

Applicator's weed and brush ID guide

Easily identify your toughest weed
and brush challenges.





Identifying invasive vegetation

Invasive species guide

Knowing what weeds you're dealing with is key to fighting them effectively. We've put together a list of a few common and difficult-to-control species.

Understanding the different weed life cycles will improve your success in controlling them. Here's a brief guide to the three main types.

Annual: One-year life span, with germination ranging from spring to early fall.

Biennial: Two-year life span, with germination in spring or fall.

Perennial: Indefinite life span, emerging every growing cycle.

For another weed identification resource, download the **PictureThis** app, created by Glority.

Labeling system for the following pages

Name of species (common names)

(other types or species)

Scientific name

Family name

Broadleaf weeds

SUNFLOWER FAMILY

Common groundsel

Senecio vulgaris L.

Asteraceae (sunflower family)

Life cycle: Summer or winter annual.

Description: Young plants grow in a rosette pattern of oblong leaves with smooth to wavy outlines, and mature plants reach up to 2 feet tall. Mature leaves have irregular toothed edges and deep lobes. Yellow, cylindrical flower heads that resemble tiny dandelions appear almost year-round in clusters at stem ends and form puffballs of seeds.

Challenge: Capable of multiple generations per year, and puffball seeds boost invasiveness.



Dandelion

Taraxacum officinale

Asteraceae (sunflower family)

Life cycle: Perennial.

Description: Initially low-growing plants can reach up to 2 feet tall, with deep taproots and toothy, lobed leaves growing in a rosette. Bright-yellow flowers appear year-round and turn into puffballs of seeds.

Challenge: Can also reproduce by sending shoots off the taproot or from fragments of the taproot.



Dogfennel

Eupatorium capillifolium

Asteraceae (sunflower family)

Life cycle: Annual or short-lived perennial.

Description: Fine, feathery leaves grow from a hairy central stem that's soft when young but woody when mature. Leaves and stems smell sour, pungent and musty when crushed. Mature height ranges from under 6 inches to over 3 feet tall. Greenish-white flowers appear from midsummer until the first frost.

Challenge: The fibrous root system can resprout from partial roots.



Giant ragweed

Ambrosia trifida L.

Asteraceae (sunflower family)

Life cycle: Summer annual.

Description: Leaves with three to five deep lobes grow on upright plants that can reach 12 feet tall. Stems are covered in white hairs, and leaves can be up to 12 inches long and 8 inches wide. Emerges early in summer and can emerge from up to 6 inches deep. Some types have extended emergence. Small, yellow-green flowers appear in late summer or early fall on small, droopy spikes.

Challenge: Can be resistant to Group 2 and Group 9 herbicides.



Broadleaf weeds

Horseweed (maretail)

Conyza canadensis (L.) Cronq.

Asteraceae (sunflower family)

Life cycle: Winter or summer annual.

Description: Young plants resemble a horse's tail, with hairy, oblong leaves growing from a central stem. Mature plants can be up to 10 feet tall and resemble a horse's tail formed of lance-shaped leaves growing from an erect, hairy central stem. Clusters of small white flowers with yellow centers emerge from short branches from June to September.

Challenge: Long and multiple germination windows and wind-borne seeds.



Knapweeds

(diffuse, meadow, spotted)

Asteraceae (sunflower family)

Life cycle: Biennial or short-lived perennial.

Description: Mature plants of the various species are anywhere from 20 inches to 6 feet tall with multiple upright, reddish, ridged stems. Flowers resemble thistles and appear from midsummer to fall. Meadow knapweed leaves are green and less deeply lobed than spotted knapweed, which has gray-green leaves. Black knapweed has pale-green leaves.

Challenge: Seed pods attach to people and animals, and plants can reproduce from crown and roots.



Prickly lettuce

Lactuca serriola

Asteraceae (sunflower family)

Life cycle: Winter annual but can be biennial.

Description: Young plants have light-green oval leaves with wavy edges and grow in rosettes. Prickly mature leaves grow directly from the stem and are 2-10 inches long with a twisted base and deep lobes. Central stalk grows up to 5 feet tall. Small, yellow, daisy-like flowers bloom from July through September, and seeds germinate immediately.

Challenge: Drought-tolerant and produces up to 10,000 seeds per plant that can remain viable in soil for three years.



Rush skeletonweed

Chondrilla juncea

Asteraceae (sunflower family)

Life cycle: Perennial.

Description: Adult plants can be up to 5 feet tall. Plants begin as a basal rosette of leaves and then develop up to six branching flowering stems. Plants will produce a latex sap from injured surfaces.

Challenge: Long, slender taproot can be up to 7 feet deep.



Broadleaf weeds

Thistles

(bull, Canada, musk)

Asteraceae (sunflower family)

Life cycle: Annual, biennial and perennial.

Description: Smooth, elongated, deeply lobed leaves with spines around the edges and stems. Creeping or clumping growth habit and an extensive or deep root system produce plants from 1-6 feet tall depending on species. Purple or pink flower clusters appear from June to August.

Challenge: Some species have a thick taproot that can resprout, and musk thistle seeds can remain viable in soil for 10 years. A single plant can produce 10,000 seeds.



Yellow starthistle

Centaurea solstitialis

Asteraceae (sunflower family)

Life cycle: Winter annual.

Description: Young plants resemble large dandelions with leaves up to 8 inches long. Woody, ridged, gray-green or blue-green stems are up to 5 feet tall and topped with dandelion-like yellow flowers.

Challenge: Extremely aggressive with a deep taproot and produces 150,000 seeds per plant. Seeds remain viable for 10 years in soil and can survive fires.



Kochia

Bassia scoparia, Kochia scoparia
Chenopodiaceae (goosefoot family)

Life cycle: Summer annual.

Description: Narrow leaves are 1-2 inches long and covered in soft hairs. Mature plants are 1-6 feet tall and pyramid-shaped with red, red-striped or purple stems. Tiny, leaflike green flowers without petals appear in clusters from July to October and can produce 15,000 seeds per plant.

Challenge: Plants turn into tumbleweeds in dry conditions. Resistance to PSII inhibitors, ALS inhibitors and glyphosate has been observed.



Russian thistle (tumbleweed)

Salsola tragus, Salsola kali
Chenopodiaceae (goosefoot family)

Life cycle: Summer annual.

Description: Seedlings have soft, fleshy, needle-like leaves that become short, scale-like and spine-tipped. Stems are densely branched and curve upward to form a bushy ball shape up to 4 feet tall. Very small flowers without petals appear in summer.

Challenge: Seeds can germinate with little water and are scattered for miles as plants roll.



Broadleaf weeds

Bindweed

Convolvulus arvensis, *Convolvulus sepium*
Convolvulaceae (morning glory family)

Life cycle: Perennial.

Description: A vine with twisted stems that overtakes nearby plants. Leaves are arrowhead-shaped, up to 2 inches long and placed alternately. Individual stems are 4-6 feet long. White-pink, trumpet-shaped flowers appear from June to September, open each morning and close each afternoon.

Challenge: Reproduces from both seed and creeping roots.



Buckhorn plantain

Plantago lanceolata
Plantaginaceae (plantain family)

Life cycle: Annual, biennial and perennial.

Description: Elongated leaves are up to 10 inches long with several prominent veins and grow into a low mound shape. Long hairs may be visible at the bases of leaves. White flowers appear from April to October in cylindrical clusters at the ends of tall stalks.

Challenge: Tolerates mowing and high pH soil.



Curly dock

Rumex crispus

Polygonaceae (buckwheat family)

Life cycle: Perennial.

Description: Early leaves are egg-shaped, while mature leaves are 6-8 inches long and oblong with wavy to curly edges. Plants reach 2-5 feet tall, and greenish flowers appear on tall stalks in late summer. Foliage turns purple or a rusty brown as temperatures drop.

Challenge: Will regenerate from fragments of taproot, and seeds present in soil will emerge when disturbed. Thrives in both wet and dry soils.



Leafy spurge

Euphorbia esula

Euphorbiaceae (spurge family)

Life cycle: Perennial.

Description: Narrow leaves up to 4 inches long that produce toxic, milky sap when broken. Stems are woody at the base and reach a height of 2.5-4 feet. Heart-shaped, yellow-green flowers form in clusters from June to September. Roots can be up to 20 feet deep and send up new shoots to form colonies.

Challenge: Exploding seed pods send seeds up to 20 feet. Seeds can remain viable in soil for over 15 years. Toxic to cattle, horses and humans (the milky sap can cause skin irritation and blindness).



Broadleaf weeds

Mustards

(wild mustard, garlic mustard, black mustard)

Brassicaceae (mustard family)

Life cycle: Winter/summer annual.

Description: Plants begin as a basal rosette. Leaves have irregular lobes and are toothed and become smaller toward the top of the plant. Mature plants are up to 3 feet tall with stems that have bristly hairs at the base. Bright-yellow flowers form in summer and can continue until the first frost.

Challenge: Plants can produce up to 7,500 seeds and emit compounds that suppress the growth of other species.



Pigweeds

(Palmer, redroot, smooth, waterhemp)

Amaranthus (pigweed family)

Life cycle: Summer annual.

Description: Leaves can be smooth or hairy depending on the species, but almost all have noticeably long leaf stalks. Seedheads form on upright spikes on waterhemp and Palmer species and on clusters on redroot and smooth varieties. Mature plants can reach over 10 feet.

Challenge: Very fast growth rate with a long growing season, and each plant can produce over 250,000 seeds.



Puncturevine

Tribulus terrestris L.

Zygophyllaceae (caltrop family)

Life cycle: Summer annual.

Description: Low-growing, mat-forming plant with hairy stems up to 5 feet long. Leaves are composed of four to eight pairs of oval leaflets up to half an inch long. Yellow flowers appear in July, and mature fruit breaks into spiny sections that attach to animals, clothing, shoes and tires (which they can puncture).

Challenge: Each fruit section has up to four seeds that can stay dormant in soil for up to five years.



Grassy weeds

Barnyardgrass

Echinochloa crus-galli (L.) Beauv.

Poaceae (grass family)

Life cycle: Summer annual.

Description: Rough leaves are rolled in the shoot stage, then grow up to 20 inches long and are hairless with a distinct midvein. Grows up to 5 feet tall with seedheads up to 8 inches long that are usually purple to brown.

Challenge: Very fast grower that quickly removes nitrogen and other nutrients, and seeds are easily spread by mowing.



Cheatgrass (downy brome)

Bromus tectorum

Poaceae (grass family)

Life cycle: Winter annual, can be biennial.

Description: Grows in clusters of plants up to 2.5 feet tall with drooping seedheads. Roots are fibrous and extensive, and seedlings overwinter to emerge in early spring.

Challenge: Germinates in winter, produces many seeds through the growing season and matures early, making dried plants a fire hazard.



Crabgrasses

(large, smooth)

Digitaria sanguinalis, Digitaria ischaemum

Poaceae (grass family)

Life cycle: Summer annual.

Description: Leaves grow in all directions from a central point. Large crabgrass plants are up to 2.5 feet tall, while smooth crabgrass is smaller. Large crabgrass is darker green with hairy leaves, whereas smooth crabgrass is lighter green with smooth leaves.

Challenge: Thrives in heat, even in poor quality, dry soil, and seeds remain viable in soil for several years.



Fall panicum

Panicum dichotomiflorum

Poaceae (grass family)

Life cycle: Summer annual.

Description: Mature leaves are hairless and up to 20 inches long with a distinct white midvein. Erect stems grow in a zigzag pattern to form plants up to 7 feet tall.

Challenge: Fibrous root systems are capable of sprouting at the nodes and can respond poorly to glyphosate.



Grassy weeds

Foxtails

(foxtail millet, giant, green, yellow)

Setaria faberi, *Setaria viridis*, *Setaria pumila*

Poaceae (grass family)



Life cycle: Summer annual and some perennial species.

Description: Clumping growth habit that begins similarly to crabgrass. Mature plants reach 1-4 feet depending on species, with nodding seedheads resembling foxtails. Flowering begins in July.

Challenge: Produces thousands of seeds a year and is very difficult to control after seed production.

Goosegrass

Eleusine indica

Poaceae (grass family)



Life cycle: Summer annual.

Description: Young plants emerge in a flat radius with whitish stems. Seedheads with flat spikes germinate two weeks after crabgrass.

Challenge: Tolerates heavy traffic, compacted soil and low mowing heights.

Johnsongrass

Sorghum halepense

Poaceae (grass family)

Life cycle: Perennial.

Description: Tall and upright growth habit with an extensive system of rhizomes. Mature plants reach 3-10 feet. Produces hydrocyanic acid, which is toxic to livestock, when under stress.

Challenge: Reproduces by both seed and rhizomes, which can resprout from dormant buds.



Medusahead

Taeniatherum caput-medusae

Poaceae (grass family)

Life cycle: Winter annual.

Description: Mature plants are up to 2 feet tall and bloom in spring. Dead plants are slow to decay, forming a thick thatch that prevents germination of other species. Seedheads are covered in small barbs.

Challenge: Roots grow continuously from winter through spring, and seedlings emerge early and grow fast.



Grassy weeds

Annual ryegrass

Lolium multiflorum

Poaceae (grass family)

Life cycle: Winter annual or biennial.

Description: Stems are often red-tinged at the base and leaves are up to 8 inches long.

Mature plants are up to 3 feet tall with seedhead spikes up to 16 inches long.

Challenge: Very competitive and resistant to some herbicides.



Sprangletop

Leptochloa mucronata (Michx.)

Poaceae (grass family)

Life cycle: Annual.

Description: Silvery leaves and fine, spindly stems with spiky seedheads. Mature plants are 2-3 feet tall.

Challenge: Can germinate twice per season to produce a second crop of plants.



Vaseygrass

Paspalum

Poaceae (grass family)

Life cycle: Perennial.

Description: Bunching growth habit produces plants up to 6 feet tall. Leaves can be wavy at the edges, with many hairs where they join the stem. Seedheads are sparse and sit well above the leaves. Prefers loamy, moist to wet soil.

Challenge: Produces large numbers of seeds and is capable of spreading over large areas in a single season.



Ventenata

Ventenata dubia

Poaceae (grass family)

Life cycle: Winter annual.

Description: Basally branched and tufted with rolled or folded leaves. Panicles are up to 16 inches long and pyramidal with spikelets of three florets, which can be bent and twisted.

Challenge: Seeds can self-bury into soil and persist in the seedbank for up to three years.



Trees and brush

Eastern baccharis

Baccharis halimifolia L.

Asteraceae (sunflower family)

Life cycle: Perennial.

Description: Deciduous shrub up to 10 feet tall with thick egg-shaped leaves up to 2.5 inches long. Small white flowers produce cottony seeds. Does well in sandy soil and is resistant to salt spray and flooding.

Challenge: Leaves and seeds are toxic to livestock.



Callery pear

Pyrus calleryana

Rosaceae (rose family)

Life cycle: Perennial.

Description: Deciduous tree grows up to 40 feet in a pyramid shape with showy white flowers. Tolerates a wide range of soil types and conditions.

Challenge: Aggressively invasive with a weak branch structure that is highly susceptible to ice damage.



Loblolly pine

(oldfield pine)

Pinus taeda

Pinaceae (pine family)

Life cycle: Perennial.

Description: Coniferous pine tree can reach 125 feet with a trunk up to 4 feet in diameter. Trunks of mature trees are bare and topped with a dense, rounded, blue-green crown of foliage. Bark is thick with deep fissures and ranges from dark red-brown to black.

Challenge: Fast grower that can quickly overtake abandoned fields.



Box elder

(ashleaf maple)

Acer negundo

Aceraceae (maple family)

Life cycle: Perennial.

Description: Mature trees are 40-70 feet tall with an uneven crown. Leaves grow opposite each other with three to five leaflets arranged in a feather pattern. Leaflets are 2-4 inches long and up to 3 inches wide with coarsely toothed margins. Bark of young trees is smooth and green, and older trees have pale gray or brown bark with long, thin ridges and shallow grooves.

Challenge: Can be heavy seed producers, and mature trees are susceptible to storm damage.



Trees and brush

Yellow poplar

(tulip tree, tulip magnolia, whitewood)

Liriodendron tulipifera

Magnoliaceae (magnolia family)

Life cycle: Perennial.

Description: Mature trees are 50-100 feet tall and grow in a narrow to rounded shape. Shiny leaves are 4-6 inches wide with a unique, four-pointed square shape. Flowers have six greenish-yellow tepals around an orange base and become elongated fruits that remain on branches.

Challenge: Fast growth rate.



Eastern red cedar

Juniperus virginiana

Cupressaceae (cypress family)

Life cycle: Perennial.

Description: Small- to medium-size evergreen tree with a dense pyramid-shaped crown. Leaves are scaly and needlelike, and female trees produce small, purpleish, berrylike cones.

Challenge: Known to invade grassy areas due to fire suppression policies.







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