survive in a variety of soil types | Floodplain woodlands, riverbanks, streambanks, pond edges, swamp and lake edges, lowland areas | |
| *Bur oak | <i>Quercus macrocarpa</i> | * top sun, top shade | No seed pretreatment necessary. Best results if planted immediately after collection. | N/A | N/A |  |
| | Moist conditions; deep taproot with wide horizontal roots; drought tolerant; slow growth rate; seed and cutting (of smaller pole-sized trees) propagation are successful; fire tolerant; older trees are susceptible to bur oak blight (BOB), a fungal disease | FAC | Full to partial sunlight | Can survive in a variety of soil types, prefers alluvial soils | Savannas, streambanks, floodplain woodlands, upland woodlands | |

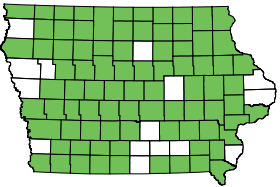
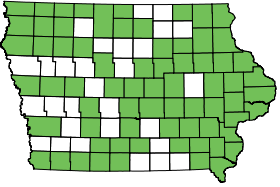
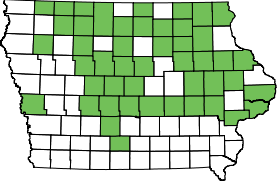
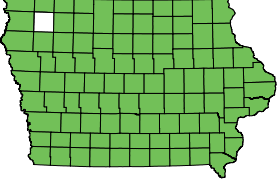
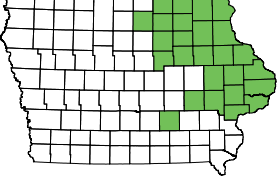
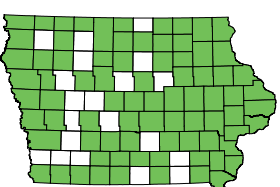
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| American basswood; American Linden | <i>Tilia americana</i> | | Acid bath scarification followed by cold, moist stratification for a minimum of 90 days, or plant immediately after collection. Seeds can remain dormant for up to 3 years. | N/A | N/A |  |
| Slightly dry to somewhat moist conditions; spreading, woody, lateral root system; excellent pollinator; fast growth rate; sprouts abundantly from stumps | | FACU | Full sun to partial shade | Fertile soil, loam, sandy loam, silt loam | Upland woodlands, floodplain woodlands, riverbanks, ravines | |

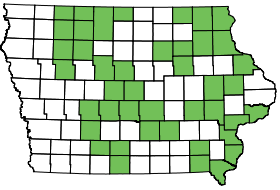
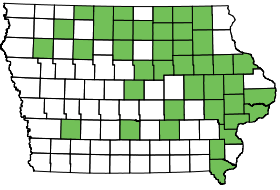
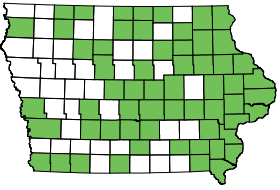
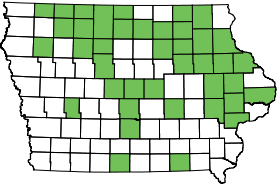
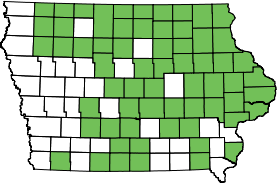
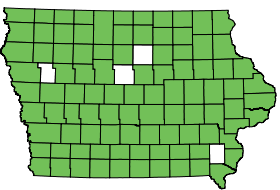
Top of Bank, FULL SUN (Ecologically a wet-mesic prairie)

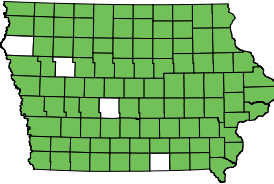
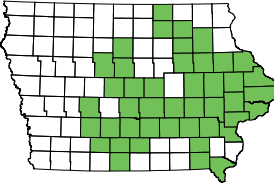
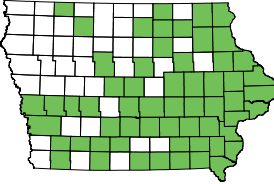
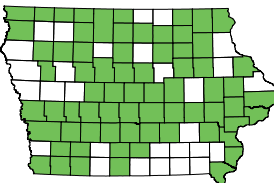
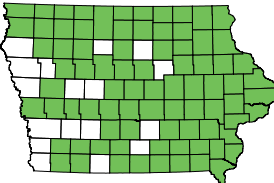
Forbs

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| *Canada Anemone; Meadow Anemone | <i>Anemone canadensis</i> | *top sun, bankfull, sunny trail | Can sow outdoors with no pretreatment but plant will not germinate for 2 or more years. Otherwise three phases of stratification; cold, warm, cold for 60 days are necessary. | 1oz/acre | 8,000 |  |
| Moist to wet conditions; rhizomatous root system, often forms colonies; can become aggressive | | FACW | Full sun to partial shade | Loamy, gravelly, sandy soils | Meadows, prairies, open floodplain woodlands, streambanks, swamps, ditches | |
| Prairie Indian Plantain; tuberous indian plantain | <i>Arnoglossum plantagineum (Cacalia plantaginea)</i> | | N/A | 1.5oz/acre | 4,700 |  |
| Moist conditions; fibrous root system; self-seeding; indicator of high quality habitat | | FAC | Full to partial sunlight | Fertile soils | Remnant prairies, fens, marshes, loess bluffs, meadows along rivers, savannas, thickets, fens, remnant bogs, high quality habitat | |
| *Swamp Milkweed; Pink Milkweed; Rose Milkweed | <i>Asclepias incarnata</i> | *Top sun, water's edge, bankfull | Cold, moist stratification for a minimum of 30 days, or fall planting. | 1.5oz/acre | 4,800 |  |
| Wet to moist conditions; rhizomatous root system, can form colonies; excellent pollinator | | OBL | Full sun to partial shade | Wet soils; clay | Moist meadows, floodplain woodlands, swamps, riverbanks, prairies, marshes, roadsides, riparian areas | |
| Sullivant's Milkweed; Prairie Milkweed | <i>Asclepias sullivantii</i> | | Cold, moist stratification for a minimum of 30 days, or fall planting. | 1oz/acre | 4,500 |  |
| Mesic to wet conditions; rhizomatous root system; excellent pollinator | | N/A | Full sun | Can survive in a variety of moist soil types; loamy soils | Prairies, moist meadows, ditches, river bottomlands | |

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| *Common Milkweed; Silkweed | <i>Asclepias syriaca</i> | *top sun, side slope, sunny trail | Cold, moist stratification for a minimum of 30 days, or fall planting. | 0.5oz/acre | 4,000 |  |
| Slightly dry to somewhat moist conditions; rhizomatous root system; seed and rhizome cutting propagation; can spread aggressively; excellent pollinator; can be considered weedy; drought tolerant | | FACU | Full sun | Sandy, rocky, clay | Prairies, riverbanks, streambanks, forest edges, roadsides, thickets, railroads, open woodlands, disturbed areas | |
| Grass-leaved goldenrod; Flat-top goldentop | <i>Euthamia graminifolia</i> (<i>Solidago graminifolia</i>) | | Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds. | 0.25oz/acre | 350,000 |  |
| A synonymous scientific name is <i>Solidago graminifolia</i> ; fibrous and rhizomatous root system; moist conditions; easily grown from seed or root division; can become aggressive; excellent pollinator | | FACW | Full sun | Can survive in a variety of soil types | Moist prairies, fens, marsh edges, seeps, lake edges, fields, ditches | |
| Blunt leaf bedstraw; Wild madder | <i>Galium obtusum</i> | | Do not allow seeds to dry out. Immediate planting after seed collection is recommended. | N/A | N/A |  |
| Moist to wet conditions; fibrous root system | | FACW | Full to partial sunlight | Wet, moisture-retaining soils. | Moist prairies, floodplain woodlands, moist thickets, prairie swales, fens, seeps, swamps, wet ditches | |
| *Bottle gentian; Closed Bottle Gentian | <i>Gentiana andrewsii</i> | *top sun, bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.25oz/acre | 280,000 |  |
| Moist to wet conditions; central taproot; using plugs/transplanting may be most successful propagation technique; germination from seed can be difficult | | FACW | Full to partial sunlight | Fertile soil; clay, sandy loam | Riverbanks, open floodplain woodlands, meadows, moist prairies, swamps, thickets | |
| *Giant St. Johnswort | <i>Hypericum ascyron</i> (<i>Hypericum pyramidatum</i>) | *top shade, top sun, bankfull, side slope | Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds. | 1oz/acre | 190,000 |  |
| A synonymous scientific name is <i>Hypericum pyramidatum</i> ; moist conditions; rhizomatous root system; excellent pollinator; propagation through seeds or plugs are successful | | FAC | Full to partial sunlight | Can survive in a variety of soil types | Open woodlands, riverbanks, moist thickets, wooded slopes, meadows, marshes | |
| Marsh Vetchling; Marsh Pea | <i>Lathyrus palustris</i> | | Not fully known, likely needs scarification | 2oz/acre | 1,800 |  |
| Moist to wet conditions; fibrous and rhizomatous, often forms colonies; vine | | FACW | Full to partial sunlight | Loam, sand | Prairie remnants, interdunal swales, marsh edges, streambanks, swamps, moist meadows, fens, wet thickets | |

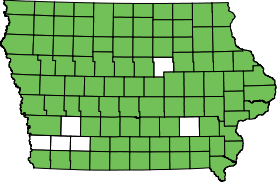
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| Prairie Blazingstar; Cat-tail gay feather | <i>Liatris pycnostachya</i> | | Cold, moist stratification for a minimum of 60 days, or fall planting. | 1oz/acre | 11,000 |  |
| | Moist conditions; root system consists of corms; excellent pollinator; plugs or transplants may be helpful for initial establishment | FAC | Full sun | Moist soils; sandy, rocky | | Prairies, meadows, railroads, bluffs, limestone glades, streambanks |
| *Fringed loosestrife | <i>Lysimachia ciliata</i> | *top shade, top sun | Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds. | 1oz/acre | 39,000 |  |
| | Moist to wet conditions; rhizomatous root system with a taproot; excellent pollinator; propagation through seeds or root division most successful | FACW | Full to partial sunlight | Fertile soils; loam | | Floodplain woodlands, swamps, wet thickets, marshes, streambanks, wet prairies, seeps |
| Prairie Loosestrife; Four-flower Yellow-loosestrife | <i>Lysimachia quadriflora</i> | | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.125oz/acre | 90,000 |  |
| | Wet conditions; fibrous and rhizomatous root system; can become aggressive; excellent pollinator | OBL | Full sun | Wet soil; clay, loam, sand | | Floodplains, marsh edges, wet meadows, wet prairies, swamps, fens, bogs |
| *Field mint; Marsh mint; Wild mint | <i>Mentha arvensis</i> | *top sun, bankfull, water's edge | Needs light to germinate, surface sow seeds. No other pretreatment necessary. | 0.25oz/acre | 300,000 |  |
| | Moist conditions; rhizomatous root system, forms colonies; can become aggressive; excellent pollinator; very hardy and thrives in disturbed areas | FACW | Full sun to partial sunlight | Fertile soil | | Lake shores, moist prairies, marshes, fens, landfills, disturbed areas, streambanks |
| Swamp saxifrage; Eastern swamp pseudosaxifrage | <i>Micranthes pensylvanica</i> (<i>Saxifraga pensylvanica</i>) | | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.5oz/acre | 400,000 |  |
| | A synonymous scientific name is <i>Saxifraga pensylvanica</i> moist to wet conditions; fibrous and rhizomatous root system, often forms colonies | OBL | Full to partial sunlight | Rocky, sandstone | | Wet meadows, sandstone ravines, sandstone canyons, swamps, bogs, wet thickets, wet prairies, moist woodlands, seeps, high quality areas |
| *Wild Bergamot; Beebalm | <i>Monarda fistulosa</i> | *top shade and top sun, sunny and woodland trails | No seed pretreatment necessary | 0.25oz/acre | 70,000 |  |
| | Moist, well-drained to partially dry conditions; rhizomatous with deep roots; excellent pollinator; easily grown from seed; can become aggressive; very hardy and thrives in disturbed areas; drought tolerant | FACU | Full to partial sunlight | Can survive in a variety of soil types | | Open woodlands, fields, moist meadows, ditches, edges of forests, prairies, savannas, thickets, disturbed areas |

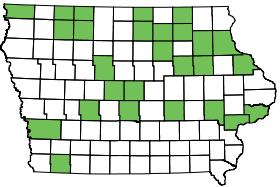
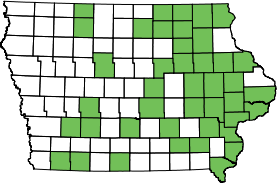
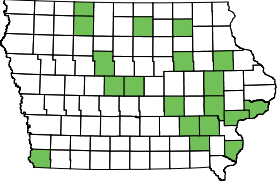
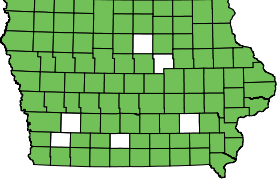
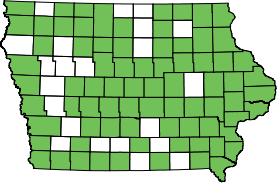
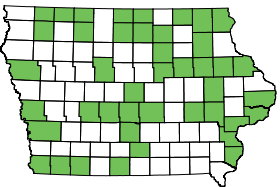
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| Balsam ragwort; Balsam Groundsel | <i>Packera paupercula</i> (<i>Senecio pauperculus</i>) | | N/A | N/A | N/A |  |
| A synonymous scientific name is <i>Senecio pauperculus</i> ; moist conditions; fibrous root system with rhizomes; | | FAC | Full to partial sunlight | Loam, sandy loam, rocky material | Moist prairies, remnant prairies, sandy savannas, fields, wet meadows, open woodlands, streambanks | |
| Marsh phlox; Wild sweetwilliam | <i>Phlox maculata</i> | | Cold, moist stratification for a minimum of 60 days, or fall planting. | 2oz/acre | 11,000 |  |
| Moist conditions; rhizomatous taproot; excellent pollinator | | FACW | Full sun to light shade | Can survive in a variety of soil types | Floodplain woodlands, open woodlands, riverbanks, fens, fields, moist meadows, prairie swales, moist ditches | |
| *Obedient Plant; False dragonhead; Virginia lions-heart | <i>Physostegia virginiana</i> | *top sun, bankfull, water's edge (problems with germination in the past) | Cold, moist stratification for a minimum of 60 days, or fall planting. | 1oz/acre | 11,000 |  |
| Moist conditions; rhizomatous root system and taproot; can become aggressive in ideal situations | | FACW | Full to partial sunlight | Moist soils; hummus, loam | Prairies, open woodlands, meadows, riverbanks, swamps, thickets, limestone glades, railroads, seeps, lake shores | |
| *Glaucous white lettuce; Purple Rattlesnake-root | <i>Prenanthes racemosa</i> (<i>Nabalus racemosus</i>) | *top sun, side slope, bankfull | Best if sown in the fall, or immediately after collection. Otherwise requires cold, moist stratification for a minimum of 120 days. | 1.5oz/acre | 20,000 |  |
| A synonymous scientific name is <i>Nabalus racemosus</i> ; wet conditions; taproot; flood tolerant | | FACW | Full sun | Sandy, calcareous, rocky | Wet meadows, lakeside wetlands, moist prairies, streambanks, thickets, fens, seeps | |
| *Mountain mint; Virginia mountain mint | <i>Pycnanthemum virginianum</i> | *top sun, bankfull, water's edge | No pretreatment necessary. Needs light to germinate, surface sow seeds. | 0.125oz/acre | 220,000 |  |
| Moist to wet conditions; rhizomatous root system, forms colonies; excellent pollinator | | FACW | Full to partial sunlight | Can survive in a variety of soil types | Prairies, meadows, fens, streambanks, thickets, swamps, bluffs, pond edges | |
| *Yellow coneflower; Gray-head coneflower; Pinnate prairie coneflower | <i>Ratibida pinnata</i> | *side slope, top sun, sunny trail | Cold, moist stratification for a minimum of 30 days, or fall planting. | 1oz/acre | 30,000 |  |
| Moist to slightly dry conditions, easily grown from seed; drought tolerant; rhizomatous, often forms colonies; excellent pollinator | | N/A | Full sun | Loam, clay loam, can survive in a variety of soil types | Dry woodlands, prairies, thickets, railroads, roadsides, forest edges, remnant prairies, disturbed areas | |

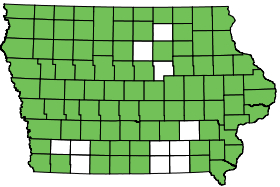
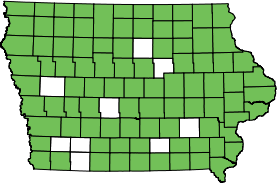
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| *Black-eyed Susan | <i>Rudbeckia hirta</i> | *Top shade & sun, side slope, sunny trail | Cold, moist stratification for a minimum of 30 days or fall planting. | 0.5oz/acre | 92,000 |  |
| | Opportunistic species, does well in disturbed areas; fast maturation; slightly moist to dry conditions; can tolerate above-average rainfall in well-drained conditions; central taproot; biennial | FACU | Full to partial sunlight | Fertile soil; clay loam, sandy loam | Slightly wet to dry prairies, meadows, roadside ditches, savannas, rocky areas, and disturbed sites | |
| *Sweet coneflower; Sweet black-eyed susan | <i>Rudbeckia subtomentosa</i> | *side slope, top sun, sunny trail | Cold, moist stratification for a minimum of 30 days, or fall planting. | 0.5oz/acre | 43,000 |  |
| | Moist, well-drained conditions; germinates readily; moderately drought tolerant; rhizomatous | FACU | Full sun to partial sunlight | Loam, sandy loam, clay | Moist prairies, open woods, savannas, thickets, riverbanks, streambanks, roadsides, ditch slopes, disturbed areas | |
| *Brown-eyed Susan | <i>Rudbeckia triloba</i> | *top sun, top shade, woodland trails | Cold, moist stratification for a minimum of 30 days, or fall planting. | 1oz/acre | 34,000 |  |
| | Moist conditions; fibrous root system; self-seeding; drought tolerant; biennial | FACU | Full to partial sunlight | Fertile soil; loamy, gravelly, clay, sandy | Prairies, savannas, open forests, riverbanks, streambanks, tickets, roadsides, disturbed areas | |
| *Panicked aster; Lance leaf aster | <i>Symphotrichum lanceolatum</i> (<i>Aster lanceolatus</i>) | *top shade, top sun | No seed pretreatment necessary | 0.5oz/acre | 156,000 |  |
| | An older synonymous scientific name is <i>Aster lanceolatus</i> , which is used by many nurseries; moist conditions; fibrous and rhizomatous root system; excellent pollinator; can be propagated through seeds or division; | FAC | Full to partial sunlight | Can survive in a variety of soil types | Low prairies; open floodplain woodlands; thickets; seeps; marsh edges; ditches; moist shorelines; disturbed areas | |
| *New England aster; New England American-Aster | <i>Symphotrichum novae-angliae</i> (<i>Aster novae-angliae</i>) | *top sun, bankfull, side slope, woodland trail | Cold, moist stratification for a minimum of 60 days, or fall planting. | 1oz/acre | 66,000 |  |
| | A synonymous scientific name is <i>Aster novae-angliae</i> which is used by many nurseries; moist conditions; fibrous and rhizomatous root system; can become aggressive; excellent pollinator | FACW | Full or partial sunlight | Fertile, moist soil; clay, loam | Prairies, meadows, riverbanks, thickets, railroads, roadsides, open woodlands, disturbed areas | |

| | | | | | | |
|--|--|---|---|---|---|---|
| *Willow Aster | <i>Symphotrichum praealtum (Aster praealtus)</i> | *top sun, sunny trails, wooded trail | Cold, moist stratification for a minimum of 30 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.125oz/acre | 130,000 |  |
| | A synonymous scientific name is <i>Aster praealtus</i> , often used by nurseries; moist conditions; fibrous and rhizomatous root system, often forms colonies; can become aggressive; excellent pollinator | FACW | Full to partial sunlight | Fertile, loamy soils | Moist prairies, fields, ditches, thickets, lakeside and riverside meadows | |
| *American germander | <i>Teucrium canadense</i> | *top shade, top sun | Cold, moist stratification for a minimum of 60 days or fall planting. | 0.125oz/acre | 20,000 |  |
| | Moist conditions; fibrous and rhizomatous root system, forms colonies; can become aggressive; considered weedy; readily germinates from seeds | FACW | Partial sunlight | Well-drained soils; loamy, sandy, loam clay | Wet prairies, meadows, marshes, ditches, moist woods | |
| *Purple meadow-rue; Tall meadow-rue | <i>Thalictrum dasycarpum</i> | * top sun, bankfull, side slope | Late fall planting is recommended. Otherwise cold, moist stratification for a minimum of 60 days is required. | 1.5oz/acre | 11,000 |  |
| | Moist to wet conditions; fibrous and rhizomatous root system | FACW | Full sun to partial sunlight | Loamy, sandy, rocky, clay loam soils | Prairies, moist meadows, streambanks, savannas, open woodlands, open floodplain woodlands, swamps | |
| *Blue Vervain; Swamp Verbena | <i>Verbena hastata</i> | *top shade, top sun, side slope, bankfull, water's edge | Cold, moist stratification for a minimum of 30 days or fall planting. Needs light to germinate, surface sow seeds. | 0.25oz/acre | 93,000 |  |
| | Collect seeds in late summer to early fall; moist planting conditions; tolerates temporary standing water; most successful propagation by seeds; excellent pollinator; fibrous and rhizomatous root system | FACW | Full to partial sunlight | Fertile loam or wet muck | River-bottom prairies, meadows, roadside ditches, pastures, marshes, and riverbanks | |
| *Ironweed; Smooth Ironweed; Prairie Ironweed | <i>Vernonia fasciculata</i> | *top sun, side slope | Cold, moist stratification for a minimum of 60 days or fall planting. | 1oz/acre | 24,000 |  |
| | Moist conditions; fibrous root system; excellent pollinator | FACW | Full to partial sunlight | Fertile, moist soil | Moist prairies, marshes, field edges, wetlands | |
| *Golden Alexanders | <i>Zizia aurea</i> | *side slope, top sun | Late fall planting is recommended. | 0.5oz/acre | 11,000 |  |
| | Moist conditions; 1.5-3' tall; fibrous root system; excellent pollinator | FAC | Full to partial sunlight | Moist soils; loamy, sandy | Moist prairies, open woods, meadows, edges of woodland trails, savannas, thickets, fields, bluffs | |

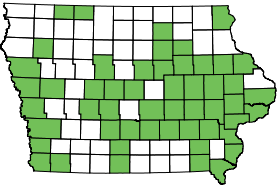
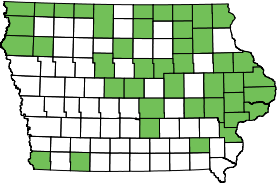
Grasses, Sedges, & Rushes (Top of bank FULL SUN)

| | | | | | | |
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| *Big bluestem | <i>Andropogon gerardii</i> | *top sun, side slope | Firm soil for seeding is recommended. | 1lb/acre | 10,000 |  |
| Moist conditions; easily grown from seed; great for erosion control; drought tolerant; rhizomatous with deep main roots; fire tolerant | FAC | Full sun | Fertile soils; clay loam, loamy, sandy | Prairies, savannas, roadsides, limestone glades, meadows | | |
| *Crested Sedge | <i>Carex cristatella</i> | *top sun, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. | 1oz/acre | 58,000 |  |
| Moist to wet conditions; fibrous and rhizomatous root system; self-seeding | FACW | Full to partial sunlight | Loam, silt-loam | Wet prairies, open floodplain woodlands, swamps, wet marshes, sloughs, wet meadows, streambanks, ditches | | |
| *Hayden's sedge; Cloud sedge | <i>Carex haydenii</i> | *top sun, bankfull | Cold, moist stratification for a minimum of 60 days, or fall planting. | 1.5oz/acre | 38,000 |  |
| Wet conditions; fibrous and rhizomatous root system; tolerates seasonal flooding | OBL | Full sun | Moist, sandy soils | Wet prairies, sandy river floodplains, swamps, marshes, sedge meadows, fens, bogs, sandy ditches | | |
| *Plains Slough Sedge; smoot cone sedge; long-toothed lake sedge | <i>Carex laeviconica</i> | *top sun, side slope, bankfull | Cold, moist stratification for a minimum of 60 days, or fall planting. | 1oz/acre | 7,500 |  |
| Wet to moist conditions; fibrous and rhizomatous root system, often forms colonies; can become aggressive | OBL | Full to partial sunlight | Can survive in a variety of moist loamy based soils | Sedge swales, marsh edges, prairies, sloughs, open floodplain woodlands, sedge meadows, swamps, riverbanks, ditches | | |
| Woolly sedge | <i>Carex pellita (Carex lanuginosa)</i> | | Cold, moist stratification for a minimum of 60 days, or fall planting. | 2oz/acre | 28,000 |  |
| Moist to wet conditions; fibrous and rhizomatous root system | OBL | Full to partial sunlight | Can survive in a variety of soil types | Moist prairies, sedge meadows, marshes, bogs, swamps, open floodplain woodlands, ditches | | |
| Clustered field sedge; freeway sedge | <i>Carex praegracilis</i> | | N/A | 1.5oz/acre | 37,000 |  |
| Moist to wet conditions; fibrous and rhizomatous root system; tolerates salty/alkaline conditions | FACW | Full sun | Moist alkaline soils | Moist prairies, ditches, roadway medians, meadows, swales, open woodlands, shorelines, ditches, | | |

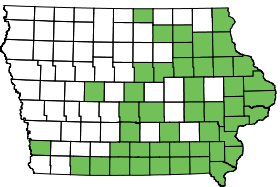
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| Running marsh sedge; Sartwell's sedge | <i>Carex sartwellii</i> | | Cold, moist stratification for a minimum of 60 days, or fall planting. | 1oz/acre | 41,000 |  |
| Moist conditions; fibrous and rhizomatous root system | | FACW | Full sun | Moist, fertile soils | Moist prairies, fens, marshes | |
| *Pointed Broom Sedge | <i>Carex scoparia</i> | *top sun, bankfull | Cold, moist stratification for a minimum of 60 days, or fall planting. | 2oz/acre | 84,000 |  |
| Moist to wet conditions; fibrous and rhizomatous root system; | | FACW | Full sun | Can survive in a variety of soil types | Wet prairies, marshes, streambanks, ditches, seeps, fens, pond edges, open floodplain woodlands, sedge meadows | |
| Prairie straw sedge | <i>Carex suberecta</i> | | N/A | N/A | N/A |  |
| Wet to moist conditions; fibrous and rhizomatous root system | | OBL | Full to partial sunlight | Calcareous soils | Moist prairies, fens, meadows, seeps, prairie swales, mudflats | |
| *Canada Wild Rye | <i>Elymus canadensis</i> | *top sun, sunny trail, side slope | No seed pretreatment necessary | 0.5 lb/acre | 5,200 |  |
| Moist to dry conditions; great for erosion control; rapid establishment; easily grown from seed; moderately drought tolerant; fibrous root system | | FACU | Full to partial sun | Can survive in a variety of soil types | Prairies, savannas, bluffs, river streambanks, railroads, open woodlands, sandy shores and dunes, disturbed areas | |
| *Virginia Wild Rye | <i>Elymus virginicus</i> | *top shade, top sun, shaded stream edge, sunny trails, wooded trails | No seed pretreatment necessary | 1lb/acre | 4,200 |  |
| Moist conditions; fibrous root system; great cover crop for erosion control; easily grown from seed; tends to give way to other species over five years | | FACW | Full sun to shade | Fertile soil; loam, clay loam, sandy, can survive in a variety of soil types | Bottomland woodlands, riparian areas, riverbanks, streambanks, moist prairies, roadsides, bluffs, moist savannas, disturbed areas | |
| *Dudley's Rush | <i>Juncus dudleyi</i> | *top sun, side slope, bankfull, water's edge, sunny trails | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.125oz/acre | 3,200,000 |  |
| Moist to wet conditions; fibrous and rhizomatous root system; can spread aggressively | | FACW | Full sun | Loam, clay loam, gravel | Streambanks, wet meadows, pond edges, moist prairies, swales, ditches, fens | |

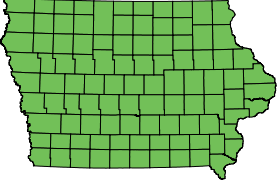
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| *Switchgrass | <i>Panicum virgatum</i> | *top sun, bankfull | No seed pretreatment necessary | 1oz/acre | 14,000 |  |
| Moist conditions; fibrous and rhizomatous root system; can become aggressive, do not over-plant; fire tolerant | FAC | Full to partial sunlight | Can survive in a variety of soil types | Prairies, fields, savannas, open woodlands, dunes, marsh edges, riverbanks, bluffs, ditches, railroads | | |
| *Indiangrass; Yellow Indian grass | <i>Sorghastrum nutans</i> | *top sun, side slope | No seed pretreatment necessary | 1lb/acre | 12,000 |  |
| Moist to slightly dry conditions; fibrous and rhizomatous root system, can become aggressive; high drought tolerance; fire tolerant; self-seeding | FACU | Full to partial sunlight | Can survive in a variety of soil types | Prairies, savannas, roadsides, railroads, glades, remnant prairies, open woodlands, ditches | | |

Shrubs & Vines (If the area is to be managed as a prairie, minimal amounts of woody species should be planted) (Top of bank FULL SUN)

| | | | | | | |
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| *Downy Hawthorn | <i>Crataegus mollis</i> | *top shade, top sun | Not fully known, but warm stratification followed by cold stratification likely needed. Plants may not germinate until second spring. | N/A | N/A |  |
| Moist conditions; woody, branching root system; excellent pollinator; self-seeding | FAC | Full to partial sunlight | Fertile soil, loamy | Forest edges, fields, roadsides, moist savannas, thickets, riverbanks, open floodplain woodlands | | |
| *Wild Black Currant | <i>Ribes americanum</i> | *top shade, top sun, bankfull | Scarification and cold, moist stratification for a minimum of 60 days, or fall planting. | N/A | N/A |  |
| Moist to wet conditions; self-seeding; excellent pollinator, propagate through seeds | FACW | Partial sunlight | Can survive in a variety of soil types | Swamps, meadows, fens, seeps, ravines, shaded streambanks, open floodplain woodlands | | |

Trees (If the area is to be managed as a prairie, minimal amounts of woody species should be planted) (Top of bank FULL SUN)

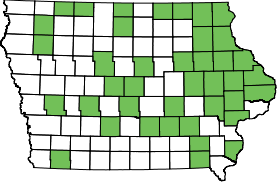
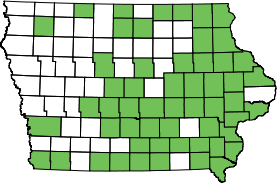
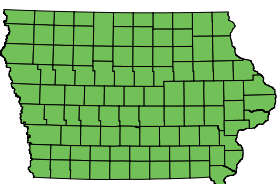
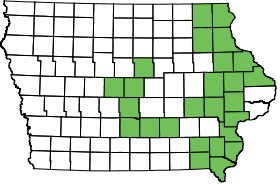
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| *Swamp White Oak | <i>Quercus bicolor</i> | *top shade, top sun, bankfull | No seed pretreatment necessary. Best results if planted immediately after collection. | N/A | N/A |  |
| Wet to moist conditions; wide, woody root system with taproot; fast growth rate; best propagation through seeds | FACW | Full sun | Moist acidic soils, can survive in a variety of soil types | Floodplain woodlands, riverbanks, streambanks, pond edges, swamp and lake edges, lowland areas | | |

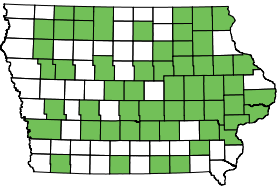
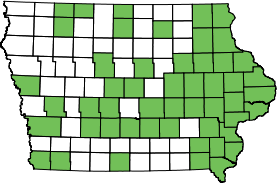
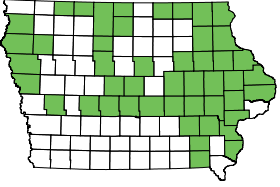
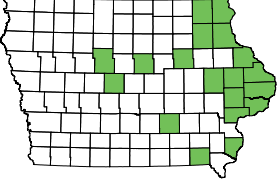
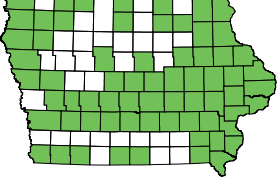
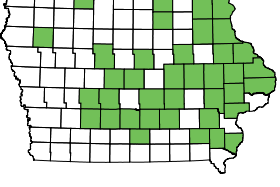
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| *Bur oak | <i>Quercus macrocarpa</i> | * top sun, top shade | No seed pretreatment necessary. Best results if planted immediately after collection. | N/A | N/A |  |
| Moist conditions; deep taproot with wide horizontal roots; drought tolerant; slow growth rate; seed and cutting (of smaller pole-sized trees) propagation are successful; fire tolerant; older trees are susceptible to bur oak blight (BOB), a fungal disease | | FAC | Full to partial sunlight | Can survive in a variety of soil types, prefers alluvial soils | Savannas, streambanks, floodplain woodlands, upland woodlands | |

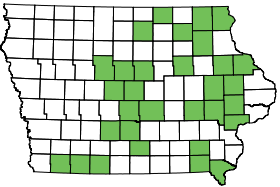
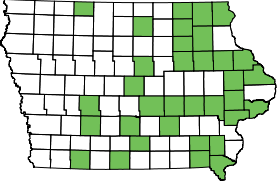
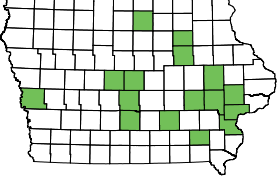
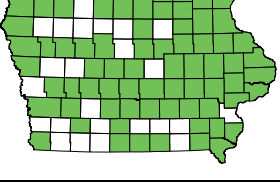
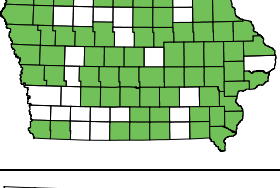
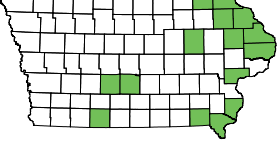
Side Slope (Ecologically a transitional ecotone between top of bank and bankfull zones)

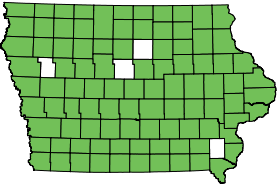
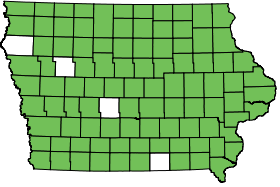
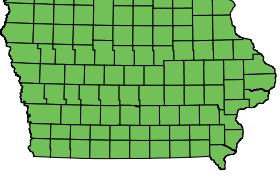
**only forbs and grasses are listed in this section because herbaceous species will hold the soil more effectively than shrubs and trees on a sloped surface.*

Forbs

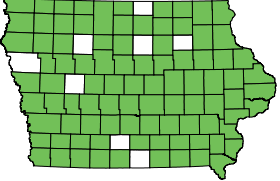
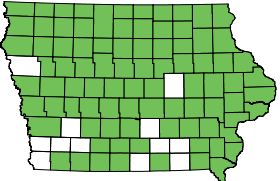
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| *Wild leek | <i>Allium tricoccum</i> | *top shade, side slope | Cold, moist stratification for a minimum of 60 days, or fall planning. | 1oz/acre | 1,400 |  |
| Slightly dry to moist conditions; ovoid bulb with fibrous roots; transplants are generally the most successful propagation type | | FACU | Light shade | Fertile, loamy soils | Upland woodlands, floodplain woodlands, wooded slopes | |
| *Wild ginger | <i>Asarum canadense</i> | *top shade, wooded trail, side slope | Sow seeds immediately after collection. May need to allow one full year for germination. | 1oz/acre | 4,400 |  |
| Slightly dry to moist conditions; shallow rhizomatous root system, often forms colonies; most successful propagation through plugs or root division | | FACU | Full to partial shade | Moist soil; Loam, slightly rocky soil | Floodplain and upland woodlands, bluffs, wooded slopes | |
| *Common Milkweed; Silkweed | <i>Asclepias syriaca</i> | *top sun, side slope, sunny trail | Cold, moist stratification for a minimum of 30 days, or fall planting. | 0.5oz/acre | 4,000 |  |
| Slightly dry to somewhat moist conditions; rhizomatous root system; seed and rhizome cutting propagation; can spread aggressively; excellent pollinator; can be considered weedy; drought tolerant | | FACU | Full sun | Sandy, rocky, clay | Prairies, riverbanks, streambanks, forest edges, roadsides, thickets, railroads, open woodlands, disturbed areas | |
| *Hairy wood mint | <i>Blephilia hirsuta</i> | *top shade, side slope | Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds. | 0.5oz/acre | 240,000 |  |
| Moist conditions; fibrous and rhizomatous root system, often forms colonies | | FACU | Full to partial sunlight | Loamy, rocky soils | Woodland edges, thickets, limestone glades, woody slopes | |

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| *Spring Cress | <i>Cardamine bulbosa</i> | *bankfull, side slope | Not fully known, sow outdoors immediately after collection | N/A | N/A |  |
| | Wet to moist conditions; tuberous and fibrous rootstock; can be propagated through seeds or tubers; | OBL | Partial sunlight | Moist fertile soil, loam, sandy loam | Floodplain woodlands, seeps, springs, moist meadows, damp low spots in rocky bluffs, marshes, fens | |
| *Cutleaf toothwort | <i>Cardamine concatenata (Dentaria laciniata)</i> | *top shade, side slope | Cold, moist stratification for a minimum of 60 days or fall planting. | 1oz/acre | 22,000 |  |
| | A synonymous scientific name is <i>Dentaria laciniata</i> ; moist conditions; rhizomatous root system, often form colonies; propagation through transplant/root division most successful | FACU | Partial shade | Well-drained soils | Floodplain woodlands, woody slopes, bluffs | |
| *Blue cohosh | <i>Caulophyllum thalictroides</i> | *top shade, side slope | Sow seeds outdoors in the fall. May take up to 3-4 years to establish. | *Transplants/plugs most successful | 70 |  |
| | Moderately moist conditions; rhizomatous and fibrous; long-lived; difficult to germinate through seeds | N/A | Light shade | Well-drained, fertile soils; loam | Moist woodlands, bluffs, woody slopes, undisturbed habitats | |
| *Squirrel corn | <i>Dicentra canadensis</i> | *top shade, side slope | Sow seeds immediately after collection. | *Transplants/plugs most successful | N/A |  |
| | Moderately moist conditions; root system consists of corms; propagation through transplants/plugs most successful | N/A | Partial shade | Loamy, sandy soils | Deciduous woodlands, woody slopes, shady streambanks, ravines | |
| *Dutchman's breeches | <i>Dicentra cucullaria</i> | *top shade, side slope | Sow seeds immediately after collection, or requires cold, moist stratification for a minimum of 60 days. | 0.5oz/acre | 17,500 |  |
| | Moist conditions; root system consists of tubers; excellent pollinator; propagate through seeds or division | N/A | Partial shade | Fertile soils | Deciduous woodlands, ravines, slopes, valleys, streambanks, undisturbed areas | |
| *False rue anemone | <i>Enemion biternatum (Isopyrum biternatum)</i> | *top shade, side slope | Likely needs cold, moist stratification for a minimum of 60 days or fall planting. | 1oz/acre | 11,000 |  |
| | Another scientific name for False Rue Anemone is <i>Isopyrum biternatum</i> . Fibrous root system, often forms colonies; can be propagated through seeds or root division | FAC | Partial shade | Fertile loamy soil | Floodplain woodlands, floodplains, wooded slopes | |

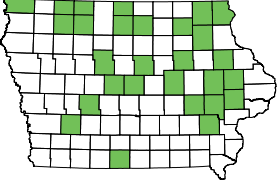
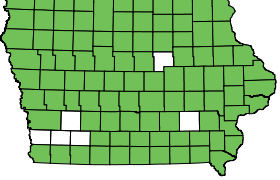
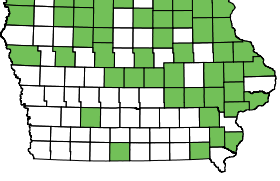
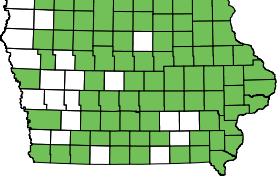
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| Cream Gentian | <i>Gentiana alba (Gentiana flavida)</i> | *side slope, sunny trails | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 1oz/acre | 140,000 |  |
| | Slightly dry to somewhat moist conditions; long taproot; a synonymous scientific name is <i>Gentiana flavida</i> ; excellent pollinator; propagation through transplants is most successful | | FACU | Full sun to partial shade | Can survive in a variety of soil types | Prairies, oak savannas, rocky bluffs, woodland edges, limestone glades, rocky or wooded slopes |
| *Giant St. Johnswort | <i>Hypericum ascyron (Hypericum pyramidatum)</i> | *top shade, top sun, bankfull, side slope | Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds. | 1oz/acre | 190,000 |  |
| | A synonymous scientific name is <i>Hypericum pyramidatum</i> ; moist conditions; rhizomatous root system; excellent pollinator; propagation through seeds or plugs are successful | | FAC | Full to partial sunlight | Can survive in a variety of soil types | Open woodlands, riverbanks, moist thickets, wooded slopes, meadows, marshes |
| *Purple rocket | <i>Iodanthus pinnatifidus</i> | *top shade, side slope, wooded trails | N/A | N/A | N/A |  |
| | Moist to wet conditions; taproot; self-seeding; easily grown from seed; excellent pollinator; tolerates seasonal flooding | | FACW | Partial sunlight | Fertile, loamy soils | Floodplain woodlands, floodplain slopes, meadows |
| *Sweet cicely | <i>Osmorhiza claytonii</i> | *top shade, side slope | Early fall planting or requires a warm, moist stratification for a minimum of 30 days, followed by a period of cold, moist stratification for a minimum of 60 days. | 1oz/acre | 2,500 |  |
| | Moderately moist conditions; fibrous root system | | FACU | Partial shade | Can survive in a variety of soil types | Wooded slopes, woodland edges; deciduous woodlands |
| *Anise root | <i>Osmorhiza longistylis</i> | *top shade, side slope | Not fully known, likely needs cold, moist stratification for a minimum of 60 days, or fall planting. | *Transplants/plugs most successful | N/A |  |
| | Moderately moist conditions; rhizomatous root system; propagation through transplants or plugs is most successful; limited local commercial availability | | FACU | Partial shade | Fertile loamy soil | Floodplain woodlands; wooded slopes, deciduous woodlands, wooded ravines |
| *Leafcup; whiteflower leafcup | <i>Polymnia canadensis</i> | *top shade, side slope | Cold, moist stratification for a minimum of 60 days or fall planting. | 1oz/acre | 6,200 |  |
| | Slightly dry to moderately moist conditions; fibrous root system; | | N/A | Partial shade | Rocky, limestone, loamy | Limestone bluffs, floodplain woodlands, wooded slopes, algific talus slopes, shady ravines, shaded streambanks |

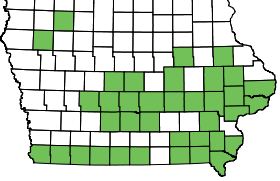
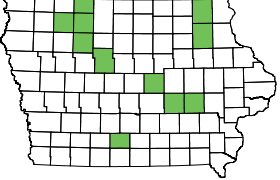
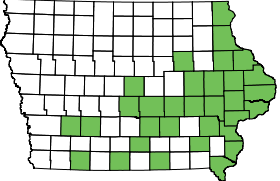
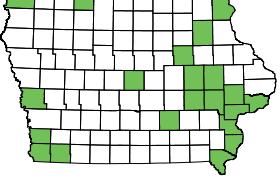
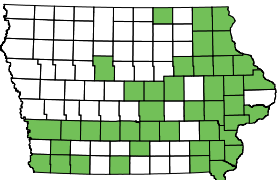
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| *Glaucous white lettuce; Purple Rattlesnake-root | <i>Prenanthes racemosa</i> (<i>Nabalus racemosus</i>) | *top sun, side slope, bankfull | Best if sown in the fall, or immediately after collection. Otherwise requires cold, moist stratification for a minimum of 120 days. | 1.5oz/acre | 20,000 |  |
| A synonymous scientific name is <i>Nabalus racemosus</i> ; wet conditions; taproot; flood tolerant | | FACW | Full sun | Sandy, calcareous, rocky | Wet meadows, lakeside wetlands, moist prairies, streambanks, thickets, fens, seeps | |
| *Yellow coneflower; Gray-head coneflower; Pinnate prairie coneflower | <i>Ratibida pinnata</i> | *side slope, top sun, sunny trail | Cold, moist stratification for a minimum of 30 days, or fall planting. | 1oz/acre | 30,000 |  |
| Moist to slightly dry conditions, easily grown from seed; drought tolerant; rhizomatous, often forms colonies; excellent pollinator | | N/A | Full sun | Loam, clay loam, can survive in a variety of soil types | Dry woodlands, prairies, thickets, railroads, roadsides, forest edges, remnant prairies, disturbed areas | |
| *Black-eyed Susan | <i>Rudbeckia hirta</i> | *Top shade & sun, side slope, sunny trail | Cold, moist stratification for a minimum of 30 days or fall planting. | 0.5oz/acre | 92,000 |  |
| Opportunistic species, does well in disturbed areas; fast maturation; slightly moist to dry conditions; can tolerate above-average rainfall in well-drained conditions; central taproot; biennial | | FACU | Full to partial sunlight | Fertile soil; clay loam, sandy loam | Slightly wet to dry prairies, meadows, roadside ditches, savannas, rocky areas, and disturbed sites | |
| *Tall coneflower; Green-head coneflower; Cutleaf coneflower | <i>Rudbeckia laciniata</i> | *shady stream edge, bankfull, top shade, side slope | Cold, moist stratification for a minimum of 30 days or fall planting. Needs light to germinate, surface sow seeds. | 1.5oz/acre | 14,000 |  |
| Moist to wet conditions; easily grown from seed; rapid growth rate through rhizomes; flood tolerant; excellent pollinator; can be considered weedy | | FACW | Full to partial sunlight, shade | Moist soil; loam | Floodplain woodlands, shady riverbanks, moist meadows, sloughs, lowland thickets and fields | |
| *Sweet coneflower; Sweet black-eyed susan | <i>Rudbeckia subtomentosa</i> | *side slope, top sun, sunny trail | Cold, moist stratification for a minimum of 30 days, or fall planting. | 0.5oz/acre | 43,000 |  |
| Moist, well-drained conditions; germinates readily; moderately drought tolerant; rhizomatous | | FACU | Full sun to partial sunlight | Loam, sandy loam, clay | Moist prairies, open woods, savannas, thickets, riverbanks, streambanks, roadsides, ditch slopes, disturbed areas | |
| *Giant Goldenrod; Tall Goldenrod; Early Goldenrod | <i>Solidago gigantea</i> | *side slope, bankfull, sunny trails, wooded trails | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.05oz/acre | 250,000 |  |
| Moist to wet conditions; fibrous and rhizomatous root system; excellent pollinator; can become aggressive | | FACW | Full sun to light shade | Moist soils; loam, clay loam, sand-loam | Floodplain woodlands, riverbanks, pond edges, wet prairies, fens, ditches | |

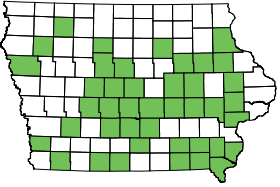
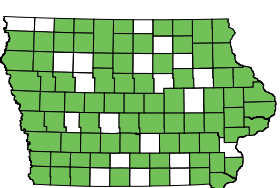
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| *New England aster; New England American-Aster | <i>Symphotrichum novae-angliae</i> (<i>Aster novae-angliae</i>) | *top sun, bankfull, side slope, woodland trail | Cold, moist stratification for a minimum of 60 days, or fall planting. | 1oz/acre | 66,000 |  |
| A synonymous scientific name is <i>Aster novae-angliae</i> which is used by many nurseries; moist conditions; fibrous and rhizomatous root system; can become aggressive; excellent pollinator | | FACW | Full or partial sunlight | Fertile, moist soil; clay, loam | Prairies, meadows, riverbanks, thickets, railroads, roadsides, open woodlands, disturbed areas | |
| *Purple meadow-rue; Tall meadow-rue | <i>Thalictrum dasycarpum</i> | * top sun, bankfull, side slope | Late fall planting is recommended. Otherwise cold, moist stratification for a minimum of 60 days is required. | 1.5oz/acre | 11,000 |  |
| Moist to wet conditions; fibrous and rhizomatous root system | | FACW | Full sun to partial sunlight | Loamy, sandy, rocky, clay loam soils | Prairies, moist meadows, streambanks, savannas, open woodlands, open floodplain woodlands, swamps | |
| *Meadow parsnip; Hairy-jointed meadow parsnip | <i>Thaspium barbinode</i> | *top shade, side slope | Likely does well with fall planting | N/A | N/A |  |
| Moderately moist conditions; taproot | | FACU | Full to partial sunlight | Can survive in a variety of soil types | Moist prairies, open wooded slopes, sandy savannas, bluffs, lake edges | |
| *Blue Vervain; Swamp Verbena | <i>Verbena hastata</i> | *top shade, top sun, side slope, bankfull, water's edge | Cold, moist stratification for a minimum of 30 days or fall planting. Needs light to germinate, surface sow seeds. | 0.25oz/acre | 93,000 |  |
| Collect seeds in late summer to early fall; moist planting conditions; tolerates temporary standing water; most successful propagation by seeds; excellent pollinator; fibrous and rhizomatous root system | | FACW | Full to partial sunlight | Fertile loam or wet muck | River-bottom prairies, meadows, roadside ditches, pastures, marshes, and riverbanks | |
| *Ironweed; Smooth Ironweed; Prairie Ironweed | <i>Vernonia fasciculata</i> | *top sun, side slope | Cold, moist stratification for a minimum of 60 days or fall planting. | 1oz/acre | 24,000 |  |
| Moist conditions; fibrous root system; excellent pollinator | | FACW | Full to partial sunlight | Fertile, moist soil | Moist prairies, marshes, field edges, wetlands | |
| *Yellow violet | <i>Viola pubescens</i> | *top shade, side slope | Best if sown in the fall. Otherwise, requires cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds. | 1.5oz/acre | 8,500 |  |
| Moderately moist conditions; rhizomatous root system; propagation through seeds most successful | | FACU | Partial sunlight | Fertile soil, loam, sandy loam | Deciduous woodlands, thickets, floodplain woodlands, sandy woodlands, wooded slopes | |

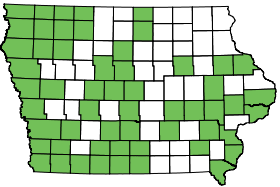
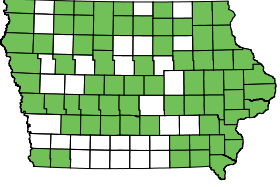
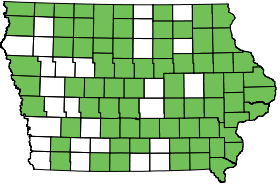
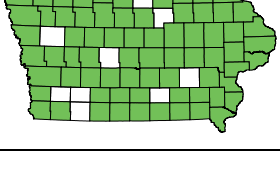
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| *Common blue violet | <i>Viola sororia</i> | *top shade, wooded trails, sunny trails, side slope | Best if sown in the fall. Otherwise, requires cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds. | 0.5oz/acre | 23,000 |  |
| | Moderately moist conditions; rhizomatous root system; self-seeding; easily grown from seed; can become aggressive in optimum conditions | FAC | Partial sunlight | Fertile soil; loam, clay loam | Moist black prairies, savannas, wooded slopes along streams, woodland edges, open floodplain woodlands | |
| *Golden Alexanders | <i>Zizia aurea</i> | *side slope, top sun | Late fall planting is recommended. | 0.5oz/acre | 11,000 |  |
| | Moist conditions; 1.5-3' tall; fibrous root system; excellent pollinator | FAC | Full to partial sunlight | Moist soils; loamy, sandy | Moist prairies, open woods, meadows, edges of woodland trails, savannas, thickets, fields, bluffs | |

Grasses, Sedges, & Rushes (Side Slope)

| | | | | | | |
|---|--|-------------------------------------|---|--|--|---|
| *Shortawn foxtail; Short-Awn Meadow Foxtail | <i>Alopecurus aequalis</i> | *bankfull, water's edge, side slope | N/A | N/A | N/A |  |
| | Cool wet conditions; fibrous root systems, often forms colonies; limited local commercial availability | OBL | Full to partial sunlight | Wet soil; muck | Wet meadows, pond edges, ditches, swamps, bog edges, prairie swales, riverbanks, disturbed areas | |
| *Big bluestem | <i>Andropogon gerardii</i> | *top sun, side slope | Firm soil for seeding is recommended. | 1lb/acre | 10,000 |  |
| | Moist conditions; easily grown from seed; great for erosion control; drought tolerant; rhizomatous with deep main roots; fire tolerant | FAC | Full sun | Fertile soils; clay loam, loamy, sandy | Prairies, savannas, roadsides, limestone glades, meadows | |
| *Earlyleaf brome | <i>Bromus latiglumis</i> | *top shade, side slope | Cold, moist stratification for a minimum of 30 days or fall planting. | 1oz/acre | 7,600 |  |
| | Moist conditions; fibrous root system; propagation through seeds most successful | FACW | Partial shade | Clay, loam, sand | Floodplain woodlands, meadows, fields, wooded slopes, low-land prairies, streambanks, | |
| *Bluejoint Grass | <i>Calamagrostis canadensis</i> | *bankfull, water's edge, side slope | Needs light to germinate, surface sow seeds. No other pretreatment necessary. | 0.125oz/acre *transplants/plugs more successful | 280,000 |  |
| | Wet to moist conditions; fibrous and rhizomatous root system, can form colonies; can become aggressive; Plugs/transplants generally more successful than seed propagation, seeds can be fragile; fire tolerant | OBL | Full to partial sunlight | Can survive in a variety of soil types | Swamps, marshes, ditches, meadows, streambanks, lake shores, wet prairies, prairie swales, bogs | |

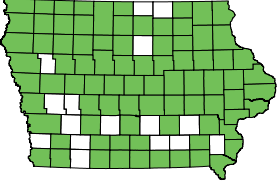
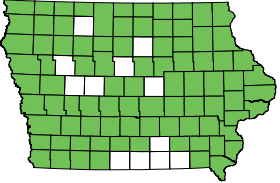
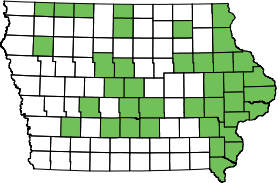
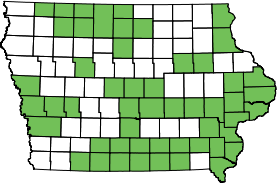
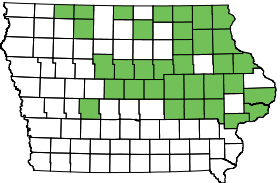
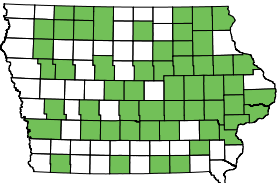
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| *Awned Graceful Sedge; Davis' Sedge | <i>Carex davisii</i> | *top of bank shade, side slope, woodland edge | Not fully known, but cold, moist stratification for a minimum of 60 days or fall planting likely needed. May need light to germinate, surface sow seeds. | 1oz/acre | 9,000 |  |
| Moist to wet conditions; flood tolerant; fibrous and rhizomatous root system | | FAC | Partial sun | Moist soil; loam | Upland and floodplain woodlands, field edges, wooded slopes, riverbanks, moist meadows, slightly disturbed areas | |
| *Emory's Sedge | <i>Carex emoryi</i> | * side slope, bankfull, water's edge | Not fully known, but likely needs cold, moist stratification for a minimum of 60 days or fall planting. | Usually must transplant due to limited commercial availability. | N/A |  |
| Wet conditions; important restoration species for soil retention; fibrous and rhizomatous root system, forms colonies; highly scour tolerant, often found along swift streams | | OBL | Full to partial sunlight | Wet soil; muck, clay, sand | Riverbanks and streambanks | |
| *Gray's sedge; Bur sedge | <i>Carex grayi</i> | *stream edge shade, top shade, side slope, woodland trails, bankfull | Fall planting is recommended. | 2oz/acre | 1,200 |  |
| Wet to moist conditions; tolerant to seasonal flooding; full sun tolerable in wet conditions; fibrous and rhizomatous root system | | FACW | Partial shade | Fertile soil; loam, sand, silt | Moist, deciduous woodlands, sandy swamps, shady streambanks, marshes | |
| *Plains Slough Sedge; smoot cone sedge; long-toothed lake sedge | <i>Carex laeviconica</i> | *top sun, side slope, bankfull | Cold, moist stratification for a minimum of 60 days, or fall planting. | 1oz/acre | 7,500 |  |
| Wet to moist conditions; fibrous and rhizomatous root system, often forms colonies; can become aggressive | | OBL | Full to partial sunlight | Can survive in a variety of moist loamy based soils | Sedge swales, marsh edges, prairies, sloughs, open floodplain woodlands, sedge meadows, swamps, riverbanks, ditches | |
| *Greater Straw Sedge; Spreading Oval Sedge | <i>Carex normalis</i> | *top shade, side slope, bankfull, shaded stream edge | Cold, moist stratification for a minimum of 60 days, or fall planting. | 0.25oz/acre | 25,000 |  |
| Moist to wet conditions; fibrous and rhizomatous root system; self-seeding | | FACW | Full sun to partial shade | Fertile soils | Open woodlands, pond edges, ditches, streambanks, prairies, meadows, fields, disturbed areas | |

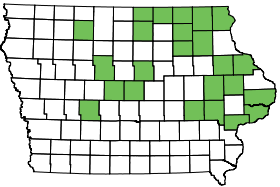
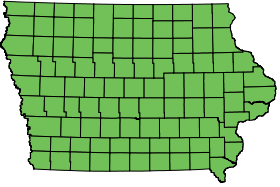
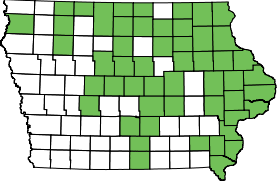
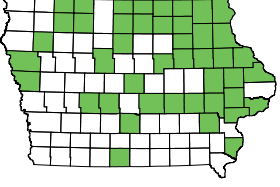
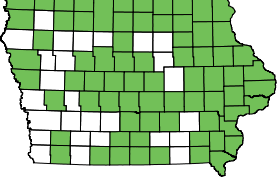
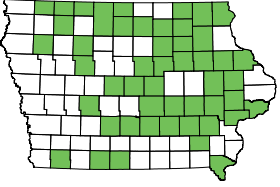
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| Hairy-fruited sedge; Hairy-fruited lake sedge | <i>Carex trichocarpa</i> | *side slope, bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. | 0.5oz/acre | 18,000 |  |
| | Wet to moist conditions, fibrous and rhizomatous root system, forms large colonies; can spread aggressively | OBL | Full to partial sunlight | Fertile soil; silt, loam | Wet prairies, wet thickets, meadows, streambanks, riverbanks, wet ditches, marshes | |
| *Beak grass | <i>Diarrhena obovata</i> | *top shade, side slope | Sow seeds outdoors in the late fall. Otherwise, requires cold, moist stratification for a minimum of 60 days. | 2oz/acre | 2,500 |  |
| | Slightly dry to moderately moist conditions; fibrous and rhizomatous root system, often forms colonies; propagate through seeds or root division | FAC | Partial sunlight | Silt-loam, loam | Wooded slopes, upland woodlands, ravines, shaded limestone bluffs, floodplain woodlands | |
| *Canada Wild Rye | <i>Elymus canadensis</i> | *top sun, sunny trail, side slope | No seed pretreatment necessary | 0.5 lb/acre | 5,200 |  |
| | Moist to dry conditions; great for erosion control; rapid establishment; easily grown from seed; moderately drought tolerant; fibrous root system | FACU | Full to partial sun | Can survive in a variety of soil types | Prairies, savannas, bluffs, river streambanks, railroads, open woodlands, sandy shores and dunes, disturbed areas | |
| *Riverbank Wild Rye | <i>Elymus riparius</i> | *side slope, top shade, bankfull, shaded stream edge | No seed pretreatment necessary | 0.5lb/acre | 2,900 |  |
| | Moist to wet conditions; low drought tolerance; high fire tolerance; self-seeding; great for erosion control; rhizomatous root system | FACW | Partial shade to shade | Loam, sand, clay | Meadows, streambanks, riverbanks, moist prairies, fields | |
| *Silky Wild Rye; Downy Wild-Rye; Hairy Wildrye | <i>Elymus villosus</i> | *woodland trails, top shade, side slope | No seed pretreatment necessary | 0.5lb/acre | 5,500 |  |
| | Moist to slightly dry conditions; fibrous roots | FACU | Partial Sun | Fertile soil; loam | Woodlands, edges of forests, rocky wooded slopes, savannas, floodplains of rivers and streams | |
| *Dudley's Rush | <i>Juncus dudleyi</i> | *top sun, side slope, bankfull, water's edge, sunny trails | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.125oz/acre | 3,200,000 |  |
| | Moist to wet conditions; fibrous and rhizomatous root system; can spread aggressively | FACW | Full sun | Loam, clay loam, gravel | Streambanks, wet meadows, pond edges, moist prairies, swales, ditches, fens | |

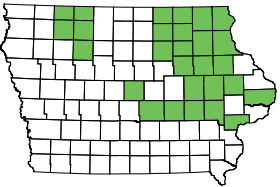
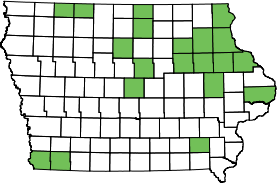
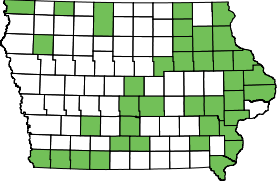
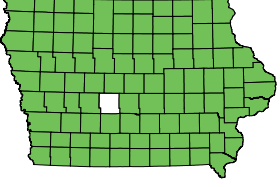
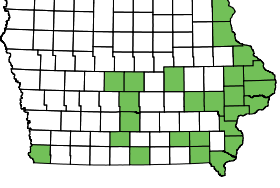
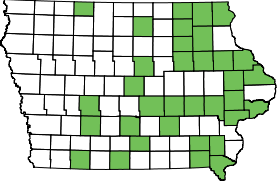
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| *Torrey's Rush | <i>Juncus torreyi</i> | *side slope, bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.125oz/acre | 1,600,000 |  |
| | Moist to fairly wet conditions; fibrous and rhizomatous root system; can spread aggressively in ideal conditions | FACW | Full sun | Acidic soils; mucky, sandy, clay soils | Prairies, pond edges, streambanks, ditches, swamps, meadows, marshes | |
| *White Grass | <i>Leersia virginica</i> | *top shade, bankfull, water's edge, shaded stream edge, side slope | No seed pretreatment necessary | N/A | N/A |  |
| | Moist conditions; fibrous and rhizomatous root system; limited local commercial availability | FACW | Partial shade | Fertile soil, loam | Swamps, floodplain woodlands, shady pond edges, streambanks, marshes, moist wooded areas, shaded slopes, disturbed areas | |
| *Wirestem muhly; Common satin grass | <i>Muhlenbergia frondosa</i> | *side slope, sunny trails, wooded trails | N/A | N/A | N/A |  |
| | Moist conditions; fibrous and rhizomatous root system, often forms colonies; can become aggressive | FACW | Full to partial sunlight | Can survive in a variety of soil types | Moist woodlands, prairies, prairie swales, bases of bluffs and wooded slopes, marsh edges, riverbanks, ditches, fields, railroads, disturbed areas | |
| *Woodland bluegrass | <i>Poa sylvestris</i> | *top shade, wooded trails, side slope | N/A | N/A | N/A |  |
| | Moist conditions; fibrous root system; propagation through seeds only | FAC | Partial sunlight | Fertile, loamy soils | Floodplain woodlands, wooded slopes, wooded ravines | |
| *Indiangrass; Yellow Indian grass | <i>Sorghastrum nutans</i> | *top sun, side slope | No seed pretreatment necessary | 1lb/acre | 12,000 |  |
| | Moist to slightly dry conditions; fibrous and rhizomatous root system, can become aggressive; high drought tolerance; fire tolerant; self-seeding | FACU | Full to partial sunlight | Can survive in a variety of soil types | Prairies, savannas, roadsides, railroads, glades, remnant prairies, open woodlands, ditches | |
| *Prairie Cordgrass; Freshwater Cordgrass; Sloughgrass | <i>Spartina pectinata</i> | *side slope, bankfull, water's edge | No seed pretreatment necessary | *Transplants/plugs most successful | 6,600 |  |
| | Moist to wet conditions; great for erosion control; can help reduce high energy of flowing waters; fibrous and rhizomatous, often forms colonies; can become aggressive; propagation through plugs or dividing the rhizomes is most successful | FACW | Full to partial sunlight | Fertile soil; loamy, sandy | Marshes, swamps, sloughs, pond edges, riverbanks, moist roadsides and railroads, prairies | |

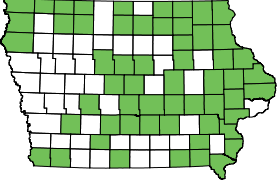
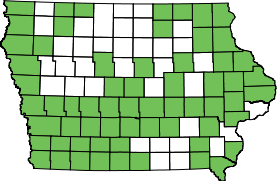
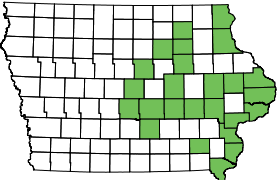
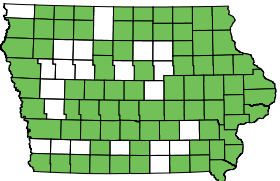
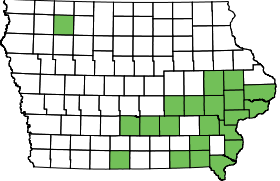
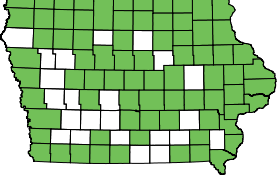
Bankfull Zone (Ecologically a temporarily flooded wetland, either a wet prairie, sedge meadow, or wet forest/woodland)

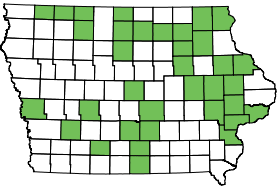
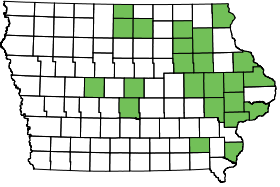
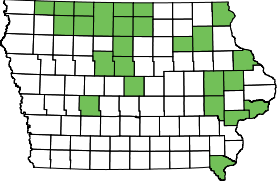
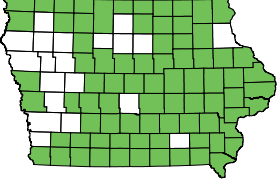
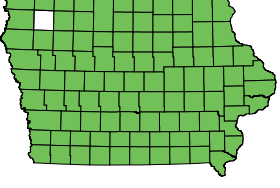
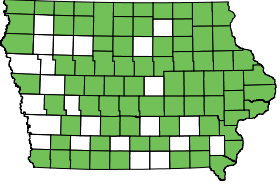
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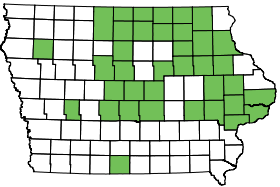
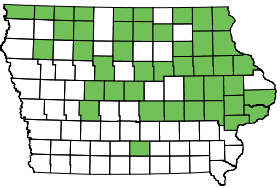
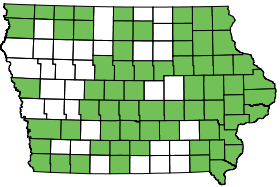
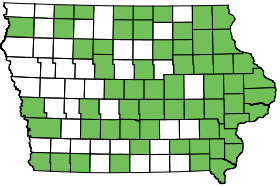
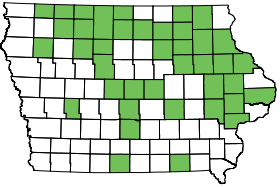
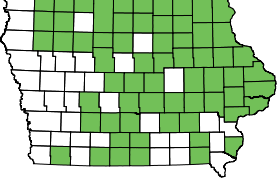
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| *Swamp Milkweed; Pink Milkweed; Rose Milkweed | <i>Asclepias incarnata</i> | *Top sun, water's edge, bankfull | Cold, moist stratification for a minimum of 30 days, or fall planting. | 1.5oz/acre | 4,800 |  |
| Wet to moist conditions; rhizomatous root system, can form colonies; excellent pollinator | | OBL | Full sun to partial shade | Wet soils; clay | | Moist meadows, floodplain woodlands, swamps, riverbanks, prairies, marshes, roadsides, riparian areas |
| *Canada Anemone; Meadow Anemone | <i>Anemone canadensis</i> | *top sun, bankfull, sunny trail | Can sow outdoors with no pretreatment but plant will not germinate for 2 or more years. Otherwise three phases of stratification; cold, warm, cold for 60 days are necessary. | 1oz/acre | 8,000 |  |
| Moist to wet conditions; rhizomatous root system, often forms colonies; can become aggressive | | FACW | Full sun to partial shade | Loamy, gravelly, sandy soils | | Meadows, prairies, open floodplain woodlands, streambanks, swamps, ditches |
| *False nettle | <i>Boehmeria cylindrica</i> | *bankfull, shaded stream edge, wooded trails | No seed pretreatment necessary | 1oz/acre | 208,000 |  |
| Moist conditions; dioecius | | OBL | Partial sunlight | Fertile, loamy soil | | Floodplain woodlands, streambanks, riverbanks, swamps, marshes , fens |
| *False Aster; White Doll's Daisy; Thousand-flowered aster | <i>Boltonia asteroides</i> | *bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 3oz/acre | 2,000 |  |
| Wet conditions; rhizomatous root system | | OBL | Full sun | Fertile soils; loam, clay | | Floodplain woodlands, thickets, prairies, meadows, streambanks, ditches, marshes |
| *Marsh Marigold | <i>Caltha palustris</i> | *bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. | 1oz/acre | 26,000 |  |
| Wet conditions; fibrous root system; self-seeding | | OBL | Full to partial sunlight | Wet soils, muck, mud | | Swamps, open floodplain woodlands, streambanks, marshes, ditches, wet meadows |
| *Spring Cress | <i>Cardamine bulbosa</i> | *bankfull, side slope | Not fully known, sow outdoors immediately after collection | N/A | N/A |  |
| Wet to moist conditions; tuberous and fibrous rootstock; can be propagated through seeds or tubers; | | OBL | Partial sunlight | Moist fertile soil, loam, sandy loam | | Floodplain woodlands, seeps, springs, moist meadows, damp low spots in rocky bluffs, marshes, fens |

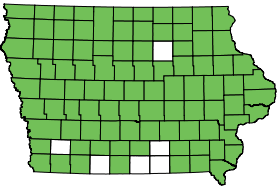
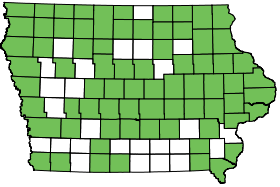
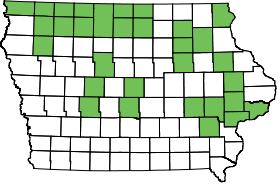
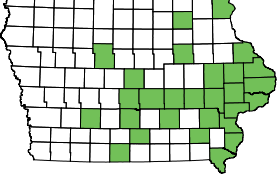
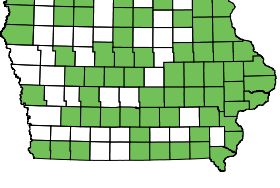
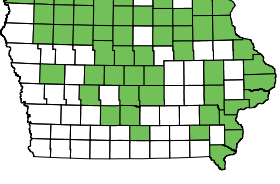
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| *White Turtlehead | <i>Chelone glabra</i> | *bankfull, water's edge | Fall planting is recommended. Otherwise cold, moist stratification for a minimum of 60 days is required. | 0.5oz/acre | 92,000 |  |
| | Wet conditions; rhizomatous root system with taproot, can form colonies | OBL | Full to partial sunlight | Fertile moist, organic soils | Floodplain woodlands, prairies, meadows, marshes, seeps, streambanks, wet ditches, pond edges, fens | |
| Water hemlock | <i>Cicuta maculata</i> | | Best if sown in the fall, or immediately after collection. Otherwise requires cold, moist stratification for a minimum of 120 days. | 1oz/acre | 12,000 |  |
| | Wet to moist conditions; fleshy root system; self-seeding; TOXIC, all parts of this plant are extremely poisonous | OBL | Full to partial sunlight | Loamy, sandy soils | Swamps, wet prairies, seeps, ditches, marshes, prairie swales, thickets | |
| *Cinnamon Willow-Herb; Purpleleaf willowherb | <i>Epilobium coloratum</i> | *bankfull, water's edge, stream edge shady | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.125oz/acre | 250,000 |  |
| | Wet to moist conditions; fibrous root system that produces rhizomes; pioneer species | OBL | Full to partial sunlight | Soil that can retain moisture | Wet prairies, marshes, riverbanks, lake shores, swamps, bogs, disturbed areas | |
| Spotted Joe-pye weed; Joe Pye weed; Spotted Trumpetweed | <i>Eutrochium maculatum</i> (<i>Eupatorium maculatum</i>) | | Cold, moist stratification for a minimum of 30 days or fall planting. Needs light to germinate, surface sow seeds. | 0.25oz/acre | 95,000 |  |
| | A synonymous scientific name is <i>Eupatorium maculatum</i> which is used by many nurseries; fibrous rhizomatous root system, often forms colonies | OBL | Full to partial sunlight | Fertile soil; silt, sandy loam | Marshes, swamps, moist prairies, sandy wetlands, wet thickets | |
| *Common boneset | <i>Eupatorium perfoliatum</i> | *Water's edge, bankfull | Cold, moist stratification for a minimum of 30 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.25oz/acre | 160,000 |  |
| | Wet to moist conditions; seed propagation; fibrous, rhizomatous root system, forms colonies; excellent pollinator; | OBL | Full to partial sunlight | Soil that can retain moisture | Wetland habitats, wet prairies, bogs, marshes, seeps, riverbanks, open floodplain woodlands | |
| *Bottle gentian; Closed Bottle Gentian | <i>Gentiana andrewsii</i> | *top sun, bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.25oz/acre | 280,000 |  |
| | Moist to wet conditions; central taproot; using plugs/transplanting may be most successful propagation technique; germination from seed can be difficult | FACW | Full to partial sunlight | Fertile soil; clay, sandy loam | Riverbanks, open floodplain woodlands, meadows, moist prairies, swamps, thickets | |

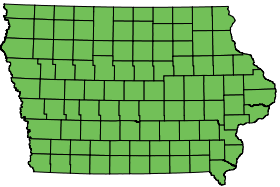
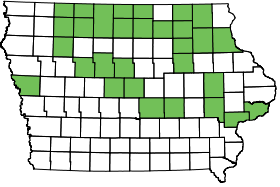
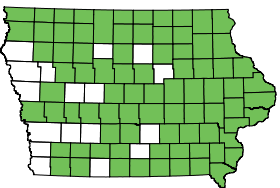
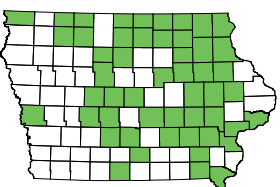
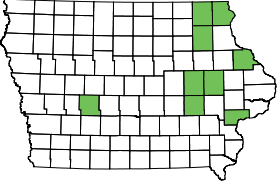
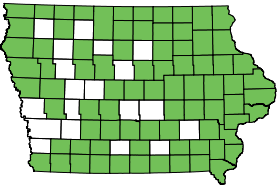
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| *Fringed gentian; Greater fringed gentian | <i>Gentianopsis crinita</i> | *water's edge, bankfull | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.25oz/acre | 200,000 |  |
| Wet to moist conditions; shallow taproot; self-seeding; rare; biennial | | OBL | Full to partial sunlight | Moist soils; sandy, calcareous soils | | Wetlands, wet prairies, sandy sloughs, fens, open floodplain woodlands, ditches, meadows, streambanks |
| *Yellow avens | <i>Geum aleppicum</i> | *top shade, bankfull | Cold, moist stratification for a minimum of 60 days or fall planting. | 1oz/acre | 20,000 |  |
| Moist to wet conditions | | FACW | Partial shade | Moist soils | | Low woodlands, fens, shady seeps, thickets, marshes, swamps, bogs |
| *Rough Avens | <i>Geum laciniatum</i> | *bankfull, water's edge | N/A | N/A | N/A |  |
| Moist to wet conditions; taproot with rhizomes | | FACW | Partial sunlight | Loam, sandy loam | | Marshes, lakeshores, savannas, thickets, moist meadows, woodland edges |
| Common Sneezeweed; Autumn sneezeweed | <i>Helenium autumnale</i> | | Needs light to germinate, surface sow seeds. No other pretreatment necessary. | 0.5oz/acre | 130,000 |  |
| Wet to moist conditions; fibrous root system; excellent pollinator; grows readily and can become dominant | | FACW | Full to partial sunlight | Moist soil; clay, loam | | Moist prairies, meadows, riverbanks, open floodplain woodlands, fens, wet pastures, marshes |
| *Halberd-Leaved Rose Mallow; Scarlet Rose Mallow; Rose Mallow | <i>Hibiscus laevis</i> | *bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. | 3oz/acre | 2,800 |  |
| Wet conditions; central taproot; self-seeding | | OBL | Full to partial sunlight | Fertile soil | | Marshes, swamps, riverbanks |
| *Giant St. Johnswort | <i>Hypericum ascyron</i> (<i>Hypericum pyramidatum</i>) | *top shade, top sun, bankfull, side slope | Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds. | 1oz/acre | 190,000 |  |
| A synonymous scientific name is <i>Hypericum pyramidatum</i> ; moist conditions; rhizomatous root system; excellent pollinator; propagation through seeds or plugs are successful | | FAC | Full to partial sunlight | Can survive in a variety of soil types | | Open woodlands, riverbanks, moist thickets, wooded slopes, meadows, marshes |

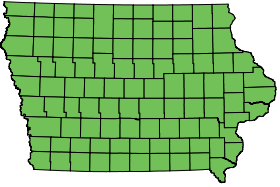
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| *Spotted touch-me-not; Orange jewelweed | <i>Impatiens capensis</i> | *top shade, shady stream edge, wooded trail, bankfull | Sow seeds immediately after collection. | 0.25oz/acre | 4,000 |  |
| Wet to moist conditions; annual; taproot; self-seeding; readily germinates from seed; excellent pollinator; shade tolerant; can become aggressive | FACW | Full to partial shade | Moist, fertile soils; clay, loam, sand | Shady bogs, floodplain woodlands, swamps, shady streambanks, wet ditches, seeps | | |
| *Pale touch-me-not; Yellow jewelweed | <i>Impatiens pallida</i> | *top shade, shady stream edge, wooded trail, bankfull | Sow seeds immediately after collection. | 1oz/acre | 1,600 |  |
| Wet to moist conditions; taproot; annual; readily germinates from seeds; excellent pollinator; can become aggressive | FACW | Partial shade | Moist soils; loamy, mucky | Swamps, open floodplain woodlands, muddy streambanks, woody edges of marshes | | |
| *Cardinal Flower | <i>Lobelia cardinalis</i> | *top shade, bankfull, shaded stream edge | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | *Transplants/plugs most successful | 400,000 |  |
| Wet to moist conditions; propagation through transplants or plugs are usually most successful; longevity sometimes limited; central taproot | OBL | Full sun to light shade | Sandy, loamy, gravelly, clay soils | Wet prairies, marsh edges, open floodplain woodlands, ditches, wet meadows, streambanks, swamps | | |
| *Great Blue Lobelia; Blue Cardinal Flower | <i>Lobelia siphilitica</i> | *top shade, bankfull, shaded stream edge, wooded trail | Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds. | 0.125oz/acre | 500,000 |  |
| Wet to moist conditions; can be established without stratification; central taproot | OBL | Full sun to partial sunlight | Fertile soil; loam, sandy loam, clay | Wet prairies, open floodplain woodlands, wet meadows, riverbanks, ditches, swamps | | |
| *Seedbox | <i>Ludwigia alternifolia</i> | *Water's edge, bankfull | Cold, moist stratification for a minimum of 60 days, or fall planting. | 0.125oz/acre | 1,300,000 |  |
| Wet to moist conditions; fibrous root system | OBL | Full to partial sunlight | Acidic soil; sandy | Swamps, riverbanks, wet prairies, ditches, floodplain woodlands, wetlands | | |
| *Water horehound; American Bugleweed; American water horehound | <i>Lycopus americanus</i> | *bankfull, water's edge, wooded trails | Needs light to germinate, surface sow seeds. No other pretreatment necessary. | 0.25oz/acre | 130,000 |  |
| Wet to moist conditions; rhizomatous root system, often forms colonies | OBL | Full to partial sunlight | Moist soils; clay, silt, loam | Wetlands, shorelines, riverbanks, marshes, ditches, wet prairies, open floodplain woodlands, wet thickets | | |

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|---|---|--|---|--|---|---|
| *Northern bugleweed | <i>Lycopus uniflorus</i> | *bankfull, water's edge, wooded trails, sunny trails | N/A | N/A | N/A |  |
| | Wet to moist conditions; tuberous roots with stolons; propagation through tubers is most successful | OBL | Full to partial sunlight | Sandy, loamy, mucky soil | Streambanks, fens, marshes, swamps, lake edges, moist meadows | |
| Swamp Loosestrife; Swamp Candles | <i>Lysimachia terrestris</i> | | N/A | 1.5oz/acre *transplants/plugs likely more successful | 60,000 |  |
| | Wet to moist conditions; rhizomatous root system; propagation through root division/plugs most successful; excellent pollinator | OBL | Full to partial sunlight | Can survive in a variety of soil types | Swamps, marshes, streambanks, moist prairies, bogs, fens | |
| Tufted loosestrife | <i>Lysimachia thyriflora</i> | | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 1oz/acre | 82,000 |  |
| | Wet to consistently moist conditions; rhizomatous root system; excellent pollinator | OBL | Full to partial sunlight | Peaty, sandy soils | Swamps, ditches, marshes, lake shores, open floodplain woodlands, bogs, wet meadows | |
| Winged Loosestrife | <i>Lythrum alatum</i> | | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | *Transplants/plugs most successful | 3,000,000 |  |
| | Wet conditions; rhizomatous root system; excellent pollinator; propagation through transplants or plugs most successful | OBL | Full sun | Moist fertile soils, clay, loam | Wet prairies, fens, marshes, pond edges, streambanks, ditches | |
| *Field mint; Marsh mint; Wild mint | <i>Mentha arvensis</i> | *top sun, bankfull, water's edge | Needs light to germinate, surface sow seeds. No other pretreatment necessary. | 0.25oz/acre | 300,000 |  |
| | Moist conditions; rhizomatous root system, forms colonies; can become aggressive; excellent pollinator; very hardy and thrives in disturbed areas | FACW | Full sun to partial sunlight | Fertile soil | Lake shores, moist prairies, marshes, fens, landfills, disturbed areas, streambanks | |
| *Monkey Flower; Allegheny Monkeyflower; Square-stemmed Monkeyflower | <i>Mimulus ringens</i> | *bankfull, water's edge, shaded stream edge | Cold, moist stratification for a minimum of 30 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.125oz/acre | 2,300,000 |  |
| | Wet conditions; rhizomatous root system; self-seeding | OBL | Partial sun | Moist, fertile soils; loam, sand, clay | Open floodplain woodlands, swamps, meadows, pond edges, streambanks, wet ditches, seeps | |

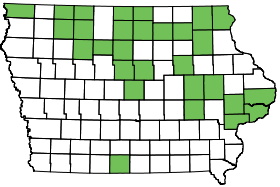
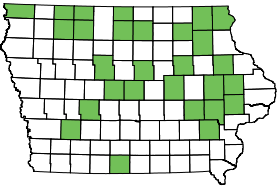
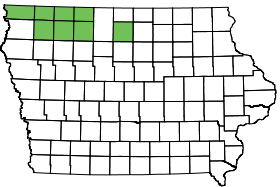
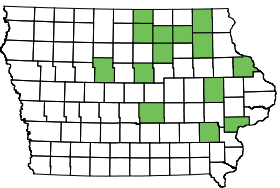
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| Cowbane | <i>Oxypolis rigidior</i> | | N/A | 0.5oz/acre | 14,600 |  |
| | Wet to moist conditions; fleshy roots | OBL | Full sun | Loam, silt, sand | Floodplain woodlands, wet prairies, swamps, marshes, seeps, fens, wet meadow | |
| Swamp Lousewort | <i>Pedicularis lanceolata</i> | | Best if sown in the fall, or immediately after collection. Otherwise requires cold, moist stratification for a minimum of 30 days. | 1oz/acre | 44,000 |  |
| | Wet to moist conditions; fibrous and rhizomatous root system; hemiparasite, most successful propagation when planted on a site that already has established grasses, or plant alongside a grass or sedge species | OBL | Full to partial sunlight | Moist sand | Wet prairies, swamps, seeps, fens, springs, ditches | |
| *Ditch Stonecrop | <i>Penthorum sedoides</i> | *bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 1.5oz/acre | 1,300,000 |  |
| | Wet to consistently moist conditions, rhizomatous root system, forms colonies | OBL | Full to partial sunlight | Wet soils, muck | Marshes, wet prairies, open floodplain woodlands, swamps, streambanks, pond edges, swales, ditches | |
| *Obedient Plant; False dragonhead; Virginia lions-heart | <i>Physostegia virginiana</i> | *top sun, bankfull, water's edge (problems with germination in the past) | Cold, moist stratification for a minimum of 60 days, or fall planting. | 1oz/acre | 11,000 |  |
| | Moist conditions; rhizomatous root system and taproot; can become aggressive in ideal situations | FACW | Full to partial sunlight | Moist soils; hummus, loam | Prairies, open woodlands, meadows, riverbanks, swamps, thickets, limestone glades, railroads, seeps, lake shores | |
| *Glaucous white lettuce; Purple Rattlesnake-root | <i>Prenanthes racemosa</i> (<i>Nabalus racemosus</i>) | *top sun, side slope, bankfull | Best if sown in the fall, or immediately after collection. Otherwise requires cold, moist stratification for a minimum of 120 days. | 1.5oz/acre | 20,000 |  |
| | A synonymous scientific name is <i>Nabalus racemosus</i> ; wet conditions; taproot; flood tolerant | FACW | Full sun | Sandy, calcareous, rocky | Wet meadows, lakeside wetlands, moist prairies, streambanks, thickets, fens, seeps | |
| *Mountain mint; Virginia mountain mint | <i>Pycnanthemum virginianum</i> | *top sun, bankfull, water's edge | No pretreatment necessary. Needs light to germinate, surface sow seeds. | 0.125oz/acre | 220,000 |  |
| | Moist to wet conditions; rhizomatous root system, forms colonies; excellent pollinator | FACW | Full to partial sunlight | Can survive in a variety of soil types | Prairies, meadows, fens, streambanks, thickets, swamps, bluffs, pond edges | |

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| *Marsh Cress | <i>Rorippa palustris</i> | *bankfull, water's edge | Not fully known, sow seeds immediately after collection. | N/A | N/A |  |
| | Wet to moist conditions; taproot; self-seeding; can be considered weedy | OBL | Full to partial sunlight | Loam, clay, silt, mud | Shorelines, muddy pond edges, riverbanks, open floodplain woodlands, wet fields, prairie swales, meadows, ditches | |
| *Tall coneflower; Green-head coneflower; Cutleaf coneflower | <i>Rudbeckia laciniata</i> | *shady stream edge, bankfull, top shade, side slope | Cold, moist stratification for a minimum of 30 days or fall planting. Needs light to germinate, surface sow seeds. | 1.5oz/acre | 14,000 |  |
| | Moist to wet conditions; easily grown from seed; rapid growth rate through rhizomes; flood tolerant; excellent pollinator; can be considered weedy | FACW | Full to partial sunlight, shade | Moist soil; loam | Floodplain woodlands, shady riverbanks, moist meadows, sloughs, lowland thickets and fields | |
| Greater water dock | <i>Rumex britannica (Rumex orbiculatus)</i> | | Cold, moist stratification for a minimum of 60 days or fall planting. | 1oz/acre | 11,900 |  |
| | A older synonymous scientific name is <i>Rumex orbiculatus</i> ; wet to moist conditions; taproot | OBL | Full to partial sunlight | Moist soils | Pond edges, marshes, fens, meadows, seeps, swamps, streambanks, ditches | |
| Swamp Dock | <i>Rumex verticillatus</i> | | N/A | N/A | N/A |  |
| | Wet conditions; taproot | OBL | Full sun to partial shade | Wet soils, muck | Lake edges, marshes, ephemeral streams, swamps, ditches | |
| *Mad-dog Skullcap | <i>Scutellaria lateriflora</i> | *bankfull, water's edge, shaded stream edge | Cold, moist stratification for a minimum of 60 days or fall planting. | 1oz/acre | 65,000 |  |
| | Wet to consistently moist conditions; taproot with rhizomes; | OBL | Full sun to partial shade | Can survive in a variety of soils if there is consistent moisture available | Marshes, moist meadows, swamps, open floodplain woodlands, wet thickets, seeps, bogs | |
| Water Parsnip | <i>Sium suave</i> | | Cold, moist stratification for a minimum of 60 days or fall planting. | 0.5oz/acre | 50,000 |  |
| | Wet, fully saturated conditions; fibrous fleshy root system; grows well in shallow standing water | OBL | Full to partial sunlight | Wet soils, muck, sand | Wet prairies, marshes, swamps, pond edges, ditches, seeps, wet thickets, muddy shores | |

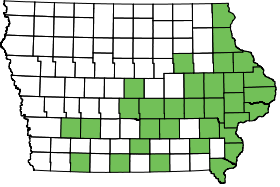
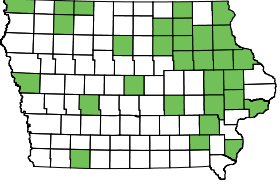
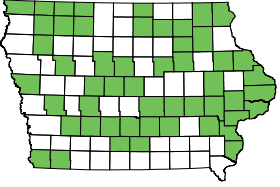
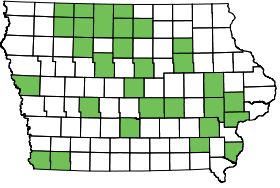
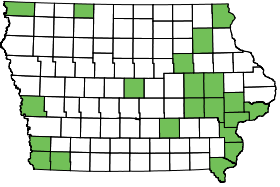
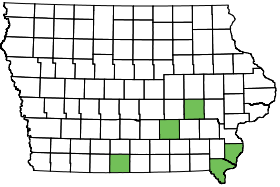
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| *Giant Goldenrod; Tall Goldenrod; Early Goldenrod | <i>Solidago gigantea</i> | *side slope, bankfull, sunny trails, wooded trails | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.05oz/acre | 250,000 |  |
| | Moist to wet conditions; fibrous and rhizomatous root system; excellent pollinator; can become aggressive | FACW | Full sun to light shade | Moist soils; loam, clay loam, sand-loam | Floodplain woodlands, riverbanks, pond edges, wet prairies, fens, ditches | |
| *Riddell's Goldenrod | <i>Solidago riddellii</i> (<i>Oligoneuron riddellii</i>) | *water's edge, bankfull | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.25oz/acre | 93,000 |  |
| | Wet conditions; fibrous root system; excellent pollinator; an alternate scientific name is <i>Oligoneuron riddellii</i> | OBL | Full sun | Calcareous soils | Pond edges, streambanks, meadows, wet prairies, seeps, marshes | |
| *New England aster; New England American-Aster | <i>Symphyotrichum novae-angliae</i> (<i>Aster novae-angliae</i>) | *top sun, bankfull, side slope, woodland trail | Cold, moist stratification for a minimum of 60 days, or fall planting. | 1oz/acre | 66,000 |  |
| | A synonymous scientific name is <i>Aster novae-angliae</i> , which is used by many nurseries; moist conditions; fibrous and rhizomatous root system; can become aggressive; excellent pollinator | FACW | Full or partial sunlight | Fertile, moist soil; clay, loam | Prairies, meadows, riverbanks, thickets, railroads, roadsides, open woodlands, disturbed areas | |
| Swamp aster; pupulestem aster | <i>Symphyotrichum puniceum</i> (<i>Aster puniceus</i>) | | Cold, moist stratification for a minimum of 60 days or fall planting. | 1oz/acre | 80,000 |  |
| | A scientific synonym is <i>Aster puniceus</i> , which is often used by nurseries; wet to moist conditions; fibrous and rhizomatous root system; excellent pollinator | OBL | Full to partial sunlight | Fertile, moist soils | Streambanks, sedge meadows, moist thickets, marshes, bog edges, seeps, fens | |
| *Skunk cabbage | <i>Symplocarpus foetidus</i> | *bankfull, water's edge, shady stream edge | Seeds should not be allowed to dry out before sowing. | N/A | N/A |  |
| | Wet conditions; self-seeding; limited commercial availability | OBL | Partial sun to shade | Wet, rich soil, muck | Marshes, streambanks, riverbanks, pond edges, muddy wet areas, wet woodlands, seeps, swamps | |
| *Purple meadow-rue; Tall meadow-rue | <i>Thalictrum dasycarpum</i> | * top sun, bankfull, side slope | Late fall planting is recommended. Otherwise cold, moist stratification for a minimum of 60 days is required. | 1.5oz/acre | 11,000 |  |
| | Moist to wet conditions; fibrous and rhizomatous root system | FACW | Full sun to partial sunlight | Loamy, sandy, rocky, clay loam soils | Prairies, moist meadows, streambanks, savannas, open woodlands, open floodplain woodlands, swamps | |

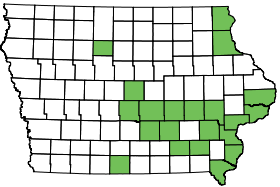
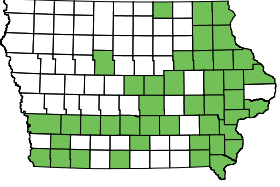
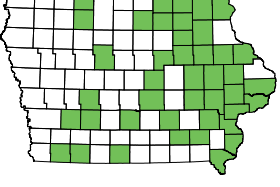
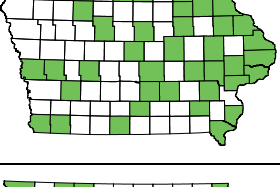
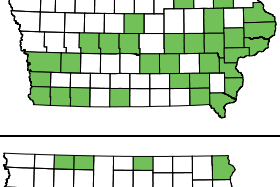

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| *Blue Vervain; Swamp Verbena | <i>Verbena hastata</i> | *top shade, top sun, side slope, bankfull, water's edge | Cold, moist stratification for a minimum of 30 days or fall planting. Needs light to germinate, surface sow seeds. | | 0.25oz/acre | 93,000 |  |
| Collect seeds in late summer to early fall; moist planting conditions; tolerates temporary standing water; most successful propagation by seeds; excellent pollinator; fibrous and rhizomatous root system | | FACW | Full to partial sunlight | Fertile loam or wet muck | River-bottom prairies, meadows, roadside ditches, pastures, marshes, and riverbanks | | |

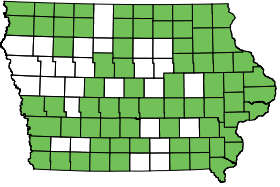
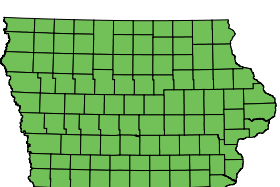
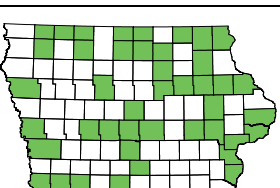
Grasses, Sedges, & Rushes (bankfull)

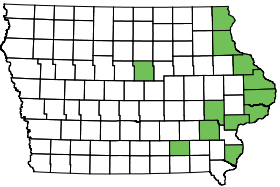
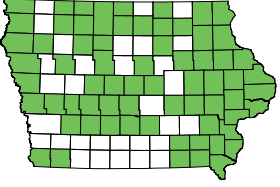
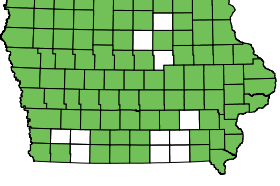
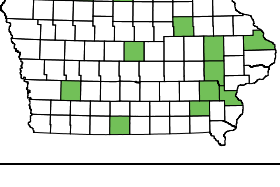
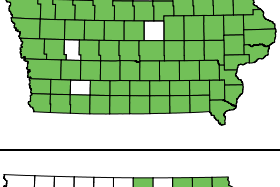
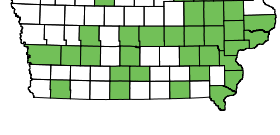
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| *Sweetflag | <i>Acorus americanus</i> | *bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. | | 3oz/acre | 6,600 |  |
| Wet conditions, standing water; rhizomatous; great for erosion control | | OBL | Full to partial sunlight | Wet, silty soils | Bogs, pond and lake shallows, marshes, streambanks | | |
| *Shortawn foxtail; Short-Awn Meadow Foxtail | <i>Alopecurus aequalis</i> | *bankfull, water's edge, side slope | N/A | | N/A | N/A |  |
| Cool wet conditions; fibrous root systems, often forms colonies; limited local commercial availability | | OBL | Full to partial sunlight | Wet soil; muck | Wet meadows, pond edges, ditches, swamps, bog edges, prairie swales, riverbanks, disturbed areas | | |
| American slough grass | <i>Beckmannia syzigachne</i> | | No seed pretreatment necessary | | 3oz/acre | 50,000 |  |
| Wet conditions; shallow root system; propagation through seed most successful | | OBL | Full to partial sunlight | Wet soils | Streambanks, marshes, ditches, wet meadows, swamps | | |
| Fringed Brome | <i>Bromus ciliatus</i> | | No seed pretreatment necessary | | 8oz/acre | 10,000 |  |
| Moist to wet conditions; fibrous root system; propagation through seeds most successful | | FACW | Partial shade | Loam, silt-loam, sand | Prairie, meadow, marsh, field, swamp, thickets, streambanks, open woodlands | | |

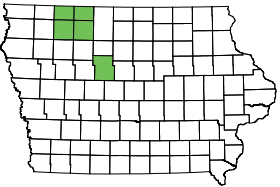
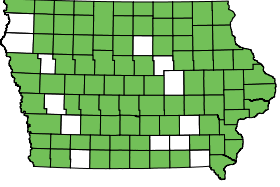
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| *Bluejoint Grass | <i>Calamagrostis canadensis</i> | *bankfull, water's edge, side slope | Needs light to germinate, surface sow seeds. No other pretreatment necessary. | 0.125oz/acre *transplants/plugs more successful | 280,000 |  |
| Wet to moist conditions; fibrous and rhizomatous root system, can form colonies; can become aggressive; Plugs/transplants generally more successful than seed propagation, seeds can be fragile; fire tolerant | | OBL | Full to partial sunlight | Can survive in a variety of soil types | Swamps, marshes, ditches, meadows, streambanks, lake shores, wet prairies, prairie swales, bogs | |
| *Yellow headed fox sedge; Yellow Fox Sedge; Yellowfruit Sedge; Small Yellow Fox Sedge | <i>Carex annectens</i> | *water's edge, bankfull, shaded stream edge | Cold, moist stratification for a minimum of 60 days, or fall planting. | 0.25oz/acre | 90,000 |  |
| Moist to wet conditions; fibrous and rhizomatous root system; sometimes referred to with the scientific name <i>Carex brachyglossa</i> | | FACW | Full sun to partial shade | Can survive in a variety of soil types | Pond edges, fens, ditches, marshes, wet prairies, swamps, seeps, moist disturbed areas | |
| *Bebb's sedge; Bebb's oval sedge | <i>Carex bebbii</i> | *bankfull, water's edge | Cold, moist stratification for a minimum of 30 days, or fall planting. | 0.5oz/acre | 34,000 |  |
| Wet conditions; fibrous root system | | OBL | Full to partial sunlight | Moist soil | Wetlands, swamps, marshes, meadows, fields, riverbanks, lake shores | |
| *Bottlebrush sedge; Bearded sedge; Bristly sedge; Long-haired sedge | <i>Carex comosa</i> | *bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. | 0.5oz/acre | 30,000 |  |
| Wet conditions; fibrous and rhizomatous root system | | OBL | Full to partial sunlight | Moist soil, muck, sand | Swamps, bogs, pond edges, ditches, meadows, seeps, marshes | |
| *Soft fox sedge | <i>Carex conjuncta</i> | *top shade, bankfull | Likely needs cold, moist stratification for a minimum of 60 days, or fall planning. | 1oz/acre | 22,000 |  |
| Moist conditions; fibrous and rhizomatous root system | | FACW | Partial sunlight | Fertile, loamy soils | Floodplain woodlands, thickets, shady meadows, moist prairies, streambanks | |
| *Emory's Sedge | <i>Carex emoryi</i> | * side slope, bankfull, water's edge | Not fully known, but likely needs cold, moist stratification for a minimum of 60 days or fall planting. | Usually must transplant due to limited commercial availability. | N/A |  |
| Wet conditions; important restoration species for soil retention; fibrous and rhizomatous root system, forms colonies; highly scour tolerant, often found along swift streams | | OBL | Full to partial sunlight | Wet soil; muck, clay, sand | Riverbanks and streambanks | |

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| *Gray's sedge; Bur sedge | <i>Carex grayi</i> | *stream edge shade, top shade, side slope, woodland trails, bankfull | Fall planting is recommended. | | 2oz/acre | 1,200 |  |
| Wet to moist conditions; tolerant to seasonal flooding; full sun tolerable in wet conditions; fibrous and rhizomatous root system | | FACW | Partial shade | Fertile soil; loam, sand, silt | Moist, deciduous woodlands, sandy swamps, shady streambanks, marshes | | |
| *Hayden's sedge; Cloud sedge | <i>Carex haydenii</i> | *top sun, bankfull | Cold, moist stratification for a minimum of 60 days, or fall planting. | | 1.5oz/acre | 38,000 |  |
| Wet conditions; fibrous and rhizomatous root system; tolerates seasonal flooding | | OBL | Full sun | Moist, sandy soils | Wet prairies, sandy river floodplains, swamps, marshes, sedge meadows, fens, bogs, sandy ditches | | |
| *Porcupine sedge; Bottlebrush Sedge | <i>Carex hystericina</i> | *bankfull, water's edge, shaded stream edge | Cold, moist stratification for a minimum of 60 days, or fall planting. | | 0.25oz/acre | 30,000 |  |
| Wet to moist conditions; fibrous and rhizomatous root system; part of "bottlebrush" sedge group | | OBL | Full sun to partial shade | Wet calcareous soil; loam, sand | Swamps, pond edges, wet prairies, marshes, ditches, seeps, meadows | | |
| Lake Sedge | <i>Carex lacustris</i> | | Cold, moist stratification for a minimum of 60 days, or fall planting. | | 1oz/acre | 11,000 |  |
| Wet conditions; fibrous and rhizomatous root system; can spread aggressively | | OBL | Full to partial sunlight | Mud, silt, sand | Wet thickets, wet prairies, marshes, swamps, fens, seeps, pond and lake edges | | |
| *Plains Slough Sedge; smoot cone sedge; long-toothed lake sedge | <i>Carex laeviconica</i> | *top sun, side slope, bankfull | Cold, moist stratification for a minimum of 60 days, or fall planting. | | 1oz/acre | 7,500 |  |
| Wet to moist conditions; fibrous and rhizomatous root system, often forms colonies; can become aggressive | | OBL | Full to partial sunlight | Can survive in a variety of moist loamy based soils | Sedge swales, marsh edges, prairies, sloughs, open floodplain woodlands, sedge meadows, swamps, riverbanks, ditches | | |
| False hop sedge | <i>Carex lupuliformis</i> | | N/A | | N/A | N/A |  |
| Wet to consistently moist conditions; fibrous and rhizomatous root system | | OBL | Full sun to partial shade | Muck, sandy-muck | Floodplain woodlands, streambanks, swamps, wet meadows, marshes, ditches | | |

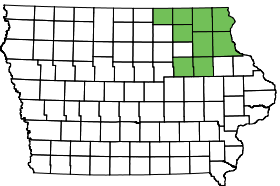
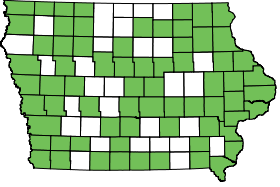
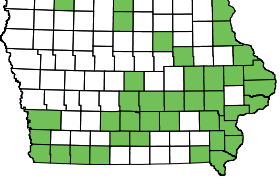
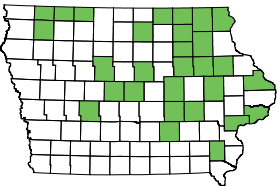
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| *Muskingum Sedge; Palm Sedge | <i>Carex muskingumensis</i> | *bankfull, water's edge, shaded stream edge | No pretreatment necessary. | | 1oz/acre | 7,500 |  |
| Wet to moist conditions; fibrous and rhizomatous root system | | OBL | Full sun to partial shade | Fertile soils; loam | Swamps, riverbanks, meadows, floodplain woodlands | | |
| *Greater Straw Sedge; Spreading Oval Sedge | <i>Carex normalis</i> | *top shade, side slope, bankfull, shaded stream edge | Cold, moist stratification for a minimum of 60 days, or fall planting. | | 0.25oz/acre | 25,000 |  |
| Moist to wet conditions; fibrous and rhizomatous root system; self-seeding | | FACW | Full sun to partial shade | Fertile soils | Open woodlands, pond edges, ditches, streambanks, prairies, meadows, fields, disturbed areas | | |
| *Pointed Broom Sedge | <i>Carex scoparia</i> | *top sun, bankfull | Cold, moist stratification for a minimum of 60 days, or fall planting. | | 2oz/acre | 84,000 |  |
| Moist to wet conditions; fibrous and rhizomatous root system; | | FACW | Full sun | Can survive in a variety of soil types | Wet prairies, marshes, streambanks, ditches, seeps, fens, pond edges, open floodplain woodlands, sedge meadows | | |
| *Awl-fruited sedge; Prickly Sedge; Stalk-Grain Sedge | <i>Carex stipata</i> | *bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. | | 0.25oz/acre | 34,000 |  |
| Wet to moist conditions; fibrous and rhizomatous root system | | OBL | Full to partial sunlight | Can survive in a variety of soil types | Wet floodplain woodlands, swamps, wet prairies, seeps, ditches, pond edges | | |
| *Blunt Broom Sedge | <i>Carex tribuloides</i> | *bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | | 1oz/acre | 120,000 |  |
| Wet to moist conditions; fibrous and rhizomatous root system | | OBL | Full sun to partial shade | Can survive in a variety of soil types | Marshes, fens, floodplain woodlands, swamps, moist meadows, wet prairies, seeps, ditches, bogs | | |
| Hairy-fruited sedge; Hairy-fruited lake sedge | <i>Carex trichocarpa</i> | *side slope, bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. | | 0.5oz/acre | 18,000 |  |
| Wet to moist conditions, fibrous and rhizomatous root system, forms large colonies; can spread aggressively | | OBL | Full to partial sunlight | Fertile soil; silt, loam | Wet prairies, wet thickets, meadows, streambanks, riverbanks, wet ditches, marshes | | |

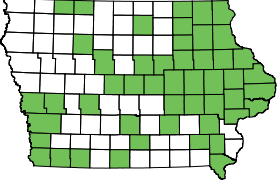
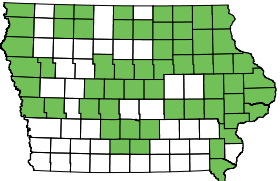
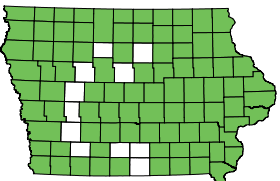
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| *Blunt Spikerush | <i>Eleocharis obtusa</i> | *bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 1oz/acre | 100,000 |  |
| | Wet conditions; fibrous root system; self-seeding; annual | OBL | Full sun | Can survive in a variety of wet soil types | Marshes, seeps, fens, pond and lake shores, streambanks, ditches | |
| *Common Spikerush; Creeping spikerush | <i>Eleocharis palustris</i> | *bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 1oz/acre | 70,000 |  |
| | Wet conditions; strongly rhizomatous; flood tolerant; propagation through plugs or transplants is most successful | OBL | Full sun to partial shade | Silty, sandy, clay soils | Wet meadows, springs, marshes, streambanks, lakeshores, mud flats, bogs, swamps | |
| *Riverbank Wild Rye | <i>Elymus riparius</i> | *side slope, top shade, bankfull, shaded stream edge | No seed pretreatment necessary | 0.5lb/acre | 2,900 |  |
| | Moist to wet conditions; low drought tolerance; high fire tolerance; self-seeding; great for erosion control; rhizomatous root system | FACW | Partial shade to shade | Loam, sand, clay | Meadows, streambanks, riverbanks, moist prairies, fields | |
| *Fowl Manna Grass | <i>Glyceria striata</i> | *top shade, bankfull, water's edge, shady stream | No seed pretreatment necessary. Needs light to germinate, surface sow seeds. | 0.5oz/acre | 90,000 |  |
| | Wet to moist conditions; fibrous root system; self-seeding; can tolerate more sun exposure in wetter conditions | OBL | Partial sunlight to shade | Fertile soil, loam | Swamps, marshes, streambanks, pond edges, bogs, seeps, ditches | |
| *Dudley's Rush | <i>Juncus dudleyi</i> | *top sun, side slope, bankfull, water's edge, sunny trails | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.125oz/acre | 3,200,000 |  |
| | Moist to wet conditions; fibrous and rhizomatous root system; can spread aggressively | FACW | Full sun | Loam, clay loam, gravel | Streambanks, wet meadows, pond edges, moist prairies, swales, ditches, fens | |
| *Torrey's Rush | <i>Juncus torreyi</i> | *side slope, bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.125oz/acre | 1,600,000 |  |
| | Moist to fairly wet conditions; fibrous and rhizomatous root system; can spread aggressively in ideal conditions | FACW | Full sun | Acidic soils; mucky, sandy, clay soils | Prairies, pond edges, streambanks, ditches, swamps, meadows, marshes | |

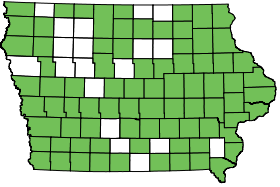
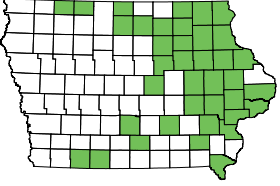
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| Catchfly grass | <i>Leersia lenticularis</i> | | No seed pretreatment necessary. | 6oz/acre | 5,300 |  |
| | Wet conditions; rhizomatous root system | OBL | Partial sunlight | Fertile soils with mud | Floodplain woodlands, marshes, swamps, lakeshore | |
| *White Grass | <i>Leersia virginica</i> | *top shade, bankfull, water's edge, shaded stream edge, side slope | No seed pretreatment necessary | N/A | N/A |  |
| | Moist conditions; fibrous and rhizomatous root system; limited local commercial availability | FACW | Partial shade | Fertile soil, loam | Swamps, floodplain woodlands, shady pond edges, streambanks, marshes, moist wooded areas, shaded slopes, disturbed areas | |
| *Switchgrass | <i>Panicum virgatum</i> | *top sun, bankfull | No seed pretreatment necessary | 1oz/acre | 14,000 |  |
| | Moist conditions; fibrous and rhizomatous root system; can become aggressive, do not over-plant; fire tolerant | FAC | Full to partial sunlight | Can survive in a variety of soil types | Prairies, fields, savannas, open woodlands, dunes, marsh edges, riverbanks, bluffs, ditches, railroads | |
| *Slender Bulrush | <i>Schoenoplectus heterochaetus (Scirpus heterochaetus)</i> | *bankfull, water's edge | N/A | N/A | N/A |  |
| | Wet to moist conditions; rhizomatous; a scientific synonymous name is <i>Scirpus heterochaetus</i> ; limited commercial availability | OBL | Full to partial sunlight | Wet soils | Marshes, lakeshores, streambanks | |
| *Dark Green Bulrush; Green Bulrush | <i>Scirpus atrovirens</i> | *bankfull, water's edge | Best if sown in the fall, otherwise requires cold, moist stratification for a minimum of 60 days. Need light to germinate, surface sow seeds. | 0.5oz/acre | 460,000 |  |
| | Wet conditions; fibrous and rhizomatous root system, forms colonies; great for erosion control; self-seeding | OBL | Full to partial sunlight | Can survive in a variety of soil types | Wet prairies, open floodplain woodlands, wet meadows, riverbanks, ditches, swamps, seeps, marshes, pond edges, streambanks, bogs | |
| *Wool grass | <i>Scirpus cyperinus</i> | *bankfull, water's edge | Best if sown in the fall, otherwise requires cold, moist stratification for a minimum of 60 days. Needs light to germinate, surface sow seeds. | 0.125oz/acre | 1,700,000 |  |
| | Wet conditions; fibrous and rhizomatous root system, often forms colonies; best results may be through transplant; great for erosion control; can become aggressive in ideal conditions | OBL | Full to partial sunlight | Sandy, muddy, gravelly, peaty soils | Wet meadows, swamps, marshes, sloughs, ditches, seeps, prairie swales, disturbed sites | |

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| *Whitetop grass; Common river grass | <i>Scolochloa festucacea</i> | *bankfull, water's edge | No seed pretreatment necessary. | 2oz/acre | 19,000 |  |
| Wet conditions; rhizomatous root system | | OBL | Full sun | Wet soils, clay | Sedge meadows, marshes, lakeshores, mudflats along streams, streambanks, prairie potholes | |
| *Prairie Cordgrass; Freshwater Cordgrass; Sloughgrass | <i>Spartina pectinata</i> | *side slope, bankfull, water's edge | No seed pretreatment necessary | *Transplants/plugs most successful | 6,600 |  |
| Moist to wet conditions; great for erosion control; can help reduce high energy of flowing waters; fibrous and rhizomatous, often forms colonies; can become aggressive; propagation through plugs or dividing the rhizomes is most successful | | FACW | Full to partial sunlight | Fertile soil; loamy, sandy | Marshes, swamps, sloughs, pond edges, riverbanks, moist roadsides and railroads, prairies | |

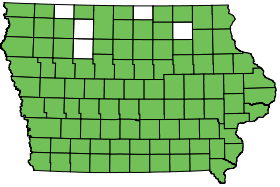
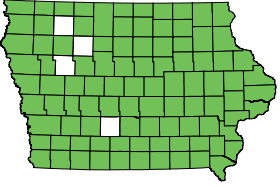
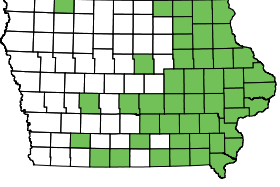
Shrubs & Vines (bankfull)

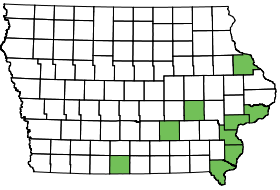
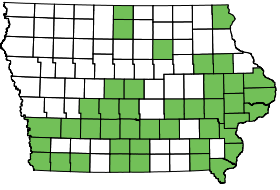
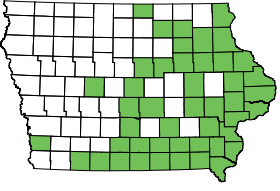
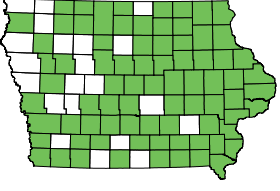
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| *Speckled alder; Grey Alder; Thin-leaved Alder | <i>Alnus incana</i> | *side slope, bankfull, water's edge | Cold, moist stratification for a minimum of 90 days, or fall planting. | 0.25oz/acre | 33,000 |  |
| Moist to wet conditions; flood tolerant; fast growth rate; shallow, rhizomatous, wide root system; seed propagation over cuttings is recommended | | FACW | Full to partial sunlight | Can survive in a variety of soil types | Wetlands, swamps, streambanks, floodplain woodlands, lakeshores, roadsides, bogs | |
| *False Indigo; Indigo Bush | <i>Amorpha fruticosa</i> | *side slope, bankfull, | Scarify the seeds and soak in warm water for up to 12 hours before spring planting | 3oz/acre | 3,700 |  |
| Wet to moist conditions; branching and woody root system; excellent pollinator | | FACW | Full or partial sunlight | Fertile soil; can survive in a variety of soil types | Riverbanks, streambanks, pond edges, open floodplain forests, ditches, wet prairies, swamp edges | |
| *Common Buttonbush | <i>Cephalanthus occidentalis</i> | *bankfull, water's edge | No seed pretreatment necessary. | 2oz/acre | 6,000 |  |
| Wet to moist conditions; branching and woody root system; seed or cutting propagation are successful; excellent pollinator; readily establishes from cuttings in the spring before leaves form | | OBL | Full to partial sunlight | Fertile soil; humusy soil | Swamps, bogs, marshes, ditches, floodplain woodlands, wet prairies, seeps, riverbanks | |
| *Red-osier Dogwood | <i>Cornus stolonifera</i> (<i>Cornus sericea</i>) | *bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. | N/A | N/A |  |
| Moist to slightly wet conditions; wide, shallow and woody root system with underground runners; great for erosion control; propagation by seeds or cuttings; may also be referred to as <i>Cornus sericea</i> | | FACW | Full to partial sunlight | Can survive in a variety of moist soil types; sandy soils | Meadows, marshes, bogs, swamps, thickets, floodplain woodlands, streambanks | |

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| *Swamp Dogwood; Silky Dogwood; Pale Dogwood; | <i>Cornus obliqua</i> | *bankfull, water's edge, stream edge shade | Cold, moist stratification for a minimum of 60 days, or fall planting. | | N/A | N/A |  |
| | Moist to wet conditions; wide, shallow, woody roots; propagation by seeds or cuttings; excellent pollinator | FACW | Full sun to partial shade | Moist soils; sandy | Floodplain woodlands, wet meadows, wet prairies, streambanks, pond edges, swamp edges, fens | | |
| *Common Ninebark; Atlantic Ninebark; | <i>Physocarpus opulifolius</i> | *side slope, bankfull | No seed pretreatment necessary. | | 0.5oz/acre | 34,000 |  |
| | Moist to wet conditions; fast growth rate; propagation through seeds or cuttings; easy to grow; can become aggressive | FACW | Full to partial sunlight | Can survive in a variety of soil types, adaptable | Streambanks, forest edges, bluffs, thickets, cliffs, gravel bars | | |
| *Wild Black Currant | <i>Ribes americanum</i> | *top shade, top sun, bankfull | Scarification and cold, moist stratification for a minimum of 60 days, or fall planting. | | N/A | N/A |  |
| | Moist to wet conditions; self-seeding; excellent pollinator, propagate through seeds | FACW | Partial sunlight | Can survive in a variety of soil types | Swamps, meadows, fens, seeps, ravines, shaded streambanks, open floodplain woodlands | | |
| *Peach-leaf Willow; Wright Willow, Almond Willow | <i>Salix amygdaloides</i> | *water's edge, bankfull | Sow seeds immediately after collection. Needs moist soils to germinate. | | N/A | N/A |  |
| | Moist to wet conditions; woody, shallow root system; self-seeding; fast growth rate; seed and cutting propagation (cuttings may be more successful); excellent pollinator | FACW | Full to partial sunlight | clay loam, loam, sandy, silty soils | Streambanks, pond edges, sloughs, floodplain woodlands, swamps | | |
| *Pussy willow | <i>Salix discolor</i> | *water's edge, bankfull | Sow seeds immediately after collection. | | *Cuttings most successful form of propagation | N/A |  |
| | Moist to wet conditions; woody, shallow and extensive root system; fast growth rate; cuttings most successful form of propagation; excellent pollinator; shade intolerant | FACW | Full sun | Moist soils, sandy, alluvial soils | Open floodplain woodlands, marshes, swamps, riverbanks, streambanks, wet prairies, ditches | | |
| *Sandbar Willow | <i>Salix interior</i> | *water's edge, bankfull, stream edge shade | Sow seeds immediately after collection. | | *Cuttings most successful form of propagation | N/A |  |
| | Moist to wet conditions; woody root system with long runners; can spread aggressively through underground runners; propagate through cuttings; excellent pollinator | FACW | Full to partial sunlight | Sandy, gravelly soils, alluvial soils | Wet meadows, streambanks, riverbanks, lake shores, ditches, sloughs, swamps, sandbars, gravel bars, marshes | | |

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| *Elderberry; American Elder | <i>Sambucus nigra canadensis</i> (formerly: <i>Sambucus canadensis</i>) | *top shade, bankfull | Acid bath scarification for 20 minutes followed by cold, moist stratification for a minimum of 60 days. | N/A | N/A |  |
| Moist conditions; shallow, rhizomatous root system; fast growth rate; <i>Sambucus nigra canadensis</i> was formerly considered a separate species: <i>Sambucus canadensis</i> , this name is still often used; propagate through cuttings or seeds (cuttings may be fastest and easiest way) | N/A | Full to partial sunlight | Fertile soils, slightly acidic soils | Bogs, ditches, wet prairies, open woodlands, thickets, wet meadows, streambanks, railroads, fields | | |
| Meadowsweet | <i>Spiraea alba</i> | | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | N/A | N/A |  |
| Moist to wet conditions; woody root system; excellent pollinator | FACW | Full sun | Moist soils | Wet prairies, streambanks, marsh edges, fens, bogs, ditches | | |

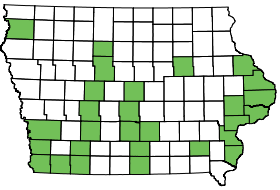
Trees (bankfull)

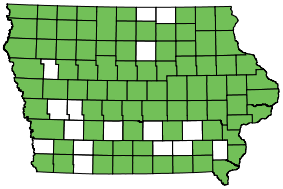
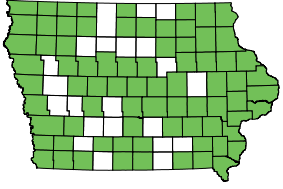
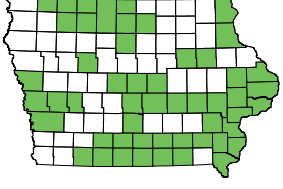
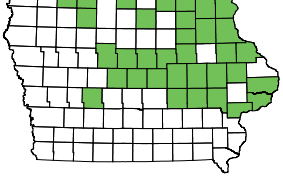
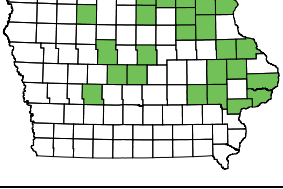
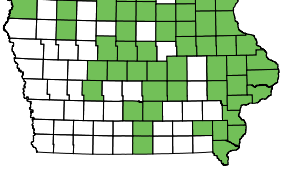
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| *Boxelder | <i>Acer negundo</i> | *top shade, bankfull | Cold, moist stratification for a minimum of 60 days, or fall planting. | N/A | N/A |  |
| Moist conditions; shallow, fibrous root system; fast growth rate; short-lived; flood tolerant; easily grown from seed | FAC | Partial shade | Can survive in a variety of soil types | Floodplain woodlands, thickets, streambanks, ditches, roadsides, disturbed areas | | |
| *Silver Maple | <i>Acer saccharinum</i> | *top shade, bankfull | Do not allow seeds to dry out. Immediate planting after seed collection is recommended. | N/A | N/A |  |
| Moist conditions; fibrous, shallow, spreading root system; extremely rapid growth rate; seed and cutting propagation are successful; susceptible to high winds and ice; shade intolerant | FACW | Full to partial sunlight | Moist, slightly acidic soils, alluvial soils | Floodplain woodlands, riverbanks, lake shores, swamps | | |
| River Birch; Water Birch; Red Birch, Black Birch | <i>Betula nigra</i> | | No seed pretreatment necessary. Best results if seeds are sown while still fresh from collection. | N/A | N/A |  |
| Moist conditions; branching root system; self-seeding; fire tolerant | FACW | Full to partial sunlight | Can survive in a variety of soil types, including acidic soils. | Floodplain woodlands, former strip mines, streambanks, swamps, ditches, ravines | | |

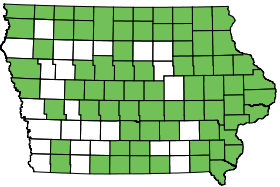
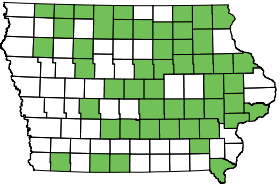
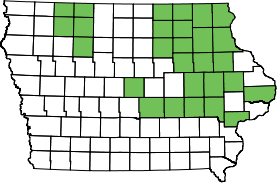
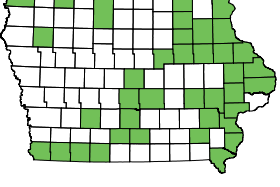
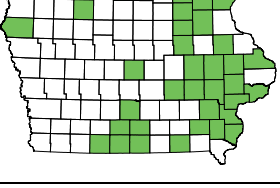
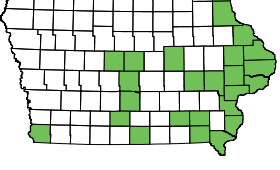
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| *Shell-bark Hickory; Kingnut Hickory | <i>Carya laciniosa</i> | * top shade, bankfull | Cold, moist stratification for a minimum of 90 days or fall planting. | N/A | N/A |  |
| Moist conditions; deep taproot with smaller lateral roots; self-seeding; difficult to transplant; slow growth rate; fire tolerant | FACW | Full to partial sunlight | Fertile moist soils; loam, silt | Floodplain woodlands, valleys, swamps, savannas | | |
| *Sycamore; American Sycamore; Eastern Sycamore, Plane tree; Buttonwood | <i>Platanus occidentalis</i> | *side slope, bankfull | No seed pretreatment necessary. Needs light to germinate, surface sow seeds. | N/A | N/A |  |
| Moist to wet conditions; wide, spreading and woody root system; rapid growth rate; flood tolerant; cuttings form young trees and seed propagation are successful | FACW | Full sun | Can survive in a variety of soil types alluvial soils | Streambanks, lowland slopes, sloughs, floodplain woodlands, shallow swamps | | |
| *Swamp White Oak | <i>Quercus bicolor</i> | *top shade, top sun, bankfull | No seed pretreatment necessary. Best results if planted immediately after collection. | N/A | N/A |  |
| Wet to moist conditions; wide, woody root system with taproot; fast growth rate; best propagation through seeds | FACW | Full sun | Moist acidic soils, can survive in a variety of soil types | Floodplain woodlands, riverbanks, streambanks, pond edges, swamp and lake edges, lowland areas | | |
| *Black Willow; Swamp Willow | <i>Salix nigra</i> | *side slope, bankfull, water's edge, shaded stream edge, sunny and wooded trails | Not fully known, best results if planted immediately after collection. | N/A | N/A |  |
| Wet to moist conditions; shallow, wide, lateral root system; most common propagation through cuttings, though seed propagation can be successful as well; fast growth rate; excellent pollinator; | OBL | Full to partial sunlight | Can survive in a variety of soil types | Floodplain woodlands, swamps, riverbanks, lake edges, ditches, sloughs, pond edges, wet disturbed areas | | |

Water's Edge (Ecologically a wet disturbance habitat)

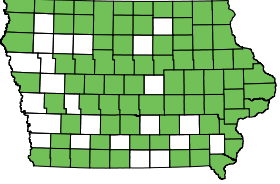
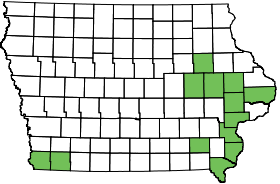
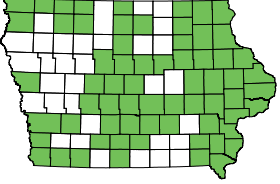
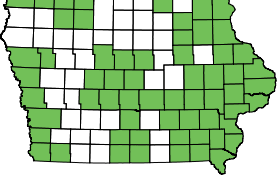
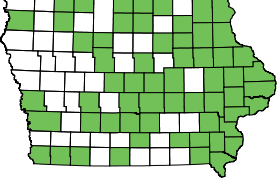
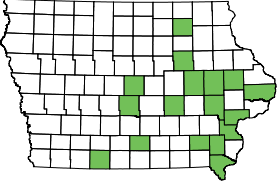
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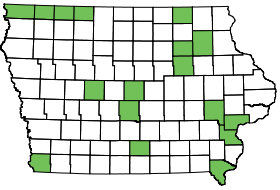
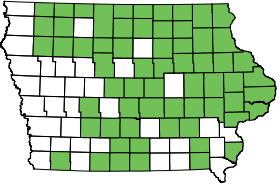
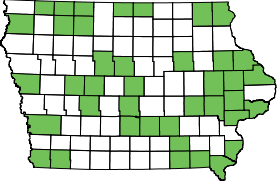
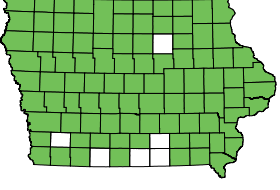
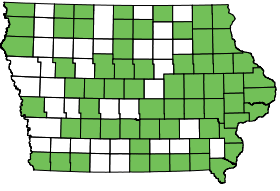
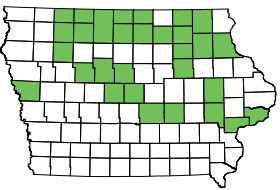
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| Scarlet Toothcup; Valley redstem | <i>Ammannia coccinea</i> | | No seed pretreatment necessary. | 0.5oz/acre | 1,400,000 |  |
| Wet conditions; shallow root system; self-seeding; easily grown from seed | OBL | Full sun | Mud | Mud flats, streambanks, muddy pond edges, ditches, marsh edges | | |

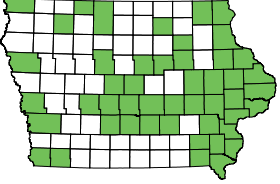
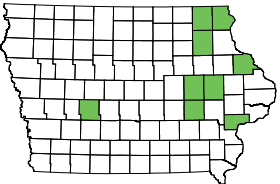
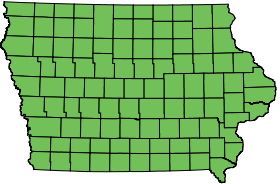
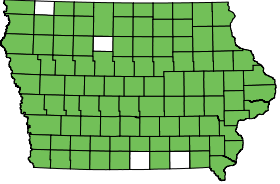
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| *Swamp Milkweed; Pink Milkweed; Rose Milkweed | <i>Asclepias incarnata</i> | *Top sun, water's edge, bankfull | Cold, moist stratification for a minimum of 30 days, or fall planting. | 1.5oz/acre | 4,800 |  |
| Wet to moist conditions; rhizomatous root system, can form colonies; excellent pollinator | OBL | Full sun to partial shade | Wet soils; clay | Moist meadows, floodplain woodlands, swamps, riverbanks, prairies, marshes, roadsides, riparian areas | | |
| Nodding Beggartick; Nodding Bur-Marigold; Bur Marigold | <i>Bidens cernua</i> | | Cold, moist stratification for a minimum of 60 days, or fall planting. | 0.25oz/acre *pervasive, usually not necessary to seed | 21,000 |  |
| Wet conditions; pervasive plant, usually not necessary to seed; excellent pollinator; annual | OBL | Full or partial sunlight | Moist soil; loam, sand, clay, muck | Marshes, swamps, bogs, streambanks, wet ditches, wet meadows | | |
| *False Aster; White Doll's Daisy; Thousand-flowered aster | <i>Boltonia asteroides</i> | *bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 3oz/acre | 2,000 |  |
| Wet conditions; rhizomatous root system | OBL | Full sun | Fertile soils; loam, clay | Floodplain woodlands, thickets, prairies, meadows, streambanks, ditches, marshes | | |
| *Marsh Marigold | <i>Caltha palustris</i> | *bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. | 1oz/acre | 26,000 |  |
| Wet conditions; fibrous root system; self-seeding | OBL | Full to partial sunlight | Wet soils, muck, mud | Swamps, open floodplain woodlands, streambanks, marshes, ditches, wet meadows | | |
| *White Turtlehead | <i>Chelone glabra</i> | *bankfull, water's edge | Fall planting is recommended. Otherwise cold, moist stratification for a minimum of 60 days is required. | 0.5oz/acre | 92,000 |  |
| Wet conditions; rhizomatous root system with taproot, can form colonies | OBL | Full to partial sunlight | Fertile moist, organic soils | Floodplain woodlands, prairies, meadows, marshes, seeps, streambanks, wet ditches, pond edges, fens | | |
| *Cinnamon Willow-Herb; Purpleleaf willowherb | <i>Epilobium coloratum</i> | *bankfull, water's edge, stream edge shady | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.125oz/acre | 250,000 |  |
| Wet to moist conditions; fibrous root system that produces rhizomes; pioneer species | OBL | Full to partial sunlight | Soil that can retain moisture | Wet prairies, marshes, riverbanks, lake shores, swamps, bogs, disturbed areas | | |

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| *Common boneset | <i>Eupatorium perfoliatum</i> | *Water's edge, bankfull | Cold, moist stratification for a minimum of 30 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.25oz/acre | 160,000 |  |
| | Wet to moist conditions; seed propagation; fibrous, rhizomatous root system, forms colonies; excellent pollinator; | OBL | Full to partial sunlight | Soil that can retain moisture | Wetland habitats, wet prairies, bogs, marshes, seeps, riverbanks, open floodplain woodlands | |
| *Bottle gentian; Closed Bottle Gentian | <i>Gentiana andrewsii</i> | *top sun, bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.25oz/acre | 280,000 |  |
| | Moist to wet conditions; central taproot; using plugs/transplanting may be most successful propagation technique; germination from seed can be difficult | FACW | Full to partial sunlight | Fertile soil; clay, sandy loam | Riverbanks, open floodplain woodlands, meadows, moist prairies, swamps, thickets | |
| *Fringed gentian; Greater fringed gentian | <i>Gentianopsis crinita</i> | *water's edge, bankfull | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.25oz/acre | 200,000 |  |
| | Wet to moist conditions; shallow taproot; self-seeding; rare; biennial | OBL | Full to partial sunlight | Moist soils; sandy, calcareous soils | Wetlands, wet prairies, sandy sloughs, fens, open floodplain woodlands, ditches, meadows, streambanks | |
| *Rough Avens | <i>Geum laciniatum</i> | *bankfull, water's edge | N/A | N/A | N/A |  |
| | Moist to wet conditions; taproot with rhizomes | FACW | Partial sunlight | Loam, sandy loam | Marshes, lakeshores, savannas, thickets, moist meadows, woodland edges | |
| Hedge Hyssop | <i>Gratiola neglecta</i> | | N/A | N/A | N/A |  |
| | Wet to moist conditions; taproot; self-seeding; easily grown from seed | OBL | Full to partial sunlight | Mud, sand | Floodplain woodlands, wet meadows, streambanks, muddy disturbed areas | |
| *Halberd-Leaved Rose Mallow; Scarlet Rose Mallow; Rose Mallow | <i>Hibiscus laevis</i> | *bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. | 3oz/acre | 2,800 |  |
| | Wet conditions; central taproot; self-seeding | OBL | Full to partial sunlight | Fertile soil | Marshes, swamps, riverbanks | |

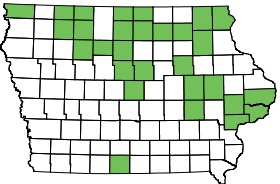
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| False Pimpernel | <i>Lindernia dubia</i> | | N/A | N/A | N/A | |  |
| | Wet to moist conditions; taproot; self-seeding | OBL | Full to partial sunlight | Muddy, gravelly, sandy soils | Streambanks, shallow pools, pond edges, seeps, river sandbars, open floodplain woodlands, ditches | | |
| *Seedbox | <i>Ludwigia alternifolia</i> | *Water's edge, bankfull | Cold, moist stratification for a minimum of 60 days, or fall planting. | 0.125oz/acre | 1,300,000 | |  |
| | Wet to moist conditions; fibrous root system | OBL | Full to partial sunlight | Acidic soil;, sandy | Swamps, riverbanks, wet prairies, ditches, floodplain woodlands, wetlands | | |
| False Loosestrife | <i>Ludwigia polycarpa</i> | | N/A | N/A | N/A | |  |
| | Wet conditions; stoloniferous root system | OBL | Full sun | Wet soils, sand, loam | Marshes, wet prairies, fens, shallow water, pond edges, streambanks, sloughs, wet meadows, open swamp woodlands | | |
| *Water horehound; American Bugleweed; American water horehound | <i>Lycopus americanus</i> | *bankfull, water's edge, wooded trails | Needs light to germinate, surface sow seeds. No other pretreatment necessary. | 0.25oz/acre | 130,000 | |  |
| | Wet to moist conditions; rhizomatous root system, often forms colonies | OBL | Full to partial sunlight | Moist soils; clay, silt, loam | Wetlands, shorelines, riverbanks, marshes, ditches, wet prairies, open floodplain woodlands, wet thickets | | |
| *Northern bugleweed | <i>Lycopus uniflorus</i> | *bankfull, water's edge, wooded trails, sunny trails | N/A | N/A | N/A | |  |
| | Wet to moist conditions; tuberous roots with stolons; propagation through tubers is most successful | OBL | Full to partial sunlight | Sandy, loamy, mucky soil | Streambanks, fens, marshes, swamps, lake edges, moist meadows | | |
| *Field mint; Marsh mint; Wild mint | <i>Mentha arvensis</i> | *top sun, bankfull, water's edge | Needs light to germinate, surface sow seeds. No other pretreatment necessary. | 0.25oz/acre | 300,000 | |  |
| | Moist conditions; rhizomatous root system, forms colonies; can become aggressive; excellent pollinator; very hardy and thrives in disturbed areas | FACW | Full sun to partial sunlight | Fertile soil | Lake shores, moist prairies, marshes, fens, landfills, disturbed areas, streambanks | | |

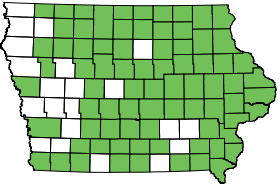
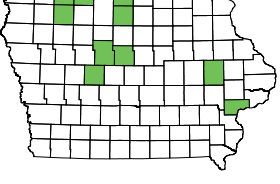
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| *Monkey Flower; Allegheny Monkeyflower; Square-stemmed Monkeyflower | <i>Mimulus ringens</i> | *bankfull, water's edge, shaded stream edge | Cold, moist stratification for a minimum of 30 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.125oz/acre | 2,300,000 |  |
| Wet conditions; rhizomatous root system; self-seeding | | OBL | Partial sun | Moist, fertile soils; loam, sand, clay | Open floodplain woodlands, swamps, meadows, pond edges, streambanks, wet ditches, seeps | |
| *Mousetail; Tiny mousetail | <i>Myosurus minimus</i> | *water's edge, sunny trails, wooded trails | N/A | N/A | N/A |  |
| Moist to slightly dry conditions; fibrous root system; self-seeding; found in exposed soil with little vegetation | | FACW | Full to partial sunlight | Loam, sandy loam, gravelly loam, clay loam | Eroded streambanks, pond and lake shores, pastures, barren woodland areas, disturbed areas | |
| *Ditch Stonecrop | <i>Penthorum sedoides</i> | *bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 1.5oz/acre | 1,300,000 |  |
| Wet to consistently moist conditions, rhizomatous root system, forms colonies | | OBL | Full to partial sunlight | Wet soils, muck | Marshes, wet prairies, open floodplain woodlands, swamps, streambanks, pond edges, swales, ditches | |
| Fogfruit | <i>Phyla lanceolata</i> | | Sow outdoors immediately after collection | N/A | N/A |  |
| Wet to moist conditions; rhizomatous root system, forms dense colonies; can become aggressive | | OBL | Full to partial sunlight | Fertile soil, mud | Prairies, seeps, ditches, floodplain woodlands, marshes, pond edges, streambanks | |
| *Obedient Plant; False dragonhead; Virginia lions-heart | <i>Physostegia virginiana</i> | *top sun, bankfull, water's edge (problems with germination in the past) | Cold, moist stratification for a minimum of 60 days, or fall planting. | 1oz/acre | 11,000 |  |
| Moist conditions; rhizomatous root system and taproot; can become aggressive in ideal situations | | FACW | Full to partial sunlight | Moist soils; hummus, loam | Prairies, open woodlands, meadows, riverbanks, swamps, thickets, limestone glades, railroads, seeps, lake shores | |
| *Pickerel weed | <i>Pontederia cordata</i> | *water's edge, heavy shade | Likely needs cold, wet stratification for a minimum of 30 days followed by spring planting. Do not let seeds dry out. | N/A | N/A |  |
| Wet conditions; fibrous and rhizomatous root system; propagation through seeds or rhizomes is most successful | | OBL | Full to partial sunlight | Wet soils, muck, mud | Marshes, pond edges, swamps, slow-moving streams | |

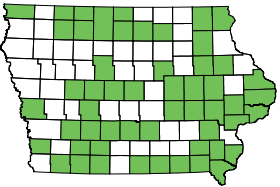
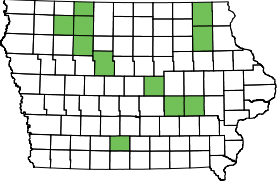
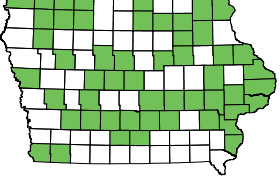
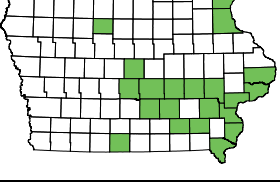
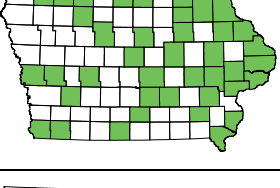
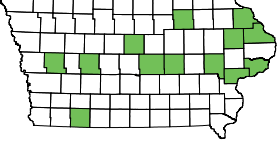
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| Brook cinquefoil | <i>Potentilla rivalis</i> | | Likely needs cold, moist stratification for a minimum of 60-90 days, or fall planting. | N/A | N/A |  |
| | Moist to wet conditions; fibrous root system | FACW | Full to partial sunlight | Sandy, gravelly soils | Streambanks, lakeshores, moist meadows, marshes, open floodplain woodlands | |
| *Mountain mint; Virginia mountain mint | <i>Pycnanthemum virginianum</i> | *top sun, bankfull, water's edge | No pretreatment necessary. Needs light to germinate, surface sow seeds. | 0.125oz/acre | 220,000 |  |
| | Moist to wet conditions; rhizomatous root system, forms colonies; excellent pollinator | FACW | Full to partial sunlight | Can survive in a variety of soil types | Prairies, meadows, fens, streambanks, thickets, swamps, bluffs, pond edges | |
| *Cursed Crowfoot; Annual buttercup | <i>Ranunculus sceleratus</i> | *water's edge, wooded trails | Cold, moist stratification for a minimum of 30 days, or fall planting. | 1oz/acre | 145,000 |  |
| | Wet to moist conditions; fibrous root system; self-seeding; annual | OBL | Full to partial sunlight | Moist, fertile soils, clay loam, clay, mud | Marshes, seeps, streambanks, river sandbars, pond edges, wet meadows, ditches | |
| *Marsh Cress | <i>Rorippa palustris</i> | *bankfull, water's edge | Not fully known, sow seeds immediately after collection. | N/A | N/A |  |
| | Wet to moist conditions; taproot; self-seeding; can be considered weedy | OBL | Full to partial sunlight | Loam, clay, silt, mud | Shorelines, muddy pond edges, riverbanks, open floodplain woodlands, wet fields, prairie swales, meadows, ditches | |
| *Mad-dog Skullcap | <i>Scutellaria lateriflora</i> | *bankfull, water's edge, shaded stream edge | Cold, moist stratification for a minimum of 60 days or fall planting. | 1oz/acre | 65,000 |  |
| | Wet to consistently moist conditions; taproot with rhizomes; | OBL | Full sun to partial shade | Can survive in a variety of soils if there is consistent moisture available | Marshes, moist meadows, swamps, open floodplain woodlands, wet thickets, seeps, bogs | |
| *Riddell's Goldenrod | <i>Solidago riddellii</i> (<i>Oligoneuron riddellii</i>) | *water's edge, bankfull | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.25oz/acre | 93,000 |  |
| | Wet conditions; fibrous root system; excellent pollinator; an alternate scientific name is <i>Oligoneuron riddellii</i> | OBL | Full sun | Calcareous soils | Pond edges, streambanks, meadows, wet prairies, seeps, marshes | |

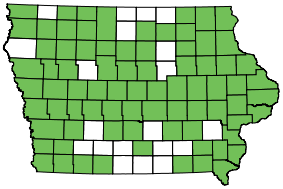
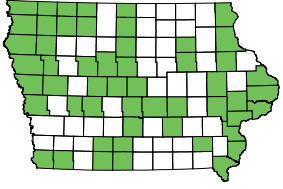
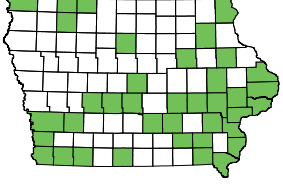
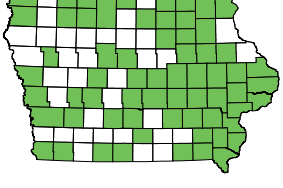
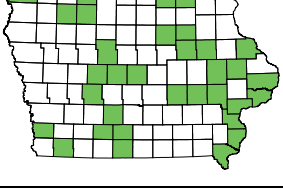
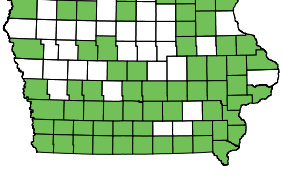
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| *Smooth Hedge nettle; Hedge nettle | <i>Stachys tenuifolia</i> | *top shade, water's edge, shaded stream edge | N/A | N/A | N/A |  | |
| Wet conditions; rhizomatous root system with taproot, forms colonies | | OBL | Partial sun | Wet soil; clay, loam, sand | Floodplain woodlands, streambanks, thickets, swamps, seeps, ditches, meadows, wet fields, marshes, moist prairies | | |
| *Skunk cabbage | <i>Symplocarpus foetidus</i> | *bankfull, water's edge, shady stream edge | Seeds should not be allowed to dry out before sowing. | | N/A | N/A |  |
| Wet conditions; self-seeding; limited commercial availability | | OBL | Partial sun to shade | Wet, rich soil, muck | Marshes, streambanks, riverbanks, pond edges, muddy wet areas, wet woodlands, seeps, swamps | | |
| *Blue Vervain; Swamp Verbena | <i>Verbena hastata</i> | *top shade, top sun, side slope, bankfull, water's edge | Cold, moist stratification for a minimum of 30 days or fall planting. Needs light to germinate, surface sow seeds. | | 0.25oz/acre | 93,000 |  |
| Collect seeds in late summer to early fall; moist planting conditions; tolerates temporary standing water; most successful propagation by seeds; excellent pollinator; fibrous and rhizomatous root system | | FACW | Full to partial sunlight | Fertile loam or wet muck | River-bottom prairies, meadows, roadside ditches, pastures, marshes, and riverbanks | | |
| White Vervain | <i>Verbena urticifolia</i> | | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | | 2oz/acre | 47,000 |  |
| Moderately dry to moist conditions; self-seeding; annual; easily grown from seed | | FAC | Partial sunlight | Loam, clay loam, silt-loam | Open woodlands, thickets, meadows, streambanks, disturbed areas | | |

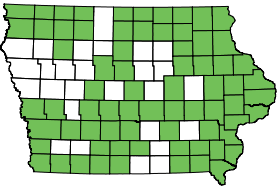
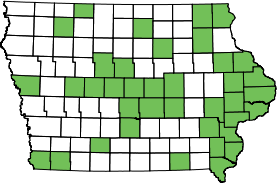
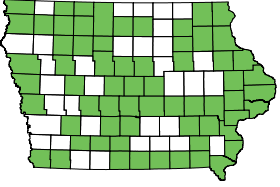
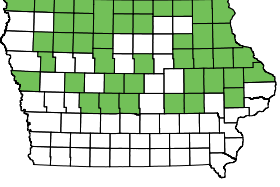
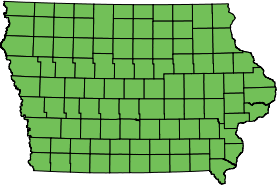
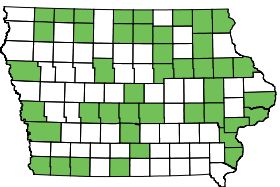
Grasses, Sedges, & Rushes (Water's Edge)

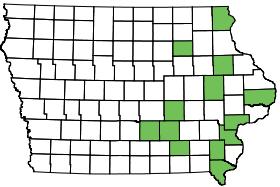
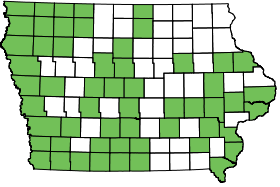
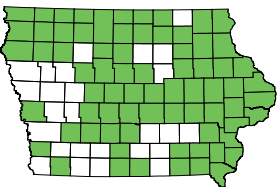
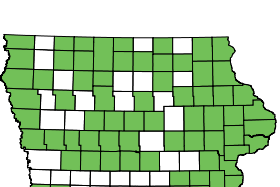
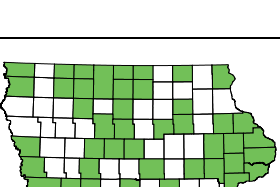
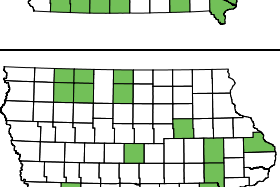
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| *Sweetflag | <i>Acorus americanus</i> | *bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. | | 3oz/acre | 6,600 |  |
| Wet conditions, standing water; rhizomatous; great for erosion control | | OBL | Full to partial sunlight | Wet, silty soils | Bogs, pond and lake shallows, marshes, streambanks | | |

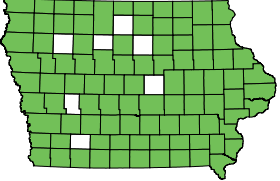
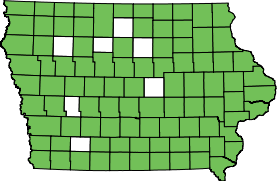
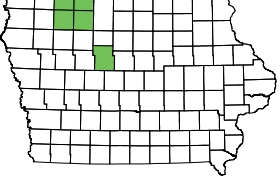
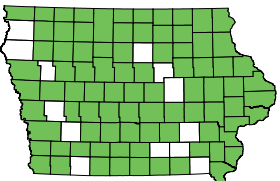
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| *Shortawn foxtail; Short-Awn Meadow Foxtail | <i>Alopecurus aequalis</i> | *bankfull, water's edge, side slope | N/A | N/A | N/A |  |
| Cool wet conditions; fibrous root systems, often forms colonies; limited local commercial availability | OBL | Full to partial sunlight | Wet soil; muck | Wet meadows, pond edges, ditches, swamps, bog edges, prairie swales, riverbanks, disturbed areas | | |
| *Bluejoint Grass | <i>Calamagrostis canadensis</i> | *bankfull, water's edge, side slope | Needs light to germinate, surface sow seeds. No other pretreatment necessary. | 0.125oz/acre *transplants/plugs more successful | 280,000 |  |
| Wet to moist conditions; fibrous and rhizomatous root system, can form colonies; can become aggressive; Plugs/transplants generally more successful than seed propagation, seeds can be fragile; fire tolerant | OBL | Full to partial sunlight | Can survive in a variety of soil types | Swamps, marshes, ditches, meadows, streambanks, lake shores, wet prairies, prairie swales, bogs | | |
| *Yellow headed fox sedge; Yellow Fox Sedge; Yellowfruit Sedge; Small Yellow Fox Sedge | <i>Carex annectens</i> | *water's edge, bankfull, shaded stream edge | Cold, moist stratification for a minimum of 60 days, or fall planting. | 0.25oz/acre | 90,000 |  |
| Moist to wet conditions; fibrous and rhizomatous root system; sometimes referred to with the scientific name <i>Carex brachyglOSSa</i> | FACW | Full sun to partial shade | Can survive in a variety of soil types | Pond edges, fens, ditches, marshes, wet prairies, swamps, seeps, moist disturbed areas | | |
| *Wheat Sedge; Hairy-leaved Lake Sedge; Awned Sedge | <i>Carex atherodes</i> | *water's edge, shaded stream edge | Cold, moist stratification for a minimum of 60 days, or fall planting. | 0.5oz/acre | 29,000 |  |
| Wet conditions; rhizomatous root system, forms colonies | OBL | Full sun to partial shade | Moist soil; clay | Marshes, wet meadows, wet ditches, streambanks, riverbanks, swamps, open floodplain woodlands | | |
| *Bebb's sedge; Bebb's oval sedge | <i>Carex bebbii</i> | *bankfull, water's edge | Cold, moist stratification for a minimum of 30 days, or fall planting. | 0.5oz/acre | 34,000 |  |
| Wet conditions; fibrous root system | OBL | Full to partial sunlight | Moist soil | Wetlands, swamps, marshes, meadows, fields, riverbanks, lake shores | | |
| *Bottlebrush sedge; Bearded sedge; Bristly sedge; Long-haired sedge | <i>Carex comosa</i> | *bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. | 0.5oz/acre | 30,000 |  |
| Wet conditions; fibrous and rhizomatous root system | OBL | Full to partial sunlight | Moist soil, muck, sand | Swamps, bogs, pond edges, ditches, meadows, seeps, marshes | | |

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| *Crested Sedge | <i>Carex cristatella</i> | *top sun, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. | 1oz/acre | 58,000 |  |
| | Moist to wet conditions; fibrous and rhizomatous root system; self-seeding | FACW | Full to partial sunlight | Loam, silt-loam | Wet prairies, open floodplain woodlands, swamps, wet marshes, sloughs, wet meadows, streambanks, ditches | |
| *Emory's Sedge | <i>Carex emoryi</i> | * side slope, bankfull, water's edge | Not fully known, but likely needs cold, moist stratification for a minimum of 60 days or fall planting. | Usually must transplant due to limited commercial availability. | N/A |  |
| | Wet conditions; important restoration species for soil retention; fibrous and rhizomatous root system, forms colonies; highly scour tolerant, often found along swift streams | OBL | Full to partial sunlight | Wet soil; muck, clay, sand | Riverbanks and streambanks | |
| *Porcupine sedge; Bottlebrush Sedge | <i>Carex hystericina</i> | *bankfull, water's edge, shaded stream edge | Cold, moist stratification for a minimum of 60 days, or fall planting. | 0.25oz/acre | 30,000 |  |
| | Wet to moist conditions; fibrous and rhizomatous root system; part of "bottlebrush" sedge group | OBL | Full sun to partial shade | Wet calcareous soil; loam, sand | Swamps, pond edges, wet prairies, marshes, ditches, seeps, meadows | |
| *Muskingum Sedge; Palm Sedge | <i>Carex muskingumensis</i> | *bankfull, water's edge, shaded stream edge | No pretreatment necessary. | 1oz/acre | 7,500 |  |
| | Wet to moist conditions; fibrous and rhizomatous root system | OBL | Full sun to partial shade | Fertile soils; loam | Swamps, riverbanks, meadows, floodplain woodlands | |
| *Awl-fruited sedge; Prickly Sedge; Stalk-Grain Sedge | <i>Carex stipata</i> | *bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. | 0.25oz/acre | 34,000 |  |
| | Wet to moist conditions; fibrous and rhizomatous root system | OBL | Full to partial sunlight | Can survive in a variety of soil types | Wet floodplain woodlands, swamps, wet prairies, seeps, ditches, pond edges | |
| Hairy-fruited sedge; Hairy-fruited lake sedge | <i>Carex trichocarpa</i> | *side slope, bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. | 0.5oz/acre | 18,000 |  |
| | Wet to moist conditions, fibrous and rhizomatous root system, forms large colonies; can spread aggressively | OBL | Full to partial sunlight | Fertile soil; silt loam | Wet prairies, wet thickets, meadows, streambanks, riverbanks, wet ditches, marshes | |

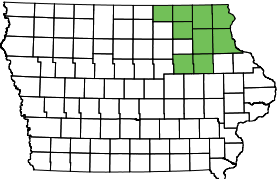
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| Yellow Nut Sedge | <i>Cyperus esculentus</i> | | N/A | N/A | N/A | |  |
| | Wet to moist conditions; fibrous and rhizomatous root system with tubers; can spread aggressively; can be considered weedy | FACW | Full to partial sunlight | Fertile loam, sand, silt, mud | Marshes, shorelines, prairie swales, meadows, ditches, disturbed areas | | |
| Rusty Flat Sedge; Fragrant flatsedge | <i>Cyperus odoratus</i> | | N/A | N/A | N/A | |  |
| | Wet conditions; fibrous root system; | FACW | Full sun | Moist, muddy, sandy soils | Streambanks, marshy shores, wet clearings, mudflats, ditches | | |
| *Blunt Broom Sedge | <i>Carex tribuloides</i> | *bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 1oz/acre | 120,000 | |  |
| | Wet to moist conditions; fibrous and rhizomatous root system | OBL | Full sun to partial shade | Can survive in a variety of soil types | Marshes, fens, floodplain woodlands, swamps, moist meadows, wet prairies, seeps, ditches, bogs | | |
| Straw-colored flatsedge | <i>Cyperus strigosus</i> | | N/A | N/A | N/A | |  |
| | Moist to wet condition; fibrous and rhizomatous root system; | FACW | Full sun | Sandy, muddy, gravelly soils | Marshes, wet prairies, streambanks, prairie swales, seeps, meadows, pond edges, ditches | | |
| Flat-stemmed spike rush | <i>Eleocharis compressa</i> | | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.125oz/acre | 85,000 | |  |
| | Moist to wet conditions; fibrous and rhizomatous root system, can form dense colonies; can establish through root cuttings and plugs | FACW | Full sun | Can survive in a variety of soil types | Wet prairies, meadows, pond edges, streambanks, ditches, lakeshores, wetlands | | |
| *Blunt Spikerush | <i>Eleocharis obtusa</i> | *bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 1oz/acre | 100,000 | |  |
| | Wet conditions; fibrous root system; self-seeding; annual | OBL | Full sun | Can survive in a variety of wet soil types | Marshes, seeps, fens, pond and lake shores, streambanks, ditches | | |

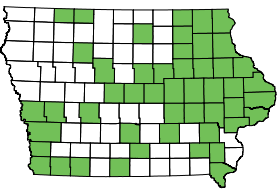
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| *Common Spikerush; Creeping spikerush | <i>Eleocharis palustris</i> | *bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | | 1oz/acre | 70,000 |  |
| Wet conditions; strongly rhizomatous; flood tolerant; propagation through plugs or transplants is most successful | | OBL | Full sun to partial shade | Silty, sandy, clay soils | Wet meadows, springs, marshes, streambanks, lakeshores, mud flats, bogs, swamps | | |
| Frank's Lovegrass; Sandbar love grass | <i>Eragrostis frankii</i> | | Likely does not require any seed pretreatment. Needs light to germinate, surface sow seeds. | | N/A | N/A |  |
| Moist to wet conditions; fibrous root system; limited commercial availability; | | FACW | Full sun | Moist soils, sand, mud | Streambanks, riverbanks, ditches, sandbars, mud flats in streams | | |
| Pony grass; Creeping love grass | <i>Eragrostis hypnoides</i> | | Do not allow seeds to dry out. | | N/A | N/A |  |
| Wet to moist conditions; fibrous root system; self-seeding; can spread aggressively; easily grown from seed; limited commercial availability | | OBL | Full to partial sunlight | Can survive in a variety of soil types | Streambanks, mudflats, sloughs, pond edges | | |
| American manna grass; Tall manna grass, Reed meadowgrass | <i>Glyceria grandis</i> | | Needs light to germinate, surface sow seeds. No other pretreatment necessary. | | 0.5oz/acre | 70,000 |  |
| Wet conditions; fibrous, rhizomatous root system, can form colonies | | OBL | Full sun | Wet soil | Marshes, ditches, lakeshores, riverbanks, streambanks | | |
| *Fowl Manna Grass | <i>Glyceria striata</i> | *top shade, bankfull, water's edge, shady stream | No seed pretreatment necessary. Needs light to germinate, surface sow seeds. | | 0.5oz/acre | 90,000 |  |
| Wet to moist conditions; fibrous root system; self-seeding; can tolerate more sun exposure in wetter conditions | | OBL | Partial sunlight to shade | Fertile soil, loam | Swamps, marshes, streambanks, pond edges, bogs, seeps, ditches | | |
| *Dudley's Rush | <i>Juncus dudleyi</i> | *top sun, side slope, bankfull, water's edge, sunny trails | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | | 0.125oz/acre | 3,200,000 |  |
| Moist to wet conditions; fibrous and rhizomatous root system; can spread aggressively | | FACW | Full sun | Loam, clay loam, gravel | Streambanks, wet meadows, pond edges, moist prairies, swales, ditches, fens | | |

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| Common Rush; Lamp Rush; Soft Rush | <i>Juncus effusus</i> | | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.125oz/acre | 1,000,000 |  |
| | Wet conditions; deep fibrous and rhizomatous root systems, forms colonies; great for erosion control; self-seeding | OBL | Full sun | Mucky, sandy, gravelly, silty soil | Marshes, ditches, swamps, seeps, sloughs, pond edges, riverbanks | |
| *Torrey's Rush | <i>Juncus torreyi</i> | *side slope, bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.125oz/acre | 1,600,000 |  |
| | Moist to fairly wet conditions; fibrous and rhizomatous root system; can spread aggressively in ideal conditions | FACW | Full sun | Acidic soils; mucky, sandy, clay soils | Prairies, pond edges, streambanks, ditches, swamps, meadows, marshes | |
| *Rice Cut Grass; Cut Grass | <i>Leersia oryzoides</i> | *water's edge, shaded stream edge | Best if sown in the fall, otherwise requires cold, moist stratification for a minimum of 90 days | 0.25oz/acre | 34,000 |  |
| | Wet to moist conditions; leaves have sharp edges that can cut skin and should not be planted in public use areas; fibrous and rhizomatous root system, forms dense colonies | OBL | Full to partial sunlight | Wet fertile soil, muck, acidic soil | Swamps, marshes, riverbanks, pond edges, ditches, disturbed wetland areas, streambanks | |
| *White Grass | <i>Leersia virginica</i> | *top shade, bankfull, water's edge, shaded stream edge, side slope | No seed pretreatment necessary | N/A | N/A |  |
| | Moist conditions; fibrous and rhizomatous root system; limited local commercial availability | FACW | Partial shade | Fertile soil, loam | Swamps, floodplain woodlands, shady pond edges, streambanks, marshes, moist wooded areas, shaded slopes, disturbed areas | |
| River Bulrush; River Club-Rush | <i>Schoenoplectus fluviatilis</i> (<i>Scirpus fluviatilis</i>) | | Best if sown in the fall, otherwise requires cold, moist stratification for a minimum of 90 days. Need light to germinate, surface sow seeds. | 1oz/acre | 4,300 |  |
| | Wet conditions; a synonymous scientific name is <i>Scirpus fluviatilis</i> which is used by many nurseries; rhizomatous root system, forms dense colonies; can become aggressive | OBL | Full sun | Wet soils, clay, loam, sand | Marshes, lake shores, riverbanks, streambanks, pond edges | |
| *Slender Bulrush | <i>Schoenoplectus heterochaetus</i> (<i>Scirpus heterochaetus</i>) | *bankfull, water's edge | N/A | N/A | N/A |  |
| | Wet to moist conditions; rhizomatous; a scientific synonymous name is <i>Scirpus heterochaetus</i> ; limited commercial availability | OBL | Full to partial sunlight | Wet soils | Marshes, lakeshores, streambanks | |

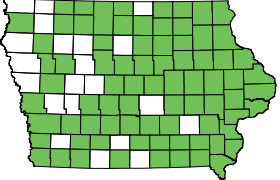
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| *Dark Green Bulrush; Green Bulrush | <i>Scirpus atrovirens</i> | *bankfull, water's edge | Best if sown in the fall, otherwise requires cold, moist stratification for a minimum of 60 days. Need light to germinate, surface sow seeds. | 0.5oz/acre | 460,000 |  |
| Wet conditions; fibrous and rhizomatous root system, forms colonies; great for erosion control; self-seeding | | OBL | Full to partial sunlight | Can survive in a variety of soil types | Wet prairies, open floodplain woodlands, wet meadows, riverbanks, ditches, swamps, seeps, marshes, pond edges, streambanks, bogs | |
| *Wool grass | <i>Scirpus cyperinus</i> | *bankfull, water's edge | Best if sown in the fall, otherwise requires cold, moist stratification for a minimum of 60 days. Needs light to germinate, surface sow seeds. | 0.125oz/acre | 1,700,000 |  |
| Wet conditions; fibrous and rhizomatous root system, often forms colonies; best results may be through transplant; great for erosion control; can become aggressive in ideal conditions | | OBL | Full to partial sunlight | Sandy, muddy, gravelly, peaty soils | Wet meadows, swamps, marshes, sloughs, ditches, seeps, prairie swales, disturbed sites | |
| *Whitetop grass; Common river grass | <i>Scolochloa festucacea</i> | *bankfull, water's edge | No seed pretreatment necessary. | 2oz/acre | 19,000 |  |
| Wet conditions; rhizomatous root system | | OBL | Full sun | Wet soils, clay | Sedge meadows, marshes, lakeshores, mudflats along streams, streambanks, prairie potholes | |
| *Prairie Cordgrass; Freshwater Cordgrass; Sloughgrass | <i>Spartina pectinata</i> | *side slope, bankfull, water's edge | No seed pretreatment necessary | *Transplants/plugs most successful | 6,600 |  |
| Moist to wet conditions; great for erosion control; can help reduce high energy of flowing waters; fibrous and rhizomatous, often forms colonies; can become aggressive; propagation through plugs or dividing the rhizomes is most successful | | FACW | Full to partial sunlight | Fertile soil; loamy, sandy | Marshes, swamps, sloughs, pond edges, riverbanks, moist roadsides and railroads, prairies | |

Shrubs & Vines (Water's Edge)

| | | | | | | |
|--|---------------------|---|--|--|--|---|
| *Speckled alder; Grey Alder; Thin-leaved Alder | <i>Alnus incana</i> | *side slope, bankfull, water's edge | Cold, moist stratification for a minimum of 90 days, or fall planting. | 0.25oz/acre | 33,000 |  |
| Moist to wet conditions; flood tolerant; fast growth rate; shallow, rhizomatous, wide root system; seed propagation over cuttings is recommended | | FACW | Full to partial sunlight | Can survive in a variety of soil types | Wetlands, swamps, streambanks, floodplain woodlands, lakeshores, roadsides, bogs | |

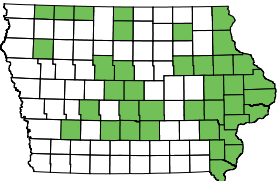
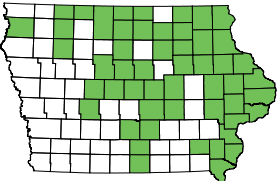
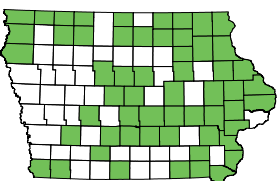
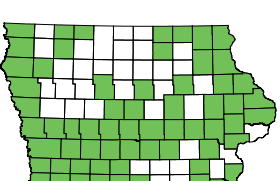
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| *Common Buttonbush | <i>Cephalanthus occidentalis</i> | *bankfull, water's edge | No seed pretreatment necessary. | 2oz/acre | 6,000 |  |
| | Wet to moist conditions; branching and woody root system; seed or cutting propagation are successful; excellent pollinator; readily establishes from cuttings in the spring before leaves form | OBL | Full to partial sunlight | Fertile soil; humusy soil | Swamps, bogs, marshes, ditches, floodplain woodlands, wet prairies, seeps, riverbanks | |
| *Red-osier Dogwood | <i>Cornus stolonifera</i> (<i>Cornus sericea</i>) | *bankfull, water's edge | Cold, moist stratification for a minimum of 60 days, or fall planting. | N/A | N/A |  |
| | Moist to slightly wet conditions; wide, shallow and woody root system with underground runners; great for erosion control; propagation by seeds or cuttings; may also be referred to as <i>Cornus sericea</i> | FACW | Full to partial sunlight | Can survive in a variety of moist soil types; sandy soils | Meadows, marshes, bogs, swamps, thickets, floodplain woodlands, streambanks | |
| *Swamp Dogwood; Silky Dogwood; Pale Dogwood | <i>Cornus obliqua</i> | *bankfull, water's edge, stream edge shade | Cold, moist stratification for a minimum of 60 days, or fall planting. | N/A | N/A |  |
| | Moist to wet conditions; wide, shallow, woody roots; propagation by seeds or cuttings; excellent pollinator | FACW | Full sun to partial shade | Moist soils; sandy | Floodplain woodlands, wet meadows, wet prairies, streambanks, pond edges, swamp edges, fens | |
| *Peach-leaf Willow; Wright Willow, Almond Willow | <i>Salix amygdaloides</i> | *water's edge, bankfull | Sow seeds immediately after collection. Needs moist soils to germinate. | N/A | N/A |  |
| | Moist to wet conditions; woody, shallow root system; self-seeding; fast growth rate; seed and cutting propagation (cuttings may be more successful); excellent pollinator | FACW | Full to partial sunlight | clay loam, loam, sandy, silty soils | Streambanks, pond edges, sloughs, floodplain woodlands, swamps | |
| *Pussy willow | <i>Salix discolor</i> | *water's edge, bankfull | Sow seeds immediately after collection. | *Cuttings most successful form of propagation | N/A |  |
| | Moist to wet conditions; woody, shallow and extensive root system; fast growth rate; cuttings most successful form of propagation; excellent pollinator; shade intolerant | FACW | Full sun | Moist soils, sandy, alluvial soils | Open floodplain woodlands, marshes, swamps, riverbanks, streambanks, wet prairies, ditches | |
| *Sandbar Willow | <i>Salix interior</i> | *water's edge, bankfull, stream edge shade | Sow seeds immediately after collection. | *Cuttings most successful form of propagation | N/A |  |
| | Moist to wet conditions; woody root system with long runners; can spread aggressively through underground runners; propagate through cuttings; excellent pollinator | FACW | Full to partial sunlight | Sandy, gravelly soils, alluvial soils | Wet meadows, streambanks, riverbanks, lake shores, ditches, sloughs, swamps, sandbars, gravel bars, marshes | |

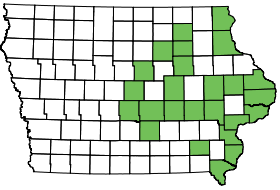
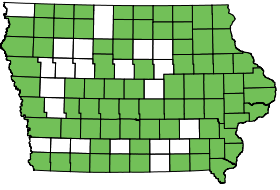
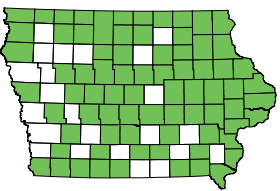
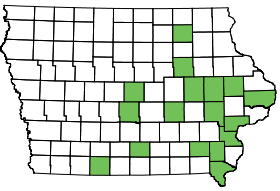
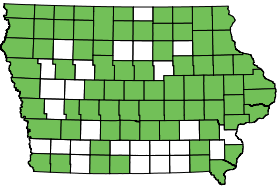
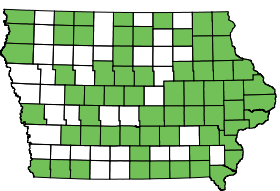
Trees (Water's Edge)

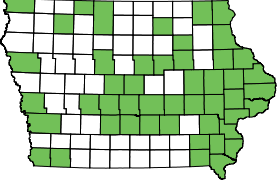
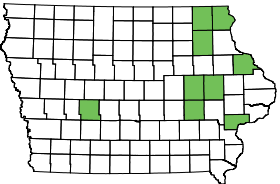
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| *Black Willow; Swamp Willow | <i>Salix nigra</i> | *side slope, bankfull, water's edge, shaded stream edge, sunny and wooded trails | Not fully known, best results if planted immediately after collection. | | N/A | N/A |  |
| Wet to moist conditions; shallow, wide, lateral root system; most common propagation through cuttings, though seed propagation can be successful as well; fast growth rate; excellent pollinator; | | OBL | Full to partial sunlight | Can survive in a variety of soil types | Floodplain woodlands, swamps, riverbanks, lake edges, ditches, sloughs, pond edges, wet disturbed areas | | |

Stream-edge planting menu for heavy shade canopy in 1-2 year flood zone (Bankfull and Water's Edge Zones)

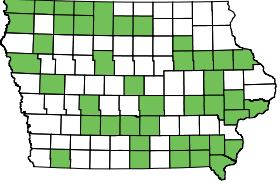
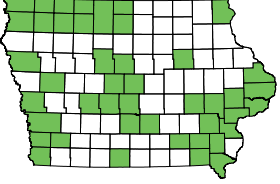
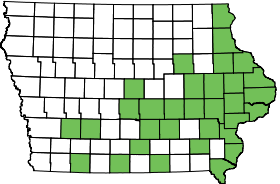
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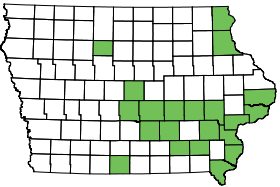
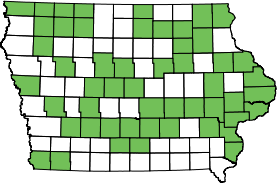
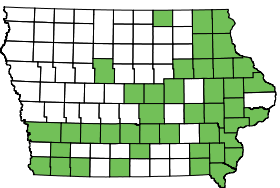
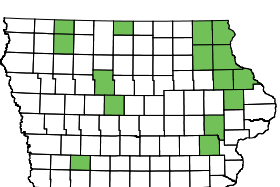
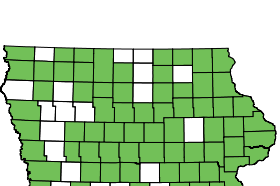
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| *False nettle | <i>Boehmeria cylindrica</i> | *bankfull, shaded stream edge, wooded trails | No seed pretreatment necessary | | 1oz/acre | 208,000 |  |
| Moist conditions; dioecious | | OBL | Partial sunlight | Fertile, loamy soil | Floodplain woodlands, streambanks, riverbanks, swamps, marshes , fens | | |
| *Cinnamon Willow-Herb; Purpleleaf willowherb | <i>Epilobium coloratum</i> | *bankfull, water's edge, stream edge shady | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | | 0.125oz/acre | 250,000 |  |
| Wet to moist conditions; fibrous root system that produces rhizomes; pioneer species | | OBL | Full to partial sunlight | Soil that can retain moisture | Wet prairies, marshes, riverbanks, lake shores, swamps, bogs, disturbed areas | | |
| *Spotted touch-me-not; Orange jewelweed | <i>Impatiens capensis</i> | *top shade, shady stream edge, wooded trail, bankfull | Sow seeds immediately after collection. | | 0.25oz/acre | 4,000 |  |
| Wet to moist conditions; annual; taproot; self-seeding; readily germinates from seed; excellent pollinator; shade tolerant; can become aggressive | | FACW | Full to partial shade | Moist, fertile, clay, loam, sand | Shady bogs, floodplain woodlands, swamps, shady streambanks, wet ditches, seeps | | |
| *Pale touch-me-not; Yellow jewelweed | <i>Impatiens pallida</i> | *top shade, shady stream edge, wooded trail, bankfull | Sow seeds immediately after collection. | | 1oz/acre | 1,600 |  |
| Wet to moist conditions; taproot; annual; readily germinates from seeds; excellent pollinator; can become aggressive | | FACW | Partial shade | Moist soils; loamy, mucky | Swamps, open floodplain woodlands, muddy streambanks, woody edges of marshes | | |

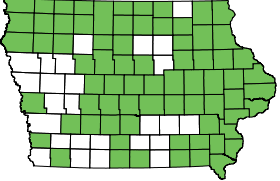
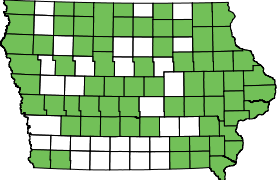
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| *Cardinal Flower | <i>Lobelia cardinalis</i> | *bankfull, shaded stream edge | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | *Transplants/plugs most successful | 400,000 |  |
| | Wet to moist conditions; propagation through transplants or plugs are usually most successful; longevity sometimes limited; central taproot | OBL | Full sun to light shade | Sandy, loamy, gravelly, clay soils | Wet prairies, marsh edges, open floodplain woodlands, ditches, wet meadows, streambanks, swamps | |
| *Great Blue Lobelia; Blue Cardinal Flower | <i>Lobelia siphilitica</i> | *top shade, bankfull, shaded stream edge, wooded trail | Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds. | 0.125oz/acre | 500,000 |  |
| | Wet to moist conditions; can be established without stratification; central taproot | OBL | Full sun to partial sunlight | Fertile soil; loam, sandy loam, clay | Wet prairies, open floodplain woodlands, wet meadows, riverbanks, ditches, swamps | |
| *Monkey Flower; Allegheny Monkeyflower; Square-stemmed Monkeyflower | <i>Mimulus ringens</i> | *bankfull, water's edge, shaded stream edge | Cold, moist stratification for a minimum of 30 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.125oz/acre | 2,300,000 |  |
| | Wet conditions; rhizomatous root system; self-seeding | OBL | Partial sun | Moist, fertile soils; loam, sand, clay | Open floodplain woodlands, swamps, meadows, pond edges, streambanks, wet ditches, seeps | |
| *Pickerel weed | <i>Pontederia cordata</i> | *water's edge, heavy shade | Likely needs cold, wet stratification for a minimum of 30 days followed by spring planting. Do not let seeds dry out. | N/A | N/A |  |
| | Wet conditions; fibrous and rhizomatous root system; propagation through seeds or rhizomes is most successful | OBL | Full to partial sunlight | Wet soils, muck, mud | Marshes, pond edges, swamps, slow-moving streams | |
| *Tall coneflower; Green-head coneflower; Cutleaf coneflower | <i>Rudbeckia laciniata</i> | *shady stream edge, bankfull, top shade, side slope | Cold, moist stratification for a minimum of 30 days or fall planting. Needs light to germinate, surface sow seeds. | 1.5oz/acre | 14,000 |  |
| | Moist to wet conditions; easily grown from seed; rapid growth rate through rhizomes; flood tolerant; excellent pollinator; can be considered weedy | FACW | Full to partial sunlight, shade | Moist soil; loam | Floodplain woodlands, shady riverbanks, moist meadows, sloughs, lowland thickets and fields | |
| *Mad-dog Skullcap | <i>Scutellaria lateriflora</i> | *bankfull, water's edge, shaded stream edge | Cold, moist stratification for a minimum of 60 days or fall planting. | 1oz/acre | 65,000 |  |
| | Wet to consistently moist conditions; taproot with rhizomes; | OBL | Full sun to partial shade | Can survive in a variety of soils if there is consistent moisture available | Marshes, moist meadows, swamps, open floodplain woodlands, wet thickets, seeps, bogs | |

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| *Smooth Hedgenettle; Hedge nettle | <i>Stachys tenuifolia</i> | *top shade, water's edge, shaded stream edge | N/A | N/A | N/A |  | |
| Wet conditions; rhizomatous root system with taproot, forms colonies | | OBL | Partial sun | Wet soil; clay, loam, sand | Floodplain woodlands, streambanks, thickets, swamps, seeps, ditches, meadows, wet fields, marshes, moist prairies | | |
| *Skunk cabbage | <i>Symplocarpus foetidus</i> | *bankfull, water's edge, shady stream edge | Seeds should not be allowed to dry out before sowing. | | N/A | N/A |  |
| Wet conditions; self-seeding; limited commercial availability | | OBL | Partial sun to shade | Wet, rich soil, muck | Marshes, streambanks, riverbanks, pond edges, muddy wet areas, wet woodlands, seeps, swamps | | |

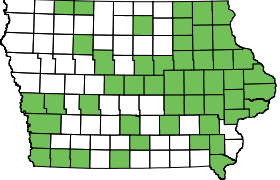
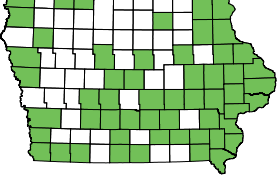
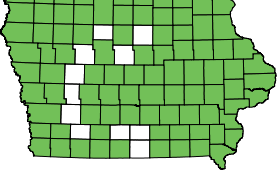
Grasses, Sedges, & Rushes (Shaded stream edge)

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| *Yellow headed fox sedge; Yellow Fox Sedge; Yellowfruit Sedge; Small Yellow Fox Sedge | <i>Carex annectens</i> | *water's edge, bankfull, shaded stream edge | Cold, moist stratification for a minimum of 60 days, or fall planting. | | 0.25oz/acre | 90,000 |  |
| Moist to wet conditions; fibrous and rhizomatous root system; sometimes referred to with the scientific name <i>Carex brachyglossa</i> | | FACW | Full sun to partial shade | Can survive in a variety of soil types | Pond edges, fens, ditches, marshes, wet prairies, swamps, seeps, moist disturbed areas | | |
| *Wheat Sedge; Hairy-leaved Lake Sedge; Awned Sedge | <i>Carex atherodes</i> | *water's edge, shaded stream edge | Cold, moist stratification for a minimum of 60 days, or fall planting. | | 0.5oz/acre | 29,000 |  |
| Wet conditions; rhizomatous root system, forms colonies | | OBL | Full sun to partial shade | Moist soil; clay | Marshes, wet meadows, wet ditches, streambanks, riverbanks, swamps, open floodplain woodlands | | |
| *Gray's sedge; Bur sedge | <i>Carex grayi</i> | *stream edge shade, top shade, side slope, woodland trails, bankfull | Fall planting is recommended. | | 2oz/acre | 1,200 |  |
| Wet to moist conditions; tolerant to seasonal flooding; full sun tolerable in wet conditions; fibrous and rhizomatous root system | | FACW | Partial shade | Fertile soil; loam, sand, silt | Moist, deciduous woodlands, sandy swamps, shady streambanks, marshes | | |

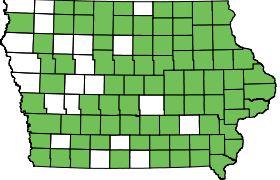
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| *Muskingum Sedge; Palm Sedge | <i>Carex muskingumensis</i> | *bankfull, water's edge, shaded stream edge | No pretreatment necessary. | | 1oz/acre | 7,500 |  |
| Wet to moist conditions; fibrous and rhizomatous root system | | OBL | Full sun to partial shade | Fertile soils; loam | Swamps, riverbanks, meadows, floodplain woodlands | | |
| *Porcupine sedge; Bottlebrush Sedge | <i>Carex hystericina</i> | *bankfull, water's edge, shaded stream edge | Cold, moist stratification for a minimum of 60 days, or fall planting. | | 0.25oz/acre | 30,000 |  |
| Wet to moist conditions; fibrous and rhizomatous root system; part of "bottlebrush" sedge group | | OBL | Full sun to partial shade | Wet calcareous soil; loam, sand | Swamps, pond edges, wet prairies, marshes, ditches, seeps, meadows | | |
| *Greater Straw Sedge; Spreading Oval Sedge | <i>Carex normalis</i> | *top shade, side slope, bankfull, shaded stream edge | Cold, moist stratification for a minimum of 60 days, or fall planting. | | 0.25oz/acre | 25,000 |  |
| Moist to wet conditions; fibrous and rhizomatous root system; self-seeding | | FACW | Full sun to partial shade | Fertile soils | Open woodlands, pond edges, ditches, streambanks, prairies, meadows, fields, disturbed areas | | |
| *Riverbank Wild Rye | <i>Elymus riparius</i> | *side slope, top shade, bankfull, shaded stream edge | No seed pretreatment necessary | | 0.5lb/acre | 2,900 |  |
| Moist to wet conditions; low drought tolerance; high fire tolerance; self-seeding; great for erosion control; rhizomatous root system | | FACW | Partial shade to shade | Loam, sand, clay | Meadows, streambanks, riverbanks, moist prairies, fields | | |
| *Virginia Wild Rye | <i>Elymus virginicus</i> | *top shade, top sun, shaded stream edge, sunny trails, wooded trails | No seed pretreatment necessary | | 1lb/acre | 4,200 |  |
| Moist conditions; fibrous root system; great cover crop for erosion control; easily grown from seed; tends to give way to other species over five years | | FACW | Full sun to shade | Fertile soil; loam, clay loam, sandy, can survive in a variety of soil types | Bottomland woodlands, riparian areas, riverbanks, streambanks, moist prairies, roadsides, bluffs, moist savannas, disturbed areas | | |
| *Fowl Manna Grass | <i>Glyceria striata</i> | *water's edge, shady stream | No seed pretreatment necessary. Needs light to germinate, surface sow seeds. | | 0.5oz/acre | 90,000 |  |
| Wet to moist conditions; fibrous root system; self-seeding; can tolerate more sun exposure in wetter conditions | | OBL | Partial sunlight to shade | Fertile soil, loam | Swamps, marshes, streambanks, pond edges, bogs, seeps, ditches | | |

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| *Rice Cut Grass; Cut Grass | <i>Leersia oryzoides</i> | *water's edge, shaded stream edge | Best if sown in the fall, otherwise requires cold, moist stratification for a minimum of 90 days | 0.25oz/acre | 34,000 |  |
| Wet to moist conditions; leaves have sharp edges that can cut skin and should not be planted in public use areas; fibrous and rhizomatous root system, forms dense colonies | OBL | Full to partial sunlight | Wet fertile soil, muck, acidic soil | Swamps, marshes, riverbanks, pond edges, ditches, disturbed wetland areas, streambanks | | |
| *White Grass | <i>Leersia virginica</i> | *top shade, bankfull, water's edge, shaded stream edge, side slope | No seed pretreatment necessary | N/A | N/A |  |
| Moist conditions; fibrous and rhizomatous root system; limited local commercial availability | FACW | Partial shade | Fertile soil, loam | Swamps, floodplain woodlands, shady pond edges, streambanks, marshes, moist wooded areas, shaded slopes, disturbed areas | | |

Shrubs & Vines (Shaded stream edge)

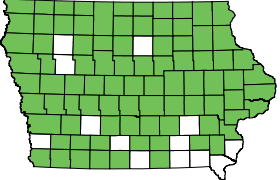
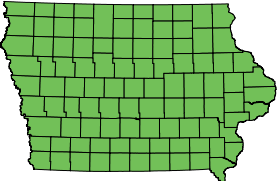
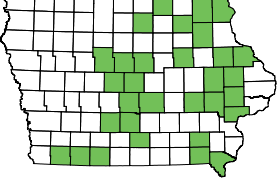
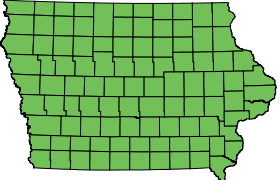
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| *Swamp Dogwood; Silky Dogwood; Pale Dogwood; | <i>Cornus obliqua</i> | *bankfull, water's edge, stream edge shade | Cold, moist stratification for a minimum of 60 days, or fall planting. | N/A | N/A |  |
| Moist to wet conditions; wide, shallow, woody roots; propagation by seeds or cuttings; excellent pollinator | FACW | Full sun to partial shade | Moist soils; sandy | Floodplain woodlands, wet meadows, wet prairies, streambanks, pond edges, swamp edges, fens | | |
| *Wahoo; Eastern Wahoo; Burningbush | <i>Euonymus atropurpureus</i> | *stream edge shade, top shade, side slope | Not fully known, best propagation may be through plugs or cuttings. Seeds may need both a warm followed by a cold stratification period of 60-90 days. | N/A | N/A |  |
| Moist conditions; taproot; self-seeding; best propagation may be through plugs or cuttings | FAC | Partial shade | Fertile soil; loam, can survive in a variety of soil types | Floodplain woodlands, streambanks, moist meadows, woodland edges | | |
| *Sandbar Willow | <i>Salix interior</i> | *water's edge, bankfull, stream edge shade | Sow seeds immediately after collection. | *Cuttings most successful form of propagation | N/A |  |
| Moist to wet conditions; woody root system with long runners; can spread aggressively through underground runners; propagate through cuttings; excellent pollinator | FACW | Full to partial sunlight | Sandy, gravelly soils, alluvial soils | Wet meadows, streambanks, riverbanks, lake shores, ditches, sloughs, swamps, sandbars, gravel bars, marshes | | |

Trees (Shaded stream edge)

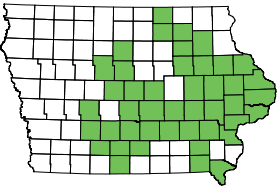
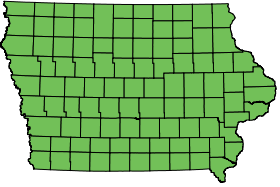
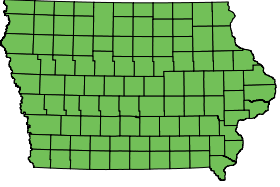
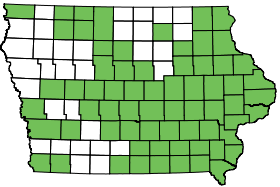
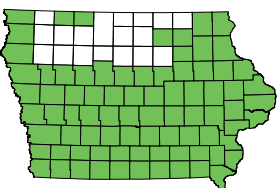
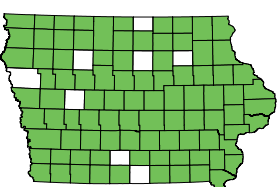
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| *Black Willow; Swamp Willow | <i>Salix nigra</i> | *side slope, bankfull, water's edge, shaded stream edge, sunny and wooded trails | Not fully known, best results if planted immediately after collection. | N/A | N/A |  |
| Wet to moist conditions; shallow, wide, lateral root system; most common propagation through cuttings, though seed propagation can be successful as well; fast growth rate; excellent pollinator; | | OBL | Full to partial sunlight | Can survive in a variety of soil types | Floodplain woodlands, swamps, riverbanks, lake edges, ditches, sloughs, pond edges, wet disturbed areas | |

Along trail edges (Sunny Uplands)

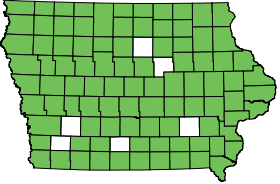
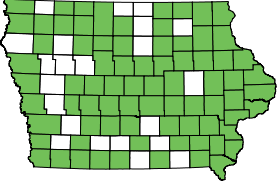
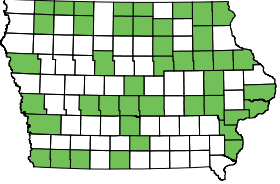
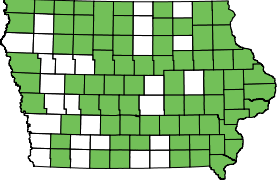
Forbs

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| Prairie sage; white sagebrush | <i>Artemisia ludoviciana gnaphalodes (Artemisia ludoviciana)</i> | | Cold, moist stratification for a minimum of 30 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.25oz/acre | 250,000 |  |
| Dry to slightly moist conditions; the scientific name <i>Artemisia ludoviciana</i> is used by many nurseries; rhizomatous root system, forms dense colonies; can become aggressive | | UPL | Full sun | Can survive in a variety of soil types | Prairies, roadsides, pastures, open woodlands | |
| *Common Milkweed; Silkweed | <i>Asclepias syriaca</i> | *top sun, side slope, sunny trail | Cold, moist stratification for a minimum of 30 days, or fall planting. | 0.5oz/acre | 4,000 |  |
| Slightly dry to somewhat moist conditions; rhizomatous root system; seed and rhizome cutting propagation; can spread aggressively; excellent pollinator; can be considered weedy; drought tolerant | | FACU | Full sun | Sandy, rocky, clay | Prairies, riverbanks, streambanks, forest edges, roadsides, thickets, railroads, open woodlands, disturbed areas | |
| Cream Gentian | <i>Gentiana alba (Gentiana flavida)</i> | *side slope, sunny trails | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 1oz/acre | 140,000 |  |
| Slightly dry to somewhat moist conditions; long taproot; a synonymous scientific name is <i>Gentiana flavida</i> ; excellent pollinator; propagation through transplants is most successful | | FACU | Full sun to partial shade | Can survive in a variety of soil types | Prairies, oak savannas, rocky bluffs, woodland edges, limestone glades, rocky or wooded slopes | |
| Ox-eye | <i>Heliopsis helianthoides</i> | | Cold, moist stratification for a minimum of 30 days, or fall planting. | 16oz/acre (1lb) | 6,300 |  |
| Moist to moderately moist conditions; fibrous root system; easily grown from seed; excellent pollinator | | FACU | Full to partial sunlight | Can survive in a variety of soil types | Prairies, open woodlands, thickets, limestone glades, savannas, streambanks, prairie remnants, woodland edges | |

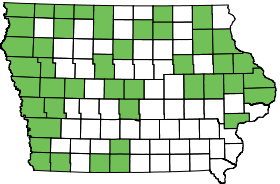
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| *Northern bugleweed | <i>Lycopus uniflorus</i> | *bankfull, water's edge, wooded trails, sunny trails | N/A | N/A | N/A |  |
| | Wet to moist conditions; tuberous roots with stolons; propagation through tubers is most successful | OBL | Full to partial sunlight | Sandy, loamy, mucky soil | Streambanks, fens, marshes, swamps, lake edges, moist meadows | |
| *Wild Bergamot; Beebalm | <i>Monarda fistulosa</i> | *top shade and top sun, sunny and woodland trails | No seed pretreatment necessary | 0.25oz/acre | 70,000 |  |
| | Moist, well-drained to partially dry conditions; rhizomatous with deep roots; excellent pollinator; easily grown from seed; can become aggressive; very hardy and thrives in disturbed areas; drought tolerant | FACU | Full to partial sunlight | Can survive in a variety of soil types | Open woodlands, fields, moist meadows, ditches, edges of forests, prairies, savannas, thickets, disturbed areas | |
| *Mousetail; Tiny mousetail | <i>Myosurus minimus</i> | *water's edge, sunny trails, wooded trails | N/A | N/A | N/A |  |
| | Moist to slightly dry conditions; fibrous root system; self-seeding; found in exposed soil with little vegetation | FACW | Full to partial sunlight | Loam, sandy loam, gravelly loam, clay loam | Eroded streambanks, pond and lake shores, pastures, barren woodland areas, disturbed areas | |
| *Norwegian cinquefoil | <i>Potentilla norvegica</i> | *sunny trails, wooded trails | N/A | N/A | N/A |  |
| | Moist to slightly dry conditions; taproot; self-seeding; excellent pollinator; easily grown from seed | FAC | Full to partial sunlight | Loamy soils | Weedy meadows, pastures, parking lot edges, streambanks, sloughs, marshes, disturbed/waste areas | |
| *Yellow coneflower; Gray-head coneflower; Pinnate prairie coneflower | <i>Ratibida pinnata</i> | *side slope, top sun, sunny trail | Cold, moist stratification for a minimum of 30 days, or fall planting. | 1oz/acre | 30,000 |  |
| | Moist to slightly dry conditions, easily grown from seed; drought tolerant; rhizomatous, often forms colonies; excellent pollinator | N/A | Full sun | Loam, clay loam, can survive in a variety of soil types | Dry woodlands, prairies, thickets, railroads, roadsides, forest edges, remnant prairies, disturbed areas | |
| *Black-eyed Susan | <i>Rudbeckia hirta</i> | *Top shade & sun, side slope, sunny trail | Cold, moist stratification for a minimum of 30 days or fall planting. | 0.5oz/acre | 92,000 |  |
| | Opportunistic species, does well in disturbed areas; fast maturation; slightly moist to dry conditions; can tolerate above-average rainfall in well-drained conditions; central taproot; biennial | FACU | Full to partial sunlight | Fertile soil; clay loam, sandy loam | Slightly wet to dry prairies, meadows, roadside ditches, savannas, rocky areas, and disturbed sites | |

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| *Sweet coneflower; Sweet black-eyed susan | <i>Rudbeckia subtomentosa</i> | *side slope, top sun, sunny trail | Cold, moist stratification for a minimum of 30 days, or fall planting. | | 0.5oz/acre | 43,000 |  |
| Moist, well-drained conditions; germinates readily; moderately drought tolerant; rhizomatous | | FACU | Full sun to partial sunlight | Loam, sandy loam, clay | Moist prairies, open woods, savannas, thickets, riverbanks, streambanks, roadsides, ditch slopes, disturbed areas | | |
| *Giant Goldenrod; Tall Goldenrod; Early Goldenrod | <i>Solidago gigantea</i> | *side slope, bankfull, sunny trails, wooded trails | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | | 0.05oz/acre | 250,000 |  |
| Moist to wet conditions; fibrous and rhizomatous root system; excellent pollinator; can become aggressive | | FACW | Full sun to light shade | Moist soils; loam, clay loam, sand-loam | Floodplain woodlands, riverbanks, pond edges, wet prairies, fens, ditches | | |
| Heath aster | <i>Symphotrichum ericoides (Aster ericoides)</i> | | Needs light to germinate, surface sow seeds. No other pretreatment necessary. | | 0.5oz/acre | 200,000 |  |
| Normal to dry conditions; rhizomatous root system; excellent pollinator; a synonymous scientific name is <i>Aster ericoides</i> , often used by nurseries | | FACU | Full sun | Gravelly, loamy, clay soils | Prairies, savannas, open and dry rocky woodlands, pastures, limestone glades, railroads, roadsides | | |
| *Willow Aster | <i>Symphotrichum praealtum (Aster praealtus)</i> | *top sun, sunny trails, wooded trail | Cold, moist stratification for a minimum of 30 days, or fall planting. Needs light to germinate, surface sow seeds. | | 0.125oz/acre | 130,000 |  |
| A synonymous scientific name is <i>Aster praealtus</i> , often used by nurseries; moist conditions; fibrous and rhizomatous root system, often forms colonies; can become aggressive; excellent pollinator | | FACW | Full to partial sunlight | Fertile, loamy soils | Moist prairies, fields, ditches, thickets, lakeside and riverside meadows | | |
| *Smooth speedwell; Neckweed | <i>Veronica peregrina</i> | *sunny trails, wooded trails | N/A | | N/A | N/A |  |
| Moist to wet conditions; fibrous root system with taproot; easily grown from seed | | FACW | Full sun to partial shade | Moist soils | Roadsides, lawns, fens, meadows, waste areas | | |
| *Common blue violet | <i>Viola sororia</i> | *top shade, wooded trails, sunny trails, side slope | Best if sown in the fall. Otherwise, requires cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds. | | 0.5oz/acre | 23,000 |  |
| Moderately moist conditions; rhizomatous root system; self-seeding; easily grown from seed; can become aggressive in optimum conditions | | FAC | Partial sunlight | Fertile soil; loam, clay loam | Moist black prairies, savannas, wooded slopes along streams, woodland edges, open floodplain woodlands | | |

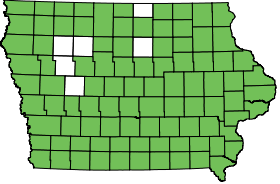
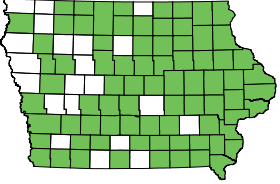
Grasses, Sedges & Rushes (Sunny Trails)

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| *Canada Wild Rye | <i>Elymus canadensis</i> | *top sun, sunny trail, side slope | No seed pretreatment necessary | | 0.5 lb/acre | 5,200 |  |
| Moist to dry conditions; great for erosion control; rapid establishment; easily grown from seed; moderately drought tolerant; fibrous root system | | FACU | Full to partial sun | Can survive in a variety of soil types | | Prairies, savannas, bluffs, river streambanks, railroads, open woodlands, sandy shores and dunes, disturbed areas | |
| *Virginia Wild Rye | <i>Elymus virginicus</i> | *top shade, top sun, shaded stream edge, sunny trails, wooded trails | No seed pretreatment necessary | | 1lb/acre | 4,200 |  |
| Moist conditions; fibrous root system; great cover crop for erosion control; easily grown from seed; tends to give way to other species over five years | | FACW | Full sun to shade | Fertile soil; loam, clay loam, sandy, can survive in a variety of soil types | | Bottomland woodlands, riparian areas, riverbanks, streambanks, moist prairies, roadsides, bluffs, moist savannas, disturbed areas | |
| *Dudley's Rush | <i>Juncus dudleyi</i> | *top sun, side slope, bankfull, water's edge, sunny trails | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | | 0.125oz/acre | 3,200,000 |  |
| Moist to wet conditions; fibrous and rhizomatous root system; can spread aggressively | | FACW | Full sun | Loam, clay loam, gravel | | Streambanks, wet meadows, pond edges, moist prairies, swales, ditches, fens | |
| *Wirestem muhly; Common satin grass | <i>Muhlenbergia frondosa</i> | *side slope, sunny trails, wooded trails | N/A | N/A | N/A | N/A |  |
| Moist conditions; fibrous and rhizomatous root system, often forms colonies; can become aggressive | | FACW | Full to partial sunlight | Can survive in a variety of soil types | | Moist woodlands, prairies, prairie swales, bases of bluffs and wooded slopes, marsh edges, riverbanks, ditches, fields, railroads, disturbed areas | |

Shrubs & Vines (Sunny Trails)

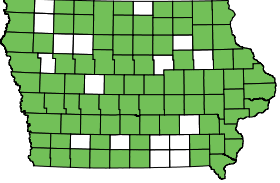
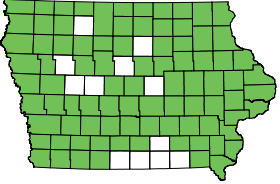
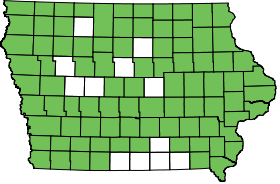
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| Western Snowberry; Wolfberry | <i>Symphoricarpos occidentalis</i> | sunny trails | Warm stratification for a minimum of 90 days followed by cold stratification for a minimum of 120 days. | | N/A | N/A |  |
| Moist to slightly dry conditions; rhizomatous root system; stem and root cutting propagation; seed propagation is difficult; excellent pollinator | | UPL | Full to partial sun | Can survive in a variety of soil types | | Ditches, streambanks, floodplains, open swales, open woodlands, prairies, bluffs; disturbed areas | |

Trees (Sunny Trails)

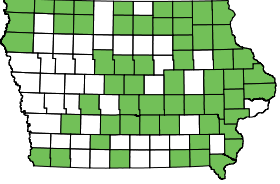
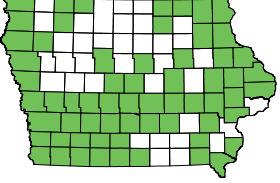
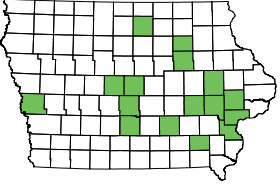
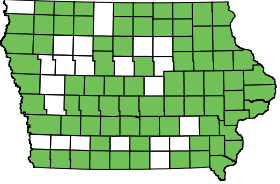
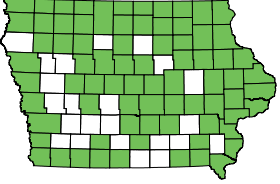
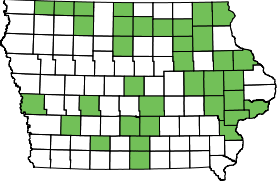
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| Black Cherry; Wild Black Cherry; Rum Cherry | <i>Prunus serotina</i> | sunny trails | Cold, moist stratification for a minimum of 90 days or fall planting. | N/A | N/A |  |
| Slightly dry to moist conditions; taproot; shade intolerant; self-seeding; excellent pollinator; seed and cutting propagation are successful | FACU | Full sun | Can survive in a variety of soil types, loam | Woodlands, savannas, powerline clearances, limestone glades, roadsides, tickets, disturbed areas | | |
| *Black Willow; Swamp Willow | <i>Salix nigra</i> | *side slope, bankfull, water's edge, shaded stream edge, sunny and wooded trails | Not fully known, best results if planted immediately after collection. | N/A | N/A |  |
| Wet to moist conditions; shallow, wide, lateral root system; most common propagation through cuttings, though seed propagation can be successful as well; fast growth rate; excellent pollinator; | OBL | Full to partial sunlight | Can survive in a variety of soil types | Floodplain woodlands, swamps, riverbanks, lake edges, ditches, sloughs, pond edges, wet disturbed areas | | |

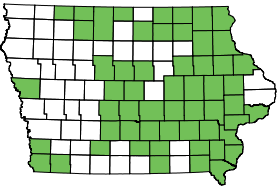
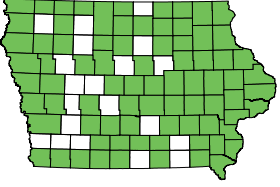
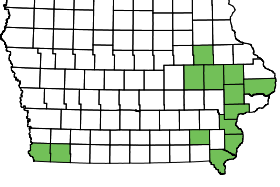
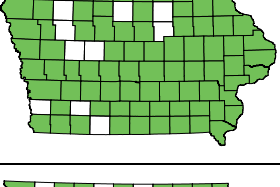
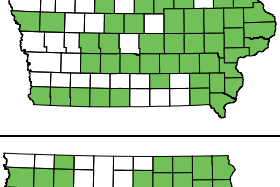
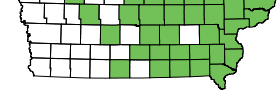
Along trail edges (Woodlands)

Forbs

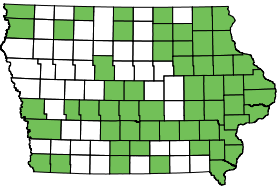
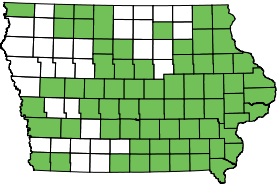
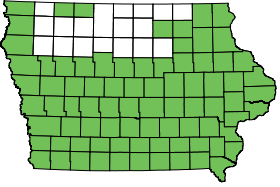
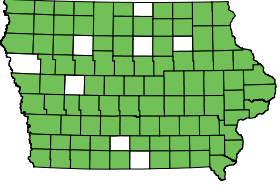
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| *White snakeroot | <i>Ageratina altissima (Eupatorium rugosum)</i> | *top shade, wooded trail | Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds. | 0.25oz/acre | 150,000 |  |
| A synonymous scientific name is <i>Eupatorium rugosum</i> , which is used by many nurseries. Slightly dry to moist conditions; rhizomatous and fibrous root system; can be considered weedy; easily grown from seed | N/A | Partial sunlight | Loam, clay loam | Deciduous woodlands, thickets, woodland edges, bluffs, meadows, disturbed areas | | |
| *Canada Anemone; Meadow Anemone | <i>Anemone canadensis</i> | *top sun, bankfull, sunny trail | Can sow outdoors with no pretreatment but plant will not germinate for 2 or more years. Otherwise three phases of stratification; cold, warm, cold for 60 days are necessary. | 1oz/acre | 8,000 |  |
| Moist to wet conditions; rhizomatous root system, often forms colonies; can become aggressive | FACW | Full sun to partial shade | Loamy, gravelly, sandy soils | Meadows, prairies, open floodplain woodlands, streambanks, swamps, ditches | | |
| *Wild ginger | <i>Asarum canadense</i> | *top shade, wooded trail, side slope | Sow seeds immediately after collection. May need to allow one full year for germination. | 1oz/acre | 4,400 |  |
| Slightly dry to moist conditions; shallow rhizomatous root system, often forms colonies; most successful propagation through plugs or root division | FACU | Full to partial shade | Moist soil; Loam, slightly rocky soil | Floodplain and upland woodlands, bluffs, wooded slopes | | |

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|--|--|--|--|--|--|---|
| *False nettle | <i>Boehmeria cylindrica</i> | *bankfull, shaded stream edge, wooded trails | No seed pretreatment necessary | 1oz/acre | 208,000 |  |
| | Moist conditions; dioecius | OBL | Partial sunlight | Fertile, loamy soil | Floodplain woodlands, streambanks, riverbanks, swamps, marshes , fens | |
| *American bellflower; Tall Bellflower | <i>Campanulastrum americanum (Campanula americana, old scientific name)</i> | *top shade, wooded trail | Cold, moist stratification for a minimum of 30 days or fall planting. Needs light to germinate, surface sow seeds. | 0.125oz/acre | 170,000 |  |
| | Moist conditions; low drought tolerance; readily germinates; excellent pollinator; taproot; annual | FAC | Partial shade | Fertile, moist soil; loam | Moist woodlands, disturbed woodland areas, thickets, streambanks | |
| Chevril | <i>Chaerophyllum procumbens</i> | | N/A | N/A | N/A |  |
| | Moist conditions; taproot; self-seeding; can be considered weedy; annual | FACW | Partial sunlight | Fertile loam | Open lowland woodlands, woodland edges, railroads, roadsides, thickets, glades | |
| *Canadian Honewort | <i>Cryptotaenia canadensis</i> | *top shade, wooded trail | Cold, moist stratification for a minimum of 60 days or fall planting. | 0.5oz/acre | 7,000 |  |
| | Moist conditions; taproot; self-seeding | FAC | Partial shade | Well-drained, loamy, fertile | Floodplain woodlands, shady bluffs, slightly disturbed areas, woodland edges | |
| Waterpod; Aunt Lucy | <i>Ellisia nyctelea</i> | | N/A | N/A | N/A |  |
| | Moist to moderately moist conditions; taproot | FAC | Partial shade | Fertile loam | Deciduous woodlands, thickets, streambanks, fields, waste places, disturbed areas | |
| Fleabane | <i>Erigeron philadelphicus</i> | | Sow seeds immediately after collection | N/A | N/A |  |
| | Moist conditions; fibrous root system; self-seeding; can be considered weedy; excellent pollinator | FACW | Full to partial sunlight | Can survive in a variety of moist, well-drained soil types | Prairies, streambanks, marsh edges, ditches, fields, pond and lake margins, moist meadows, floodplain woodlands, moist disturbed areas | |

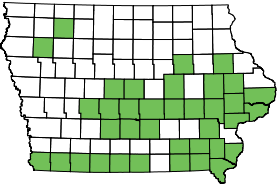
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| *Spotted touch-me-not; Orange jewelweed | <i>Impatiens capensis</i> | *top shade, shady stream edge, wooded trail, bankfull | Sow seeds immediately after collection. | | 0.25oz/acre | 4,000 |  |
| Wet to moist conditions; annual; taproot; self-seeding; readily germinates from seed; excellent pollinator; shade tolerant; can become aggressive | FACW | Full to partial shade | Moist, fertile, clay, loam, sand | | Shady bogs, floodplain woodlands, swamps, shady streambanks, wet ditches, seeps | | |
| *Pale touch-me-not; Yellow jewelweed | <i>Impatiens pallida</i> | *top shade, shady stream edge, wooded trail, bankfull | Sow seeds immediately after collection. | | 1oz/acre | 1,600 |  |
| Wet to moist conditions; taproot; annual; readily germinates from seeds; excellent pollinator; can become aggressive | FACW | Partial shade | Moist soils; loamy, mucky | | Swamps, open floodplain woodlands, muddy streambanks, woody edges of marshes | | |
| *Purple rocket | <i>Iodanthus pinnatifidus</i> | *top shade, side slope, wooded trails | N/A | | N/A | N/A |  |
| Moist to wet conditions; taproot; self-seeding; easily grown from seed; excellent pollinator; tolerates seasonal flooding | FACW | Partial sunlight | Fertile, loamy soils | | Floodplain woodlands, floodplain slopes, meadows | | |
| *Great Blue Lobelia; Blue Cardinal Flower | <i>Lobelia siphilitica</i> | *top shade, bankfull, shaded stream edge, wooded trail | Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds. | | 0.125oz/acre | 500,000 |  |
| Wet to moist conditions; can be established without stratification; central taproot | OBL | Full sun to partial sunlight | Fertile soil; loam, sandy loam, clay | | Wet prairies, open floodplain woodlands, wet meadows, riverbanks, ditches, swamps | | |
| *Water horehound; American Bugleweed; American water horehound | <i>Lycopus americanus</i> | *bankfull, water's edge, wooded trails | Needs light to germinate, surface sow seeds. No other pretreatment necessary. | | 0.25oz/acre | 130,000 |  |
| Wet to moist conditions; rhizomatous root system, often forms colonies | OBL | Full to partial sunlight | Moist soils; clay, silt, loam | | Wetlands, shorelines, riverbanks, marshes, ditches, wet prairies, open floodplain woodlands, wet thickets | | |
| *Northern bugleweed | <i>Lycopus uniflorus</i> | *bankfull, water's edge, wooded trails, sunny trails | N/A | | N/A | N/A |  |
| Wet to moist conditions; tuberous roots with stolons; propagation through tubers is most successful | OBL | Full to partial sunlight | Sandy, loamy, mucky soil | | Streambanks, fens, marshes, swamps, lake edges, moist meadows | | |

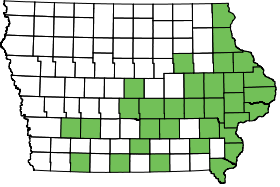
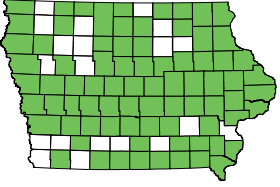
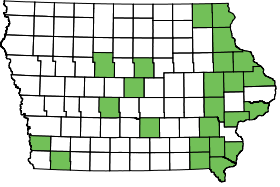
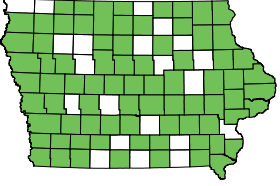
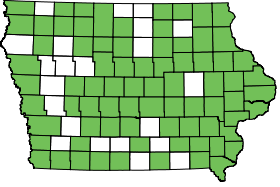
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| *Virginia bluebell | <i>Mertensia virginica</i> | *top shade, woodland trails | Best if sown in the fall or immediately after collection. Otherwise requires cold, moist stratification for a minimum of 60 days. | 0.5oz/acre | 9,700 |  |
| | Prefers moist, well-drained conditions; often forms colonies; taproot | FACW | Partial to full shade | Fertile, moist soil; loam, rock | Floodplain woodlands, shady bluffs, riverbanks and streambanks | |
| *Wild Bergamot; Beebalm | <i>Monarda fistulosa</i> | *top shade and top sun, sunny and woodland trails | No seed pretreatment necessary | 0.25oz/acre | 70,000 |  |
| | Moist, well-drained to partially dry conditions; rhizomatous with deep roots; excellent pollinator; easily grown from seed; can become aggressive; very hardy and thrives in disturbed areas; drought tolerant | FACU | Full to partial sunlight | Can survive in a variety of soil types | Open woodlands, fields, moist meadows, ditches, edges of forests, prairies, savannas, thickets, disturbed areas | |
| *Mousetail; Tiny mousetail | <i>Myosurus minimus</i> | *water's edge, sunny trails, wooded trails | N/A | N/A | N/A |  |
| | Moist to slightly dry conditions; fibrous root system; self-seeding; found in exposed soil with little vegetation | FACW | Full to partial sunlight | Loam, sandy loam, gravelly loam, clay loam | Eroded streambanks, pond and lake shores, pastures, barren woodland areas, disturbed areas | |
| *Woodland phlox; Wild blue phlox | <i>Phlox divaricata</i> | *top shade, wooded trail | Cold, moist stratification for a minimum of 60 days or fall planting. | 1oz/acre | 12,500 |  |
| | Slightly dry to moderately moist conditions; rhizomatous root system; propagation through seeds or root division most successful | FACU | Partial shade | Can survive in a variety of soil types | Deciduous woodlands, bluffs, seasonal floodplains, streambanks, wooded paths | |
| *Clearweed | <i>Pilea pumila</i> | *top shade, wooded trails | N/A | N/A | N/A |  |
| | Wet to moist conditions; self-seeding; easily grown from seed; annual | FACW | Partial sunlight | Fertile, loamy soils | Floodplain woodlands, streambanks, seeps, woodland edges | |
| *Jacob's ladder; greek valerian | <i>Polemonium reptans</i> | *tops shade, wooded trail | Cold, moist stratification for a minimum of 60 days or fall planting. | 1oz/acre | 18,000 |  |
| | Moderately moist to slightly dry conditions; fibrous root system; self-seeding; excellent pollinator | FAC | Partial sunlight | Fertile, loamy soils | Deciduous woodlands, streambanks, fens, moist prairies, woodland edges, wooded paths | |

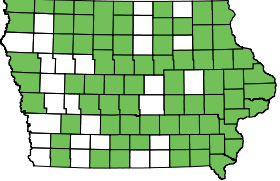
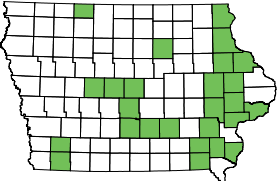
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| *Norwegian cinquefoil | <i>Potentilla norvegica</i> | *sunny trails, wooded trails | N/A | N/A | N/A | N/A |  |
| | Moist to slightly dry conditions; taproot; self-seeding; excellent pollinator; easily grown from seed | FAC | Full to partial sunlight | Loamy soils | Weedy meadows, pastures, parking lot edges, streambanks, sloughs, marshes, disturbed/waste areas | | |
| *Kidney leaf buttercup | <i>Ranunculus abortivus</i> | *top shade, wooded trail | N/A | N/A | N/A | N/A |  |
| | Moist conditions; fibrous root system; self-seeding; can be considered weedy; easily grown from seed | FACW | Partial sunlight | Fertile soils; clay loam, loam | Woodlands, riverbanks, wooded paths, railroads, ditches, woodland edges, fields, disturbed areas | | |
| *Cursed Crowfoot; Annual buttercup | <i>Ranunculus sceleratus</i> | *water's edge, wooded trails | Cold, moist stratification for a minimum of 30 days, or fall planting. | 1oz/acre | 145,000 | |  |
| | Wet to moist conditions; fibrous root system; self-seeding; annual | OBL | Full to partial sunlight | Moist, fertile soils, clay loam, clay, mud | Marshes, seeps, streambanks, river sandbars, pond edges, wet meadows, ditches | | |
| *Brown-eyed Susan | <i>Rudbeckia triloba</i> | *top sun, top shade, woodland trails | Cold, moist stratification for a minimum of 30 days or fall planting. | 1oz/acre | 34,000 | |  |
| | Moist conditions; fibrous root system; self-seeding; drought tolerant; biennial | FACU | Full to partial sunlight | Fertile soil; loamy, gravelly, clay, sandy | Prairies, savannas, open forests, riverbanks, streambanks, tickets, roadsides, disturbed areas | | |
| *Giant Goldenrod; Tall Goldenrod; Early Goldenrod | <i>Solidago gigantea</i> | *side slope, bankfull, sunny trails, wooded trails | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.05oz/acre | 250,000 | |  |
| | Moist to wet conditions; fibrous and rhizomatous root system; excellent pollinator; can become aggressive | FACW | Full sun to light shade | Moist soils; loam, clay loam, sand-loam | Floodplain woodlands, riverbanks, pond edges, wet prairies, fens, ditches | | |
| *New England aster; New England American-Aster | <i>Symphotrichum novae-angliae</i> (<i>Aster novae-angliae</i>) | *top sun, bankfull, side slope, woodland trail | Cold, moist stratification for a minimum of 60 days, or fall planting. | 1oz/acre | 66,000 | |  |
| | A synonymous scientific name is <i>Aster novae-angliae</i> which is used by many nurseries; moist conditions; fibrous and rhizomatous root system; can become aggressive; excellent pollinator | FACW | Full or partial sunlight | Fertile, moist soil; clay, loam | Prairies, meadows, riverbanks, thickets, railroads, roadsides, open woodlands, disturbed areas | | |

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|-----------------------------|--|---|--|-------------------------------|--|---|
| Ontario aster | <i>Symphotrichum ontarionis</i> (<i>Aster ontarionis</i>) | *top shade, wooded trails | Likely requires cold, moist stratification for a minimum of 60 days or fall planting. | N/A | N/A |  |
| | An older synonymous scientific name is <i>Aster ontarionis</i> , which is used by many nurseries. Moist conditions; rhizomatous and fibrous root system | FAC | Partial sunlight | Rich, loamy soils | Floodplain woodlands, open woodlands, wooded streambanks, savannas, meadows | |
| *Willow Aster | <i>Symphotrichum praealtum</i> (<i>Aster praealtus</i>) | *top sun, sunny trails, wooded trail | Cold, moist stratification for a minimum of 30 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.125oz/acre | 130,000 |  |
| | A synonymous scientific name is <i>Aster praealtus</i> , often used by nurseries; moist conditions; fibrous and rhizomatous root system, often forms colonies; can become aggressive; excellent pollinator | FACW | Full to partial sunlight | Fertile, loamy soils | Moist prairies, fields, ditches, thickets, lakeside and riverside meadows | |
| *Smooth speedwell; Neckweed | <i>Veronica peregrina</i> | *sunny trails, wooded trails | N/A | N/A | N/A |  |
| | Moist to wet conditions; fibrous root system with taproot; easily grown from seed | FACW | Full sun to partial shade | Moist soils | Roadsides, lawns, fens, meadows, waste areas | |
| *Common blue violet | <i>Viola sororia</i> | *top shade, wooded trails, sunny trails, side slope | Best if sown in the fall. Otherwise, requires cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds. | 0.5oz/acre | 23,000 |  |
| | Moderately moist conditions; rhizomatous root system; self-seeding; easily grown from seed; can become aggressive in optimum conditions | FAC | Partial sunlight | Fertile soil; loam, clay loam | Moist black prairies, savannas, wooded slopes along streams, woodland edges, open floodplain woodlands | |

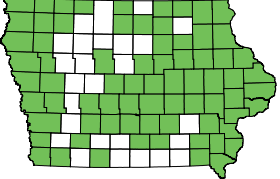
Grasses, Sedges, & Rushes (Wooded Trails)

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|-------------------------------------|--|---|--|------------------|--|---|
| *Awned Graceful Sedge; Davis' Sedge | <i>Carex davisii</i> | *top of bank shade, side slope, woodland edge | Not fully known, but cold, moist stratification for a minimum of 60 days or fall planting likely needed. May need light to germinate, surface sow seeds. | 1oz/acre | 9,000 |  |
| | Moist to wet conditions; flood tolerant; fibrous and rhizomatous root system | FAC | Partial sun | Moist soil; loam | Upland and floodplain woodlands, field edges, wooded slopes, riverbanks, moist meadows, slightly disturbed areas | |

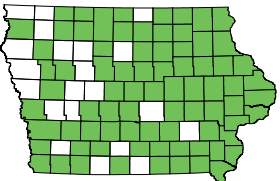
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| *Gray's sedge; Bur sedge | <i>Carex grayi</i> | *stream edge shade, top shade, side slope, woodland trails, bankfull | Fall planting is recommended. | 2oz/acre | 1,200 |  |
| Wet to moist conditions; tolerant to seasonal flooding; full sun tolerable in wet conditions; fibrous and rhizomatous root system | | FACW | Partial shade | Fertile soil; loam, sand, silt | Moist, deciduous woodlands, sandy swamps, shady streambanks, marshes | |
| *Bottlebrush Grass; Eastern Bottlebrush grass | <i>Elymus hystrix (Hystrix patula)</i> | *woodland trails, top shade | No seed pretreatment necessary | 3oz/acre | 7,600 |  |
| Highly shade tolerant; moist to slightly dry conditions; a synonymous scientific name is <i>Hystrix patula</i> ; drought tolerant; self-seeding; fibrous root system; forms small colonies | | FACU | Filtered sunlight to partial shade | Loamy, rocky soil, clay, can survive in a variety of soil types | Moist deciduous woodlands, rocky upland forests, edges of woodland trails, savannas, rocky glades, shady riverbanks | |
| James' Sedge | <i>Carex jamesii</i> | | N/A | 3oz/acre | 12,500 |  |
| Moderately moist conditions; fibrous and rhizomatous root system; self-seeding | | N/A | Partial shade | Fertile loam | Woodland slopes, floodplain woodlands, along woodland paths | |
| *Silky Wild Rye; Downy Wild-Rye; Hairy Wildrye; | <i>Elymus villosus</i> | *woodland trails, top shade, side slope | No seed pretreatment necessary | 0.5lb/acre | 5,500 |  |
| Moist to slightly dry conditions; fibrous roots | | FACU | Partial Sun | Fertile soil; loam | Woodlands, edges of forests, rocky wooded slopes, savannas, floodplains of rivers and streams | |
| *Virginia Wild Rye | <i>Elymus virginicus</i> | *top shade, top sun, shaded stream edge, sunny trails, wooded trails | No seed pretreatment necessary | 1lb/acre | 4,200 |  |
| Moist conditions; fibrous root system; great cover crop for erosion control; easily grown from seed; tends to give way to other species over five years | | FACW | Full sun to shade | Fertile soil; loam, clay loam, sandy, can survive in a variety of soil types | Bottomland woodlands, riparian areas, riverbanks, streambanks, moist prairies, roadsides, bluffs, moist savannas, disturbed areas | |

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|--|------------------------------|--|--|--|-----|---|
| *Wirestem muhly; Common satin grass | <i>Muhlenbergia frondosa</i> | *side slope, sunny trails, wooded trails | N/A | N/A | N/A |  |
| Moist conditions; fibrous and rhizomatous root system, often forms colonies; can become aggressive | FACW | Full to partial sunlight | Can survive in a variety of soil types | Moist woodlands, prairies, prairie swales, bases of bluffs and wooded slopes, marsh edges, riverbanks, ditches, fields, railroads, disturbed areas | | |
| *Woodland bluegrass | <i>Poa sylvestris</i> | *top shade, wooded trails, side slope | N/A | N/A | N/A |  |
| Moist conditions; fibrous root system; propagation through seeds only | FAC | Partial sunlight | Fertile, loamy soils | Floodplain woodlands, wooded slopes, wooded ravines | | |

Shrubs & Vines (Wooded Trails)

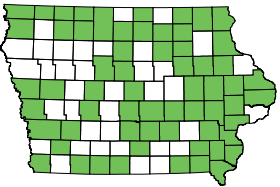
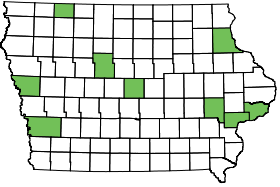
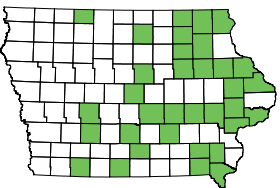
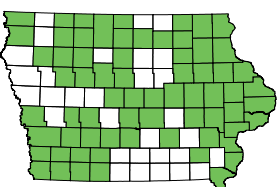
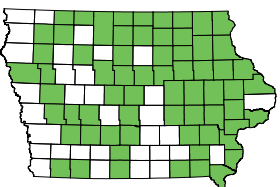
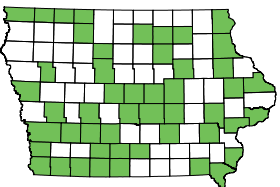
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| *Chokecherry | <i>Prunus virginiana</i> | *top shade wooded trails | Cold, moist stratification for a minimum of 60 days, or fall planting. | N/A | N/A |  |
| Slightly dry to somewhat moist conditions; deep, spreading, rhizomatous root system; seed or root cutting propagation; excellent pollinator | FACU | Full sun to partial shade | Can survive in a variety of soil types, including acidic soils | Streambanks, bluffs, roadsides, woodlands, thickets, fields, disturbed areas | | |

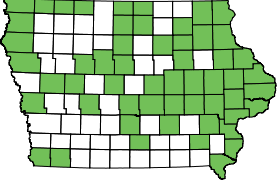
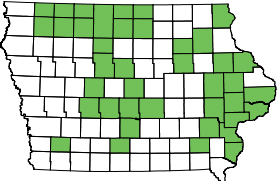
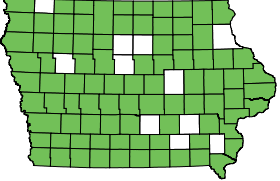
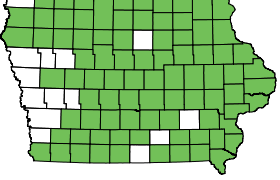
Trees (Wooded Trails)

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| *Black Willow; Swamp Willow | <i>Salix nigra</i> | *side slope, bankfull, water's edge, shaded stream edge, sunny and wooded trails | Not fully known, best results if planted immediately after collection. | N/A | N/A |  |
| Wet to moist conditions; shallow, wide, lateral root system; most common propagation through cuttings, though seed propagation can be successful as well; fast growth rate; excellent pollinator; | OBL | Full to partial sunlight | Can survive in a variety of soil types | Floodplain woodlands, swamps, riverbanks, lake edges, ditches, sloughs, pond edges, wet disturbed areas | | |

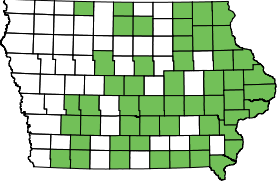
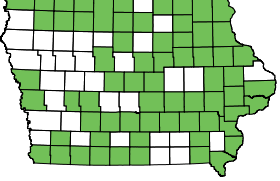
Scour Intolerant (Plant unlikely scour tolerant, not recommended along most river settings but certain areas shielded from scour/high energy waters may be appropriate for planting)

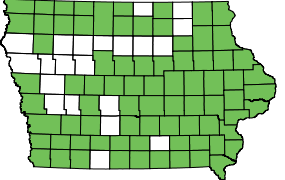
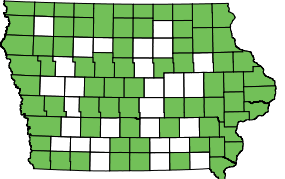
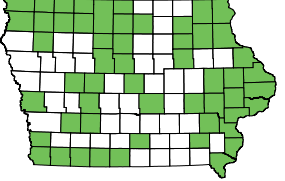
Forbs

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|-------------------------------|--|----------------|---|--|---|---|
| American water plantain | <i>Alisma subcordatum</i> | (bankfull) | Cold, moist stratification for a minimum of 30 days, or fall planting. | 2oz/acre | 60,000 |  |
| | Wet conditions; fibrous root system with corms; self-seeding; can propagate through seeds or plugs/transplant; likely not able to tolerate heavy scour | OBL | Full sun | Wet soils, mud, silt | Marshes, slow streams, ponds, lake edges, ditches, seeps | |
| Large-flowered water plantain | <i>Alisma triviale</i> | (bankfull) | Cold, moist stratification for a minimum of 30 days, or fall planting. | 2oz/acre | 66,000 |  |
| | Wet conditions; fibrous and rhizomatous root system; likely not able to tolerate heavy scour | OBL | Full sun | Wet soils, mud | Marshes, ditches, shallow pond edges, lake edges, sloughs, slow-moving streams | |
| Great St. Johnswort | <i>Hypericum ascyron</i> (<i>Hypericum pyramidatum</i>) | (water's edge) | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.125oz/acre | 190,000 |  |
| | Moist conditions; a synonymous scientific name is <i>Hypericum pyramidatum</i> which is used by many nurseries; rhizomatous root system, often forms colonies; excellent pollinator | FAC | Full to partial sunlight | Can survive in a variety of soil types | Open woodlands, riverbanks, streambanks, meadows, moist prairies, thickets | |
| Blue Flag iris | <i>Iris virginica shrevei</i> | (water's edge) | Fall planting is recommended. | 2oz/acre | 1,000 |  |
| | Wet to moist conditions; fibrous and rhizomatous root system, often forms colonies; do not let seeds dry out; <i>Iris virginica shrevei</i> is the northern variation of <i>Iris virginica</i> | OBL | Full to partial sunlight | Fertile soils | Moist savannas, meadows, riverbanks, swamp edges, ditches, marshes, wet prairies, open floodplain woodlands, pond edges | |
| Michigan lily | <i>Lilium michiganense</i> | (bankfull) | Can sow outdoors with no pretreatment but plant will not germinate for a full year. Otherwise, a period of warm, moist stratification for 60 days followed by cold, moist stratification for 60 days are necessary. | *Plugs or transplants recommended | 10,000 |  |
| | Moist to wet conditions; fibrous root system with a bulb; transplants or plugs may be easier to propagate | FACW | Full to partial sunlight | Fertile, moist soils; loamy, sand-loam soils | Bogs, wet prairies, open woodlands, savannas, meadows, swamps, fens | |
| Short Beak Arrowhead | <i>Sagittaria brevirostra</i> | (bankfull) | N/A | N/A | N/A |  |
| | Wet, soggy conditions; stolons; grows well in shallow standing water; likely cannot tolerate heavy scour | OBL | Full sun | Wet soils, mud | Marshes, sloughs, pond edges, muddy streambanks, swamps, shallow water | |

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| Common arrowhead; Broadleaf arrowhead; Duck-potato | <i>Sagittaria latifolia</i> | (bankfull) | May take 2 years to germinate. Requires cold, moist stratification, followed by warm, moist stratification, again followed by cold, moist stratification. | 1.5oz/acre | 61,000 |  |
| Wet, fully saturated conditions; fibrous, tuberous roots; self-seeding; grows well in shallow standing water; can be propagated through seeds or plugs/transplant; cannot tolerate heavy scour | | OBL | Full to partial sunlight | Wet soils, shallow water, muddy shores | Swamps, bogs, swales, seeps, marshes, pond edges, ditches, slow-moving streambanks | |
| Marsh Skullcap | <i>Scutellaria galericulata</i> | (bankfull, water's edge, heavy shade) | Cold, moist stratification for a minimum of 60 days or fall planting. | N/A | N/A |  |
| Wet conditions; fibrous root system with stolons, often forms colonies; may not be able to tolerate heavy scour | | OBL | Full sun to partial shade | Wet soils, sand, muck, peaty soils | Marshes, thickets, meadows, lakeshores, slow-moving streams, bogs, swamps, ditches | |
| Cup Plant | <i>Silphium perfoliatum</i> | (bankfull, side slope, top of bank full sun) | Cold, moist stratification for a minimum of 60 days, or fall planting. | 2oz/acre | 1,400 |  |
| Moist conditions; central taproot; rhizomatous, often forms colonies; excellent pollinator; most successful propagation through seeds | | FACW | Full or partial sunlight | Moist soil; clay, loam, sand | Prairies, meadows, riverbanks, streambanks, ditches, edges of wet forests, lake shores, fens, seeps | |
| Culver's root | <i>Veronicastrum virginicum</i> | Top of bank only | Cold, moist stratification for a minimum of 90 days, or fall planting. Needs light to germinate, surface sow seeds. | 0.125oz/acre | 800,000 |  |
| Moist to wet conditions; central taproot with some rhizomes, excellent pollinator | | FAC | Full to partial sunlight | Fertile soil, loam, can tolerate some sand or clay | Moist prairies, open woods, thickets, savannas, wet meadows near rivers, riverbanks | |

Grasses, Sedges, & Rushes (Scour Intolerant)

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|---|-----------------------|--------------------------------|--|---------------------------------------|--|---|
| Hop Sedge | <i>Carex lupulina</i> | (bankfull, shaded stream edge) | Cold, moist stratification for a minimum of 60 days or fall planting. | 3oz/acre | 3,300 |  |
| Wet to moist conditions; fibrous and rhizomatous root system; may not be able to tolerate heavy scour | | OBL | Full to partial sunlight | Loam, clay loam, silt-loam, sand-loam | Wet meadows, pond and lake edges, swamps, open floodplain woodlands, prairie swales, marshes | |
| Tussock sedge; Upright Sedge; Upright Sedge | <i>Carex stricta</i> | (bankfull, water's edge) | Cold, moist stratification for a minimum of 60 days, or fall planting. | 0.125oz/acre | 53,000 |  |
| Wet conditions; fibrous and rhizomatous root system; can spread aggressively | | OBL | Full sun | Muck, sand | Wet meadows, bogs, marshes, floodplain woodlands, fens, wet prairies | |

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| Fox Sedge; Brown Fox Sedge; Comon Fox Sedge | <i>Carex vulpinoidea</i> | (bankfull and water's edge) | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 1oz/acre | 100,000 |  |
| Wet to moist conditions; fibrous rhizomatous root system, forms colonies; can become aggressive; | | FACW | Full to partial sunlight | Loam, silt, clay, gravel | | |
| Soft-stem bulrush; Soft-Stem Club-Rush; Great Bulrush | <i>Schoenoplectus tabernaemontani (Scirpus validus)</i> | (bankfull, water's edge) | Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. | 1oz/acre | 31,000 |  |
| Wet, poorly-drained conditions; fibrous and rhizomatous root system, forms dense colonies; can spread aggressively; fire tolerant; a synonymous scientific name is <i>Scirpus validus</i> which is used by many nurseries; can establish through root cuttings and plugs | | OBL | Full to partial sunlight | Wet soil; sand, muck, mud | | |
| *Giant bur reed | <i>Sparganium eurycarpum</i> | *bankfull, Water's edge | Sow seeds immediately after collection, seeds should not be allowed to dry out before sowing. | 16oz/acre (1lb) | 500 |  |
| Wet to moist conditions; fibrous and rhizomatous; likely not able to handle heavy scour | | OBL | Full to partial sunlight | Muddy, sandy, gravelly soils | | |

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Editor: Nikki McDermond-Spies

Contributors:

Dr. Thomas Rosburg. Professor of Ecology and Botany at Drake University

Dr. John Pearson. Botanist/Ecologist with the Iowa Department of Natural Resources

Darcy Cashatt. Fisheries Biologist with the Iowa Department of Natural Resources

Terri Abbett. Wetland Ecologist with the Iowa Department of Transportation

Tivon Feeley. Forest Health Program Leader with the Iowa Department of Natural Resources