big bluestem

Scientific Name: *Andropogon geradii*

Description:

- Perennial grass growing to a height of 3 to 10 feet.
- **Stem:** stem base turns a blue-purple color as it matures
- **Root structure:** deep roots; sends out rhizomes

Flowers and seed heads: Flowers are spike-lets born in pairs. Three spike-like projections (looks like a turkey foot) form the seed head.

Habitat: native to Minnesota and much of the tall grass prairies of the Great Plains in North America

Planting Recommendations: prefers full sun, moist to slightly dry conditions, and fertile-loam or clay loam soil

Fun Fact

- Big bluestem is also used as forage for livestock.

black-eyed susan

Scientific Name: *Rudbeckia hirta*

Description:

- Annual or biennial herbaceous plant, 1 to 3 feet tall
- **Leaves:** spirally arranged, entire to deeply lobed; covered in bristly hairs
- **Root system:** central taproot and no rhizomes; reproduces entirely by seed
- **Flowers:** the flower has dark brown disc florets and yellow or orange ray florets in a daisy-like shape.

Habitat: native to United States

Planting Recommendations: plant in full sun; prefers slightly moist to moderately dry soil conditions

Best Display: has flowers present from June to August

Common Problems: aphids and whiteflies; powdery mildew fungi

Fun Facts

- It is also called a cone shaped head because when the flower head opens the ray florets have a tendency to point out and down.
- This plant is often used in prairie restoration and recovers moderately well from fires.

black raspberry

Scientific Name: *Rubus occidentalis*

Description:

- Perennial deciduous shrub
- **Leaves:** pinnate with five leaflets making up one leaf and three leaflets on stems with flowering branchlets. White underside.
- **Root structure:** woody branching taproot
- **Flowers and fruit:** flowers have long slender sepals, more than twice as long as the petals. Fruit is an aggregation of drupelets and is pinkish-white turning to red then finally black in color.

Habitat: native to Minnesota and eastern North America

Planting Recommendations: partial sun; moist to mesic conditions and rich loamy soil

Common Problems: powdery mildew and other fungi

Fun Facts

- Other common names for black raspberry include black caps, wild black raspberry, black cap raspberry, and thimbleberry.
- The fruit has a high content of anthocyanins and ellagic acid.

bottlebrush grass

Scientific Name: *Elymus hystrix*

Description:

- Perennial grass, 2 ½ to 5 feet tall
- **Culm:** central culm is green and terete (round in cross section)
- **Leaves:** alternate; blades are 12" long and 2/3" across; greyish-green to dark green, hairless and floppy
- **Root structure:** fibrous
- **Flowers and seeds:** floral spike about 5-9" long; spike is more or less erect; pair of spikelets occur sparingly along the spike; each spikelet has 2-4 florets. Seeds are long and narrow.

Habitat: native to Minnesota and the United States; often in mesic deciduous woodlands, rocky upland woodlands and woodland openings and borders

Planting Recommendations: partial sunlight to light shade; moist to slightly dry conditions; and soil that is loamy or rocky

Best Display: when seeds are present

Fun Facts

- The bootlebrush shape of the floral spike makes this plant easy to identify.
- This plant will form hybrids with wild rye that can sometimes be found in the wild.

brown fox sedge

Scientific Name: *Carex vulpinoidea*

Description:

- Perennial sedge
- **Leaves:** light green, glabrous, furrowed in the middle, and rough-textured along their margins
- **Root structure:** short-rhizomatous and fibrous
- **Seedhead:** forms a straight inflorescence consisting of several short spikelets. Some spikelets have bristle-like bracts at the bottom. Spikelets usually overlap each other.

Habitat: native to Minnesota and the United States

Planting Recommendations: full or partial sun and wet to moist conditions

Fun Fact

- This is a wetland sedge that is often used in many City of Saint Paul rain gardens.

butterfly weed

Scientific Name: *Asclepias tuberosa*

Description:

- Perennial herbaceous plant that is one to two feet tall
- **Leaves:** lance-shaped leaves; rough; 2 to 6 inches long; toothless and pointed at tip
- **Root structure:** large, branching, white and fleshy

Flowers and fruit: flowers are flat-topped clusters 2-3 inches across with up to 25 flowers. Individual flowers have 5 downward-curved petals. Color is primarily orange but can also be yellow to red. Erect narrow seed pods are produced late in the fall containing seeds with their long silky hairs (parachutes that wind-disperse the seeds).

Habitat: native to Minnesota. Found along railroads, dry fields, and prairies. Prefers full sun.

Best Display: Flowers June to September.

Fun Facts

- This is a host plant for Monarch butterflies. It is also attractive to many other species of butterflies.
- Other common names for this plant include butterfly milkweed and orange milkweed.

Canada wild rye

Scientific Name: *Elymus canadensis* L.

Description:

- Perennial cool-season bunch grass, 2 to 4 feet tall
- **Leaves:** linear green leaves with parallel venation
- **Root structure:** fibrous
- **Seedhead and fruit:** terminal, spiked shaped seedheads with bristly awns. The fruit type is a grain.

Habitat: native to the United States

Planting Recommendations: prefers sun, part shade; prefers a moist soil; high drought tolerance

Best Display: when whiskery nodding seed heads appear in early fall

Fun Facts

- This grass is a larval host for the butterfly, Zabulon Skipper.
- This bunchgrass is used in prairie plantings for partly shady areas.
- Canada wild rye grain is consumed by many birds and wildlife, and it is also consumed as forage by livestock.

cup plant

Scientific Name: *Silphium perfoliatum*

Description:

- Perennial herbaceous plant, 4 to 10 feet tall
- **Leaves:** large, opposite and join together around central stem to form a cup to capture water (its namesake). Leaves are broadly lanceolate to cordate, coarsely toothed and have a rough, sandpapery texture.
- **Root structure:** a central taproot with abundant shallow rhizomes that can often form colonies
- **Flowers and fruit:** yellow, composite flowers that consist of yellow central disk florets surrounded by 18 to 40 yellow or pale-yellow ray florets. The seeds are thin achenes with marginal wings that are dispersed by the wind.

Habitat: native to United States

Planting Recommendations: full or partial sun with moist, loamy soil

Best Display: blooms early to mid-summer for one to one and a half months

Common Problems: this plant may topple during rainstorms and may drop leaves or not bloom in drought

Fun Fact

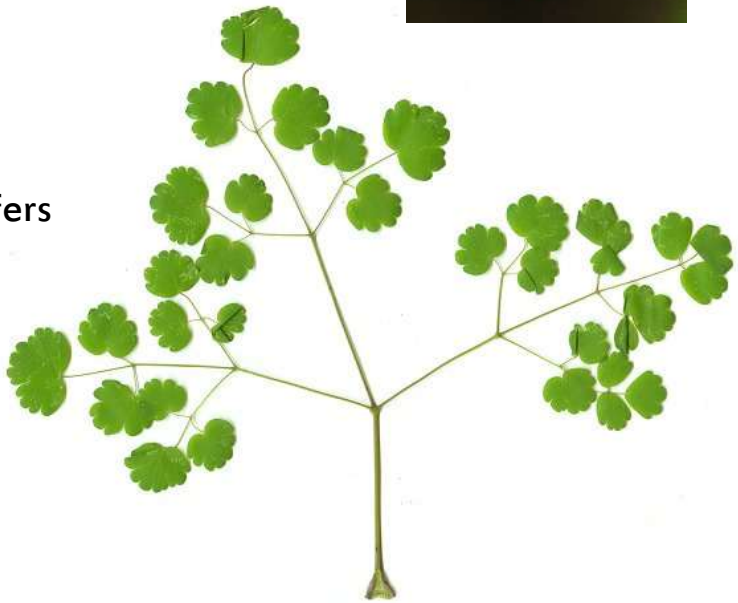
- This plant has hairless four-angled stems.

early meadow rue

Scientific Name: *Thalictrum dioicum*

Description:

- Perennial herbaceous plant, 1 to 2 feet tall
- **Leaves:** green compound leaves divided into many delicate lobed segments
- **Root structure:** thick and fibrous root structure
- **Flowers and fruit:** the male petal-less flowers have long yellow stamens that hang like tassels. The female purple tassel-like blossoms are on separate plants. Overall the flowers are green-white and drooping from a long terminal stalk. The fruit is a capsule.



Habitat: native to Minnesota and the United States

Planting Recommendations: this spring ephemeral plant prefers part sun to shade and moist well-drained soil

Best Display: this plant blooms April to May

Common Problems: over-browsing by deer

Fun Fact

- Early meadow rue has separate male and female flowers on separate plants, meaning it is a dioecious plant (where the species name *dioicum* is derived from).

false Solomon's seal

Scientific Name: *Maianthemum racemosum*

Description:

- Perennial herbaceous plant
- **Leaves:** alternate, ovate to oblong-elliptic, bases more or less clasping
- **Root structure:** cylindrical rhizomes
- **Flowers and fruit:** white flowers are produced on a 10 to 15 cm panicle. Green round fruits are produced and turn red in late summer.

Habitat: native to North America

Planting Recommendations: prefers partial shade and deep, moist, and soft soils

Best Display: blooms in late spring

Fun Fact

- American Indians cooked and used this plant in many ways, including as a cough suppressant.

gooseberry

Scientific Name: *Ribes hirtellum*

Description:

- Perennial woody shrub
- **Leaves:** round 3 to 5 lobed, maple-like leaves; thinly pubescent on leaf margins and veins underneath; petioles are pubescent
- **Stems:** produce a spine at each leaf node

Root structure: woody and branching root system

Flowers and fruit: flowers are greenish-yellow to dull purple. Fruits are reddish-purple grape-sized berries produced singly or in groups of two to three.

Habitat: native to Minnesota and North America

Planting Recommendations: performs best in full sun and adapts to a variety of soils

Common Problems: may be susceptible to powdery mildew fungi

Fun Facts

- A mature gooseberry can produce up to four quarts of fruit annually.
- There are many cultivars of gooseberries that are suitable for the home garden and produce great tasting fruit.

horsetail

Scientific Name: *Equisetum hyemale*

Description:

- Perennial reed-like spreading plant, up to 6 feet tall
- **Leaves:** tiny and joined together around stem forming a narrow black-green band or sheath at each joint
- **Stems:** evergreen and cylindrical; jointed and hollow with rough longitudinal ridges
- **Root structure:** deep rhizomes that help this plant form stands
- **Flowers and fruit:** does not produce flowers or seed as it is a Pteridophytes (ferns are this). This plant produces spores.

Habitat: native to Alaska and the lower 48 United States, Canada, and Greenland

Planting Recommendations: sun, part shade, and shade; prefers wet to moist soil

Best Display: all season

Fun Facts

- Other common names for this plant include common scouring rush, Canuela, and scouring rush horsetail.
- This plant is a 'living fossil' as it is the only genus left from the entire class Equisetopsida which dominated the understory of late Paleozoic forests for over 100 million years.

indian grass

Scientific Name: *Sorghastrum nutans*

Description:

- Perennial, warm season, bunching sod-forming grass, 3 to 8 feet in height
- **Leaves:** broad, blue-green
- **Seedhead:** plume-like, soft, golden-brown

Habitat: native to North America

Planting Recommendations: plant in sun to part shade to shade; high drought tolerance. This plant performs best when it is planted in a group.

Best Display: in fall when seedhead is deep orange to purple

Fun Facts

- This grass is a larval host for the butterfly, Pepper and Salt Skipper.
- The species name, *nutans*, means nodding or drooping, usually the flowers.

jack-in-the-pulpit

Scientific Name: *Arisaema triphyllum*

Description:

- Perennial woodland herbaceous plant
- **Leaves:** one to two large glossy leaves, divided into three leaflets that rise on their own stems which are 1-3 feet tall. Large leaves usually hide the flower.
- **Root structure:** corms that are fleshy taproots

Flowers and fruit: large, cylindrical hooded flower that is green in color and has brown stripes. Fruits are a cluster of bright red berries that appear in late summer.

Habitat: native to United States

Planting Recommendations: prefers shade and moist to wet soil. Prefers humus-rich, moist soils.

Best Display: blooms from March to June

Fun Facts

- Jack-in-the-pulpit is a spring ephemeral, meaning it is a woodland wildflower that quickly puts forth its above-ground leaves and flowers and produces seed in the spring and then quickly dies back to its underground part (corm for jack-in-the-pulpit).
- This plant contains needle-like calcium oxalate crystals in the berries, foliage and roots. These crystals will cause painful irritation to the mouth and throat if ingested. If one touches the roots, their hands may also become irritated and get blisters. American Indians cooked or dried this plant to avoid this property.

lead plant

Scientific Name: *Amorpha canescens*

Description:

- Perennial herbaceous shrub
- **Leaves:** compound bi-pinnate, 4-12 inches long and may have up to 50 small leaflets; whitish to grayish green in color
- **Root structure:** central root that occasionally branches and can extend 15 feet or more into the soil
- **Flowers and fruit:** small flowers occur along pubescent spikes at the ends of major branches; light to dark purple in color; 8 red stamens with bright yellow anthers can usually be seen. Fruit is a legume.

Habitat: native to North America; this is a true prairie plant.

Planting Recommendations: prefers full sun and average to dry soil

Best Display: early to mid summer when blooming

Common Problems: may be consumed by mammals such as deer and rabbits; cages may be necessary to protect young plants

Fun Fact

- The fine hairs that cover this plant sometimes make it appear it is dusted with white lead. This is how the lead plant got its common name.

little bluestem

Scientific Name: *Schizachyrium scoparium*

Description:

- Perennial bunchgrass, 2 to 3 feet tall
- **Leaves:** gray-green to blue in color; alternate; curling outward
- **Stem:** slender, blue-green in August and changes into mahogany-red stems by September
- **Root structure:** fibrous and rhizomatous
- **Seedhead and fruit:** white seed tufts in September and into the fall. Fruit is a grain.

Habitat: native to Minnesota and many parts of North America

Planting Recommendations: sun, part shade, dry soil moisture; well-drained soil; excellent drought resistance

Best Display: the blue stems in the spring or when the spikes are a reddish-tan color in fall

Fun Facts

- This grass is a larval host for many butterfly species (skippers).
- The cultivated variety, 'Blue Heaven', was produced by the University of Minnesota and is used by landscapers. It can be seen in front of the Como Shop Office.

milkweed

Scientific Name: *Asclepias syriaca*

Description:

- Perennial herbaceous plant
- **Leaves:** opposite, simple, opposing broad ovate-lanceolate leaves; hairy texture and a thick, reddish central vein
- **Root structure:** taproot with radiating lateral roots

Flowers and fruit: small whitish flower grows in umbels; large seed pod with seeds grown in follicles. The follicles contain soft filaments known as silk or floss that carry the seeds in the wind.

Habitat: native to North America, mostly east of the Rocky Mountains

Planting Recommendations: sandy soils, full sunlight

Fun Facts

- The milky juice in Milkweed contains latex and can be used to remove warts.
- Milkweed floss can be used in place of down stuffing.

common mountain mint

Scientific Name: *Pycnanthemum virginianum*

Description:

- Perennial native herbaceous plant, 3 feet tall
- **Leaves:** opposite; narrowly lanceolate or linear; sessile with smooth margins
- **Root structure:** rhizomes form and create small colonies of this plant
- **Flowers and fruit:** white, tubular flower is two-lipped; up to 50 flowers form large flattened heads. Each flower produces four tiny, finely pitted black seeds.

Habitat: native to Minnesota and other parts of the county

Planting Recommendations: prefers full or partial sun and moist to average conditions

Best Display: blooms in mid-summer and lasts about a month

Fun Facts

- This plant produces a strong mint smell when the leaves are crushed.
- This plant's common name is deceiving because this plant and other plants in this genus do not usually occur in mountain habitats.

native roses

Scientific Names: *Rosa arkansana* (Prairie rose); *Rosa macounii* (Western wild rose); *Rosa blanda* (Smooth wild rose); *Rosa acicularis* (Prickly wild rose). These four roses are native to Minnesota.

Prairie rose

Smooth wild rose

Description:

- Perennial prickly-stemmed shrub
- **Leaves:** leaves vary with species
- **Root structure:** Prairie wild roses' roots can grow to more than 20 feet below ground. Roots can be suckers and help spread these roses.
- **Flowers and fruit:** Flowers can be white, pink, light pink and five-petaled. Fruit is a spherical, bright red, leathery hip. These hips evolved to attract animals to digest the hips and spread the seeds.

Western wild rose

Prickly wild rose

Habitat: native to Minnesota

Planting Recommendations: each of these roses prefers different growing conditions. Most prefer full sun to partial sun.

Best Display: when blooming in the summer months

Common Problems: these roses can often hybridize and be difficult to distinguish the species. Identification depends on the plant's location, habitat type, and physical characteristics.

Fun Facts

- These four roses are very important to pollinating insects as they provide a lot of pollen and nectar and the flower is easy for insects to land on.
- Rose hips have a high concentration of Vitamin C and can be consumed raw, cooked, candied, jellied or stewed.

New England aster

Scientific Name: *Symphyotrichum novae-angliae*

Description:

- Perennial herbaceous plant, six or more feet tall
- **Leaves:** hairy, clasping leaves
- **Flowers and fruit:** 45-100 bright rose-purple ray flowers with orange-yellow disk flowers in the center; flower can also be lavender to blue to white

Habitat: native to United States and Canada

Planting Recommendations: prefers part shade and moist soil

Best Display: flowers until frost

Common Problems: can become aggressive

Fun Fact

- This plant is a nectar source for Monarch butterflies.

Ohio spiderwort

Scientific Name: *Tradescantia ohiensis*

Description:

- Perennial herbaceous plant, 2-3 feet tall
- **Leaves:** simple, green, grass-like leaves
- **Root structure:** fibrous root system
- **Flowers and fruit:** showy clusters of blue/violet three-petaled flowers top the stem; flowers tend to open in the morning. Seed is a small light green capsule surrounded by three green bracts.

Habitat: native to the United States and Canada in moist meadows, thickets and prairies

Planting Recommendations: prefers part shade with dry soil moisture

Best Display: bloom time is March through August

Fun Facts

- Another common name for this plant is bluejacket.
- When touched in the heat of the day, the flowers tend to shrivel to a fluid jelly.
- These plants will hybridize in almost any condition.

orange jewelweed

Scientific Name: *Impatiens capensis*

Description:

- Annual herbaceous plant
- **Leaves:** alternate leaves up to 5" long; ovate, thin textured and hairless; low broad teeth along the leaf margins
- **Stems:** round, succulent, glabrous; pale green to pale-reddish green
- **Root structure:** shallow, branching taproot

Flowers and fruit: flowers are orange and occur in small clusters of 1-3 flowers; each flower is about 1" long, conical shape, and has upper and lower lips. Seed capsules contain 5 parts that split open and fling the seeds a good distance. This plant forms colonies by re-seeding itself.

Habitat: native to the United States

Planting Recommendations: prefers light shade to partial sun, wet to moist conditions, and fertile soil with organic matter

Best Display: blooms in mid-summer to early fall, lasting about two months

Fun Facts

- Jewelweed can be used as a salve to soothe stinging nettle and poison ivy skin irritations. Just pick a stem and squeeze it onto your skin.
- Orange jewelweed attracts ruby-throated hummingbirds and long-tongued bees such as honey bees and bumble bees.
- The attractive orange flowers glisten in the sunlight, hence the name jewelweed (Source: Illinois Wild Flowers).

porcupine grass

Scientific Name: *Heterostipa spartea*

Description:

- Perennial cool-season grass, 2.5 to 3.5 feet tall
- **Leaves:** alternate, 12 inches long, pale to medium green and rolled upward along the margins
- **Culms (stems):** erect but lean with heavy weight of grains; pale green to tan or straw colored after blooming
- **Root structure:** tuft of deep fibrous roots

Fruit: grain with sharp awn that is spiral in shape; using its spiral shape, the grain and awn fall and twist into the ground (like a corkscrew) to germinate in the spring

Habitat: native to Minnesota and North America

Planting Recommendations: prefers full sun; mesic to dry conditions

Fun Fact

- The spiky awns can become caught in the wool of sheep and be transported many miles from the original plant.

prairie cord grass

Scientific Name: *Spartina pectinata*

Description:

- Perennial grass, 4 to 7 feet tall
- **Leaves:** alternate, on lower half of culm. Leaf blades are linear, flat, green to yellow-green and glabrous. Fine parallel veins and prominent midrib. Leaves appear succulent.
- **Root structure:** root system is fibrous and strongly rhizomatous. Vegetative colonies are often produced.
- **Flowers:** flowers are a raceme of floral spikes. Many narrow spikelets are densely pressed together along one side of its rachilla (secondary stalk).

Habitat: native to Minnesota and the United States

Planting Recommendations: prefers full to partial sun, wet to mesic conditions and a fertile loamy soil

Best Display: blooms mid-summer to early fall

Fun Facts

- The rootstock and seedheads of this plant are consumed by Canada geese.
- Because this grass forms dense plantings, it is an important habitat for nesting wetland birds and other species.

prairie dropseed

Scientific Name: *Sporobolus heterolepis*

Description:

- Perennial warm season bunchgrass, 1 to 3 feet tall
- **Leaves:** green, curve outward forming large, round tufts
- **Root structure:** fibrous and short-rhizomatous
- **Seedhead and flower:** delicate seedhead; flowers are pink and brown colors; unique fragrance

Habitat: native to North America and dry prairies

Planting Recommendations: plant in sun and in dry, sandy soils

Best Display: fall color is tan-bronze, golden, and orange

Fun Facts

- Sometimes voles and other small rodents dig burrows within the dense tufts of leaves and root mass of this prairie grass (Source: www.illinoiswildflowers.info).
- This plant is one of the true prairie grasses.

prairie phlox

Scientific Name: *Phlox pilosa*

Description:

- Perennial herbaceous plant, up to two feet tall
- **Leaves:** opposite, lanceolate, green; sparsely distributed on stem; surface may have fine pubescence; lower leaves turn yellow and drop if plant is stressed
- **Root structure:** taproot
- **Flowers and fruit:** flowers are ½ inch long and have five lobes that flare outward from a long narrow tubular corolla; white, pink or lavender in color with slight fragrance

Habitat: native to Minnesota and North America

Planting Recommendations: prefers full or partial sun and moist to mesic conditions

Best Display: blooms in late spring or early summer for about 1 to 1.5 months

Fun Fact

- The flower structure of the *Phlox* genus is a classical example of a butterfly flower. Such flowers feature flared petals that function as a landing pad for these insects, and a long narrow tube that is accessible to the long proboscis of butterflies, as well as skippers and moths. Such flowers typically occur in loose, rounded clusters, and are often fragrant (Source: www.illinoiswildflowers.info).

prairie smoke

Scientific Name: *Geum triflorum*

Description:

- Perennial hairy herbaceous plant
- **Leaves:** basal, 4-8 inches long; pinnately-divided into 7-17 progressively larger leaflets

Flowers and fruit: flowers are pink to purplish, 5-parted, 1 inch long; petals longer than the sepals; they have very distinctive wispy plumes; inflorescence of several flowers. Fruit are dry seeds at the ends of long, thread-like styles.

Habitat: native to Minnesota and United States

Planting Recommendations: full sun; dry to moderate moisture

Best Display: blooms April to June

Fun Facts

- This plant is also known as old-man's-whiskers.
- This plant is in the Rosaceae family (Rose family).
- This plant is often used in City of Saint Paul rain gardens.

purple prairie clover

Scientific Name: *Dalea purpurea*

Description:

- Perennial herbaceous plant, one to three feet tall
- **Leaves:** small compound; alternate on stem; more dense on lower stem

Root system: stout taproot that runs deep into the ground

Flowers: thimble shaped flower head consists of tiny five-petaled purple flowers with yellow or orange tipped stamens. Flowers bloom from bottom of the spike upwards.

Habitat: Native to Minnesota, dry fields, rocky areas, and prairies

Planting Recommendations: prefers full sun and dry soil moisture; high drought tolerance

Best Display: blooms in summer and fall

Fun Fact

- This plant is in the pea (Fabaceae) family.

red elderberry

Scientific Name: *Sambucus pubens*

Description:

- Perennial woody shrub, 12-25 feet tall
- **Leaves:** Pinnately compound, 5-11 coarsely-toothed leaflets; alternate shiny bright green leaves
- **Root structure:** shallow
- **Buds:** easily-recognizable large purple buds in winter
- **Flowers and fruit:** flowers are small, white and aggregated into rough pyramidal inflorescences. Fruits are small, red berries that appear in early summer.

Habitat: native to North America and common in forest openings and understories

Planting Recommendations: prefers sun to partial shade, moist well-drained soil

Best Display: when blooming in late spring

Fun Facts

- Red elderberry is not edible (it is toxic). Black elderberry, *Sambucus canadensis*, has edible berries that are often used to make jelly.
- This plant attracts birds that eat and spread its seeds.

red mulberry

Scientific Name: *Morus rubra*

Description:

- Perennial woody tree, 18-30 feet tall
- **Leaves:** simple, alternate on stem; thin and membranous in texture; margins are single or double-toothed; pointed; young leaves 3-5 lobed often on one side of the leaf margin; dark bluish-green in color; produces milky juice when broken; turns yellow in fall

Trunk and bark: trunk often divides close to the ground into many stout, spreading branches forming a broad, round-topped crown. Bark is dark reddish-brown, deeply fissured with scaly ridges.

Root structure: shallow roots

Flowers and fruit: fruit is berrylike, about 1 inch long; red when fully grown then turning dark purple to black when ripe; sweet and juicy.

Habitat: native to United States

Planting Recommendations: can grow in sun, part sun, or shade and prefers moist to dry soil

Fun Facts

- The other mulberry species found in Minnesota is *Morus alba,* or white mulberry. It was introduced from Asia. This mulberry species can spread disease to native red mulberry and cause other problems. It is often considered a weed tree.
- When ripe, these fruits can be consumed raw or made into jams and baked goods.

American red raspberry

Scientific Name: *Rubus idaeus*

Description:

- Perennial deciduous shrub
- **Leaves:** large pinnate leaves with 3 or 5 leaflets; alternate; white below; prickles or glandular hairs on petiole
- **Root structure:** woody branching taproot
- **Flowers and fruit:** flowers with 5 white petals are produced in late spring on short racemes. Fruit is an aggregate drupe, red in color.
- **Stems:** has biennial stems, called canes, that produce fruit every other year)

Habitat: native to North America

Planting Recommendations: partial sun

Common Problems: powdery mildew (fungi) often affects this plant

Fun Facts

- There are many commercial raspberry cultivars (whose fruit you buy in the grocery store) that are bred from native raspberry species.
- This plant is in the Rosaceae (Rose) family.
- Rubus is a Roman name meaning "red."

rough blazing star (liatris)

Scientific Name: *Liatris aspera*

Description:

- Perennial herbaceous plant, 2 to 5 feet tall
- **Leaves:** narrowly lanceolate or linear; dull green or bluish-green; slightly pubescent; at base leaves are one foot long and decrease in length as leaves go up the stem; leaves appear whorled as they are crowded
- **Root structure:** woody corm
- **Flowers and fruit:** pink or purplish-pink composite flowers begin to bloom from the top of the stem downwards; individual flowers are crowded together into buttons about one inch across

Habitat: native to Minnesota and North America

Planting Recommendations: prefers full sun and mesic to dry conditions

Best Display: blooms in late summer to early fall and lasts about three weeks

Common Problems: this plant may be scarce where there are large populations of deer, rabbits and small rodents as they will eat the plant and the corm

Fun Fact

- The corms were used as an emergency survival food among some tribes of American Indians (Source: www.illinoiswildflowers.info).

side oats grama

Scientific Name: *Bouteloua curtipendula*

Description:
Perennial grass, 2 to 2.5 feet tall
Leaves: alternate, green to light green in color; mostly hairless and rough along their margins
Root structure: fibrous roots and short rhizomes
Flowers: spikes alternate on the culm and contain five spikelets which are greenish-red when flowering then turn brown.

Habitat: native to the United States

Planting Recommendations: full sun and dry conditions; adapts to various types of soil; and is drought resistant

Best Display: blooms mid-summer to early fall

Common Problems: this grass may form a dense sod if there is little competition

Fun Facts

- This interesting grass is easy to identify due to its spaced-out spikes that tend to droop on one side of raceme's central axis.
- Wild turkey and some mammals such as bison may eat this grass.

smooth sumac

Scientific Name: *Rhus glabra*

Description:

- Perennial deciduous shrub, 10 to 20 feet tall
- **Leaves:** pinnately compound, alternate leaves with 13-30 sharp-toothed leaflets on each side of the midrib
- **Root structure:** roots are colony forming
- **Flowers and fruit:** yellow-green flowers are followed by the fruit which is a drupe that is red to brown in color and hairy

Habitat: native to North America and is the only tree or shrub species native to all contiguous 48 states

Planting Recommendations: can be planted in sun, part shade or shade and dry soils.

Best Display: in fall when leaves turn bright colors

Fun Facts

- Seeds are used in decorative arrangements and eaten by wildlife.
- American Indians consumed the raw young sprouts as a salad.
- The sour seeds can be used to quench thirst or make a drink similar to lemonade.
- The roots make yellow dye.

(blue) vervain

Vervain at Bruce Vento Nature Sanctuary in 2009.

Scientific Name: *Verbena hastata*

Description:

- Perennial herbaceous plant, up to 5 feet tall
- **Leaves:** opposite, lanceolate leaves with conspicuous veins and short petioles; coarsely serrated margins with variably sized teeth
- **Root structure:** fibrous roots and short rhizomes

Flowers and fruit: numerous reddish-blue to violet flowers on erect spikes; each single flower has five lobes flaring out from a corolla tube; no scent; fruit is a nutlet (reddish-brown) and four of them are produced per flower

Habitat: native to Minnesota and North America

Planting Recommendations: prefers full or partial sunlight and moist conditions

Best Display: blooming period is mid to late summer and lasts for approximately 45 days

Fun Fact

- Most mammals avoid eating this plant because of its bitter leaves. The cottontail rabbit will eat this plant's young foliage.

Virginia creeper

Scientific Name: *Parthenocissus quinquefolia*

Description:

- Perennial deciduous vine, climbing or trailing 3 to 40 feet
- **Leaves:** five leaflets (sometimes 3 or 7) radiate from the petiole; leaves are coarsely toothed with pointed tip and tapered to the base
- **Climbing mechanism:** uses tendrils and disks that fasten onto walls and bark
- **Flowers and fruit:** inconspicuous flowers are small, green, and in clusters. Fruit is bluish and about ¼ inch in diameter.

Habitat: native to the United States

Planting Recommendations: tolerates most soil and climatic conditions; plant in sun, part shade, or shade and moist soil

Best Display: early fall colors of mauve, red and purple

Fun Facts

- Virginia creeper is a member of the Vitaceae family, or grape family.
- DO NOT EAT the berries as they are highly toxic.

wild asparagus

Scientific Name: *Asparagus officinalis*

Description:
Perennial herbaceous plant
Leaves: needle-like cladodes (modified stems) occur in the axils of scale leaves
- **Stems:** smooth, green; can grow 4-6 feet tall. Secondary, needle-like branches grow off of the main stem looking more like leaves than branches.
- **Root structure:** tuberous root system can grow three feet deep
- **Flowers and fruit:** male and female reproductive parts are produced on separate plants (dioecious). Flowers are greenish and bell shaped.

Fruit is a round, bright red berry containing black seeds that occur on the female plant.

Habitat:
Native to Europe and Asia.

Dispersal Method:
By seed.

Fun Facts
- Wild asparagus is in the Liliaceae family, or Lily family.
- Asparagus is low in calories, contains no cholesterol, and is very low in sodium. It is a good source of folic acid, potassium, dietary fiber, and rutin. The amino acid asparagine gets its name from asparagus, the asparagus plant being rich in this compound.
- There is a recipe for cooking asparagus in the oldest book of recipes from Apicius's 3rd century cookbook.

wild bergamot (bee balm)

Scientific Name: *Monarda fistulosa*

Description:

- Perennial herbaceous plant, 2 to 4 feet tall
- **Leaves:** long narrow leaves; oppositely arranged; broadly lanceolate to ovate; lightly serrated; light green to dark green with sometimes red or yellow tints; exude an oregano scent
- **Root system:** deep, strongly branched; shallow rhizomes allow the spread of this plant and create a bushy appearance for this plant
- **Flowers:** individual 1" flowers are usually lavender to pink in color and form a 1 to 3" flower head.

Habitat: native to the United States, prairies, fields, and rocky woods

Planting Recommendations: prefers full sun to partial sun; moist to dry soil

Best Display: blooming begins in mid-summer and lasts about one month

Common Problems: powdery mildew fungi on leaves

Fun Facts

- This plant may also be called Monarda or Bee balm.
- Monarda attracts beneficial insects such as honeybees.
- This plant attracts many species of long-tongued bees, bee flies, butterflies, hummingbird moths, and hummingbirds.

wild geranium

Scientific Name: *Geranium maculatum*

Description:

- Perennial herbaceous plant, 1 to 2 ½ feet tall
- **Leaves:** loose cluster of basal leaves; each flowering stem contains a pair of opposite leaves; each leaf is about 5 inches across, palmately cleft with five deep lobes; leaf margins have coarse teeth; fine white hairs on upper surface leaves on upper stem have three lobes.
- **Root system:** dark, stout rootstock that produces rhizomes
- **Flowers:** a corymb or floppy umbel of 1-5 flowers. Each flower has 5 rounded petals, 5 green sepals, 10 stamens with pale yellow anthers, and a single pistil with 5 carpels. Pale purplish pink in color.

Habitat: native to Minnesota; typical species of mesic deciduous woodlands and floodplains

Planting Recommendations: light shade to partial sunlight; moist to slightly dry conditions in rich loamy soil

Best Display: blooming begins in spring and continues into early June

Common Problems: competition with invasive plants

Fun Fact

- The wild geranium is the showiest of the native geranium species as it has flowers at least one inch across.

wild grape (river bank grape)

Scientific Name: *Vitis riparia*

Description:

- Perennial deciduous vine, up to 50 feet long
- **Leaves:** green, alternate, cordate or orbicular in shape; palmately lobed; attached to long petioles; usually white hairs on underside of leaf on major veins; upper surface is glabrous
- **Root structure:** central taproot that branches occasionally

Flowers and fruit: flowers are small and greenish-white or greenish-yellow with five petals, long stamen, and fragrant musky scent. Fruit starts out as green and develops into purple and blue colors with whitish bloom and contains two or four seeds.

Habitat: native to Minnesota and other parts of the United States

Planting Recommendations: prefers full sun to light shade; moist to slightly dry conditions

Common Problems: can smother and kill shrubs and trees. Plant is susceptible to different fungi and other pests.

Fun Fact

- Many cold-hardy wine grapes have been bred at the University of Minnesota using *Vitis riparia* as a parent.

alfalfa

Scientific Name: *Medicago sativa*

Description:

- Perennial cool-season legume living 3 to 12 years, 24 to 35 inches in height
- Leaves: Pinnately trifoliolate; leaflets obovate-oblong, ovate or linear; glabrous or hairy; pale-green underneath.
- Root structure: Long, thick sparsely branched deep tap root 10-30 feet below the soil surface depending on conditions.
- Flowers and fruit: Flower color varies from purple to pink to white. Six to eight yellow to brown seeds per pod.

Habitat:

- Originated in southwest Asia and first cultivated in Iran

Ecological Threat:

- This plant can be considered invasive as it crowds out native or desired plants

Dispersal Method:

By seed and some varieties have rhizomes

Control Techniques:

- Pull plant parts that are above ground trying not to disturb the soil
- Herbicides may be used

Fun Facts

- Alfalfa is one of the most important legumes in agriculture as it is widely used for forage, hay production, and as a cover crop.
- In the United Kingdom, Australia and New Zealand, alfalfa is known as lucerne.
- Alfalfa is considered an insectary because of the many insects it attracts. Alfalfa relies on insects for pollination.
- A record alfalfa root depth of 130 feet was recorded in a Nevada mine tunnel.

bindweed

Scientific Name: *Calystegia arvensis*

Description:

Perennial climbing or trailing vine

Leaves: triangular, 2-4 inches long

Root structure: deep taproot and rhizomes that can survive over winter

Flowers and fruit: white to pinkish funnel-shaped flowers with small separated bracts; fruit is an oval capsule with 3-4 seeds

Habitat:

Invasive species, introduced in the 1800s as an ornamental plant

Found in gardens, fields, croplands

Ecological Threat:

Bindweed trails along ground and climbs other vegetation smothering and choking crops or plants. Deep roots increase the plant's ability to out-compete other plants for water. Extremely aggressive, can take over a garden in a single season if not managed properly

Dispersal Method:

Rhizomes extend roots underground producing new buds and plants and this plant also disperses with seeds.

Control Techniques:

Pulling the younger seedlings (and all of its roots) will prevent its spread. Older plants with established root structures will not die with hand pulling but can be controlled and cut back.

Remove before flowering so as not to spread the seeds.

Mulching, or ground barriers help prevent its spread but must be thick and well maintained.

Fun Fact

- One plant can produce 500 seeds that are viable for 50+ years.

bird's foot trefoil

Scientific Name: *Lotus corniculatus*

Description:
Perennial legume herbaceous plant, 6 to 24 inches in height
Leaves: clover-like; pinnately compound, alternate. Consist of three oval leaflets and two smaller leaflet-like stipules that grow at the base of the leaf stalk
Root structure: deep, branched root system has 3 foot long tap root and secondary roots from rhizomes
Flowers & fruit: bright yellow; 0.5 inches long; born in flat-topped clusters of 3 to 6 at the end of stems; blooms from June to frost. Seeds are born in a cylindrical brown to black seed pod and resemble a bird's foot. Seed pods burst open when mature.

Habitat:
Native to Europe

Ecological Threat:
Its mats choke out other plants and threaten plant diversity of an ecosystem.

Dispersal Method:
Seeds, rhizomes, and above ground runners that form fibrous mats

Control Techniques:
- Pull plant parts that are above ground to remove flowers and seeds
- Consistent mowing (may damage native plants)
- General herbicides

Fun Fact
- Other common names for this plant include birdfoot deervetch, bloomfell, cat's clover, crowtoes, and ground honeysuckle.

boxelder

Scientific Name: *Acer negundo*

Description:

- A deciduous perennial tree
- Leaves: pinnately compound leaves usually with 3-7 leaflets. Simple leaves are occasionally present. Translucent light green color turning yellow in autumn.
- Root structure: large branching root system
- Flowers and fruit: yellow-green small flowers appear in early spring on drooping racemes. Fruit is a paired samara with incurved wing.

Habitat: native to North America

Ecological Threat:

The fruits develop quickly and are disseminated by wind. These seeds germinate quickly and can become invasive.

Dispersal Method:

By wind

Control Techniques:

- Hand pulling of saplings
- Cutting and removal of larger trees then treating with herbicide

Fun Fact

- This tree is also known as boxelder maple and maple ash. In Canada this tree is known as Manitoba maple and Elf maple.
- In Russia this tree is known as American maple.

buckthorn

Scientific Name: *Rhamnus cathartica*

Description:
Perennial deciduous small tree
Leaves: elliptic to oval; green turning yellow in autumn; arranged variably in sub-opposite to opposite pairs or alternately; can be identified by the veins that curve toward the tip of the leaf
Root structure: fibrous root system
Flowers and fruit: flowers are yellowish-green with four petals and are insect pollinated; dark blue globose drupe containing 2 to 4 seeds

Habitat: Native to Europe, northwest Africa and central Asia

Ecological Threat:
Outcompetes native plants for nutrients, water, and sunlight; shades out erosion controlling plants; alternate host for many plant diseases and pests (example: soybean aphid); degrades wildlife habitat; and hreatens future of natural ecosystems such as wetlands, forests, and prairies

Dispersal Method:
By seed: birds eat the fruit and the seed is spread by their droppings.

Control Techniques:
- Cut down mature plant at base and treat with herbicide.
- Remove seedlings by pulling. May disturb the soil.

Fun Facts
- Buckthorn was brought to Minnesota from Europe as a landscape plant to create hedges. Nurseries stopped selling it in the 1930s but this plant can still be found in people's yards as a hedge.
- The fruit is mildly poisonous to humans.

bull thistle

Scientific Name: *Cirsium vulgare*

Description:
Annual or biennial herbaceous plant; up to 7 feet tall. Rosette growth habit.
Leaves: 3 – 12 inches long, lance-shaped and very hairy; visible spine at the end of each leaf
Root structure: Deep, strong root
Flowers: flowers develop from June to September; purple flowers with narrow, spine-tipped bracts

Habitat:
Native to Europe, western Asia, and northern Africa. Flourishes in almost any area including pastures, forest, and riparian areas.

Ecological Threat:
Can form a thicket which out-competes native vegetation, reducing species diversity

Dispersal Method:
Seeds: flowers become seed heads that disperse flowers in the wind by bracts (cotton- like parachutes)

Control Techniques:
• Pull before flower or seeds form to reduce spreading. Once the seed head has formed, thistle seeds spread at the slightest touch.
• Pesticides are used in areas with large colonies where manual controls are insufficient.

Fun Facts
• Bull thistle can be found in all 50 states.
• Bull thistle is in the family Asteraceae, which contains many horticultural flowers such as mums, zinnias, cone flower, and many more.

burdock

Scientific Name: *Arctium minus*

Description:
Biennial herbaceous plant
Leaves: thick, dark green, spade shaped with fuzzy undersides; large lower leaves, reaching 18" in length; round, coarse green stems
Root structure: round, thick root; 3 to 4 feet in length, branched
Flowers: spherical purple flowers atop tall stalks up to 6 feet tall; flowers during late summer; flowers become sticky burrs after bloom

Habitat:
Introduced from England; grows in disturbed areas and fields

Ecological Threat:
Considered a noxious weed; competes with native or desired species; burrs irritate livestock and other animals

Dispersal Method:
Burrs attach to humans, animals, and plants spreading the seeds over wide areas

Control Techniques:
- Pull smaller plants before the burs appear; make sure to get as much of the root as possible.
- With larger plants, spike the root just under the ground with a spade or chop with loppers
- In areas of large infestation, herbicide use or brush cutting may be required

Fun Facts
- Burdock roots are a popular cooking ingredient in Asia, particularly Japan for sushi
- The oil extracted from burdock burrs supports healthy hair and hair growth

butter and eggs

Scientific Name: *Linaria vulgaris* (also known as toadflax)

Description:

A snapdragon-like perennial, 15-90 cm in height

- Leaves: fine, alternate, blue-green blade leaves, 2-6 cm long x 1-5 mm wide
- Root structure: deep taproot with lateral roots, capable of producing new plants
- Flowers and fruit: cream to yellow flowers with an orange lower lip; flowers July to October

Habitat:

- Invasive species of European origin
- Introduced in the 1700s, cultivated as a cut flower, even today
- Roadsides, lawns, waste places, fields, or other disturbed areas

Ecological Threat:

- Out competes many natives in gravel or sandy soils; presents a real problem in prairie restoration

Dispersal Method:

- The small seeds are windblown and viable for up to eight years

Control Techniques:

- Frequent mowing
- Chemical treatment with 2,4-D broadleaf herbicide

Fun Fact

- Like snapdragons, these flowers make a "snapping" noise when the bases are squeezed

campion

Scientific Name: *Silene dioica* or *S. latifolia*

Description:
- A herbaceous biennial or perennial plant
- Leaves: deep green in opposing pairs, simple acute ovate hairy with un-toothed margins
- Root structure: simple root structure
- Flowers and fruit: either dark pink to red or white flowers from May to October; Unscented, with 5 deeply notched petals that end in an urn shaped calyx

Habitat:
Invasive, Eurasian and African native; grows on roadsides, woodlands and rocky slopes; prefers damp, non-acidic soils

Ecological Threat:
- Invasive, out competes native plants

Dispersal Method:
- Seeds mature in the calyx which are spread when it bursts

Control Techniques:
- Hand pulling or mowing

Fun Fact
- The juice from crushed red campion can be used to treat snakebites.

Canada thistle

Scientific Name: *Cirsium arvense* (L.)

Description:
Herbaceous perennial. Can reach up to four feet in height.
Leaves: lance shaped, irregularly lobed with spiny toothed margins
Root structure: deep, strong and spreading root system; spreads to 15 feet, sprouting more plants along the way
Flowers and fruit : purple, lavender and sometimes white flowers appear from June to October; fruits are called achenes. They are 1 – 1.5 inches long and have a feathery structure attached to the seed base.

Habitat:
Found all over the United States. Flourishes in disturbed soil, especially deep, well-aerated soils such as in gardens and fields.

Ecological Threat:
Due to spreading through the root structure, thistles can grow in large patches. Out-competes native vegetation, reducing species diversity.

Dispersal Method:
Rhizomes: sprout from vegetative buds along root structure; Seeds: flowers become seed heads that disperse flowers in the wind by bracts (cotton like parachutes)

Control Techniques:
- Must remove entire root. If root remains, thistle will continue to spread.
- Pull before flower or seeds form to reduce spreading. Once the seed head has formed, thistle seeds spread at the slightest touch.
- Pesticides are used in areas with large colonies where manual controls are insufficient.

Fun Fact
- Canada thistle seeds remain viable in the soil for up to 20 years.

chickweed

Scientific Name: *Stellaria media*

Description:
Low plants that grow in clumps along the ground
Leaves: pale green, egg-shaped, ½ inch long to ¼ inch wide; placed in pairs along the stem; stem has line of hair running along one side
Root structure: fibrous
Flowers: white star-shaped flowers with narrow petals; flowers almost all spring and summer

Habitat:
Grows in lawns and gardens and in sidewalk cracks

Ecological Threat:
Spreads over ground in large clumps, crowding out other vegetation

Dispersal Method:
Seeds dispersed with movement of plant either from wind or by contact

Chickweed grows in dense clumps on the ground; this sample is only one branch from a larger plant.

Control Techniques:
Pull the entire plant out of the ground before seeds have developed. If seeding, be sure to minimize soil disturbance.

Fun Facts

- Chickweed sleeps at night, just like humans. The leaves close up overnight, protecting the tip of the stem as well as the smaller leaves and flowers, and the leaves open up again in the morning
- Tastes like spinach.
- Chickweed has many medicinal purposes as well. It can help with internal ulcers in addition to helping with inflammation and sores.
- Named chickweed because chickens (and other birds) love to eat it.

Common Tansy

Scientific Name: Tanacetum vulgare

Description:
Perennial herbaceous plant, 3' tall, up to 5' in shaded areas, and erect. A single stem branches extensively toward the top into short stems forming a flat-topped cluster of numerous button-like flower heads.
Leaves: Alternate, pinnately compound (leaflets arranged on both sides of a common stalk), irregularly lobed. Leaves become smaller towards the top of the stalk, and are strongly aromatic when crushed.
Root structure: Spreads vegetatively forming new plants from even small root fragments.
Flowers and fruit: Bright yellow daisy-like discs up to 0.5" wide, lacking rays, blooming from July through October. Numerous tufted seed dispersed by wind and water.

Habitat:
Prefers sunny areas with well-drained soils. Generally found along roadsides, waste areas, stream banks, and in pastures.

Ecological Threat:
Out-competes desired plants for food and water. Seeds viable for almost 25 years and wait in the soil for right germination conditions.

Dispersal Method:
Plants spread mainly through seed but also through roots. Seeds can be transported by birds, animals, and on vehicles that have been working in infested areas. Control of seed dispersal is more important than control of vegetative spread.

Control Techniques:
Pull the entire plant and root out of the ground before flowers or seeds have developed. If seeding, be sure to minimize soil disturbance.

Fun Facts
• plants have medicinal properties.

cow vetch and hairy vetch

Scientific Name: *Vicia cracca and Vicia villosa*

Description:

- Herbaceous annual or perennial
- Leaves: alternate, pinnately compounded, narrow
- Root structure: 1-3' taproot
- Flowers and fruit: violet-blue on cow vetch, and blue and white on hairy vetch; clustered on one side of a spike, blooming May to August

Habitat:

- Naturalized species
- Dry, sandy soils, disturbed fields and thickets

Ecological Threat:

- Not a problem in native prairies, but affects reconstructed areas

Dispersal Method:

- Spreads through exploding seed pods

Control Techniques:

- Manual control through pulling before it seeds; Chemical control by using herbicide such as clopyralid

Fun Fact

• Different species of vetch are often used as cover crops in agricultural systems. They are legumes, meaning they have the ability to fix Nitrogen, if the needed bacteria are in the soil or the cover crop seed was inoculated with the right bacteria.

crabgrass

Scientific Name: Large: *Digitaria sanguinalis;* Smooth: *Digitaria ischaemum*

Description:

- Thick, wide grass-like weed
- Leaves: smooth, long, dark green blades; large crabgrass is covered in hairs
- Root structure: fibrous roots – many thin roots branching from the center of the clump
- Seeds: inconspicuous seed heads

Habitat: sidewalk cracks, other disturbed and cultivated areas, especially lawns

Ecological Threat:

- Large clumps out-compete native grasses; creates an unkempt appearance to sidewalks

Dispersal Method:

- Seeds and rooting of nodes that lie on top of the soil

*Smooth Crabgrass is very similar in appearance.

Control Techniques:

- Pull the entire plant out of the ground before seeds have developed. If seeding, be sure to minimize soil disturbance.
- Continued garden maintenance, such as mulching and weeding, reduces the growth of the weed.
- Mowing keeps the plant from growing vertically but the grass will continue to grow low in clumps.

Fun Facts

- Crabgrass blades can get up to eight inches long!
- Introduced by the US Government in 1849 to be used as cattle forage.

crown vetch

Scientific Name: *Securigera varia*

Description:

- Herbaceous annual or perennial, 1-2' tall
- Leaves: pinnately compound, oblong leaflets, 15-20 per stalk
- Root structure: roots can grow out horizontally up to 10 feet contributing to spreading
- Flowers: small clusters of pink and white flowers bloom from May to September; flower shape looks like a crown

Habitat:

- Eurasian and African invasive
- Prefers open, sunny areas

Ecological Threat:

- Threatens prairies and dunes; still sold commercially in some states

Dispersal Method:

- Spreads through exploding seed pods; spreads vegetatively

Control Techniques:

- Pull by hand
- Manual control through years of mowing or burning
- Chemical control after mechanical measures by spraying affected areas with clopyralid, surfactant and dye

Fun Fact

- Crown vetch seeds remain viable in the soil for 15 years!

curly dock

Scientific Name: *Rumex crispus*

Description:
- Perennial herbaceous plant
- Leaves: bluish-green, lance-shaped, alternate; noticeably curly or wavy on edges; turn reddish-purple with maturity
- Root structure: large, deep tap root that is yellow-orange in color
- Flowers: small flowers occur on upper portion of stem and are yellowish-green at first changing to reddish-brown in color; each flower produces the fruit, an achene. The achene is surrounded by a papery three-winged structure.

Habitat:
- Native to Eurasia

Ecological Threat:
- Aggressive weed; can adapt to dry, wet, and poor soil conditions; plant is poisonous to cattle, poultry, and sheep; alternate host to many crop diseases

Dispersal Method:
- By seed

Control Techniques:
- Cut at bottom of plant's stems with loppers or pruners to remove seed heads
- Herbicide can be used

Fun Facts
- A large mature curly dock can produce up to 40,000 seeds in one year.
- Curly dock seeds can remain viable in undisturbed soil for fifty or more years.

dandelion

Scientific Name: *Taraxacum officinale*

Description:

Leaves: long, shiny and hairless with large jagged edges; radiate low to the ground around root with edges to direct water towards center

Root structure: thick root, dark on outside and white within

Flowers : yellow flower consisting of tiny florets; hollow purple flower stalk with milky substance in walls; become white spheres when seeding

The leaves are like a "lion's tooth".

Habitat:

Originally from Asia, now found throughout the world; found almost everywhere – lawns, meadows, gardens, etc.; prefers open and sunny areas

Ecological Threat:

Sprawling leaves crowd out desirable plants; roots attract gophers; highly abundant, spread rapidly

Dispersal Method:

Seed heads are surrounded by white filaments, or bracts, that catch the wind

Control Techniques:

- Remove entire root before plant flowers or seeds (seeds disperse rapidly and many miles)
- Minimize soil disturbance so as not to encourage further infestations

Fun Facts

- Some believe the name "dandelion" comes from the French term "Dent de lion", or lion's teeth as the leaves resemble large teeth
- Dandelion leaves are used for salads, digestive medicines, and drinks around the world.

exotic honeysuckle

Scientific Name: *Lonicera tartarica*

Description:

- Deciduous shrubs, 5-12' high
- Leaves: simple, oval, un-toothed, and opposite; different species may have hairless or downy leaves
- Root structure: fibrous, shallow roots
- Flowers and fruit: fragrant, tubular white, red and pink flowers bloom in May or June

Habitat:

- Eurasian invasive; prefers open, sunny areas

Ecological Threat:

- Shades out ground covers and depletes soil moisture; still sold commercially in some states

Dispersal Method:

- Seeds dispersed by birds; spreads vegetatively

Control Techniques:

- Manual control through years of burning; cut stump and treat it with glyphosate or spray the foliage; hand pulling small infestations

Fun Fact

• Bell's honeysuckle (*L. x bella*) is a cross breed of the other two invasive exotic honeysuckles (*Lonicera morrowii* and *Lonicera tatarica)*.

flowering rush

Scientific Name: *Butomus umbellatus*

Description:

- Perennial aquatic herbaceous plant
- Leaves: sword shaped, triangular in cross-section
- Root structure: strong taproot
- Flowers and fruit: pink flowers bloom in an umbel if the plant is not submerged

Habitat:

- European invasive; disturbed areas, fields, and roadsides

Ecological Threat:

- Competes with native shoreline plants; burns can actually *help* with germination

Dispersal Method:

- Only one growth in Minnesota produces viable seeds (Forest Lake); reproduces through vegetative propagation, produces bulb-lets which are spread by water

Control Techniques:

- Cut and remove all cuttings from water, or hand dig out, removing all roots; chemical control with imazapyr

Fun Facts

- Flowering rush is illegal to buy, sell or possess
- Requires a permit to remove from public waters

foxtail grass

Scientific Name: *Setaria glauca*

Description:

Summer annual, tall grass, reaching up to 3'

Leaves: long (12") blades, from green to purple; several long hairs at base of leaves

Root structure: fibrous roots – thin branching roots

Seedhead: tall purple stalk topped with up to a 6" long seedhead; yellow seedhead resembles fox's tail

Habitat:

Full sun; turf, disturbed soils, prospers in fertile soil

Ecological Threat:

Large clumps out-compete native grasses

Dispersal Method:

Seeds stick to clothing and fur

Control Techniques:

- Pull the entire plant out of the ground before seeds have developed. If seeding, be sure to minimize soil disturbance.
- Continued garden maintenance, such as mulching and weeding, reduces the growth of the weed.
- Mowing keeps the plant from growing vertically but the grass will continue to grow low in clumps.

Fun Fact

- Dogs beware! While most animals and humans seem immune to the problem, something about a dog's biology makes this plant life threatening. After contact with foxtail, the seeds can enter the skin of the dog where enzymes react with the pus and begin traveling through the dog's body. Foxtail grass seeds usually enter through the nose, ears and mouth but can journey as far as the brain, spinal cord, heart, and lungs. Once the seeds have reached these vital organs, severe infection or even death can occur (National Vizsla Association).

garlic mustard

Scientific Name: *Alliaria petiolata.*

Description:

- Herbaceous Biennial (or annual). Grows 30-100cm tall.
- Leaves: coarsely toothed, stalked, green leaves; triangular to heart shaped, 10-15 cm by 2-6 cm; smell like garlic or onion when crushed
- Root structure: deep, thin taproot, that smells like horse-radish
- Flowers and fruit: button like clusters of small four pedaled white blooms

Habitat:

Invasive species, Eurasian origin, introduced as a cooking herb; spreads in undisturbed areas and forests as well as disturbed ones

Ecological Threat:

- Creates monocultures in forest undergrowth; harms certain fungi necessary for healthy tree growth

Dispersal Method:

- Seeds grow in pods and are flung form the bursting pods to spread. Deer, who don't eat garlic mustard, help it spread by eating the native plants and therefore easing the competition for garlic mustard

Control Techniques:

- Bio-control being researched; manual control through cutting or pulling; must repeat at a site for a few years; chemical control through 2% glyphosate applied in early spring or late fall

Fun Fact

- Garlic Mustard leaves, flowers and fruit can be eaten and make a great pesto.

hoary alyssum

Scientific Name: *Berteroa incana*

Description:

- Annual, 1-2' tall, downy branched stem
- Leaves: alternate, lanceolate with a grayish down covering

Root structure: taproot

Flowers: elongated clusters of tiny white flowers; blooms July through August

Habitat:

Eurasian invasive; dry areas and waste places

Ecological Threat:

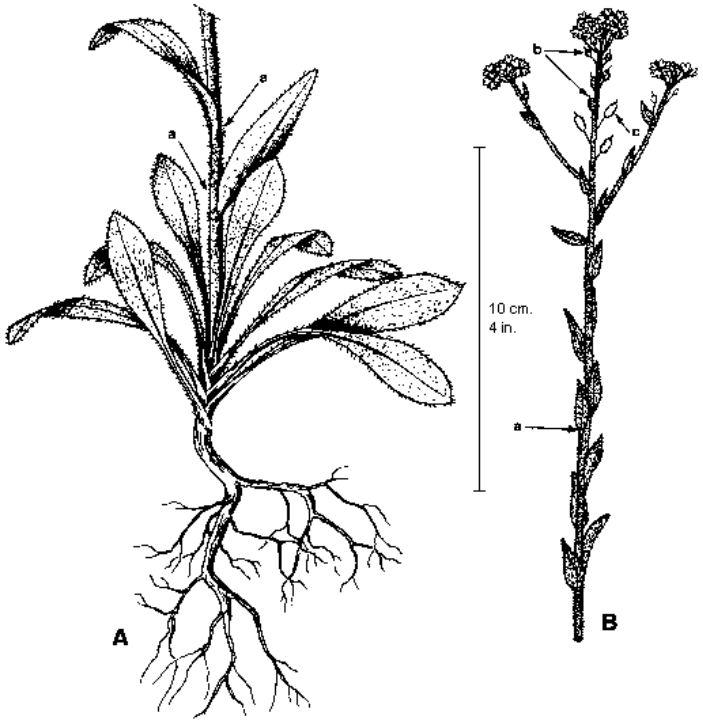
- Presents control issue in early prairie restoration

Dispersal Method:

- Seeds dispersed by birds
- Low levels of vegetative propagation

Control Techniques:

- Mowing, pulling or burning



Fun Fact

- This plant is toxic to horses.

Japanese knotweed

Scientific Name: *Fallopia japonic*

Description:

- Herbaceous perennial with hollow, nodded stems resembling bamboo
- Leaves: alternate, broad, oval leaves with truncated bases
- Root structure: spreading and vast, up to 7m wide and 3m deep
- Flowers: small, creamy white flowers produced in erect racemes, late summer to early autumn

Habitat:

- Invasive species, Asian origin, introduced as an ornamental
- Prefers riparian habitats

Ecological Threat:

- Overtakes a variety of habitats, suppresses native vegetation

Dispersal Method:

- Spreads rapidly thought its roots, making mechanical control difficult

Control Techniques:

- Possible bio-control through use of sea water on the foliage, leaf spot fungus, or pest agents
- Manual control through cutting or pulling- must repeat for a few years
- Chemical control by herbicide in late summer or early fall

Fun Facts

- Knotweed is used by beekeepers to provide a good nectar source for honey bees.
- Resveratrol, a chemical found in knotweed, helps reduce the risk of cancer, inflammation, and high blood sugar in some studies.

lamb's quarters

Scientific Name: *Chenopodium album*

Description:
Tall, upright summer annual, 1-4 feet tall
Leaves: lanceolate or spade shaped, alternate; 1-2 inches long, 1 inch wide, pointed tip; white mealy coating on underside of larger leaves, smaller leaves completely coated
Root structure: branched taproot; thick root with smaller secondary roots
Flowers: gray-green clusters formed near leaf axis

Habitat:
Disturbed or cultivated soils with high nitrogen content

Ecological Threat:
Grows quickly and is highly competitive. Requires a large amount of water therefore taking it away from desirable plants. Host to beet leafhopper which causes curly top in beets.

Dispersal Method:
Seeds disperse in late spring and early summer

Control Techniques:
- Pull the entire plant out of the ground before seeds have developed. If seeding, be sure to minimize soil disturbance.
- Frequent mowing controls lamb's quarters on lawns because of its vertical growth pattern.

Fun Facts
- Lamb's quarters have more vitamins A, B, and C; calcium and protein than most other greens including spinach.
- Lamb's quarters' leaves have an earthy taste and can be used in many dishes. Enjoy the younger leaves and salads and cook down the larger greens for a stir-fry or a delicious side dish. The seeds, once dried, are like poppy seeds in cereals or salads.

leafy spurge

Scientific Name: *Euphorbia esula*

Description:

- A herbaceous perennial plant 1-1.2m in height
- Leaves: small lanceolate leaves with a slightly wavy margin
- Root structure: complex root structure
- Flowers: small, yellow-green flowers grow in umbels; late spring to early summer bloom

Habitat:

- European native; grows on roadsides, woodlands and rocky slopes; prefers damp, non-acidic soils

Ecological Threat:

- Invasive, displaces native prairie plants

Dispersal Method:

- High germination rate in seeds, viable for 7 years in soil; spreads vegetatively through the roots

Control Techniques:

- Biological control through goats or insect
- Burns
- Herbicides systematically applied in June or September

Fun Fact

- Leafy spurge has been used as a model weed for conducting studies on weed spreading and control.

mother's wort

Scientific Name: *Leonurus cardiaca*

Description:

- Annual herbaceous plant
- Leaves: opposite, petiolate, 3-lobed, pubescent above; lobes divided and coarsely toothed
- Stem: hollow and four-angled (square)
- Root structure: rhizomes
- Flowers: clusters of whorled flowers completely surrounding the stem

Habitat:

- Native to Eurasia

Ecological Threat:

- Can crowd out native species and competes for resources

Dispersal Method:

- By rhizomes and seeds

Control Techniques:

- Pull plant trying not to disturb the soil

Fun Facts

- This plant is in the Lamiaceae family, or mint family (same as stinging nettles and bee balm).
- What is a strong characteristic of this family?

(answer: square stems)

musk thistle

Scientific Name: *Carduus nutans* (L.)

Description:

- Biennial herbaceous plant. Can reach up to 6 feet in height. Rosette growth habit.
- Leaves: alternate; deeply lobed; lanceolate; 3-5 spines along each margin of each lobe; dark to light green in color with white midribs and veins
- Root structure: large, thick taproot that is hollow near the soil surface
- Flowers: solitary flowers are pink to violet to purple in color; spiny bracts occur below the flower head and are often purple

Habitat:

- Native to Eurasia and introduced into the United States in the late 1800s
- Flourishes in disturbed soil, especially deep, well-aerated soils such as in gardens and fields

Ecological Threat:

- Crowds out native species and forage for livestock

Dispersal Method:

Seeds: flowers become seed heads that disperse flowers in the wind by bracts (cotton like parachutes)

Control Techniques:

Pull before flower or seeds form to reduce spreading. Once the seed head has formed, thistle seeds spread at the slightest touch. Pesticides are used in areas with large colonies where manual controls are insufficient.

Fun Fact

- Musk thistle is also called Nodding Thistle.

nightshade

Scientific Name: *Solanum ptycanthum*

Description:

- Erect summer annual
- Leaves: simple, alternate, and usually slightly hairy; ovate, slightly oval with broader base and pointed tip
- Root structure: taproot with fibrous secondary roots
- Flowers and Fruit: small white or purple clusters; dark fruit when mature

Habitat:

- Disturbed and cultivated soils

Ecological Threat:

- Crowds out desired plantings

Dispersal Method:

Each fruit contains 4-15 seeds that drop to the soil to germinate.

Control Techniques:

- Pull the entire plant out of the ground before fruit has developed. If fruit is present, be sure to minimize soil disturbance. Continued garden maintenance, such as mulching and weeding, reduces the growth of the weed.

Mature fruit

Fun Facts

- Most plants in the nightshade family are extremely toxic because they contain the chemical Atropine. Deadly nightshade (not found in our gardens) is toxic throughout the plant, especially in its roots and should not be handled when possible. It was even used in a Scottish war as a way to overpower the opposing army.
- According to Scottish legend, the plant is tended by the devil to harm humans (Botanical.com).

plantain

Scientific Name: *Plantago major* - Broadleaf

Seed head

Description:

- Perennial, low-lying plant with broad leaves
- Leaves: smooth, oval, 3-6"; veins parallel to margin (center vein); rosette shape, leaves radiate around center point
- Root structure: fibrous

Flower and stalk: tall stalk and seed heads emerging from center; similar texture to a rat's tail

Habitat:

Turf and garden weed
Areas of poor irrigation

Ecological Threat:

Crowds out desirable plants

Dispersal Method:

- Seeds dispersed with movement of plant either from wind or by contact

Control Techniques:

- Pull the entire plant out of the ground before seeds have developed. If seeding, be sure to minimize soil disturbance.
- Proper garden maintenance.

Fun Facts

• Plantain leaves help stop bleeding and soothe stings from other plants and animals. You can make a paste in your mouth by chewing the plant and then applying it to the wound. Native Americans created a powder from the root to help with snake bites.

• Plantain is mentioned in Longfellow's "Hiawatha" which takes place in Minnesota.

Eastern poison ivy

Scientific Name: *Toxicodendron rydbergii*

Leaves of three, let it be.

Description:

- Perennial woody vine
- Leaves: bright to dull green turning red in fall; clusters of three leaflets (trifoliate)
- Roots: rhizomes, adventitious roots, or root crowns can allow this plant to spread
- Flowers and fruit: Flowers are small, and scentless. Flowers in May to July. Poison ivy fruit, a drupe, are yellowish-white and all together.

Habitat:

- North America
- Found in woody areas around edges and disturbed sites

Dispersal Method:

- Seeds are spread mainly through animals and are viable after passing through an animal's digestive tract.
- This plant can also spread using underground runners (roots).

Control Techniques:

- Herbicide.

Fun Fact

- Western poison ivy can grow eight feet or higher, and can overtake a dead tree.
- Poison ivy contains urushiol, a skin irritant that causes an itching rash. This is known as urushiol-induced contact dermatitis. It is a noxious weed in Minnesota, Michigan, and Ontario.

poplar seedlings

Scientific Name: *Populus s.*

Description:

- Deciduous perennial tree seedling
- Leaves: spiral arrangement, triangular to circular with a long petiole
- Root structure: tap root with spreading auxiliary veins
- Flowers: inconspicuous flowers

Habitat:

- A variety of soils depending upon the species

Ecological Threat:

- None. These seedlings are just unwanted in our gardens and prairies.

Dispersal Method:

- Seed.

Control Techniques:

Hand-pull as needed.

Fun Fact

- The genus *Populus* has approximately 25-35 species including cottonwood and aspen.

purple loosestrife

Scientific Name: *Lythrum salicaira*

Description:

- Perennial herb, grows 4-10' tall
- Leaves: leaves opposite or whorled off of a square woody stem; lance shaped stalk-less leaves will be heart shaped or round at the base
- Root structure: a single rootstock can support 30-50 stems
- Flowers: showy, magenta flower spikes with 5-7 petals in bloom June to September

Habitat:

- Eurasian native, introduced in the 1800s for medicinal uses; natural or disturbed wetlands. Still widely sold as an ornamental in other U.S. states (sale in MN is prohibited).

Ecological Threat:

- Outcompetes and replaces native wetland species; reduces waterfowl
- habitat.

Dispersal Method:

- Spreads vegetatively through the roots and underground stems at a rate of 1 foot/year; highly productive seeder, making millions of seeds per year.

Control Techniques:

Hand pulling; chemical treatment with Rodeo for wetlands, or Roundup; Biological control with root mining weevils and *Galerucella s.* beetles

Fun Fact

- A single plant can produce nearly three million seeds per year.

purslane

Scientific Name: *Portulaca oleracea*

Stems radiate from central root and form low mat over ground.

Description:

- Low lying or prostrate succulent (retains water); summer annual
- Leaves: one inch long, smooth, succulent; spatulate; wide rounded top tapering to pointed base; stems; maroon, multi-branched
- Root structure: taproot with fibrous secondary roots
- Flowers: small, 5 petals and yellow

Habitat:

- Water retention qualities enable purslane to grow in dry soils

Ecological Threat:

- Spreads over ground in large clumps, crowding out other vegetation

Dispersal Method:

Seed pod, which contains many seeds, splits open spilling and spreading the seeds.

Control Techniques:

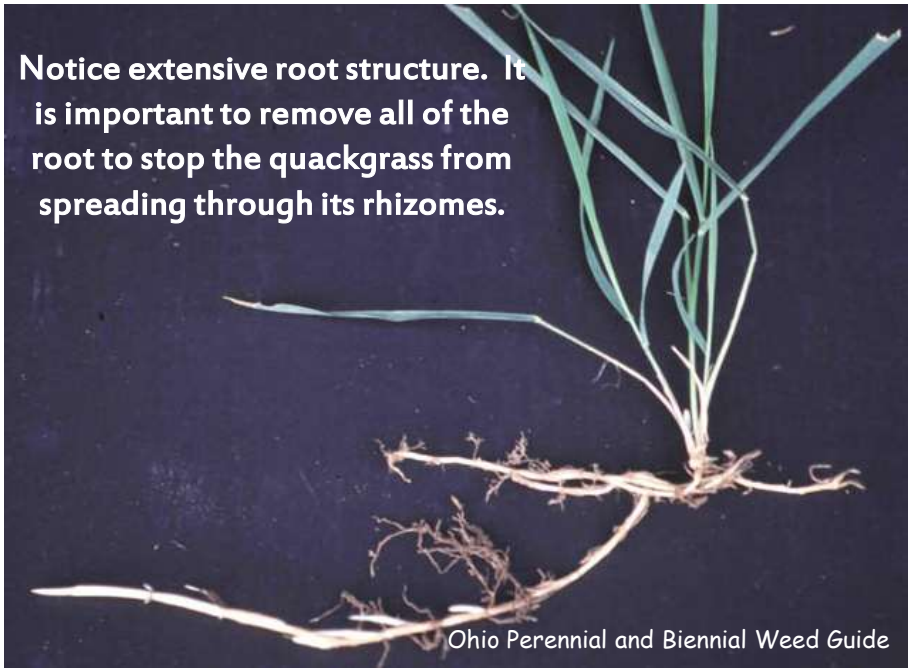
- Pull the entire plant out of the ground before seeds have developed. If seeding, be sure to minimize soil disturbance.

Fun Facts

- Purslane was considered an anti-magic herb and when sprinkled around a bed would ward off evil spirits.
- This plant contains many edible parts, known for its cooling and refreshing texture and flavor. Both the leaves and stems can be eaten, mostly in salads, but it can also be pickled for later use.

quackgrass

Scientific Name: *Elytrigia repens*



Description:
Tall, light green perennial grass reaching up to 3.5 feet in height
Leaves: stems are tall, hollow, unbranched; long, thin leaves rolled at the bud (cup stem at base of leaf)
Root structure: Fibrous root structure with far-reaching rhizomes
Flowers and Seeds: resemble heads of wheat

Habitat:
Grows in lawns and gardens

Ecological Threat:
Spreads over ground in large clumps, crowding out other vegetation. Rhizomes allow the plant to spread quickly; one plant can produce a clump 11 feet in diameter (that's 440 feet of Rhizomes!). Even chopped rhizomes can produce plants.

Dispersal Method:
Seeds spread in late summer; rhizomes overwinter and plant re-sprouts in spring

Control Techniques:
- When pulling, be sure to remove all of the rhizomes so the plant will not continue to spread.
- Pull before seeding to reduce seed dispersion; minimize soil disturbance.

Fun Facts
- "quack" originates from the German word "queke" meaning "to live" because the plant does not seem to die, even over winter.
- Methanol can be extracted from the plant and used to control mosquito larvae (Ohio Perennial and Biennial Weed Guide).

Queen Anne's lace

Scientific Name: *Daucus carota*

Description:

Biennial herbaceous plant, 2 to 4 feet in height

Leaves: basal, alternate, pinnately-compound with one to several finely divided, fernlike leaves; leaves increase in size towards base of stem and have a carrot-like odor

Stem: erect, hairy, hollow, grooved and branched at top

Root structure: long, slender white taproot with fibrous secondary roots; roots may become woody with age and have a carrot-like odor and taste

Flowers and fruit: small, five-petaled, white; occur in a terminal, umbrella-shaped cluster at ends of stems; fruit is brown and dry; ribbed with bristly hairs

Habitat:

- Native to Europe

Ecological Threat:

- Competes for resources with native grasses and forbs. Threat to recovering grasslands and prairies as it establishes faster than native plants.

Dispersal Method:

- Fruits (seeds) have hooked spines that attach to clothing or wildlife to aid in dispersal

Control Techniques:

- Pull (use gloves) or cut plant by hand or cut by mower; herbicides may be used.

Fun Facts

- This plant is also known as bird's nest or wild carrot.
- Queen Anne's lace is a member of the carrot family, Apiaceae.

ragweed

Scientific Name: *Ambrosia artemisiifolia*

Description:
- Summer annual, up to 6 feet high
- Leaves: 1.5 - 4 inches long; compound and double compound; hairy topside; stems covered with dense hair
- Root structure: small taproot
- Seeds : tall seed stalk, large amount of pollen gives it a yellowish color

Habitat:
- Disturbed areas

Ecological Threat:
- Large clumps out-compete native grasses

Dispersal Method:
- Pollen travels by wind to other plants for fertilization. Pollen is released during warm, humid summer nights.

Tall, yellowish seed stalk

"Ragged" leaves; both deeply lobed and hairy

Control Techniques:
- Pull ragweed before the seed stalk forms to avoid the spread of pollen.
- A well mulched garden or established turf grass can reduce the presence of the weed.

Fun Fact
- Allergies? Ragweed pollen is the leading cause of hay fever. Each plant produces over 1 billion grains of pollen (Asthma and Allergy Foundation of America).

reed canary grass

Scientific Name: *Pharlaris s.*

Has a highly transparent ligule (where sheath and blade meet) which distinguishes it from native bluejoint grass.

Description:

- A tall perennial cool season grass, 2 to 6 feet tall
- Leaves: blue-green blades, 1/4-1/3 inch wide and up to 10" long
- Root structure: thick but shallow mat of roots under soil surface
- Flowers and fruit: high on the stems and pinkish when in full bloom

Habitat:

- Though a species is native to Illinois, most are of the Eurasian invasive species; natural or disturbed wetlands; some use as an ornamental grass; planted and grown as a forage.

Ecological Threat:

- Forms extensive single species stands (monoculture)

Dispersal Method:

Spreads vegetatively through the roots and seed propagation

Control Techniques:

- Consecutive annual burns
- Mowing in mid-June and October
- Chemical control through the use of Rodeo herbicide

Fun Facts

- Reed canary grass is sometimes used to make paper.

Russian olive sapling

Scientific Name: *Elaeagnus angustifolia*

Description:

- Deciduous shrub or small tree 5-7 meters in height
- Leaves: alternate, lanceolate with a smooth margin; silvery gray colored
- Root structure: deep nitrogen fixing taproot
- Flowers and fruit: aromatic flowers, in clusters of 1-3 creamy yellow in early summer; small cherry-like drupe fruit

Habitat

- Eurasian invasive; riparian areas.

Ecological Threat:

- Crowds out native species

Dispersal Method:

- Seeds dispersed by birds; low levels of vegetative propagation

Control Techniques:

- Susceptible to natural diseases, such as wilt and canker
- Cut stump and treat with glyphosate, or spray foliage

Fun Fact

- The fruit is sweet and edible, but with a dry mealy texture.

shepherd's purse

Scientific Name: *Capsella bursa-pastoris*

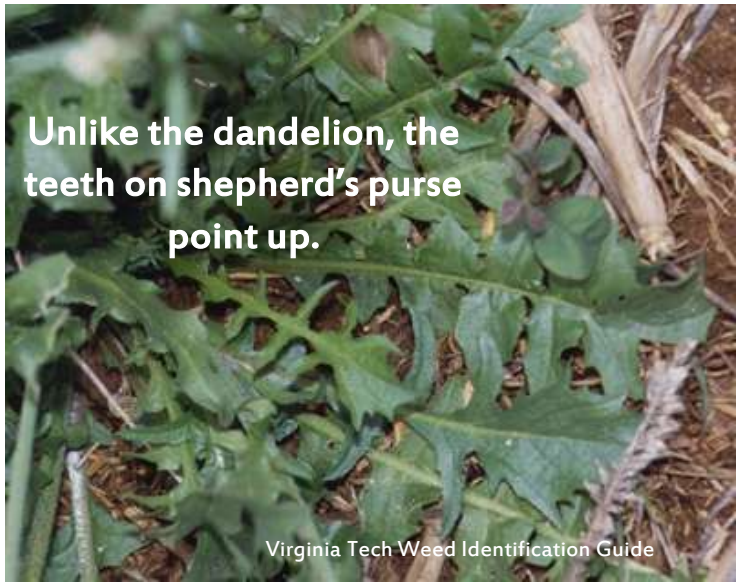
Description:

▫Similar appearance to dandelion without the milky internal substance

Leaves: dark green, deeply toothed pointing upward (dandelion's point downward); radiate low to ground around central root

Root structure: taproot

Flowers and seeds: white, four pedaled flowers; heart-shaped seed capsules resemble old fashioned leather pouches, or purses



Habitat:

▫Disturbed soils with sunshine

Ecological Threat:

▫Crowds out desired plants

Dispersal Method:

Seeds are released from the capsule

Control Techniques:

• Pull the entire plant out of the ground before seeds have developed. If seeding, be sure to minimize soil disturbance.

Fun Facts

• When wet, the plant exudes a substance that is lethal to aquatic larva such as mosquitoes. Due to this property, the plant is considered a mildly carnivorous (meat eating) plant.

• Shepherd's Purse is in the mustard family and the leaves have a mild mustard taste that is a great addition to any summer salad.

Siberian elm

Scientific Name: *Ulmus pumila*

Description:

- A deciduous perennial tree
- Leaves: alternate. Small, elliptical, smooth singly toothed leaves that reach lengths of approximately 0.8-2.6 inches. They are tapering or rounded at their asymmetrical base.
- Root structure: large branching root system
- Flowers and fruit: green flowers that lack petals and occur in small drooping clusters of 2-5 blossoms; are present in early spring. Fruit is oval-winged samara.

Habitat:

- Native to Eastern Siberia, northern China, Manchuria and Korea
- Present in Minnesota south to Arkansas and west to Utah

Ecological Threat:

- This tree flowers in spring before the leaves unfold. The fruits develop quickly and are disseminated by wind. These seeds germinate quickly and can become invasive.

Dispersal Method:

- By wind

Control Techniques:

- Hand pulling of saplings; cutting and removal of larger trees then treating with herbicide

Fun Fact

- This tree is also known as the Asiatic elm, Chinese elm, and Dwarf elm.

smooth brome

Scientific Name: *Bromus inermis*

Description:
- A perennial cool season grass 2-3' in height
- Leaves: "M" or "W" shape constriction
- Root structure: deep root structure
- Flowers and fruit: blooms in June and July

Habitat:
- European native; moist soils and sun

Ecological Threat:
- Invasive, displaces native prairie grasses. Used as a forage plant, over-runs ditches and woodlands near fields.

Dispersal Method:
- Reproduces from seeds, tillers and rhizomes

Control Techniques:
- Mowing in combination with herbicides; burns in late spring

Fun Fact
- This plant is often used as a forage plant for livestock.

sow thistle

Scientific Name: *Sonchus arvenis*

Description:

- Perennial herbaceous plant. Can grow 2 – 5 feet tall.
- Leaves: alternate; lower leaves are deeply lobed, upper leaves clasp the stem
- Root structure: widely spreading white brittle roots penetrating five to ten feet, producing new plants from small root pieces
- Flowers: bright yellow, up to two inches wide; blooms from June to August

Habitat:

Flourishes in disturbed soil, especially deep, well-aerated soils such as in gardens and fields

Ecological Threat:

Colonizes in cultivated fields, woodlands, pastures, and roadsides; is a noxious weed in Minnesota

Dispersal Method:

Spreads vegetatively; each tiny piece of root can grow a new plant. Also spreads by seed.

Control Techniques:

Must remove entire root, if root remains, thistle will continue to propagate. Pull before flower or seeds develop to reduce spreading. Pesticides are used in areas with large colonies where manual controls are insufficient.

Fun Fact

- Broken stems exude a sticky, white substance.

spotted knapweed

Scientific Name: *Centaurea maculosa*

Description:

- Biennial or short lived perennial herbaceous plant
- Leaves: mostly oval with small lobing near base

Root structure: taproot

Flowers and seeds: purple flower that becomes a cottony white seed head when mature

Habitat:

- Disturbed and cultivated soils.

Ecological Threat:

- Crowds out and out competes desired plants. Releases a toxin that is harmful to other species; this is especially threatening in areas with large infestations.

Dispersal Method:

- Each plant produces thousands of seeds that remain viable in the soil for more than five years.

Control Techniques:

- Pull the entire plant out of the ground before seeds have developed. If seeding, be sure to minimize soil disturbance.

Fun Facts

- The term 'spotted' comes from the black bracts underneath the flower giving the bloom a spotted appearance.
- Biological controls (insects) exist and have been proven effective. Using biological controls decreases harmful herbicide use and is usually more effective than hand pulling in areas with large infestations.

velvetleaf

Scientific Name: *Abutilon theophrasti*

Virginia Tech Weed Identification Guide

Description:

Erect, hairy summer annual can get up to 7 feet tall

Leaves: heart-shaped when mature; seedlings have opposing heart-shaped and rounded leaves; toothed margins, all veins originate from the base of leaf in the center; 2-6" in length and width; covered in soft hair on both sides

Root structure: taproot with fibrous secondary roots

Flowers and fruit: small, five petals and yellow; sphere-like capsules with spikes around the top

Habitat:

Cultivated and disturbed soils

Ecological Threat:

Out-competes desired plants for food and water. Seeds viable for almost 50 years and wait in the soil for right germination conditions. Severely threatens agricultural fields.

Dispersal Method:

Seeds disperse from each seed pod which houses anywhere from 2 - 9 seeds which can ripen after plant is pulled.

Control Techniques:

Pull the entire plant and root out of the ground before flowers or seeds have developed. If seeding, be sure to minimize soil disturbance.

Fun Facts

- When crushed, the plant releases a pungent odor.
- Used for fibrous properties, especially in its native China, to make products such as rope, cloth and paper.

white and yellow sweet clover

Scientific Name: *Melitotus alba* or *M. officinalis*

Description:

- Biennial herbaceous plants
- Leaves: alternate, in groups of 3 finely toothed leaflets

Root structure: strong taproot

Flowers and fruit: very fragrant, densely crowed on the top 4 inches of a stem; blooms June to August on second year plants

Habitat:

European invasive; disturbed areas, fields, and roadsides

Ecological Threat:

- Reduces bio-diversity by shading out native sun-loving prairie plants

Dispersal Method:

- Seeds dispersed by birds; low levels of vegetative propagation

Control Techniques:

- Hand pulling or cutting before flowering; chemical control 2,4-D after a burn; hot, early spring burn and complete burns followed by a hot, late spring burn; repeated in 2 years

Fun Fact

- The seeds stay viable in the soil for up to 30 years.