

Nevada Nuisance Weed Field Guide



SP-18-02

SP-18-02

Nevada Nuisance Weed Field Guide

Melody Hefner, Urban IPM and Pesticide Safety Education Coordinator

Heidi Kratsch, Urban IPM Program Director

University of Nevada Cooperative Extension




Table of Contents

The plants listed in this field guide are nuisance weeds, those that are troublesome, but have not been listed by the state as noxious weeds.

Similar to noxious weeds, nuisance weeds can spread rapidly and compete aggressively with desirable plants for light, nutrients and water. Many nuisance weeds reproduce profusely, either by extensive root systems, prolific seed production or both. Many of the seeds produced by these weeds are long-lived in the soil, waiting for the right conditions to germinate and grow.

The impacts of nuisance weeds are similar to those of noxious weeds: increased soil erosion and salinity, increased flood potential, decreased water quality, decreased forage and crop yields, displaced wildlife and native plants, reduced recreational potential, reduced aesthetic value, injury to humans or animals, and increased fire danger.

The purpose of this book is to help homeowners, land managers, green-industry personnel, agricultural producers and recreationists to identify nuisance weeds of Nevada. The over 60 weeds listed in this field guide were selected with input from Extension educators in Nevada counties, other University of Nevada Cooperative Extension personnel and local weed control groups.

Correct identification of a weed is imperative for control. By identifying nuisance weeds early, you

can control an infestation while it is small. For larger infestations, correctly identifying the weed will help you implement the control tactics that will successfully manage the weed. For each listed weed, we have included identifying characteristics and several control methods. A glossary is included to define the terms used to describe and identify plant characteristics.

No specific herbicide recommendations are given, as formulations and names change frequently. General herbicide recommendations are provided, such as "broadleaf-selective herbicides," "grass-selective herbicides" or "nonselective herbicides." Consult your local pesticide dealer for the best product for your weed and site of application. If you choose to apply an herbicide, read, understand and follow all label directions.

We would like to thank all of the people who gave us permission to use their photos in this publication; detailed photo credits can be found on Pages 146-149. We would also like to thank Candy Kiel of The Write Type for graphic design and layout. Special thanks to Ashley Andrews for technical edits.

Funding for this publication was provided by the National Institute of Food and Agriculture (NIFA), Crop Protection and Pest Management, Extension Implementation Program (Grant Number 2014-70006-22550).

Proper weed identification is a critical step in Integrated Weed Management. Once you have identified the weed, consider all the available control methods for that weed to enhance the long-term success of your weed management program.

Weed control methods can be divided into five categories:

#1 Prevention: Prevention is the first line of defense against weed infestation. Time and money are saved, and landscape degradation can be prevented by keeping weeds from spreading into new areas. Some common prevention measures are:

- Maintain a healthy, competitive stand of desirable plants that limit the ability of weeds to establish and thrive.
- Use weed-free hay, straw, seed or mulch.
- Check containerized plants and sod for weeds before installing them in the landscape.
- Clean contaminated vehicles and equipment.
- Educate employees, neighbors, visitors and recreationists about weeds.
- Prevent movement of soil with weed seeds to uninfested areas.
- Regularly monitor for weeds to remove infestations when they are small.

#2 Cultural controls: These strategies rely on proper management practices to make it more difficult for weeds to be successful:

- Dispose of weed plants and plant parts properly. Do not allow weed plant parts or seeds to escape on the property or to any other property.
- Mow your lawn at least 3 inches high, and water deeply.
- Water and fertilize landscape plants appropriately.
- Manage grazing properly to ensure the health of the pasture. This will limit the ability of weeds to invade the pasture.

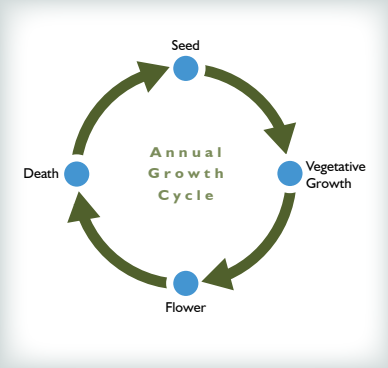
#3 Physical or mechanical controls: These are methods that reduce weed infestations by disrupting the weed growth cycles. They include hand-pulling, tilling, hoeing, mowing, disking and burning. Physical barriers, such as plastic mulch, landscape fabric, organic mulch and rock mulch, can aid in controlling a weed infestation.

#4 Biological controls: These controls use living organisms to manage pests. Biological controls include insects and grazing animals. While these methods can reduce the spread of a weed infestation, they rarely provide complete control or eradication of a weed infestation.

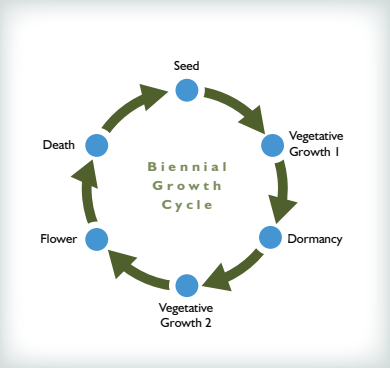
#5 Chemical controls: Herbicides are pesticides specifically designed to kill plants. Herbicides can be nonselective; that is, they will kill any plant to which they are applied. There are also selective herbicides. These are subdivided into two groups: broadleaf-selective and grass-selective. Broadleaf-selective herbicides kill only broadleaf plants and do not damage grass plants. Similarly, grass-selective herbicides kill only grasses and do not harm broadleaf plants.

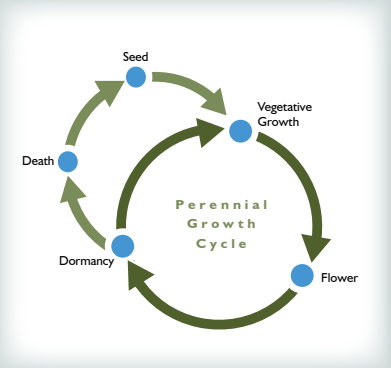
Weeds are commonly subdivided by their lifecycle. All plants grow through stages: seed to seedling to vegetative growth to flowering and seed production to death. **Annual plants** complete all growth stages in one growing season, which may be as short as several weeks or as long as six months or more. **Biennial plants** complete all growth stages in two growing seasons. The first year includes seedling and vegetative stages; the second year includes vegetative, flowering and seed production, and then death. **Perennial plants** complete all life stages in one growing season (except death). They survive more than two growing seasons and have a seedling stage only during the first growing season. Many live several decades or longer.

Why should you care? **Herbicides are most effective when applied to actively growing plants. Growth stage affects herbicide performance, with seedlings being more susceptible to herbicides than mature plants.**



Annuals weeds: Control of annual weeds is most effective when seeds are germinating and when plants are very young. Preemergence herbicides can be used to kill germinating seeds. In unplanted areas, the first crop of weeds may be allowed to germinate, and the young plants are killed with herbicides or tillage. Annual weeds are most resistant to control after flowering, and you risk allowing seed to be produced and distributed, further adding to the seedbank. The seeds of many weeds may remain viable for several years to decades.





Biennial weeds: In addition to preventing seed germination and controlling young plants, biennials are most susceptible to herbicides at the rosette stage of development, when the plant is sending carbohydrates to the roots for storage. After bolting (production of flowering stems), susceptibility to herbicides drops. Control efforts should focus on prevention of flowering.

Perennial weeds: Control of perennial weeds involves prevention of seed production, but also control of growth from vegetative reproductive structures (stolons and rhizomes). Stolons and rhizomes have buds that produce new plants. Control is most effective when these weeds are both actively growing and moving sugars to the roots for storage. An effective time to control perennial growth is just before the early flower bud stage, when root reserves have been depleted and sugars from the leaves are beginning to move downward to the roots. Applied herbicides will move with sugars to the roots until the flowers open. Another good time is during the fall, when plants are moving sugars to the roots for storage over winter. Perennial weeds are least susceptible to herbicides at emergence of new shoots or during seed development.

Integrated Weed Management works best when multiple control methods are combined to manage a weed infestation. Weed control plans must also include a revegetation plan. Establishing a healthy, competitive stand of desirable plants is critical to protecting a site from reinfestation.

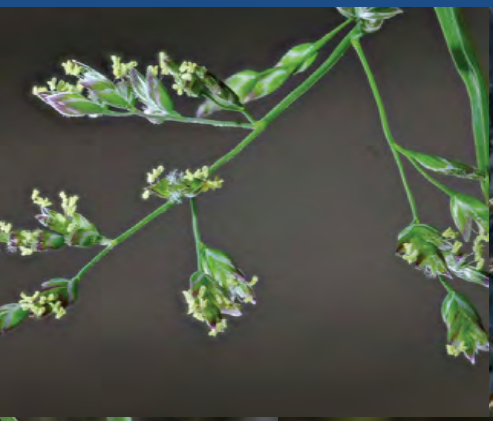
[An index of weeds by family is found on Page 150.]

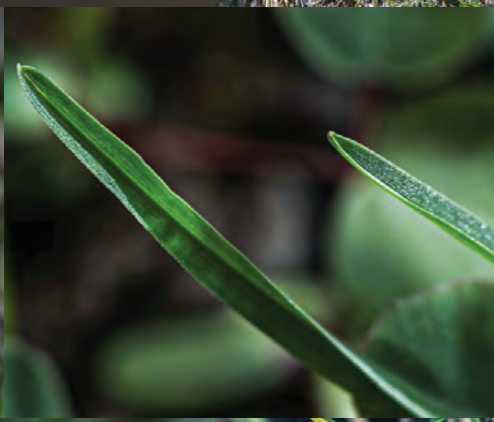
Poa annua

Annual bluegrass

Stem	▪ Flattened stems 2- to 12-in. long; spreading or erect; sometimes forming dense clumps
Leaves	▪ Bright green, soft and smooth, with a boat-shaped tip; leaves folded in the bud; horizontal wrinkles on mature leaves; no auricles; smooth, narrow collar
Flower	▪ Pyramid-shaped seedheads, with spreading branches; greenish-white in color; prolific seed production
Root	▪ Fibrous
Other	▪ Winter annual that reproduces by seed; prefers compacted, moist soil ▪ Seedlings develop rapidly, maturing and producing seed in as little as six weeks
Control	▪ Hand-pull small infestations. ▪ Maintain a healthy lawn by mowing high, and irrigating and fertilizing properly. ▪ Apply grass-selective herbicides to lawns and landscape beds; use nonselective herbicides cautiously to prevent damage to nontarget plants; preemergence herbicides may be used in late summer or early fall to minimize seed germination. ▪ Fill in bare spots in lawns with plugs or sprigs of the desired turfgrass species; mulch around landscape plants.

Annual bluegrass





Ambrosia acanthicarpa

Annual bursage

Stem	▪ 1- to 3-ft. tall, gray-green and bristly
Leaves	▪ Grayish-green and lobed; covered with short, bristly hairs; oppositely attached to the stem at the bottom of the plant, and alternately attached above
Flower	▪ Greenish male and female flowers during the summer; male flowers occur at the ends of branches; female flowers are spiny and found in the leaf axils
Root	▪ Slender taproot and many fibrous roots
Other	▪ Native to North America ▪ Reproduces by seed; burs stick to surfaces, which aids in seed dispersal
Control	▪ Preventing seed production is essential for control; manage before flowering occurs. ▪ Dig, hoe or pull young plants, removing as much of the plant as possible, including the root; plants may rebloom when mowed. ▪ Apply broadleaf-selective or nonselective herbicides on young plants; preemergence herbicides can be used to manage the existing seedbank.

Annual bursage






Echinochloa crus-galli

Barnyardgrass

Stem	▪ 1- to 5-ft. tall; smooth and stout, often flattened near the base of the plant; stems often grow decumbent; seedling stems and mature plant stems may have a reddish or maroon base
Leaves	▪ Leaf blades are flat, rolled in the bud, broad (3/8- to 5/8-in. wide), and smooth; leaf sheaths are open, with no ligule or auricle; this is the only common summer grass weed with no hairs or membranes at the collar
Flower	▪ Dense seedhead with distinctive herringbone design, nodding to erect, and often reddish to dark purple; branches or spikelet are crowded; as seeds mature, stiff, bristly hairs develop, giving the seedhead a spiny appearance
Root	▪ Fibrous
Other	▪ Summer annual; individual plant characteristics vary widely ▪ Plant grows quickly in the heat of summer, outcompeting many crop plants for space and nutrients
Control	▪ Preventing seed production is essential for control. ▪ Disk, hoe or other mechanical cultivation can be used to control an infestation before seed production; mowing is not effective, as plants will grow back. ▪ Grass-selective and nonselective herbicides are effective, but may cause nontarget plant damage in lawns and landscapes; preemergence herbicides can be used to manage the existing seedbank.

Barnyardgrass

Cynodon dactylon

Bermudagrass

Stem	▪ Low-growing, wiry grass with prostrate stems that have a papery leaf sheath at each node; stems will root in damp soil at the nodes
Leaves	▪ Smooth and pointed with a conspicuous ring of white hairs at the collar
Flower	▪ Flowering stems are upright and have three to seven spike-like branches, usually originating at a single whorl on the ends of the stems; individual spikes are 1- to 2-in. long and bear two rows of sessile spikelets along one side
Root	▪ Fibrous
Other	▪ Perennial grass; spreads by stolons, rhizomes and by seed ▪ Considered a lawn and pasture grass in many areas; invasive and will escape into surrounding areas
Control	▪ Preventing seed production will limit but not control an infestation. ▪ Does not tolerate prolonged dry periods; if an infestation can be dried out, it can aid in control. ▪ Mulching can be effective if landscape fabric is placed under the mulch. ▪ Grass-selective and nonselective herbicides are effective, but may injure nontarget plants; preemergence herbicides can aid in control of the existing seedbank.

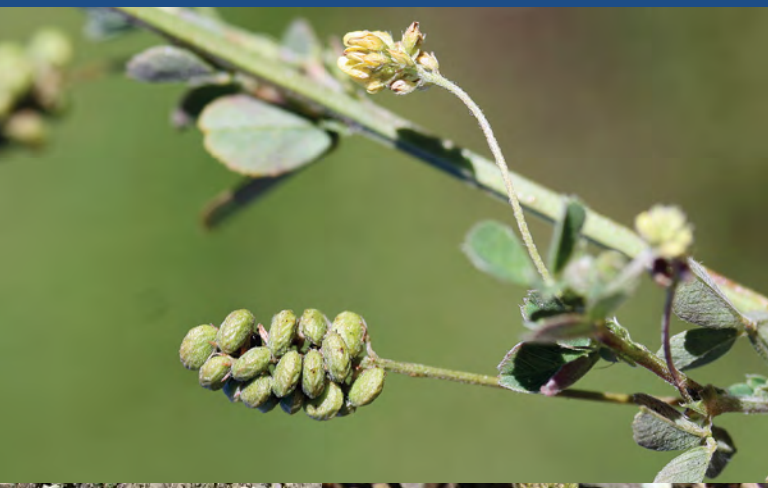
Bermudagrass

Medicago lupulina/Medicago polymorpha

Black medic/Calif. burclover

Stem	▪ Both: prostrate and radiating out from a taproot; stems branch and may be more than 1-ft. long; stems are softly hairy
Leaves	▪ Both: compound leaves with three oval-shaped leaflets; leaflets are finely toothed with prominent veins; the central tooth at the tip of each leaflet is a bit longer than the other teeth; leaves have soft hairs
Flower	▪ Both: tiny, yellow flowers grouped together in clusters of as many as 50 individual flowers; blooms from spring to midsummer; black medic seed pods turn black at maturity; California burclover has spiny, curved seed pods that attach to clothing and fur (photo far right)
Root	▪ Thin taproot with many fine, spreading roots
Other	▪ Annual or short-lived perennial; grows well in dry, compacted soils, and soils low in nitrogen ▪ Each plant produces thousands of seeds, which can remain viable in the soil for many years
Control	▪ Encourage thick, competitive lawns to prevent emergence; mow lawns high (3 in. or higher) to shade out weeds; use thick mulches in garden settings. ▪ Dig, hoe or pull; mowing alone does not provide control. ▪ Can be grazed when young, but contains substances toxic to livestock, so grazing must be carefully managed. ▪ Broadleaf-selective and nonselective herbicides may be used on young plants; preemergence herbicides can be used to manage the existing seedbank.

Black medic / Calif. burclover



Chorispora tenella

Blue mustard

Stem	▪ 1.5-ft. tall, stems branch mostly from the base; sticky to the touch
Leaves	▪ Alternately attached leaves are somewhat spear-shaped to oval, waxy, somewhat toothed, and are covered with tiny, sticky hairs
Flower	▪ Small, purplish flowers are about 1/2-in. across, with four petals in a cross shape; seeds are produced in long narrow pods
Root	▪ Shallow taproot
Other	▪ Winter annual; reproduces by seed ▪ Strong, unpleasant odor; grows in groups rather than as single plants
Control	▪ Preventing seed production is essential for control. ▪ Cultivation is very effective in controlling this plant; dig, hoe or pull young plants; mowing during early flowering reduces seed production. ▪ Apply broadleaf-selective or nonselective herbicides to young plants; add a surfactant per label instructions to enhance uptake by the waxy leaves; mustard family plants are resistant to many herbicides; consult your local pesticide dealer for the best herbicide to use; preemergence herbicides will help to manage the existing seedbank.

Blue mustard

Setaria verticillata

Bristly foxtail

Stem	▪ 1- to 3-ft. tall; stems prostrate near the plant base, bending upward; stems may root at the lower nodes; nodes are smooth and often dark-colored
Leaves	▪ Blades are flat, to 12-in. long, 3/16- to 1/2-in. wide and smooth; leaves have a few hairs near the base on the upper surface; sheaths are open and lack auricles, and the ligule is a hair-fringed membrane
Flower	▪ Seedhead is spike-like and cylindrical; spikelets are in clusters on short branchlets; individual spikelets have three downward-pointing barbs, helping them cling to fur and clothing
Root	▪ Fibrous
Other	▪ Summer annual ▪ Not palatable to livestock or wildlife once seedheads form; can reduce the value of wool
Control	▪ Preventing seed production is essential for control. ▪ Hoe, pull or mow before seedhead production; mowed plants can regrow; repeat mowing may be required. ▪ Nonselective and grass-selective herbicides are effective but may cause nontarget plant damage; preemergence herbicides can be used to manage the existing seedbank.

Bristly foxtail

Bromus rigidus (Bromus diandrus)/Bromus rubens

Bromes: Ripgut/Red

Stem	▪ Ripgut: 12- to 36-in. tall with slender stems; red brome: 8- to 20-in. tall, multiple erect stems
Leaves	▪ Ripgut: flat leaf blades 1/4-in. wide, covered in fine hairs; margins slightly jagged; red brome: narrow, short, flat, hairy, prominently veined leaf blades with a hairy sheath; seedlings bright green, hairy and slender
Flower	▪ Ripgut: branched and drooping seedhead, each spikelet with one to two seeds and stiff, reddish or purple-tipped awns up to 2-in. long (photos top left and center); red brome: dense, compact brush-like seedhead with seven to 10 upright florets and barbed awns (photos bottom left and far right)
Root	▪ Both have fibrous roots
Other	▪ Both are annual grasses; high seed production and seed longevity make control difficult ▪ Both plants produce seed with barbed awns that adhere to animal fur or fleece, human clothing and machinery; also spread by water and wind
Control	▪ Preventing seed production is essential for control. ▪ Pull individual plants; mow to 2 in. after flowers form but before seed matures; if mowed before this growth stage, repeated mowing may be required. ▪ Revegetation of infested areas is also essential in control. ▪ Apply grass-selective or nonselective herbicide before seedheads form; preemergence herbicides can be used to manage the existing seedbank.

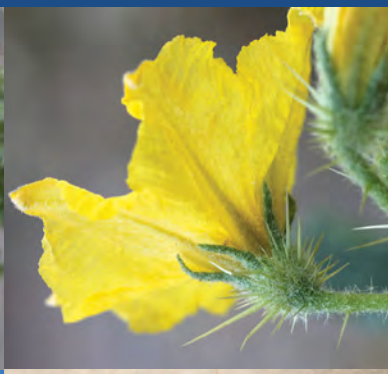
Bromes: Ripgut/Red

Solanum rostratum

Buffalobur

Stem	▪ Grows to 2-ft. high with long yellow spines
Leaves	▪ Deeply lobed, 2- to 5-in. long, covered in dense, stiff, sharp, yellow spines; prominent veins on the underside
Flower	▪ Yellow, five-lobed and wheel-shaped, 1-in. wide flowers with dense, stiff, sharp, yellow spines on their base; blooms throughout the summer
Root	▪ Taproot
Other	▪ Annual, reproduces by seed alone; very drought-resistant, found in dry, exposed soil ▪ Host for Colorado potato beetle; poisonous to livestock; spiny burs can be carried great distances on wildlife
Control	▪ Preventing seed production is essential for control. ▪ Not highly competitive; a competitive vegetative cover discourages infestations. ▪ Digging, tilling and mowing are effective; can be easily pulled when ground is moist; frequent mowing can be used to prevent flowering. ▪ Broadleaf-selective and nonselective herbicides are effective; preemergence herbicides can be used to manage the existing seedbank.

Buffalobur



Cenchrus ciliaris or Pennisetum ciliare

Buffelgrass

Stem	▪ Grows in bunches up to 18-in. tall and 36-in. wide; stems knotty and branching at the base
Leaves	▪ Flat leaf blades, 3- to 12-in. long and 0.1- to 0.3-in. wide with long soft hairs; sheaths open, keeled and may or may not have long, soft hairs; ligules hairy
Flower	▪ Purplish to reddish, bottlebrush-like seedhead up to 5-in. long; spikelets in clusters of two to four, each with two flowers; spikelets tan, beige or slightly orange at maturity; multiple awns arise from each seed
Root	▪ Tough root crown and mass of long, tough roots that can grow to 8-ft. deep
Other	▪ Perennial, very drought-tolerant but not cold-tolerant, large and ragged bunchgrass ▪ May be added to Nevada noxious weed list in the near future ▪ Prolific seed production allows it to form dense colonies that exclude other grass species; rapid growth from seed to flowering in six weeks
Control	▪ Preventing seed production can aid in control. ▪ Limit disturbance in and adjacent to infested areas. ▪ Manual pulling, grubbing and hoeing can be effective on young plants, but care must be used to remove the whole root; mowing or disking may increase the infestation. ▪ Originally introduced from Africa as cattle forage; grazing alone will not provide control. ▪ Nonselective herbicides have proven effective; preemergence herbicides can be used to manage the existing seedbank.

Buffelgrass

Cirsium vulgare

Bull thistle

Stem	▪ 2- to 5-ft. tall with many spreading branches; stems green or brownish, hairy and spiny-winged
Leaves	▪ First-year rosette leaves oval to oblong with a fringe of spines; second-year stem leaves lobed, hairy and rough on the upperside, soft on the underside with a raised center vein; leaves rough when rubbed towards the base; lobe tips with long, stiff spines; lobe at the end of the leaf is elongated
Flower	▪ Pink to purple, vase-shaped and in branched clusters at the end of stems; whorl of spine-tipped bracts below flower; blooms in summer
Root	▪ Short, fleshy, branched taproot
Other	▪ Biennial, reproduces by seed; can produce up to 100 windborne seeds per flower
Control	▪ Preventing seed production is essential for control. ▪ Dig or pull the plants, removing at least 2 in. of the top of the root; mowing is not effective, as plant will regrow and bloom close to the ground (photo bottom left); cutting off the flowerheads is not effective, as the plant will produce more flowers; remove cut plant debris from the site. ▪ A seedhead-feeding fly, *Urophora stylata*, can help in control of large infestations. ▪ Spot treat young plants with broadleaf-selective or nonselective herbicides; use a surfactant to increase absorption of the herbicide by the hairy leaves; preemergence herbicides can be used to manage the existing seedbank.

Bull thistle

Ceratocephala testiculata or *Ranunculus testiculatus*

Bur buttercup

Stem	▪ 2- to 5-in. tall, stems extend outward from the base of the plant; flowering stems are short and leafless
Leaves	▪ Grayish-green, hairy and attached at the base of the plant; leaf blades look like fingers
Flower	▪ Small, yellow, with five petals; at maturity, each blossom develops into a 1/2- to 3/4-inch long bur, which dries and turns brown; blooms from late winter to early spring
Root	▪ Short taproot
Other	▪ Winter annual, reproduces by seed ▪ Toxic to livestock
Control	▪ Preventing seed production is essential for control; control must occur prior to seed formation, which occurs in early spring; careful monitoring is required. ▪ Plant desirable vegatation to provide competition. ▪ Thick mulches can help prevent seed germination; plant desirable vegetation that will shade the area and reduce germination and growth of young plants. ▪ Dig, hoe or pull young seedlings; use mechanical control methods prior to formation of flowers and burs. ▪ Apply broadleaf-selective or nonselective herbicides on young plants; preemergence herbicides can be used to manage the existing seedbank.

Bur buttercup

Cichorium intybus

Chicory

Stem	▪ 1- to 6-ft. tall with spreading branches; stems produce a milky juice when cut
Leaves	▪ Rosette leaves resemble dandelion and are inversely lance-shaped, wider at leaf tip rather than base; rosette leaves are toothed or pinnately parted; as the plant grows, the upper leaves are reduced in size, lack petioles and may lose toothed or pinnate appearance
Flower	▪ Flowers occur in the axils of upper leaves; flowers are 1.5-in. across, usually blue, but sometimes purple or white; flower petals are square on the tip and toothed; blooms July to September
Root	▪ Deep taproot
Other	▪ Perennial plant that spreads by seed ▪ Originally planted as a salad green; roots used as a substitute for coffee
Control	▪ Preventing seed production is essential for control. ▪ Hand-pull or dig, removing as much of the root as possible; deep tillage can provide control; plant will grow back if mowed. ▪ Apply broadleaf-selective or nonselective herbicide on young plants; preemergence herbicides can be used to manage the existing seedbank.

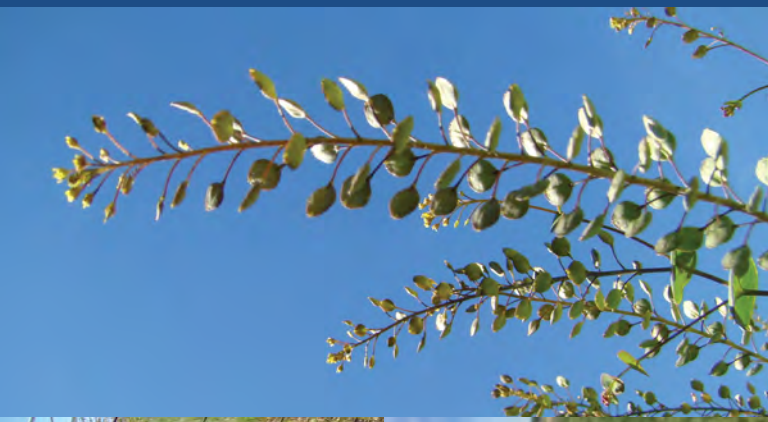
Chicory

Lepidium perfoliatum

Clasping pepperweed

Stem	▪ 6- to 18-in. tall erect, purplish stems that branch at the top of the plant
Leaves	▪ Leaves alternately attached to the stem; lower leaves are finely divided and appear lacey, while the upper leaves are heart-shaped and clasp the stem
Flower	▪ White to yellow tiny flowers borne on a slender pedicel in a raceme
Root	▪ Shallow taproot
Other	▪ Winter annual, reproduces by seed
Control	▪ Preventing seed production is essential for control. ▪ Dig, hoe or hand-pull young plants; mow before seed production; tilling young plants can be an effective mechanical control method. ▪ Apply broadleaf-selective or nonselective herbicides on young plants; mustard family plants are resistant to many herbicides; consult your local pesticide dealer for the best herbicide to use; preemergence herbicides can be used to manage the existing seedbank.

Clasping pepperweed



Arctium minus

Common burdock

Stem	▪ First year, a rosette of large, heart-shaped, thickly hairy leaves, similar in size and shape to rhubarb; second year, an erect, much branched, coarse stem 3- to 10-ft. tall
Leaves	▪ Large, heart-shaped and broadest at leaf base; leaves diminish in size upwards on plant; leaf margins are toothed or wavy; leaves are coarsely veined, with a dark green surface and wooly undersides
Flower	▪ Numerous clustered, purple flowerheads borne in leaf axils or at the end of branches; flowerheads are covered with many slender, hooked spines; flowering and seed production occurs July to September
Root	▪ Large, fleshy, brownish taproot
Other	▪ Biennial; reproduces by seed ▪ Burs become entangled in animal hair and human clothing, allowing it to spread to different and often distant areas
Control	▪ Preventing seed production in the second year is essential for control. ▪ Tilling or disking seedlings as soon as they appear will destroy them; second-year rosettes are tougher, but hoeing or pulling can prevent seed production; mowing is not effective. ▪ Apply broadleaf-selective or nonselective herbicides on young plants; late-summer treatment will ensure that late-emerging seedlings will not grow large enough to have root reserves for the second year; preemergence herbicides can be used to manage the existing seedbank.

Common burdock

Xanthium strumarium

Common cocklebur

Stem	▪ 2- to 4-ft. tall, purplish-green, upright, thick, branched and rough, with hairs and bumps; look for purple or black spots on the stems
Leaves	▪ Large, triangular or heart-shaped with stiff hair, three to five irregular lobes and coarse teeth; leaves are sandpapery on both sides and have long stalks
Flower	▪ Greenish- or rusty-colored flowers form at the ends of branches and in leaf axils; produces oval, brownish, woody burs covered with prickles and hooks; burs have two longer spines at the tips
Root	▪ Stout taproot
Other	▪ Summer annual; reproduces by seed; seed can remain dormant in the soil for years ▪ Burs catch in fur and clothing, often spreading over great distances ▪ Toxic to livestock; burs can depreciate the value of wool
Control	▪ Preventing seed production is essential for control. ▪ Dig, hoe or pull small patches before they set seed; mowing is not an effective control measure, as plants will regrow. ▪ Apply broadleaf-selective or nonselective herbicides on young plants; add a surfactant to improve uptake; preemergence herbicides can be used to manage the existing seedbank.

common cocklebur

Chenopodium album

Common lambsquarters

Stem	▪ Branched; sometimes have purplish-red stripes and grooves; starts out as a ground-hugging rosette, grows to 5-ft. tall
Leaves	▪ Light greenish-gray, alternately attached, and triangular or goosefoot-shaped; leaf top is usually covered in a whitish powdery substance and the underside is whitish; lower leaves are larger than upper leaves
Flower	▪ Small and greenish-gray with no petals; found at the tips of the main stem and branches and in leaf axils; blooms in summer
Root	▪ Taproot with fibrous lateral roots
Other	▪ Summer annual; reproduces by seed; prolific seed producer
Control	▪ Preventing seed production is essential for control; young plants are easiest to control, but control of the population can be difficult, as seeds may continue to sprout throughout the summer. ▪ Plant desirable vegetation to provide competition. ▪ Dig, hoe or pull young plants; plants usually don't survive mowing or clipping. ▪ Use broadleaf-selective or nonselective herbicides on young plants; preemergence herbicides can be used to manage the existing seedbank.

Common lambsquarters






Malva neglecta

Common mallow

Stem	▪ Generally low and spreading with branches from 2- to 20-in. long
Leaves	▪ Hairy, geranium-shaped leaves attach to stem by a petiole or stalk; leaves have five to seven shallow lobes with rounded teeth and veins that radiate out from the base
Flower	▪ White to pale pink to pale lavender-striped, small (2/5-in. diameter), inconspicuous; flowers have five petals with crinkly edges; blooms summer to fall; seed pod looks like a miniature cheese wheel with wedge-shaped sections
Root	▪ Large, tough taproot
Other	▪ Annual, winter annual or biennial; reproduces by seed
Control	▪ Preventing seed production is essential for control. ▪ Thick mulches can prevent seed germination; keep turf vigorous and mow high (3 in. or higher) to reduce germination in lawns. ▪ Best controlled when young; large taproot makes mechanical removal difficult in mature plants; plants that break off at the crown or are mowed will grow back. ▪ Broadleaf-selective or nonselective herbicides can be used on young plants; as plants mature, leaf hairs can interfere with herbicide uptake; a surfactant may aid in herbicide effectiveness; preemergence herbicides can be used to manage the existing seedbank.

Common mallow






Verbascum thapsus

Common mullein

Stem	Produces a rosette the first year and a single, stout stem, up to 6 or more ft. tall, with flowers during the second year
Leaves	Hairy, feltlike and pale green to silvery in color; range from 4- to 12-in. or more in length; leaves are larger lower down and smaller higher up on the stem
Flower	Yellow with five petals, up to 1-in. diameter; flowers open randomly along the branched flower spikes; blooms from summer to fall
Root	Bulky, shallow taproot
Other	Biennial; reproduces by seed; prolific seed producer; seeds remain viable for 10 years or more Livestock will not eat it because of the fuzzy leaves
Control	Preventing seed production is essential for control. Plant desirable vegetation that will shade the area and reduce germination and growth of young plants. Most easily controlled in first-year rosette stage; dig, hoe or pull young seedlings; mowing once a flowering stalk has formed is not effective, as the plant will produce another flowering stalk. Apply broadleaf-selective or nonselective herbicides on young plants; add a surfactant according to label directions to aid uptake by the fuzzy leaves; preemergence herbicides can be used to manage the existing seedbank.

Common mullein






Portulaca oleracea

Common purslane

Stem	▪ Prostrate, succulent, up to 12-in. long, pinkish red and smooth; stems radiate from the center of the plant, forming a dense, thick mat
Leaves	▪ Teardrop-shaped leaves are smooth, fleshy, wider at tip than base, shiny, and may have red margins
Flower	▪ Tiny, yellow, with five petals, located in the leaf axil; flowers open only in the sun; blooms from summer to fall
Root	▪ Short taproot
Other	▪ Annual; reproduces from seed; prolific seed producer; seeds long-lived in soil ▪ Large amounts can be toxic to people and livestock
Control	▪ Preventing seed production is essential for control. ▪ Mulching to exclude light can aid in control. ▪ Dig, hoe or pull plants; stem fragments can re-root after cultivation, so it is essential to remove all pulled plant material. ▪ Broadleaf-selective or nonselective herbicides are effective on young plants; use a surfactant to aid herbicide uptake; preemergence herbicides can be used to manage the existing seedbank.

Common purslane

Dipsacus fullonum

Common teasel

Stem	▪ Coarse, prickly stem; small spines on stems pointed downwards; up to 7-ft. tall
Leaves	▪ Conspicuous veins and downward-pointing spines on the underside of the midrib; first-year basal rosette with oval, wrinkled leaves and rounded or scalloped teeth on the leaf margins; second-year stem leaves lance-shaped, up to 10-in. long, opposite and clasping the stem
Flower	▪ Purple to white flowers, small and packed in dense, egg-shaped flowerheads that range from 1.25- to 4-in. long; spiny bracts surrounding the flowerhead; whorl of bracts at the base of the flowerhead longer than the head; flowers bloom in two directions, starting from the middle of the flowerhead
Root	▪ Strong taproot to 2-ft. deep and 1-in. diameter at the base
Other	▪ Biennial; spreads by seed; prolific seed producer, up to 2,000 seeds per plant
Control	▪ Preventing seed production is essential for control. ▪ Can be dug, but remove as much of the root as possible to prevent a second stalk from forming; cutting stem before bloom is ineffective, as a new flowering stalk will form; removing the flowerhead before seeds have matured will prevent seed spread; bag up seedheads and dispose of them properly. ▪ Broadleaf-selective or nonselective herbicides can be effective, especially in the rosette stage; preemergence herbicides can be used to manage the existing seedbank.

Common teasel

Nicotiana attenuata

Coyote tobacco

Stem	Erect, bright green, glossy, hairy and sticky; grows tall and upright, or in a branched, shrubby form
Leaves	Grows from a rosette of spear-shaped leaves with smooth edges and pale midribs; leaf stem and midrib on the underside have short, bristly hairs; upper leaves are narrow and smaller, with similar bristles; all leaves are hairy and have glands that look like tiny white dots
Flower	White to slightly pinkish, trumpet-shaped or tubular flowers occur in clusters at the ends of the stems and along the stem in the leaf axils
Root	Taproot
Other	Annual, reproduces by seed, which remains viable for decades; plants continue to sprout during the summer The entire plant is sticky, often looks dirty and gives off an unpleasant tobacco scent when touched
Control	Preventing seed production is essential for control. Encourage thick, competitive vegetation; avoid disturbing the soil. Dig, hoe or pull small patches; mowing alone does not provide control. Apply broadleaf-selective or nonselective herbicides to young plants; as plants mature, a surfactant may aid in herbicide effectiveness; preemergence herbicides can be used to manage the existing seedbank.

Coyote tobacco

Digitaria sanguinalis/*Digitaria ischaemum*

Crabgrasses: Large/Smooth

Stem	▪ Both: form low-growing rosettes as seedlings; stems are flattened in cross section; at maturity, form mounds; large crabgrass stems often purplish (photo top left)
Leaves	▪ Both: leaves flat, rolled in the bud and have a prominent midvein; large crabgrass with longer, narrower leaves than smooth crabgrass, and stiff hairs on the sheath and on upper and lower leaf surfaces (photo center); smooth crabgrass with hairs at the leaf base and sometimes on the lower surface of the leaves; no auricles on either grass
Flower	▪ Large crabgrass: three to seven fingerlike branches near the end of the flowering stem (photo bottom right), spikelets attached by a short stalk; smooth crabgrass: spikelike branches in a whorl from one or two sites along the flowering stem
Root	▪ Extensive but shallow fibrous roots; large crabgrass stem nodes may root where they touch soil
Other	▪ Summer annuals ▪ Large crabgrass most often found in gardens and landscaped areas; smooth crabgrass most often found in lawns
Control	▪ Preventing seed production is essential for control. ▪ Maintain a vigorous lawn to outcompete; mowing high (3 in. or higher) can shade them; mulch helps control them in planting beds. ▪ Grass-selective or nonselective herbicides can be used to control an infestation; preemergence herbicides can be used to manage the existing seedbank.

Crabgrasses: Large/Smooth

Rumex crispus

Curly dock

Stem	▪ Robust plant that grows 2- to 5-ft. tall; erect stems are unbranched on the lower half of the plant, often red and slightly ridged; stem joints are swollen
Leaves	▪ Leaves are mostly basal, alternately arranged along the lower stem, forming a rosette; blades are 4- to 12-in. long, with curly or wavy margins and lack hairs; membranous sheath at the leaf base
Flower	▪ Small in dense, green, spike-like terminal and axillary clusters; inflorescence turns reddish brown at maturity
Root	▪ Taproot
Other	▪ Perennial, reproduces by seed and root fragments; seeds relatively long-lived in soil ▪ Usually grows in wet areas and is associated with overwatering or standing water on low areas ▪ Plants can be poisonous to livestock and poultry
Control	▪ Preventing seed production is essential for control. ▪ Curly dock does not like competition; plant desirable vegetation to suppress. ▪ Repeated mowing can remove seedheads, but must be used with another control method; digging or pulling, removing as much of the root system as possible, can be effective. ▪ Apply nonselective or broadleaf-selective herbicides to actively growing plants; preemergence herbicides can be used to manage the existing seedbank.

Curly dock

Grindelia squarrosa

Curlycup gumweed

Stem	▪ Single or multiple stems, 1- to 3-ft. tall; can be reddish in color
Leaves	▪ Ground-hugging rosette first year; leaves are alternate and have sawtoothed margins; leaves are dotted with glands and exude a sticky material
Flower	▪ Up to 1-in. diameter and bright yellow, borne on ends of branches; recurved whorl of bracts surround the base of the flowers; flowers exude a sticky substance, giving the plant its name; blooms July to August
Root	▪ Taproot
Other	▪ Biennial; first year, rosette; second year, growth starts in early spring ▪ Unpalatable to livestock; can absorb selenium from the soil ▪ Drought-resistant; populations increase under drought conditions
Control	▪ Preventing seed production is essential for control. ▪ Does not tolerate competition; plant desirable vegetation to suppress. ▪ Dig, hoe or pull plants; remove when young; deep taproot can make pulling mature plants difficult; mowing is ineffective, as plants will grow back. ▪ Broadleaf-selective herbicides are effective on young plants; as plants mature, a surfactant may aid in herbicide uptake; glyphosate is generally not effective on this plant; preemergence herbicides can be used to manage the existing seedbank.

Curlycup gumweed

Taraxacum officinale

Dandelion

Stem	▪ Lacks true stems; what appear to be stems are flower stalks
Leaves	▪ Leaves are 2- to 12-in. long, deeply lobed and radiate from the center of the plant; lobe tips point back towards the center of the plant; lobe at the end of the leaf is largest, and leaf edges have teeth
Flower	▪ Yellow, 1- to 2-in. wide flowerhead is produced at the end of a hollow stalk; blooms from spring to fall; forms puffball seedhead
Root	▪ Deep, branching taproot
Other	▪ Perennial, reproduces by seed and root fragments ▪ Can grow back from a piece of root as small as 1 in. in length
Control	▪ Controlling seed production and dispersal is essential for control. ▪ Plant desirable, thick stands of vegetation to compete with dandelions; mulching with landscape fabric or 3 in. or more of organic mulch that excludes light can control seedlings. ▪ Dig plants, removing as much of the root as possible; mowing and tilling are not effective, as the weed can regrow from the roots. ▪ Spot-treat young plants with broadleaf-selective or nonselective herbicides; use caution with nonselective herbicides, as they will kill lawn grasses and other desirable plants; preemergence herbicides can be used to manage the existing seedbank.

Dandelion

Cuscuta spp.

Dodder

Stem	▪ Slender, twining or threadlike stem, varies from pale green to yellow to bright orange; very visible against host plant foliage
Leaves	▪ Leafless or small, scale-like, triangular leaves 1/16-in. long
Flower	▪ Bell-shaped, cream-colored to pink, 1/8-in. long, usually occurring in clusters; flowers July to October
Root	▪ Very small root system forms initially; once dodder plant attaches to host plant, the root system disappears
Other	▪ Parasitic annual plant; can germinate without a host plant, but will not survive long without a host
Control	▪ Preventing seed production is essential for control. ▪ Seeds are long-lived (20 years or more) in the soil, so crop rotation is not always effective as a control. ▪ Isolate small infestations and prevent the spread of the infestation to other areas; use certified weed-free seed; seeds are similar in size and shape to alfalfa seed, so it can be difficult to find truly dodder weed-free alfalfa seed. ▪ Pulling and destroying dodder-infested plants is recommended. ▪ Broadleaf-selective or nonselective herbicides are efffective, but will also kill the host plant; preemergence herbicides can be used to manage the existing seedbank.

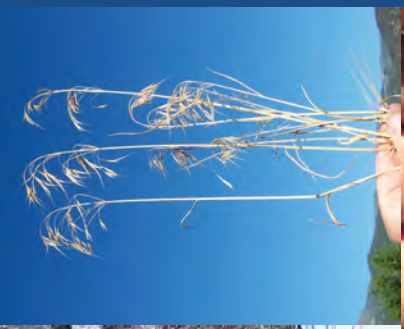
Dodder

Bromus tectorum

Downy brome

Stem	▪ 4- to 30-in. tall with erect, slender stems
Leaves	▪ Bright green and hairy in early spring; leaves turn reddish at maturity and brown after seed set; short ligules
Flower	▪ Nodding seedhead; numerous five- to eight-flowered spikelets with 3/8- to 5/8-in. long awns that are slender, straight and purple at maturity
Root	▪ Fibrous roots
Other	▪ Winter annual grass; high seed production and seed longevity in soil (one to five years) make this weed difficult to control; also commonly known as cheatgrass ▪ Produces seed with barbed awns that adhere to animal fur, fleece, human clothing and machinery; also spread by water and wind
Control	▪ Preventing seed production is essential for control. ▪ Remove plant debris to reduce seed germination and seedling survival. ▪ Pull individual plants before seed matures; mow plants before seed matures; if mowed when young, repeat mowing may be required to prevent seed production. ▪ Revegetation of infested areas is essential in control. ▪ Apply grass-selective or nonselective herbicide before seedheads form; preemergence herbicides can be used to manage the existing seedbank.

Downy brome



Convolvulus arvensis

Field bindweed

Stem	▪ 1- to 4-ft. long prostrate stems form a dense, tangled mat; plant may also climb
Leaves	▪ Alternate, arrowhead-shaped, 1/2- to 2-in. long
Flower	▪ Bell- or trumpet-shaped, white to pinkish, 1-in. diameter with two small bracts on the flower stalk 1 in. below the base of the flower
Root	▪ Whitish fleshy taproot with numerous, long, lateral roots; root system can reach 20 to 30 ft. laterally; depth of the root system depends on soil type and soil moisture, but it can reach 10 to 30 ft. on deep soils; roots store food reserves, allowing the plant to survive underground for more than three years
Other	▪ Perennial; reproduces from seed and root fragments; seeds remain viable for 50 years ▪ Remarkably adaptable; can be found at altitudes of up to 10,000 feet
Control	▪ Control requires preventing seed production, reducing root energy stores, providing desirable plant competition and removal of top growth to prevent carbohydrate storage to the roots. ▪ Dig, hoe or pull young plants; pulling mature plants is difficult due to the extensive root system; tilling, disking or mowing are NOT recommended, as plant will regrow from small root pieces, and mowed plants will regrow. ▪ Apply broadleaf-selective or nonselective herbicides on very young plants; herbicides are not effective on mature plants; preemergence herbicides can be used to manage the existing seedbank.

Field bindweed

Thlaspi arvense

Field pennycress

Stem	▪ Hairless stems grow from basal rosettes 6- to 18-in. tall; stems can be simple or may branch at the top of the plant
Leaves	▪ Basal leaves are simple, entire to lobed, and wilt early; leaf size decreases upwards; stem leaves lack stalks
Flower	▪ Small white flowers in clusters on the ends of branches; seeds form a circular, winged, flattened pod, similar in shape to a fan (photo far left); blooms late spring to summer
Root	▪ Slender taproot and fibrous lateral roots
Other	▪ Annual ▪ Plant has a strong odor and will cause dairy animals to produce bitter-flavored milk
Control	▪ Preventing seed production is essential for control. ▪ Dig, hoe or pull young plants; mowing or tilling before plants flower can be effective. ▪ Apply broadleaf-selective herbicides on young plants; mustard family plants are resistant to many herbicides; consult your local pesticide dealer for the best herbicide to use; preemergence herbicides can be used to manage the existing seedbank.

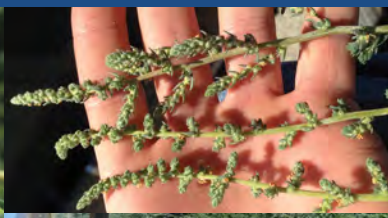
Field pennycress

Bassia hyssopifolia

Fivehook bassia

Stem	▪ 1- to 6-ft. tall, stems highly branched
Leaves	▪ Gray-green, alternate, flat, lance-shaped, smooth on top and covered with soft hairs on underside
Flower	▪ Inconspicuous, forming dense spikes in axils of upper leaves; flowering and seed production July to October
Root	▪ Taproot, usually with few to several branched, fibrous lateral roots
Other	▪ Summer annual ▪ Similar to kochia; distinguished by five hooked structures on each seed; vegetatively, the two appear very similar, but kochia often appears leafier, and kochia stems sometimes appear reddish late in the growing season ▪ Readily grazed by livestock but can be toxic due to high nitrate content, especially near maturity
Control	▪ Preventing seed production is essential in control. ▪ Minimize soil disturbance and plant desirable vegetation to compete; thick mulches can prevent germination and growth of young plants. ▪ Dig, hoe or pull young plants; mowed plants will regrow; mature plants are difficult to pull. ▪ Apply broadleaf-selective or nonselective herbicides on young plants; mature plants are difficult to kill with herbicides; preemergence herbicides can be used to manage the existing seedbank.

Fivehook bassia



Descurainia sophia

Flixweed

Stem	▪ Bushy, over 2-ft. tall, upright and branched; plants grow in a rosette until flowering stems form
Leaves	▪ Finely divided and pubescent with branched hairs
Flower	▪ Tiny and yellow with four petals; arranged on branched structures in a raceme; blooms early spring to summer
Root	▪ Short taproot
Other	▪ Winter annual or biennial; reproduces by seed; sprouts in fall or early spring; prolific seed-producer, and the seeds survive for years in the soil; also known as tansy mustard ▪ Distinguished from other mustards by finely dissected leaves, even in the rosette form ▪ Toxic to livestock but requires ingestion of large quantity or prolonged consumption
Control	▪ Preventing seed production is essential for control. ▪ Plant desirable vegetation to compete; minimize soil disturbance. ▪ Dig, hoe or pull young plants; plants are most easily removed when they are small rosettes; use mechanical control methods prior to formation of flowers and seeds; mow to prevent flowering and production of seed. ▪ Apply broadleaf-selective or nonselective herbicides on young plants; mustard family plants are resistant to many herbicides; consult your local pesticide dealer for the best herbicide to use; preemergence herbicides can be used to manage the existing seedbank.

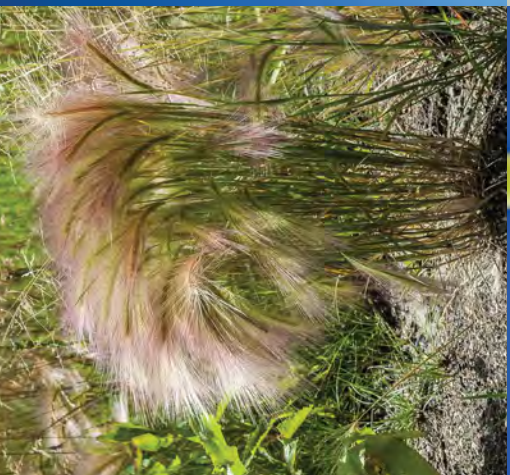
Flixweed

Hordeum jubatum

Foxtail barley

Stem	▪ 1- to 2-ft. tall, blue-green bunchgrass
Leaves	▪ Flat, 1- to 6-in. long and 1/8- to 1/4-in. wide; sheath may be smooth to densely hairy; leaves rolled in the bud; ligules are membranous, and auricles are absent or poorly developed; this differentiates it from hare barley, which has well-developed, papery auricles
Flower	▪ Pale green, nodding, bushy spike, 1- to 4-in. long; 1- to 2.5-in. long needle-like awns extend from the spike
Root	▪ Fibrous, no rhizomes
Other	▪ Annual or short-lived perennial; reproduces by seed or shoots; produces seedheads later than hare barley; awns are greater than 1 in.; hare barley awns are less than 1 in. ▪ Palatable to livestock and wildlife until the seedheads form; once the seedheads form, the sharp awns can injure animals; becomes palatable again after seedheads drop off
Control	▪ Preventing seed production can aid in minimizing the spread of an infestation. ▪ Mowing is not an effective means of control as mowed plants will regrow readily and regrown plants are often prostrate; pulling and hoeing are effective for small infestations. ▪ Grass-selective and nonselective herbicides are effective control methods, but may cause nontarget plant damage in lawns and landscapes: preemergence herbicides can be used to manage the existing seedbank.

Foxtail barley



Eleusine indica

Goosegrass

Stem	▪ Form low-growing rosettes as seedlings; stems flattened in cross section and whitish at the base; mature form remains prostrate and radiates out from the center, similar to a wagon wheel in appearance
Leaves	▪ Flat or folded; hairless except at the whitish collar; short papery ligule with a jagged edge; no auricles
Flower	▪ Flowers cluster along two to six stout, stiff spikes that radiate out from end of the flowering stem; seeds form alternately on both sides of the flower stem
Root	▪ Extensive but shallow fibrous roots
Other	▪ Summer annual, also known as silver crabgrass ▪ Commonly found in compacted areas or areas of heavy wear
Control	▪ Preventing seed production is essential for control. ▪ Mowing is not effective, as seeds are produced even when the plants are closely mowed. ▪ Maintain a vigorous lawn to outcompete; mowing the lawn high can shade out the weed; mulch helps control it in planting beds. ▪ Grass-selective or nonselective herbicides can be used to control an infestation; preemergence herbicides can be used to manage the existing seedbank.

Goosegrass

Halogeton glomeratus

Halogeton

Stem	▪ 4- to 18-in. tall with reddish to purple stems; multistemmed, with main stems branching from the base, spreading at first, then becoming erect
Leaves	▪ Small, fleshy and nearly tubular; leaf tips are blunt with a delicate, needlelike spine
Flower	▪ Green to cream-colored, inconspicuous, form in the leaf axils
Root	▪ Deep taproot
Other	▪ Annual, reproducing by seed; invades disturbed sites, but is not very competitive ▪ Produces toxic oxalates that can affect grazing sheep and cattle ▪ Plants are blue-green in spring and early summer, becoming red to yellow in summer and fall ▪ Resembles Russian thistle as a seedling, but halogeton can be distinguished by leaf shape and minute, cottony hairs in the leaf axil
Control	▪ Preventing seed production is essential for control. ▪ Plant desirable vegetation to help compete and suppress. ▪ Dig, hoe or pull young plants; can be controlled using mechanical tillage, but for sustained control, you must reseed with desirable vegetation. ▪ Use broadleaf-selective or nonselective herbicides with a surfactant on young plants; preemergence herbicides can help control the existing seedbank.

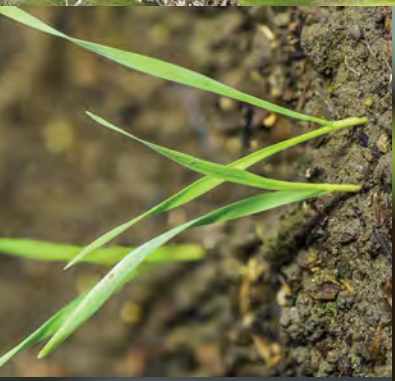
Halogeton

Hordeum murinum

Hare barley

Stem	▪ Round stems that grow in an upright or broad form, spreading from the base of the plant
Leaves	▪ Flat and narrow, up to 8-in. long and 0.1- to 0.3-in. wide, smooth or hairy with well-developed auricles that clasp the stem
Flower	▪ Spike 1/2- to 4-in. long with awns 1/4- to 1-in. long
Root	▪ Fibrous
Other	▪ Annual grass; grows in cooler spring weather ▪ Once spikes have dried out, forms barbed seeds often referred to as "foxtails;" seeds stick to the fur of animals and human clothing ▪ Forms seedhead earlier than foxtail barley; awns are less than 1 in.; foxtail barley awns are greater than 1 in.
Control	▪ Preventing seed production is essential for control; plants start forming seed in early spring; early spring monitoring is required. ▪ Thick mulches can help prevent seed germination; plant desirable vegetation that will shade the area and reduce germination and growth of young plants. ▪ Dig, hoe or pull young seedlings; use mechanical control methods prior to formation of spikes; mowing encourages plants to grow close to the ground and does not control them. ▪ Apply grass-selective or nonselective herbicides on young plants; apply carefully to avoid non-target plant damage; preemergence herbicides can be used to manage the existing seedbank.

Hare barley



Machaeranthera canescens

Hoary tansyaster

Stem	▪ 1/2- to 2-ft. tall, with diffuse branching
Leaves	▪ 2-in. long, 1/4-in. wide and oblong or lance-shaped; leaf margins may be entire or sharply toothed; leaves are covered by white to grayish, short, fine hairs
Flower	▪ Daisylike flowers have light to dark purple petals with a yellow center; flowers form clusters at the ends of branches; blooms late summer to fall; bracts are similar to knapweed, but can be distinguished by wider flower petals
Root	▪ Taproot
Other	▪ Short-lived perennial; reproduces by seed; also known as purple aster ▪ Flowerheads and vegetation very sticky and heavily scented ▪ Early colonizer of disturbed sites; can be weedy in meadows and rangelands; generally prefers damp conditions; can compete with cheatgrass and some knapweed species ▪ Utilized by pollinators and considered important for sage grouse habitat
Control	▪ Preventing seed production is essential for control. ▪ Dig plants, removing as much of the taproot as possible. ▪ Apply broadleaf-selective or nonselective herbicides to young plants; preemergence herbicides can be used to manage the existing seedbank.

Hoary tansyaster






Conyza canadensis

Horseweed

Stem	▪ Erect stems, unbranched at bottom, often branched at top; grows 1- to 5-ft. tall
Leaves	▪ Seedlings and rosettes start growing in winter or early summer; leaves are bristly or hairy, spatula-shaped, coarsely toothed, and grow in an alternate arrangement around a central stem; upper leaves become more lance-shaped or linear
Flower	▪ Inflorescence is branched with slender flower stalks; flowers are inconspicuous, daisylike, with white petals and yellow centers; forms seedhead similar to dandelion, but significantly smaller; flowering and seed production from late June to September
Root	▪ Shallow taproot
Other	▪ Winter or summer annual; reproduces from seed ▪ Seeds are windborne and can spread to distances of 1,500 ft. or more from the plant source ▪ Leaves and flowers contain terpene, which is irritating to the nostrils of horses
Control	▪ Preventing seed production is essential for control. ▪ Dig, hoe or pull young plants; mowing when in bud stage will prevent seed production, but the plant will produce secondary stems that will also flower and produce seed. ▪ Apply broadleaf-selective or nonselective herbicides on young plants; preemergence herbicides can be used to manage the existing seedbank.

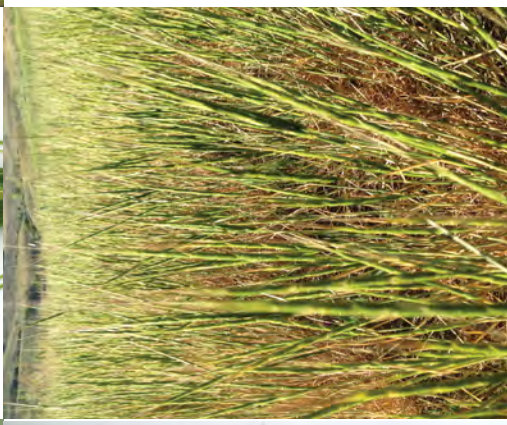
Horseweed

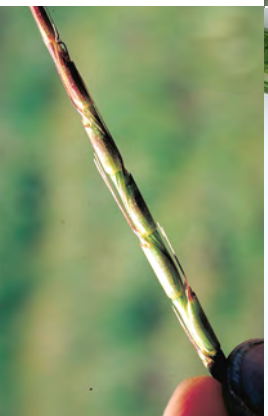
Aegilops cylindrica

Jointed goatgrass

Stem	▪ 15- to 30-in. tall with one to many stems or tillers
Leaves	▪ Simple; alternately arranged, with auricles at the base and a leaf blade 1/8- to 1/4-in. wide; auricles, ligules and leaf sheaths with evenly spaced fine hairs; can be distinguished from other grass weeds by the presence of short, stiff hairs on its leaf margins near the base of the leaf; resembles winter wheat
Flower	▪ Seedhead cylindrical and 10 times as long as wide; spikelets held close to the spike, giving the seedhead a jointed look; spikes break apart into hardened sections called joints
Root	▪ Fibrous
Other	▪ Winter annual; seeds viable in soil up to five years ▪ May be added to Nevada noxious weed list in the near future. ▪ Invades wheat, alfalfa and pastures; seed cannot be mechanically separated from wheat, reducing crop value; may cross-breed with winter wheat to form a hybrid; grows well in compacted soils
Control	▪ Preventing seed production is essential for control. ▪ Hand-pull or hoe small infestations; mow just before seedhead production; early mowing will result in new tiller growth; late mowing will spread seed; multiple mowings may be required. ▪ Apply grass-selective or nonselective herbicides for control; apply carefully to avoid unintended damage; preemergence herbicides can be used to manage the existing seedbank.

Jointed goatgrass





Bassia scoparia

Kochia

Stem	▪ 1- to 6-ft. tall, stems highly branched, Christmas tree-shaped when mature; stems often striped with red and may be smooth or softly hairy
Leaves	▪ Gray-green and covered with fine hairs; leaves are mostly alternate, flat, lance-shaped with three or five prominent veins, smooth on top and covered with soft hairs on underside
Flower	▪ Inconspicuous, forming dense spikes in axils of upper leaves; flowers do not have petals or stalks; flowering and seed production July to October
Root	▪ Taproot, usually with few to several branched, fibrous, lateral roots
Other	▪ Summer annual; reproduces by seed; dead plants break off and tumble, spreading seed ▪ Similar to fivehook bassia, which is distinguished by five hooked structures on each seed; kochia appears leafier than fivehook bassia, with reddish stems late in the season
Control	▪ Preventing seed production is essential for control. ▪ Thick mulches can prevent germination and growth of young plants; minimize soil disturbance and plant desirable vegetation to compete. ▪ Readily grazed by livestock, but can be toxic due to high nitrate levels. ▪ Dig, hoe or pull young plants; mowed plants will regrow; mature plants are difficult to pull. ▪ Apply broadleaf-selective or nonselective herbicides on young plants; mature plants are difficult to kill with herbicides; preemergence herbicides can be used to manage the existing seedbank.

Kochia






Sisymbrium irio/Brassica nigra

London rocket/Black mustard

Stem	▪ London rocket: 12- to 18-in. tall, stems are smooth and often branched; Black mustard: 2- to 8-ft. tall, lower stems may have stiff hairs, upper stems smooth
Leaves	▪ London rocket: smooth, 1- to 4-in. long and deeply divided with a terminal lobe; leaf edges are not toothed (photo bottom center); Black mustard: sparse but prominent hairs with a puckered leaf surface; leaves are stalked, with lower leaves deeply lobed and upper leaves toothed (photo top center)
Flower	▪ London rocket: small, yellow and borne on slender stalks in small clusters at the end of stems (photo far right); Black mustard: bright yellow and borne on long flower stems (photo far left)
Root	▪ Both have a taproot
Other	▪ Both can be either winter or summer annuals ▪ Both reproduce by seed; both produce allelopathic chemicals that prevent germination of native plants
Control	▪ Preventing seed production is essential for control. ▪ Minimize soil disturbance and plant desirable vegetation to compete. ▪ Dig, hoe or pull young plants (rosettes); mow to prevent flowering and production of seed. ▪ Apply broadleaf-selective or nonselective herbicides on young plants; mustard family plants are resistant to many herbicides; consult your local pesticide dealer for the best herbicide to use; preemergence herbicides can be used to manage the existing seedbank.

London rocket/Black mustard

Cyperus esculentus/Cyperus rotundus

Nutsedges: Yellow/Purple

Stem	▪ Triangular; solid with waxy appearance; yellow nutsedge: grows to 3-ft. tall; purple nutsedge: grows 1- to 2-ft. tall
Leaves	▪ Similar to grass blades, but thicker and stiffer; V-shaped in cross section; waxy leaves, arranged in sets of three at plant base; leaflike bracts originate from a common point below the flower cluster; stems naked in between; yellow nutsedge: leaves light green; purple nutsedge: leaves dark green
Flower	▪ Flower stems are triangular; flowers form spikelets, which are yellowish-brown in yellow nutsedge and purplish in purple nutsedge (photo bottom center)
Root	▪ Roots form tubers or nutlets; in purple nutsedge, tubers in a long chain along a single horizontal creeping rhizome; in yellow nutsedge, tubers at the end of the rhizome
Other	▪ Perennial; reproduces by rhizomes and tubers; buds remain viable in soil one to three years ▪ Yellow nutsedge can also reproduce by seed; purple nutsedge does not typically produce seed
Control	▪ Drying out the soil or shading will help control an existing infestation. ▪ Limit production of tubers by removing plants when they are small, with six or fewer leaves, every two to three weeks to kill even a well-established plant; plant removal can be done by hand-pulling or hoeing; tilling mature plants will only spread the infestation. ▪ Few herbicides are effective against nutsedges; herbicides that are effective can harm adjacent grasses; preemergence herbicides can be used to help manage yellow nutsedge.

Nutsedges: Yellow/Purple

Amaranthus retroflexus/*Amaranthus blitoides* Pigweeds: Redroot/Prostrate

Stem	▪ Redroot: 2- to 6-ft. tall and stout; upper stems hairy (photo top center); Prostrate: 12- to 18-in., prostrate and radiating from the crown; stems smooth (photo bottom left); Both species: lower stems may be reddish in color or have a red stripe
Leaves	▪ Redroot: lower leaves oval, upper leaves lance-shaped; leaves have prominent veins; borne on long stalks that are usually hairy; prostrate: leaves oval with the tip broader than the base
Flower	▪ Redroot: green in color and occur in branched, spikelike, terminal clusters; flower clusters with stiff spines that are bristly and unpleasant to touch (photo bottom right); Prostrate: small and occur in clusters in leaf axils; both bloom from summer to fall
Root	▪ Pinkish to red, deep, thick taproot
Other	▪ Summer annuals; grow in heat of summer and are a common cause of late-summer allergies ▪ Reported to be toxic to livestock
Control	▪ Preventing seed production is essential for control. ▪ Minimize soil disturbance and bare ground; plant desirable vegatation to compete. ▪ Dig, hoe or pull young seedlings while taproot is shallow; mowing is not effective. ▪ Apply broadleaf-selective or nonselective herbicides on young plants; preemergence herbicides can be used to manage the existing seedbank.

Pigweeds: Redroot/Prostrate

Plantago major/Plantago lanceolata

Plantains: Broadleaf/Buckhorn

Stem	▪ Leaf-bearing stems short and found only at the base of the plant; flowering stems leafless
Leaves	▪ Leaves all basal; Broadleaf: oval- to egg-shaped, 2- to 7-in. long, with three or more prominent veins; may be smooth or somewhat toothed with wavy edges (photos top left and top center); Buckhorn: lance-shaped, narrow with sharp tips, 3- to 12-in. long with short hairs and three to five prominent veins (photos bottom left and bottom center)
Flower	▪ Begin in a ring at the base of a spike and open progressively to the tip; Broadleaf: small, yellowish-white flowers arranged in a long spike attached to 5- to 15-in. stems (photo top right); Buckhorn: small, whitish flowers in a shorter spike along 12- to 18-in. stems (photo bottom right); both bloom late spring to summer
Root	▪ Broadleaf plantain: fibrous shallow roots; Buckhorn plantain: simple or branched taproot
Other	▪ Perennial; reproduces from seed and from buds on root
Control	▪ Preventing seed production can help limit the spread of an infestation. ▪ A 3-in. layer of mulch can be effective in controlling seedlings; plant desirable vegetation that will shade the area and reduce germination. ▪ Dig, hoe or pull, removing as much of the root as possible; mowing is not effective, as plants grow back from the crown; prevent the spread of seeds by removing flowers. ▪ Apply broadleaf-selective or nonselective herbicides on young plants; preemergence herbicides can be used to manage the existing seedbank.

Plantains: Broadleaf/Buckhorn







Iva axillaris

Poverty sumpweed

Stem	▪ Gray-green, bristly, upright and branched; multistemmed plant grows 6- to 24-in. tall
Leaves	▪ Grayish-green, lobed and covered with short, bristly hairs; leaves are oppositely attached to the stem at the bottom of the plant and alternately attached to the stem at the top of the plant
Flower	▪ Produces greenish male and female flowers on the same plant; male flowers hang or nod at the end of branches; female flowers are spiny and found at the leaf axils; blooms in summer
Root	▪ Deep, vigorous creeping root; roots rarely exhaust their reserves; plants can sprout from roots after long dormant periods
Other	▪ Perennial, reproduces by creeping roots and from seed; seedlings are rare ▪ Tolerant of saline and alkaline soils; may be toxic to livestock; foliage can cause skin irritation; strong, unpleasant odor
Control	▪ Preventing seed production can aid in limiting the spread of an infestation. ▪ Deep, spreading roots make it difficult to control; roots must be killed to control this plant. ▪ Cultivation is NOT recommended for control, as it may spread root fragments; hand-pulling is difficult and may cause skin irritation; mowing is not effective, as plants regrow. ▪ Broadleaf-selective herbicide application on actively growing plants is effective, but may require more than one application; glyphosate is not recommended.

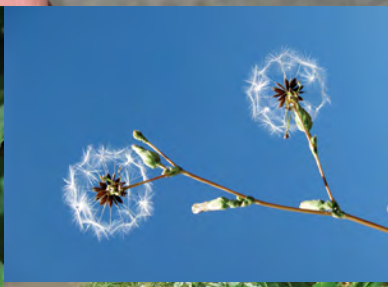
Poverty sumpweed

Lactuca serriola

Prickly lettuce

Stem	▪ Spineless stems grow from the base of the plant and can be reddish; exude a milky sap; stems in flowering portion of plant form multiple branches; primary stem 1- to 5-ft. tall
Leaves	▪ Forms a rosette in winter or early spring; as plant matures, lower leaves are larger than upper leaves; leaves twist at the stem to point upright and may or may not be lobed; leaves are prickly along margins and underside of the midrib
Flower	▪ Small, yellow, daisylike flowers with toothed tips on the petals; produces puffball of seeds, similar to dandelion, but smaller; blooms from summer to fall
Root	▪ Large taproot
Other	▪ Winter annual or biennial; reproduces only by seed; seeds are viable one to three years; also known as wild lettuce ▪ All parts of plant ooze a milky, sticky sap when broken
Control	▪ Preventing seed production is essential for control. ▪ Minimize disturbance; plant desirable vegetation to compete. ▪ Dig, hoe or pull young plants; mowing is not effective as plants will regrow. ▪ Sheep and goats will graze plants. ▪ Apply broadleaf-selective or nonselective herbicides to young plants; herbicides are not effective once flower stems have appeared; preemergence herbicides can be used to manage the existing seedbank.

Prickly lettuce



Polygonum aviculare

Prostrate knotweed

Stem	▪ Prostrate, 1- to 3-ft. long, branched, wiry and enlarged at each joint; seedling stems grow upright
Leaves	▪ Hairless, alternate and lance-shaped to oblong, 1/2- to 2-1/2-in. long and 1/8- to 1/3-in. wide; silver papery sheaths at each node; leaves can have a bluish-green cast
Flower	▪ Tiny, five-petal, pink flowers with green centers occur in clusters of one to five flowers at leaf axils
Root	▪ Shallow taproot
Other	▪ Annual ▪ Will grow well in salty, infertile soils and hard, compacted soils; it is drought tolerant and produces chemicals that inhibit nearby plant growth; withstands heavy foot- and vehicle-traffic
Control	▪ Preventing seed production is essential for control. ▪ Maintain health, competitive vegetation; it does not grow well in the shade of other plants or under thick mulch. ▪ Hoeing, rototilling and hand-pulling are effective, but may be difficult in compacted soil. ▪ Broadleaf-selective and nonselective herbicides are effective; preemergence herbicides can be used to manage the existing seedbank.

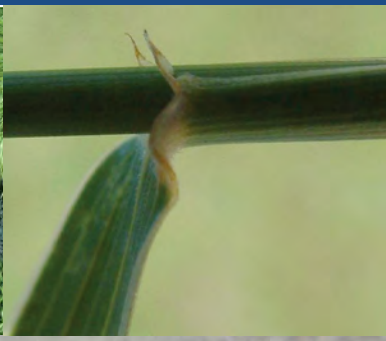
Prostrate knotweed

Elymus repens

Quackgrass

Stem	▪ Rhizomes are yellow or white, sharply pointed and fleshy; they have joints or nodes every inch or so, which are capable of developing fibrous roots and producing a new plant; rhizomes are able to penetrate tubers and roots of other plants; aboveground stems are erect and grow 1- to 3-ft. tall
Leaves	▪ Leaf blades are 1/4- to 1/2-inch wide, flat, pointed and often constricted near the leaf tips; small auricles are present at the junction of leaf blade and sheath; leaf sheaths and the upper surface of leaf blades may be thinly covered with soft hairs
Flower	▪ Spikelets form two long rows that are flat
Root	▪ Forms a dense, thick mat of roots and rhizomes
Other	▪ Perennial, aggressive grass, reproducing by rhizomes and seed; one plant may produce 300 ft. of rhizomes each year
Control	▪ Remove infestation when the plants are young, before they start producing rhizomes. ▪ NEVER use mechanical methods such as disking or rototilling, as new plants can grow from the broken pieces of rhizomes; mechanical tillage can increase an infestation, not control it. ▪ Mowing can prevent seed production, but will not reduce or control an existing infestation. ▪ Herbicides are effective, but may require more than one application; herbicide may also cause nontarget plant damage when used in lawns or landscapes; preemergence herbicides can be used to manage the existing seedbank, but will not control the existing infestation.

Quackgrass



Erodium cicutarium

Redstem filaree

Stem	▪ Range from 1- to 2-ft. long, generally forms in a low, mounding rosette; stems are branched, hairy and reddish
Leaves	▪ Finely divided, hairy, feathery, fernlike leaves
Flower	▪ Small purplish pink with five petals, usually found in clusters of two or more per stem; seeds form in groups of five, and each seed has a long protrusion that resembles a stork's beak; seed splits away at maturity and can be transported by clothing or fur
Root	▪ Shallow, thick, white taproot with fibrous lateral roots
Other	▪ Winter annual that reproduces by seed; also known as storksbill or stork's bill ▪ Flourishes in vacant fields in early spring when there is more precipitation than usual; it commonly invades lawn areas
Control	▪ Preventing seed production is essential for control. ▪ Plant desirable vegetation to shade the area and reduce germination and growth of young plants; infestations can be reduced by mowing high (3 in. or higher) to shade out the weed. ▪ Dig, hoe or pull young seedlings; plants that are mowed will regrow; mature plants are difficult to pull. ▪ Apply broadleaf-selective or nonselective herbicides on young plants; use care to prevent damage to nontarget plants; a surfactant may aid in herbicide uptake on mature, hairy plants; preemergence herbicides can be used to manage the existing seedbank.

Redstem filaree

Salsola tragus

Russian thistle

Stem	▪ Bushy plant 1.5- to 3-ft. tall; multibranched stems are usually striped with red or purple
Leaves	▪ Young leaves are soft, green, fleshy and lack spines; mature leaves are short and stiff, with sharp spines at the leaf tip
Flower	▪ Small, green or pinkish-red, inconspicuous; form in leaf axils; blooms late summer to fall
Root	▪ Taproot
Other	▪ Summer annual, reproduces by seed; also known as tumbleweed ▪ Common weed in disturbed soils or bare areas ▪ Prolific seed producer; seeds are spread as mature plants break off at ground level and tumble across the landscape, dropping seeds as they roll ▪ Dried plants are very flammable and increase the risk of wildfire
Control	▪ Preventing seed production is essential for control. ▪ Avoid disturbing the soil; plant desirable vegetation that will compete. ▪ Dig, hoe or pull young seedlings; remove plants prior to formation of seeds. ▪ Cattle and sheep will graze young plants. ▪ Apply broadleaf-selective or nonselective herbicides on very young plants; herbicides are not effective on mature plants; preemergence herbicides can be used to manage the existing seedbank.

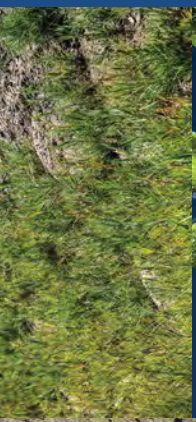
Russian thistle

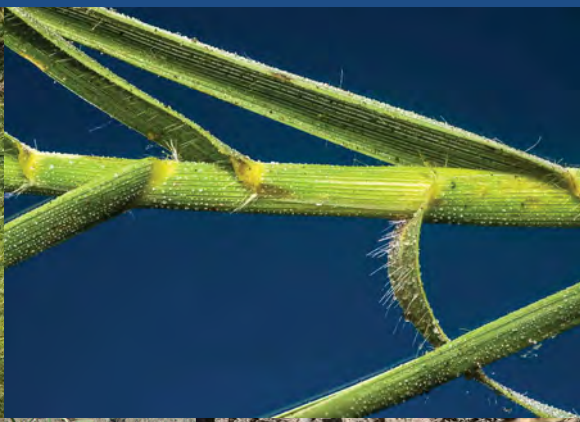
Distichlis spicata

Saltgrass

Stem	▪ Rigid, 6- to 18-in. tall, generally low-growing; tough, scaly, creeping rhizomes spread in a star pattern from the mother plant; new plants may form at each node of the rhizomes; one of the few grass species that is dioecious (both male and female plants)
Leaves	▪ Short, alternate paired, sharply pointed and erect; leaf sheaths overlap tightly on the stem; at the base of the leaf blade the ligule forms a ring of white, twisted hairs; no auricles
Flower	▪ Spikelets flattened and clustered at the top of the stems, with five to nine flowers per spikelet
Root	▪ Roots, along with rhizomes, create a dense mat in the soil
Other	▪ Perennial, spreading through rhizomes and seeds ▪ Salt crystals form on leaf blades in highly saline areas; food source for water fowl and late-season forage for grazing animals ▪ Tolerant of a wide range of pH, saline and drought conditions
Control	▪ Preventing seed production can aid in limiting the spread of an infestation. ▪ Prolonged water inundation will kill saltgrass; it is shade intolerant. ▪ Mowing can be used to prevent seed production, but it will not control an infestation; pulling is difficult; cultivating or tilling can spread the infestation. ▪ Grass-selective and nonselective herbicides are effective, but usually require multiple treatments; preemergence herbicides can be used to manage the existing seedbank.

Saltgrass



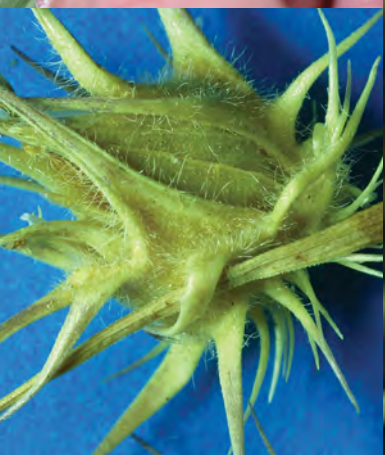


Cenchrus longispinus/*Cenchrus spinifex*

Sandburs: Longspine/Field

Stem	▪ Both: horizontal or upright to 3 ft., often bent near the base and highly branched; stems appear flat in cross section; immature plants grow prostrate
Leaves	▪ Both: flat, but may be folded when budding, 1.5- to 12-in. long and 0.10- to 0.25-in. wide, usually with a raised midvein and few to no hairs; base forms a sheath that extends down the stem; often lighter in color and hairy where the leaf base joins the sheath
Flower	▪ Both: slender, unbranched spike made up of spiny burs; each spike has five to 15 egg-shaped burs (photos: bottom left longspine sandbur; bottom right field sandbur)
Root	▪ Both: shallow, fibrous; bur may be present in rootzone, aiding in distinguishing from other grasses when young
Other	▪ Summer annuals; prefer sandy or well-drained soil and full sun; seed can remain viable for years; difficult to distinguish the different sandburs ▪ Burs can cause injury to pets and livestock, and reduce the value of wool
Control	▪ Preventing seed production is essential for control. ▪ Dense, tall turfgrass lawns can shade out these weeds. ▪ Mowing is generally ineffective, as the grass will grow back prostrate below the mowing blades; mechanical removal and repeated cultivation before burs form can be effective. ▪ Apply grass-selective or nonselective herbicides to young plants; preemergence herbicides can be used to manage the existing seedbank.

Sandburs: Longspine / Field



Equisetum hyemale/Equisetum arvense

Scouringrush/Field horsetail

Stem	▪ Both plants produce two types of stems: cone-bearing (fertile) stems (photos far right and top left) and sterile (infertile) stems (all other photos). Both types of stems are jointed and segmented like bamboo; fertile stems are bare while infertile stems have whorls of leaves at the joints; scouringrush stems are 2- to 5-ft. tall; field horsetail fertile stems are 6- to 12-in. and infertile stems are 18- to 24-in
Leaves	▪ Tiny, nonphotosynthetic, arranged in whorls fused into a sheath around the infertile stems
Flower	▪ No flower; produces cones at tips of fertile stems that contain spores (photo far right)
Root	▪ Deep, spreading rhizomes that may contain tubers
Other	▪ Perennial, seedless; reproduces by spores, rhizomes and fragmentation of infertile stems ▪ Native to North America; toxic to livestock ▪ Stems with a high silica content, used by early Americans for polishing pots and pans
Control	▪ Remove fertile stems as soon as they form to prevent spread of spores. ▪ Both plants like full sun, so shading can aid in control. ▪ Mowing or other aboveground mechanical removal can aid in control, but may take several treatments per year for several years; tilling is not an effective means of control, as it can spread the rhizomes, increasing the infestation. ▪ Chemical control is difficult due to the waxy cuticle, aggressive rhwizomes and high silica content; they grow in wet areas; check the product label for site application restrictions.

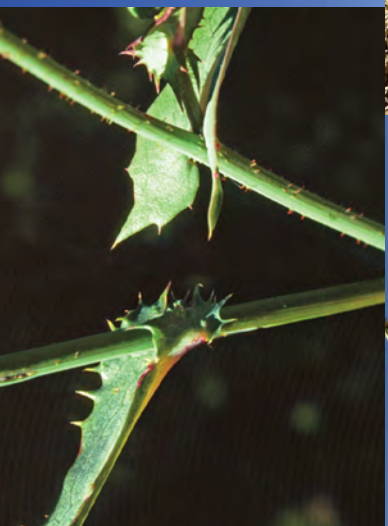
Scouringrush / Field horsetail

Sonchus oleraceus / Sonchus asper

Sowthistles: Annual/Spiny

Stem	▪ Annual: 1- to 4-ft. with smooth, thick stems that are hollow between stem joints; Spiny: 1- to 5-ft. stout stems; Both: Stems ooze milky sap when cut
Leaves	▪ Annual: basal leaves stalked; lower leaves one to three deep lobes; upper leaves clasp the stem; leaves are alternate and hairless with spines on margins (photo top right). Spiny: coarsely toothed with sharp spines on margins (photo bottom center); upper leaves have round basal lobes that clasp the stem (photo top left, spiny (l), annual (r))
Flower	▪ Both form flowerheads at stem tips, 1/4- to 3/4-in. wide; closed flowerheads are urn-shaped; blooms spring and summer; seedhead is white puffball similar but smaller than dandelion
Root	▪ Both have short taproot
Other	▪ Both are annuals; both reproduce by seed; seeds are wind dispersed ▪ May harbor insect pests that prey on vegetable and fruit crops
Control	▪ Preventing seed production is essential for control. ▪ Pull, hoe or dig young plants; repeated mowing can aid in preventing seed production; repeated cultivation can help stimulate germination, eventually depleting the seedbank. ▪ Broadleaf-selective and nonselective herbicides are effective on young plants; preemergence herbicides can be used to manage the existing seedbank.

Sowthistles: Annual/Spiny



Chamaesyce maculata

Spurges: Prostrate/Spotted

Stem	▪ Hairy reddish stems; prostrate growth that forms a dense mat; stems exude a milky, latex juice when broken
Leaves	▪ Dark green, hairy, opposite leaves, 1/8- to 1/2-in. long and 1/8-in. wide; spotted spurge has a large purple spot in the center of each leaf, while prostrate spurge does not
Flower	▪ Tiny pinkish flowers form clusters in leaf axils
Root	▪ Shallow taproot
Other	▪ Both are annuals; both plants are presently considered the same species (only spotted shown) ▪ The period from germination to seed production may be as few as five weeks; multiple generations in a season are possible; their prostrate growth habit, fast growth and tiny flowers enable them to produce seed quickly and avoid many control methods ▪ Can be poisonous to livestock
Control	▪ Preventing seed production is critical for control. ▪ Mulch existing landscape beds to prevent growth; maintain a competitive stand of grass to choke out weeds in lawn area. ▪ Pull, hoe or till seedlings; shallow roots are easily pulled. ▪ Apply broadleaf-selective or nonselective herbicides to young plants; use care to prevent damage to nontarget plants; preemergence herbicides can be used to manage the existing seedbank.

Spurges: Prostrate/Spotted

Eragrostis cilianensis / *Eragrostis mexicana* Stinkgrass / Mexican lovegrass

Stem	▪ Both: stems are hollow, erect to decumbent, and 6- to 24-in. tall
Leaves	▪ Both: flat to folded, hairless, 1/16- to 5/16-in. wide; sheaths are open and the ligule is a fringe of straight hairs (photo bottom left)
Flower	▪ Both: seedheads branch and are often gray-green, turning pale gold to off-white when mature; flowers are clustered in spikelets; spikelets are narrowly lance-shaped or oblong, and seeds lack needlelike awns; stinkgrass: spikelets are green and relatively large, with five to 60 florets (top photos); Mexican lovegrass: spikelets may be green or purplish and relatively small, with five to 16 florets (photo bottom right); both bloom from July to September
Root	▪ Shallow, fibrous
Other	▪ Annual, reproduces from seed ▪ Has small glandular structures on foliage and spikelets that give off a disagreeable odor
Control	▪ Preventing seed production is essential for control. ▪ Hand-pulling and hoeing are effective; tilling can be effective prior to seed production; mowing is not effective. ▪ Grass-selective and nonselective herbicides are effective, but may result in nontarget plant damage in lawns and landscapes; preemergence herbicides can be used to manage the existing seedbank.

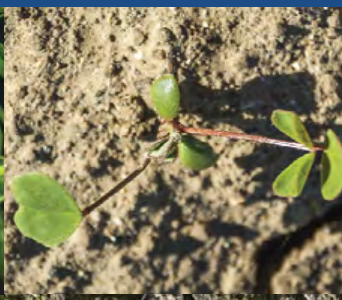
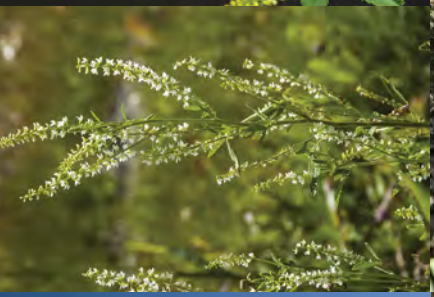
Stinkgrass / Mexican lovegrass

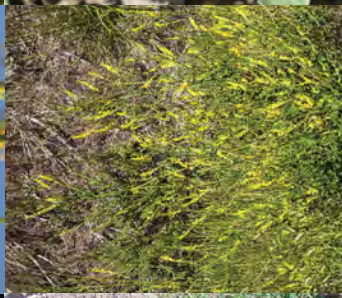
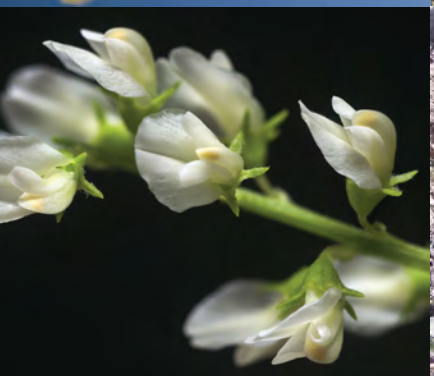
Melilotus officinalis / Melilotus alba

Sweetclovers: Yellow/White

Stem	▪ Grows erect, 2- to 6-ft. tall; freely branched stems are generally hairless
Leaves	▪ Trifoliate leaves resemble alfalfa, but sweetclover leaflet margins are serrated more than halfway back from the tip (photo top right); alfalfa leaflets are serrated less than halfway back from the tip
Flower	▪ Small, yellow or white (depending on species), pea-shaped flowers are produced in a many-flowered terminal and in leaf axils (photos top row); pods are one- to two-seeded
Root	▪ Strong taproot, often growing in colonies
Other	▪ Annual or biennial legumes; reproduce by seed; seeds remain viable in the soil for up to 30 years ▪ Can cause bloat in cattle; high in coumarin, which prevents blood coagulation
Control	▪ Preventing seed production is essential for control. ▪ Cannot withstand prolonged flooding. ▪ Hand-pull or mow when plants are young; mowing older plants can be effective but may require repeat mowing; plants can be cut at ground level to aid in control. ▪ Broadleaf-selective and nonselective herbicides can be used but are most effective when plants are 3- to 4-in. high; preemergence herbicides can be used to manage the existing seedbank.

Sweetclovers: Yellow / White

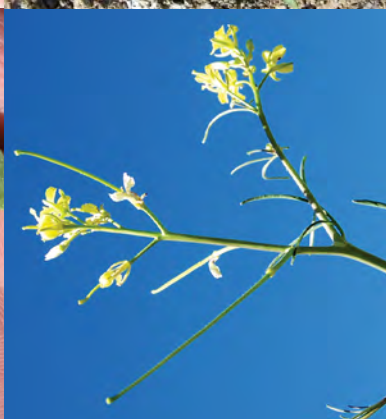





Sisymbrium altissimum

Tumble mustard

Stem	▪ Grows up to 5 ft. tall; seedling is a rosette; a single stem grows from the base of the plant with abundant branches above
Leaves	▪ Basal leaves are large and have deep lobes or leaflets; upper leaves are smaller, narrow and threadlike; leaves have long hairs
Flower	▪ Small and pale yellow with four petals; blooms in spring and early summer
Root	▪ Thick taproot
Other	▪ Winter annual or biennial ▪ Reproduces by seed; prolific seed producer; seeds are long-lived in soil ▪ Distinguished from flixweed by large lower leaves in the basal rosette
Control	▪ Preventing seed production is essential for control. ▪ Minimize soil and vegetation disturbance, and plant desirable vegetation to compete; 4 to 6 in. of organic mulch can prevent seed germination. ▪ Dig, hoe or pull young plants (rosettes); mow to prevent flowering and production of seed. ▪ Apply broadleaf-selective or nonselective herbicides on young plants; mustard family plants are resistant to many herbicides; consult your local pesticide dealer for the best herbicide to use; preemergence herbicides can be used to manage the existing seedbank.

Tumble mustard



Abutilon theophrasti

Velvetleaf

Stem	▪ Erect and branched stems 2- to 7-ft. tall; covered in fine hairs
Leaves	▪ Heart-shaped leaves, pointed at apex, 5 in. or more in width and connected to the stem by slender petioles; leaves are alternate and covered in fine hairs
Flower	▪ Yellow, solitary flowers at leaf axils; 1-in. diameter flowers have five petals; bloom June to October; fruit are rounded with nine to 15 segments arranged in a disk
Root	▪ Taproot
Other	▪ Annual, completely covered in soft hair; plants have a distinct odor when crushed ▪ Reproduces by seed; seeds can remain viable in soil for 50 years, making control a long-term job ▪ Thrives in fertile soils and is a common weed of cultivated fields ▪ Can host plant diseases and pests that affect crops
Control	▪ Preventing seed production is essential for control. ▪ Hand-pull or hoe small infestations, best done when plants are young; tilling can be effective on young plants; repetitive tilling may bring seeds to surface. ▪ Apply broadleaf-selective or nonselective herbicides on young plants; surfactants may aid in herbicide applications to mature, hairy plants; preemergence herbicides can be used to manage the existing seedbank.

Velvetleaf

Tragopogon dubius

Western salsify

Stem	▪ 1- to 3-ft. tall flowering stems are produced in the second year of growth; produces a milky sap
Leaves	▪ Narrow, up to 12-in. long and grass-like, but thicker than grass blades; forms rosette first year
Flower	▪ Single yellow flowerheads appear at the end of long, hollow stalks; long, pointed bracts extend below the ray flowers, giving it a starry appearance; forms 1- to 2-in. diameter puffball seedhead, similar to dandelions, but larger
Root	▪ Grows a thick, branched taproot
Other	▪ Biennial, reproduces by seed, seed is wind dispersed and can travel long distances ▪ Roots, stems and leaves ooze milky sap when cut or broken
Control	▪ Preventing seed production is essential for control. ▪ Plant desirable vegetation to provide competition. ▪ Dig, hoe or pull young plants before seedheads form; mowing can be effective, but repeated mowing may be required. ▪ Broadleaf-selective and nonselective herbicides are effective on young plants; preemergence herbicides can be used to manage the existing seedbank.

Western salsify

alternate: leaves that grow singly along a stem at the node and are not opposite or whorled
annual: plant that completes its lifecycle in one growing season
auricle: small, finger-like appendage found where the blade meets the sheath in grasses
awn: slender bristle that extends beyond the seedheads of grasses
axil: point where a leaf attaches to the stem
biennial: plant that completes its lifecycle in two years
blade: the leaf of a grass
bract: small, leaf-like structure found at the base of a flower
broadleaf: flowering plant that has flat leaves with net-like veins; not grasses
bud: a plant structure found on stems or roots from which leaves, flowers, tillers, stems or roots may grow
clasp: occurs when the lobes at the base of a leaf wrap partially or entirely around the stem
collar: the junction of the sheath and blade in grasses
compound: leaf composed of two or more leaflets
creeping: stems or roots that grow horizontally above or below the soil surface, and from which new plants may arise
crown: part of a plant where the stem(s) meet the roots
decumbent: growing prostrate with tips curving upwards, similar to an upside down umbrella

fibrous: root system composed of many densely packed roots that appear similar in length and thickness

inflorescence: a flowering structure consisting of two to many flowers

keel: on a grass leaf, prominent longitudinal ridge, shaped like the keel of a boat

lance-shaped: lanceolate; a leaf that is much longer than wide, with the widest point below the middle and is tapered toward both ends

leaflet: small, leaf-like part of a compound leaf

ligule: on a grass, the thin membranous or hair-like appendage at the point where the blade meets the sheath

linear: long, narrow leaf with parallel edges

lobed: leaf edge that cuts deeply toward the base or midvein

margin: the edge of a leaf

midrib: the central rib or vein of a leaf

midvein: the central vein of a leaf

node: point of attachment on a plant where bud(s) form

nonselective herbicide: herbicide that can kill both broadleaf and grass plants

oblong: leaf that is longer than it is wide with edges that are nearly parallel in the middle

opposite: pair of leaves that grow from the same node, directly across from one another

pedicel: stalk of a single flower or of a grass spikelet
perennial: plant that persists for three or more years or growing seasons
petiole: stalk that supports the blade of a leaf
pinnate: compound leaf with leaflets arranged on opposite sides of a common stalk, featherlike
preemergence herbicide: herbicide that kills a plant seed just as it starts to germinate, before the plant emerges from the soil
prostrate: growth habit in which the plant lies flat to the ground
pubescent: covered with short, soft hairs; hairy
raceme: unbranched, elongated inflorescence; flowers generally mature from the bottom upwards
rhizome: creeping underground stem with nodes, at which new roots and shoots may emerge
rosette: flattened, circular cluster of leaves around a single central stem
seedbank: viable seeds stored in the soil
selective herbicide: herbicide that targets a specific group of plants; most common are broadleaf-selective herbicides or grass-selective herbicides
sessile: attached directly, without a supporting stalk
sheath: on a grass, the base of the grass blade that encloses the stem
simple leaf: a single leaf not lobed or divided

spike: seedhead or inflorescence of a grass where the flowers or seed-bearing structures are attached directly to a central, long, unbranched stalk

spikelet: the basic unit of a grass flower; a single element of a spike

spine: stiff, slender, sharp-pointed structure, representing a modified leaf

stolon: a horizontal, aboveground creeping stem that may form roots and new stems at its tip and at its nodes

surfactant: wetting agent added to an herbicide to increase its ability to penetrate plant surfaces

taproot: prominent root with few branches, sometimes swollen to store sugars

tiller: an aboveground branch on a grass plant

toothed: leaf edge that has jagged or notched projections

trifoliate: three leaves or three leaflets

wings: thin, flat margins (projections of leaves) that extend outward along a stem, fruit or seed

whorled: three or more leaves arranged in a circle at a node

Alaska Center for Conservation Science, Weed Risk Assessment, Field Pennycress, http://accs.uaa.alaska.edu/files/invasive-species/Thlaspi_arvense_BIO_THAR5.pdf.

Arizona Native Plant Society, Buffelgrass, http://www.aznps.com/documents/buffelgrass.pdf.

Banner, R., M. Pratt, J. Bowns, 2011, Grasses and Grasslike Plants of Utah, Utah State Univerisity Cooperative Extension, NR/Rangeland/2011-01pr.

Bonneville County, Idaho Weed Education Outreach, Purple Aster, http://www.co.bonneville.id.us/images/%5CPDF%5CWeeds%5CArticles/Purple%20aster.pdf.

Callihan, B., J. Brennan, T. Miller, J. Brown and M. Moore, 2000, Mustards in Mustards: Guide to Identification of Canola, Mustard, Rapeseed and Related Weeds, University of Idaho WREP 143, http://www.cals.uidaho.edu/edcomm/pdf/wrep/wrep0143.pdf.

Clemson Cooperative Extension, Annual Bluegrass Control, HGIC 2325, http://www.clemson.edu/extension/hgic/pests/pdf/hgic2325.pdf.

Colorado Department of Agriculture, Noxious Weed Species, https://www.colorado.gov/pacific/agconservation/noxious-weed-species.

DiTomaso, J. M., G. B. Kyser, et al, 2013, Weed Control in Natural Areas in the Western United States, Weed Research and Information Center, University of California, 544 p.

Donaldson, S. and G. Bowers, 1998, Weed Identification and Control Guide, University of Nevada Cooperative Extension EB-98-01, http://www.unce.unr.edu/publications/files/nr/other/EB9801.pdf.

Donaldson, S. and W. Hanson Mazet, 2010, A Northern Nevada Homeowner's Guide to Identifying and Managing Broadleaf Plantain, University of Nevada Cooperative Extension FS-10-17, https://www.unce.unr.edu/publications/files/nr/2010/fs1017.pdf.

Donaldson, S. and W. Hanson Mazet, 2010, A Northern Nevada Homeowner's Guide to Identifying and Managing Buckhorn Plantain, University of Nevada Cooperative Extension FS-10-18, https://www.unce.unr.edu/publications/files/nr/2010/fs1018.pdf.

Donaldson, S. and W. Hanson Mazet, 2010, A Northern Nevada Homeowner's Guide to Identifying and Managing Bull Thistle, University of Nevada Cooperative Extension FS-10-19, https://www.unce.unr.edu/publications/files/nr/2010/fs1019.pdf.

Donaldson, S. and W. Hanson Mazet, 2010, A Northern Nevada Homeowner's Guide to Identifying and Managing Bur Buttercup, University of Nevada Cooperative Extension FS-10-20, https://www.unce.unr.edu/publications/files/nr/2010/fs1020.pdf.

Donaldson, S. and W. Hanson Mazet, 2010, A Northern Nevada Homeowner's Guide to Identifying and Managing Common Mallow, University of Nevada Cooperative Extension FS-10-21, https://www.unce.unr.edu/publications/files/nr/2010/fs1021.pdf.

Donaldson, S. and W. Hanson Mazet, 2010, A Northern Nevada Homeowner's Guide to Identifying and Managing Common Mullein, University of Nevada Cooperative Extension FS-10-22, https://www.unce.unr.edu/publications/files/nr/2010/fs1022.pdf.

Donaldson, S. and W. Hanson Mazet, 2010, A Northern Nevada Homeowner's Guide to Identifying and Managing Common Purslane, University of Nevada Cooperative Extension FS-10-23, https://www.unce.unr.edu/publications/files/nr/2010/fs1023.pdf.

Donaldson, S. and W. Hanson Mazet, 2010, A Northern Nevada Homeowner's Guide to Identifying and Managing Dandelions, University of Nevada Cooperative Extension FS-10-24, https://www.unce.unr.edu/publications/files/nr/2010/fs1024.pdf.

Donaldson, S. and W. Hanson Mazet, 2010, A Northern Nevada Homeowner's Guide to Identifying and Managing Flixweed, University of Nevada Cooperative Extension FS-10-25, https://www.unce.unr.edu/publications/files/nr/2010/fs1025.pdf.

Donaldson, S. and W. Hanson Mazet, 2010, A Northern Nevada Homeowner's Guide to Identifying and Managing Hare Barley, University of Nevada Cooperative Extension FS-10-26, https://www.unce.unr.edu/publications/files/nr/2010/fs1026.pdf.

Donaldson, S. and W. Hanson Mazet, 2010, A Northern Nevada Homeowner's Guide to Identifying and Managing Kochia, University of Nevada Cooperative Extension FS-10-27, https://www.unce.unr.edu/publications/files/nr/2010/fs1027.pdf.

Donaldson, S. and W. Hanson Mazet, 2010, A Northern Nevada Homeowner's Guide to Identifying and Managing Prickly Lettuce, University of Nevada Cooperative Extension FS-10-28, https://www.unce.unr.edu/publications/files/nr/2010/fs1028.pdf.

Donaldson, S. and W. Hanson Mazet, 2010, A Northern Nevada Homeowner's Guide to Identifying and Managing Redroot Pigweed,

University of Nevada Cooperative Extension FS-10-29, https://www.unce.unr.edu/publications/files/nr/2010/fs1029.pdf.

Donaldson, S. and W. Hanson Mazet, 2010, A Northern Nevada Homeowner's Guide to Identifying and Managing Redstem Filaree, University of Nevada Cooperative Extension FS-10-30, https://www.unce.unr.edu/publications/files/nr/2010/fs1030.pdf.

Donaldson, S. and W. Hanson Mazet, 2010, A Northern Nevada Homeowner's Guide to Identifying and Managing Russian Thistles, University of Nevada Cooperative Extension FS-10-31, https://www.unce.unr.edu/publications/files/nr/2010/fs1031.pdf.

Donaldson, S. and W. Hanson Mazet, 2010 A Northern Nevada Homeowner's Guide to Identifying and Managing Tumble Mustard, University of Nevada Cooperative Extension FS-10-32, https://www.unce.unr.edu/publications/files/nr/2010/fs1032.pdf.

Donaldson, S. and W. Hanson Mazet, 2011, A Northern Nevada Homeowner's Guide to Identifying and Managing Annual Bursage, University of Nevada Cooperative Extension FS-11-64, https://www.unce.unr.edu/publications/files/ho/2011/fs1164.pdf.

Donaldson, S. and W. Hanson Mazet, 2011, A Northern Nevada Homeowner's Guide to Identifying and Managing Blue Mustard, University of Nevada Cooperative Extension FS-11-61, https://www.unce.unr.edu/publications/files/ho/2011/fs1161.pdf.

Donaldson, S. and W. Hanson Mazet, 2011, A Northern Nevada Homeowner's Guide to Identifying and Managing Common Lambsquarters, University of Nevada Cooperative Extension FS-11-63, https://www.unce.unr.edu/publications/files/ho/2011/fs1163.pdf.

Donaldson, S. and W. Hanson Mazet, 2011, A Northern Nevada Homeowner's Guide to Identifying and Managing Curlycup Gumweed, University of Nevada Cooperative Extension FS-11-60, https://www.unce.unr.edu/publications/files/ho/2011/fs1160.pdf.

Donaldson, S. and W. Hanson Mazet, 2011, A Northern Nevada Homeowner's Guide to Identifying and Managing Western Salsify, University of Nevada Cooperative Extension FS-11-62, https://www.unce.unr.edu/publications/files/ho/2011/fs1162.pdf.

Donaldson, S. and W. Hanson Mazet, 2013, A Northern Nevada Homeowner's Guide to Identifying and Managing Black Medic, University of Nevada Cooperative Extension FS-13-13, https://www.unce.unr.edu/publications/files/ho/2013/fs1313.pdf.

Donaldson, S. and W. Hanson Mazet, 2013, A Northern Nevada Homeowner's Guide to Identifying and Managing Common Cocklebur, University of Nevada Cooperative Extension FS-13-11, https://www.unce.unr.edu/publications/files/ho/2013/fs1311.pdf.

Donaldson, S. and W. Hanson Mazet, 2013, A Northern Nevada Homeowner's Guide to Identifying and Managing Coyote Tobacco, University of Nevada Cooperative Extension FS-13-14, https://www.unce.unr.edu/publications/files/ho/2013/fs1314.pdf.

Donaldson, S. and W. Hanson Mazet, 2013, A Northern Nevada Homeowner's Guide to Identifying and Managing Poverty Sumpweed, University of Nevada Cooperative Extension FS-13-15, https://www.unce.unr.edu/publications/files/ho/2013/fs1315.pdf.

Donaldson, S. and D. Rafferty, 2002, Identification and Management of Common Teasel, University of Nevada Cooperative Extension FS-02-40, https://www.unce.unr.edu/publications/files/nr/2002/FS0240.pdf.

Graham, J. and W. Johnson, 2004, Managing Field Bindweed, University of Nevada Cooperative Extension FS-04-48, https://www.unce.unr.edu/publications/files/nr/2004/FS0448.pdf.

Guide to Weeds in British Columbia, 2002, https://www.for.gov.bc.ca/hra/plants/weedsbc/GuidetoWeeds.pdf.

Invasive Species Compendium, Setaria verticillata (bristly foxtail), http://www.cabi.org/isc/datasheet/49775.

Lincoln County, Washington Weed Board, Buffalo Bur, http://nwcb.wa.gov/images/weeds/BUFFALOBUR-BROCHURE_Lincoln.pdf.

Manitoba Agriculture, Annual Sowthistle, https://www.gov.mb.ca/agriculture/crops/weeds/annual-sowthistle.html.

Menalled. F., J. Mangold, and E. Davis, 2008, Cheatgrass: Identification, Biology and Integrated Management, Montana State University Extension MontGuide MT200811AG New 10/08, http://ipm.montana.edu/documents/Cheatgrass.pdf.

Michigan State University Turfgrass Weeds, http://www.msuturfweeds.net/details/_/annual_bluegrass_47/#weeddetail.

PennState Extension, Center for Turf Grass Science, Plant ID, http://plantscience.psu.edu/research/centers/turf/extension/plant-id.

Sholedice, F. and M. Renz, 2006, Field Sandbur, New Mexico State University O & T Guide W-7, http://aces.nmsu.edu/ces/plantclinic/documents/field-sandbur-w-7.pdf.

Southwestern Region, USFS, 2014, Field Guide for Managing Buffelgrass in the Southwest, TP-R3-16-03, http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5410107.pdf.

Stevens County Noxious Weed Control Board, 2015, http://www.co.stevens.wa.us/weedboard/weed_other.htm.

Swift, C., 2010, Cuscuta and Grammica species – Dodder A Plant Parasite, Colorado State University.

Thurston County, Washington, Horsetail – Scouring Rush Integrated Pest Management Prescription, http://www.co.thurston.wa.us/health/ehipm/pdf/horsetail.pdf.

University of California Statewide Integrated Pest Management Program, http://ipm.ucanr.edu/.

University of Minnesota Extension, Controlling Quackgrass in Gardens, http://www.extension.umn.edu/garden/yard-garden/weeds/controlling-quackgrass-in-gardens/.

USDA NRCS Plants Database, http://plants.usda.gov.

USDA, USFS, 2014 Field Guide for Managing Red Brome in the Southwest, TP-R3-16-19, http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5410123.pdf.

USFS Fire Effects Information System Database, Saltgrass Disticlis spicata, http://www.fs.fed.us/database/feis/plants/graminoid/dissp/all.html.

USFS Weed of the Week, Yellow Sweetclover, http://www.na.fs.fed.us/fhp/invasive_plants/weeds/yellow_sweetclover.pdf.

Utah State University, Common Weeds of the Yard and Garden, http://digitalcommons.usu.edu/cgi/viewcontent.cgi?article=2049&context=extension_curall.

Utah State University Extension, Grasses and Grasslike Plants of Utah, http://digitalcommons.usu.edu/cgi/viewcontent.cgi?article=2188&context=extension_curall.

Utah State University Extension, Range Plants of Utah, http://extension.usu.edu/rangeplants/.

Washington State University Extension, Curly Dock, http://extension.wsu.edu/whitman/2013/10/curly-dock/.

Weed Workers Handbook, Ripgut Brome, http://www.cal-ipc.org/ip/management/wwh/pdf/19652.pdf.

Whitson, T. (editor), 2009, Weeds of the West, 10th Edition, University of Wyoming, Jackson, Wyoming.

Yenish, J., D. Ball and R. Schirman, 2009, Integrated Management of Jointed Goatgrass in the Pacific Northwest, Washington State University Extension EB2042, http://extension.oregonstate.edu/gilliam/sites/default/files/Goatgrass_Integrated_Mngmt_PNW_eb2042.pdf.

Photo Credits

Cover: TL, field pennycress, ©Louis-M Landry; TC, blue mustard, Wendy Hanson Mazet; TR, field sandbur, ©Robert F. Norris; BL, chicory, Susan Donaldson; BC, hare barley, ©Robert F. Norris; BL, western salisfy, Wendy Hanson Mazet.

Page 4, from left to right: yellow nutsedge, Wendy Hanson Mazet; teasel, Susan Donaldson; quackgrass, Steve Dewey, Utah State University, Bugwood.org; fivehook bassia, Nate Weber.

Annual bluegrass: All photos, ©Robert Norris.

Annual bursage: TL and BL, Melody Hefner; C, Wendy Hanson Mazet; TR, CR and LR, Susan Donaldson.

Barnyardgrass: TL and TR, ©Robert F. Norris; BL and BR, ©Eric Wrubel/NPS.

Bermudagrass: All photos, ©Robert F. Norris.

Black medic/ California burclover: TL and BL, ©Luigi Rignanese; TC and BC, Wendy Hanson Mazet; FR, ©Neal Kramer.

Blue mustard: All photos, Wendy Hanson Mazet.

Bristly foxtail: All photos, ©Luigi Rignanese.

Bromes: Ripgut/Red: TL, TC and BC, ©Gary McDonald; BL, John M. Randall, The Nature Conservancy, Bugwood.org; FR, ©Luigi Rignanese.

Buffalobur: FL, TR and BR, ©Debra L. Cook; TC, Susan Donaldson; BC, Wendy Hanson Mazet.

Buffelgrass: All photos, ©Keir Morse.

Bull thistle: TL, BC and BR, Susan Donaldson; TC, TR and BL, Melody Hefner.

Bur buttercup: TL and BR, ©Steve Matson; TC and TR, Nate Weber; BL, Susan Donaldson; BC, Gary Monroe.

Chicory: TL, C and BR, Susan Donaldson; BL, ©Robert F. Norris; TR, ©Zoya Akulova-Barlow.

Clasping pepperweed: FL, TC and FR, Wendy Hanson Mazet; BC, Melody Hefner.

B: bottom, BC: bottom center, BL: bottom left, BR: bottom right, C: center, CL: center left, CR: center right, FL: far left, FR: far right, T: top, TCL: top center left, TL: top left, TC: top center, TR: top right

Common burdock: TL and TR, ©Louis-M. Landry; BL, ©Zoya Akulova-Barlow; BR, ©2010 Barry Breckling.

Common cocklebur: TR, ©Neal Kramer; all other photos, Wendy Hanson Mazet.

Common lambsquarters: TL, CR and BR, Susan Donaldson; BL, C and TR, Wendy Hanson Mazet.

Common mallow: BC, Wendy Hanson Mazet; all other photos, Susan Donaldson.

Common mullien: TC, Melody Hefner; all other photos, Susan Donaldson.

Common purslane: TL, TR and BL, Susan Donaldson; all other photos, Melody Hefner.

Common teasel: All photos, Susan Donaldson.

Coyote tobacco: TL, TC and TR, ©Steve Matson; BL, BC and BR, Wendy Hanson Mazet.

Crabgrasses: Large/Smooth: TL and TR, Melody Hefner; BL, Susan Donaldson, C, ©Zoya Akulova-Barlow, BR, ©Robert F. Norris.

Curly dock: TL and TR, Susan Donaldson; BL, TC and BC, Wendy Hanson Mazet; BR, Melody Hefner.

Curlycup gumweed: TL, TC, TR and BL, Susan Donaldson; BC and BR, Wendy Hanson Mazet.

Dandelion: TL, TR and BC, Susan Donaldson; BL, Melody Hefner; BR, Wendy Hanson Mazet.

Dodder: TL, ©Charles Webber, California Academy of Sciences; BL, Susan Donaldson; C, ©Neal Kramer; TR and BR, Wendy Hanson Mazet.

Downy brome: FL, TC and TR, Susan Donaldson; BC, Melody Hefner; BR, Nate Weber.

Field bindweed: TL and B, Melody Hefner; TC and TR, Susan Donaldson.

Field pennycress: FL, ©Keir Morse; FR, Steve Dewey, Utah State University, Bugwood.org; TL, ©Neil Kramer; TR and BC, ©Louis-M. Landry.

B: bottom, BC: bottom center, BL: bottom left, BR: bottom right, C: center, CL: center left, CR: center right, FL: far left, FR: far right, T: top, TCL: top center left, TL: top left, TC: top center, TR: top right

Fivehook bassia: TL and BL, ©Steve Matson; TC, ©Zoya Akulova-Barlow; TR, BC and BR, Nate Weber.
Flixweed: TL, BL and C, Susan Donaldson; TR and BR, Melody Hefner.
Foxtail barley: TL and BL, ©Robert F. Norris; TR and BR, Susan Donaldson.
Goosegrass: TL and BR, Aaron Patton, Purdue University; BL, ©Dale Ritenour; TR, ©Robert F. Norris.
Halogeton: TL and BR, ©Zoya Akulova-Barlow; TR and BL, ©Neal Kramer.
Hare barley: TL, TC and BC, ©Robert F. Norris; BL and FR, Susan Donaldson.
Hoary tansyaster: BC, ©2015 Barry Breckling; all other photos, ©Zoya Akulova-Barlow.
Horseweed: FL and TC, Wendy Hanson Mazet; BC and TR, Melody Hefner; BR, Nate Weber.
Jointed goatgrass: TL and TR, CDFA 2001; TC, BL and BR, ©Al Keuter; BC, Nate Weber.
Kochia: TL, BL and TR, Susan Donaldson; TC, Wendy Hanson Mazet; BC and BR, Melody Hefner.
London rocket/Black mustard: FL, ©2010 Barry Breckling; TC and BC, ©Zoya Akulova-Barlow; FR, ©Debra L. Cook.
Nutsedges: Yellow/Purple: TL, TC and BC, ©Ron Vanderhoff; all other photos, Wendy Hanson Mazet.
Pigweeds: Redroot/Prostrate: TL, TR and BL, Melody Hefner; TC and BR, Susan Donaldson.
Plantains: Broadleaf /Buckhorn: All photos, Susan Donaldson.
Poverty sumpweed: All photos, Wendy Hanson Mazet.
Prickly lettuce: TC, Wendy Hanson Mazet; all other photos, Susan Donaldson.
Prostrate knotweed: FL, TC and BR, Susan Donaldson; BC and TR, ©Keir Morse.

B: bottom, BC: bottom center, BL: bottom left, BR: bottom right, C: center, CL: center left, CR: center right, FL: far left, FR: far right, T: top, TCL: top center left, TL: top left, TC: top center, TR: top right

Quackgrass: TL and TR, Steve Dewey, Utah State University, Bugwood.org; BL, ©Robert F. Norris; C and BR, ©Lous-M. Landry.

Redstem filaree: TL, TC, BL and BR, Susan Donaldson; TR, Wendy Hanson Mazet; BC, Melody Hefner.

Russian thistle: BC, Melody Hefner; all other photos, Susan Donaldson.

Saltgrass: TL, Melody Hefner; C, Wendy Hanson Mazet; all other photos, ©Robert F. Norris.

Sandburs: Longspine/Field: TL, ©Steve Matson; BL and TC, ©Trent Draper; TR, Howard F. Schwartz, Colorado State University, Bugwood.org; BR, ©Robert F. Norris.

Scouring rush/Field horsetail: TC and BL, ©Jean Pawek; FR, ©Amadej Tmkoczy; all other photos, ©Louis-M. Landry.

Sowthistles: Annual/Spiny: TL, Joseph D. Tomaso, University of California, Davis, Bugwood.org; TR, Forest and Kim Starr, Starr Environmental, Bugwood.org; BR, Wendy Hanson Mazet; all other photos, Melody Hefner.

Spurges: Prostrate/Spotted: TC, Melody Hefner; BL, Susan Donaldson; all other photos, Wendy Hanson Mazet.

Stinkgrass/Mexican lovegrass: BR, Joseph M. DiTomaso, University of California, Davis, Bugwood.org; all other photos, Melody Hefner.

Sweetclovers: Yellow/White: BL and TCL, Wendy Hanson Mazet; all other photos, ©Robert F. Norris.

Tumble mustard: TL, Nate Weber; all other photos, Susan Donaldson.

Velvetleaf: TL and BC, ©Robert F. Norris; TC and FR, ©Zoya Akulova-Barlow; BL, Susan Donaldson.

Western salsify: TR, Joseph M. DiTOmaso, UC Davis, Bugwood.org; all other photos, Wendy Hanson Mazet.

B: bottom, BC: bottom center, BL: bottom left, BR: bottom right, C: center, CL: center left, CR: center right, FL: far left, FR: far right, T: top, TCL: top center left, TL: top left, TC: top center, TR: top right

Weeds Listed by Family

University of Nevada
Cooperative Extension

Nevada Nuisance Weed Field Guide

USDA United States Department of Agriculture
National Institute of Food and Agriculture