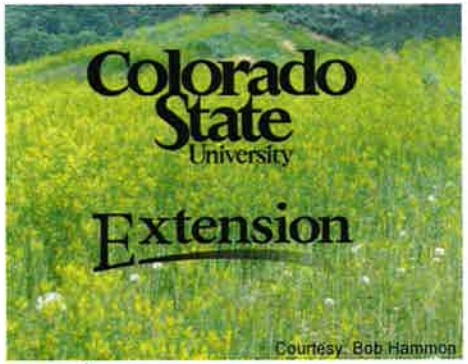
Noxious Weed Management Pocket Guide for

Gunnison County
COLORADO



Colorado State University Extension · USDA · NRCS

Sustainable Small Acreages

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This brochure was created to increase awareness of Noxious Weeds, the importance of identification, the importance of a weed management program, and some methods of weed control based on local, state and national research-based information.

How do I control weeds on my property?

1. Identify the weeds on your property.
2. Once a weed is identified, understand the life cycle of the weed
   - winter or summer annual
   - biennial
   - simple or creeping perennial
3. Understand the types of controls
   - Preventative
   - Biological
   - Cultural
   - Chemical
   - Mechanical
4. Develop a weed management plan
   - planning saves money and increases effectiveness
   - include long term monitoring to address any reinfestations.
   - timing is a critical part of successful weed control. Regardless of which combination of control methods are used, implementing those control methods at the correct stage of weed development will increase the chances for successful weed control in the shortest period of time, with the least cost.

It takes consistent persistence to win the war on weeds!

What are noxious weeds?

Noxious weeds are non-native plants that disrupt native vegetation because they have no natural controls and are able to adapt to varied conditions. As a result of the Colorado Noxious Weed Act, these weeds have been placed on three separate lists (weed names are color-coded corresponding to the list they are on):

List A plants: Eliminated everywhere

List B plants: Spread should be stopped

List C plants: Control is recommended

Palisade Insectory - Home of Colorado's Biological control program (CO Dept of Ag)

Effective management occurs over time and requires repeated exposure to the recommended techniques and control methods. After years of investment in mitigating the weeds on your property, the plant will eventually be destroyed.

This brochure is not meant to be all inclusive or restrictive, but offers guidelines and recommendations. References and photographs for this guide are thanks to the following sources:

US Department of Agriculture. http://plants.usda.gov/java/factSheet

Colo. Dept. of Ag. - Noxious Weed Management Program
www.colorado.gov/ag/weeds

Colo. Weed Management Association - Noxious Weed Info.
www.cwma.org/

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Weed Control Methods

Preventive: Prevention is the first and, perhaps, the most important step in a weed control program. In addition, prevention is probably the most cost-effective method of weed control. Methods include: maintaining healthy pastures, using weed-free crop seed, weed-free manure and hay, and clean harvesting and tillage equipment, as well as the elimination of weed infestations in areas bordering cropland, and in irrigation ditches and canals.

Cultural: Methods include, and are not limited to: Establishing and managing an adequate population of desirable vegetation to compete with the weeds; utilizing livestock (cattle, goats, sheep) when possible; mulching; burning; and even plastic weed barriers.

Mechanical: Methods include, and are not limited to: Hand-pull, hoe, mow and tillage.

Biological: Biological weed control involves the utilization of natural enemies for the control of specific weed species. Biological weed control is never 100% effective, and can take 5 to 10 years for success. However, this method can be successful especially when combined with other control methods.

Chemical: Always **read the label** before using any herbicide! Weed control with herbicides is an effective tool for many target weed species. However, there are several aspects to consider when choosing a chemical program. These include: ID of target weed; herbicide selection; timing of application; desirable crops or plant species near control areas; the number of applications per year, and the number of years for treatment. Sprayer calibration methods can be obtained from your local Extension office.
(*Sprayer Calibration Fundamentals*)
www.ext.colostate.edu/pubs/farmmgt/05003.html

Always add a nonionic surfactant @ 0.32 oz/gal (1qt/100 gal) unless otherwise noted.

Black Henbane

Hyoscyamus niger

Keys to Id

- Shallow lobed leaves.
- Sticky hairs on leaf.
- Flowers have purple center and veins.
- Foul odor.

Identification

- Lifecycle: Biennial forb
- Flower: Brownish-yellow with dark purple veins. On long racemes in the axils of the upper leaves.
- Seeds/Fruit: Fruits are approximately 1 in long, five-lobed, and clustered on 2 rows that emerge in the fall. Each fruit capsule contains hundreds of tiny seeds. Seeds are kidney-shaped to oval, brownish-gray to black, and pitted.
- Leaves: Alternate, coarsely toothed to shallowly lobed and pubescent with a characteristically foul odor.
- Stems: Mature plants are coarse, hairy, and 1-3 feet tall.
- Seedling: The large rosettes have serrated leaves that are covered with fine hair.
- Other: Poisonous to livestock, but rarely consumed.

Control

- *Mech:* Hand pull or dig, remove all parts of plant. Tillage may control, however, not advised.
- *Bio:* None currently available in Colorado.

HERBICIDE	RATE	TIMING
Metsulfuron (Escort XP)	1 oz / acre	Late bolt to early flowering. Surfactant is essential.
Picloram (Tordon 22K) *Restricted Use	1 qt / acre	When actively growing.
Dicamba (Banvel, Clarity, or Vanquish)	8-32 oz / acre	Rosette to bolting stages.

Canada thistle

Cirsium arvense (L.) Scop.

Keys to Id

- Purple flowers form in clusters of 1-5 per branch.
- Floral bracts are spineless.
- Small heads, vanilla scent.

Identification

- Growth form: Perennial forb
- Flower: Flowerheads are purple and borne in clusters of 1-5 per branch. Heads are only about 3/4 in wide. June-Oct.
- Seeds/Fruit: One-seeded fruits (achenes) are straw or light brown, straight or slightly curved
- Leaves: Leaves are spiny, alternate, oblong or lance-shaped, with the base leaves stalkless and clasping, or extended down along the stem.
- Stems: Mature plants range from 2-4 ft tall.
- Roots: Two types of roots, horizontal and vertical. The horizontal roots produce numerous shoots, while vertical roots store water and nutrients in their many small branches.
- Seedling: Early spring growth appears as rosettes with spiny-tipped, wavy leaves.
- Other: The floral bracts are spineless.

Control

- *Mech:* Mowing can be effective if done every 10 to 21 days throughout the growing season. Combine with other operations for effective long term control.
- *Bio:* Cattle, goats, and sheep will graze when plants are young and succulent in the spring.

HERBICIDE	RATE	TIMING
Aminopyralid (Milestone)	5-7 ounces/acre 1 t./gal water	Spring at the pre-bud growth stage and/or to fall regrowth.
Chlorsulfuron (Telar DF)	1-3 ounces/acre 0.50 gr/1 gal water	Spring during bud to bloom stage and/or to fall regrowth.
Clopyralid + 2,4-D (Redeem)	3 pints/acre 1.25 oz/gal water	Apply from rosette to bud stage when all plants have emerged.

Musk thistle

Carduus nutans

Keys to Id

- Broad, spine-tipped bracts located under the flower
- Flowering heads are terminal, solitary, and usually nodding
- Grows up to 6 feet tall

Identification

- Lifecycle: Biennial, or sometimes winter annual
- Growth form: Forb
- Flower: Heads are terminal, solitary, 1 1/2-3 in wide, and usually nodding. Deep rose, violet or purple, occasionally white. Flowers are subtended by broad, spine-tipped bracts. May-July.
- Seeds/Fruit: One-seeded oblong fruit (achene) about 0.2 inches long, shiny, yellowish-brown with a plume (pappus) of white hair-like bristles.
- Leaves: Alternate, dark green, deeply lobed, and spiny margined. The leaves extend onto the stem giving a winged appearance. Basal rosettes are well developed, leaves elliptical to lanceolate, 6-14 in, smooth to densely hairy.
- Stems: Mature plants can grow as tall as 6 ft. It can appear solitarily or with several stems from one base, and is highly branched above.
- Roots: Fleshy taproot

Control

- *Mech:* sever root below soil surface. Mowing when plants are at full-bloom, dispose of flower-head.
- *Bio:* seed head weevil and the crown weevil are effective on large infestations.

HERBICIDE	RATE	TIMING
Aminopyralid (Milestone)	5 fl. oz./acre	Spring rosette to early bolting or in fall to rosettes.
Metsulfuron (Escort XP)	1 oz. product/acre	Spring from rosette through very early flower stage.
Chlorsulfuron (Telar)	1 oz. product/acre	Spring from rosette through early flower stage.

Plumeless Thistle

Carduus acanthoides L

Keys to Id

- Flower heads occur in clusters of 2-5, purple to dark red in color.
- Alternate leaves, stalk-less, hairy on bottom.

Identification

- Lifecycle: Biennial
- Growth form: Forb
- Flower: Solitary at the ends of branches or in clusters of 2-5. Bracts appear as sharp spines. Purplish-pink; heads are 1-2 inches in diameter
- Leaves: Alternate, stalk-less, hairy underneath, coarsely lobed, basal leaves spiny.
- Stems: Spiney, can reach 48" tall.
- Roots: Fleshy taproot.
- Other: Plumeless thistle are distinguished from musk thistle by the leaf-like spines on stem and hairy leaf underside; flowers are 1/3rd size of musk.

Control

- *Mech:* Sever roots below soil surface; mow in full bloom and dispose of flowering heads-seeds can mature after plant is cut. Monitor to prevent reoccurrences.
- *Bio:* Seedhead weevil (*Larinus minutus*).

HERBICIDE	RATE	TIMING
Aminopyralid (Milestone)	5 oz/acre	Spring to early summer rosette to bolting growth stages or fall.
Clopyralid (Transline)	0.67 pint/acre	In rosette growth stage. (Spring or Fall)
Clopyralid + 2,4-D (Curtail)	2 quarts/acre	In rosette growth stage. (Spring or Fall)
Picloram (Tordon 22K) *Restricted Use	1-2 pints/acre	In rosette growth stage. (Spring or Fall rosettes)
2,4-D	1 quart/acre	In rosette growth stage. (Spring or Fall)

Perennial Pepperweed

Lepidium latifolium

Keys to Id

- Small white flowers in dense clusters.
- Waxy leaves with white midrib.
- Deep taproot.

Identification

- Lifecycle: Perennial Forb
- Flower: White; packed in dense clusters near the ends of branches. May-Aug.
- Fruit: Nearly round, about 0.1 inch in diameter and usually sparsely hairy.
- Leaves: Alternate, lance-shaped, entire to toothed, bright-green to gray-green, and don't have clasping bases. The basal leaves are larger than the upper leaves.
- Stems: Mature plants are 1-3 ft tall.
- Roots: Perennial pepperweed can form deep-seated rootstocks.
- Other: The leaves and stem are covered with a waxy layer.
- Exotics: Similar to Hoary cress, however leaves have clasping bases, and a waxy appearance.

Control

- *Mech:* Pull or dig is not an effective control method. Repeated short mowing early in season combined with chemical treatments can be effective.
- *Bio:* None currently available in Colorado.

HERBICIDE	RATE	TIMING
Chlorsulfuron (Telar)	1 oz / acre	Bolting to early flowering.
Metsulfuron (Escort XP)	1 oz / acre	Apply in spring during bolting stage.
Imazapic (Plateau)	12 oz / acre	Apply in flower to late flowering (Mid-summer).

Diffuse knapweed

Centaurea diffusa

Keys to Id

- Floral bracts have yellow spines with teeth like a comb and a distinct terminal spine.
- Flowers are white or lavender.
- Seedlings have finely divided leaves.

Spotted knapweed

Centaurea maculosa

Keys to Id

- Floral bracts have black tips, with comb-like spines of equal length.
- Flowers are pink to purple, but rarely white.
- Leaves are pinnately divided.

Control

- *Mech:* sever the root below the soil surface. Mowing is most effective when plants are at full-bloom.
- *Bio:* sheep, seedhead weevil (*Larinus minutus*), and the root weevil fly (*Cyphocleonus achates*).

HERBICIDE	RATE	TIMING
Aminopyralid (Milestone)	5-7 oz/acre 1 t./gal water	Spring at rosette to early bolt stage and/or in the fall to rosettes.
Clopyralid + 2,4-D (Curtail)	2-3 qts./acre	Apply in spring and fall to rosettes.
Clopyralid + Triclopyr (Redeem R&P)	1.5-2 pints/acre 0.75 oz/gal	Rosette to early bolt stage of growth and/or in the fall to rosettes.

Russian knapweed

Acroptilon repens (L.) De Candolle

Keys to Id

- Distinguished by the pointed papery tips of the floral bracts.
- The roots are dark brown and have scale leaves.

Identification

- Growth form: Perennial forb
- Flower: Heads are urn-shaped, solitary, and composed of disk flowers. Floral bracts are broad, ovoid, entire, and greenish at the base with papery, finely hairy edges. The petals are pink or purple.
- Seeds: Oval, grayish or ivory, with long white bristles (pappus) at the tip when young.
- Leaves: Alternate. Lower stem leaves are narrowly oblong to lance-shaped, and deeply lobed. The upper leaves are oblong, toothed, and become progressively smaller. Rosette leaves are lance-shaped, tapering at both ends, broadest at the tip.
- Stems: Mature plants are between 18-36 inches tall. The stems are erect, thin, stiff, branched, and when young are covered with soft, short, gray hair.
- Roots: Well-developed, recognizable by their black color and presence of small scale leaves.
- Seedling: The seed leaves are oval, with shallow toothed or smooth edges. The surface of the leaves looks grayish-green, but is not hairy.

Control

- *Mech:* Mowing repeatedly before the plants bolt during the summer, then herbicide in the fall.
- *Bio:* gall midge *(Jaapiella ivannikovi)*

HERBICIDE	RATE	TIMING
Aminopyralid (Milestone)	4-6 oz/acre	Bud and flowering stage and to dormant plants in the fall.
Picloram (Tordon 22K) *Restricted Use	1 qt./acre 1 oz/gal water	Apply in spring to bud/early flower stage or fall rosette.
Chlorsulfuron (Telar)	1-3 oz/acre 2/3 gr./gal water	Apply in spring from pre-bloom to bloom and to fall rosettes.

Wild caraway

Carum carvi

Keys to Id

- First year rosettes have carrot-like leaves and slender tuber.
- Mature plants have hallowed stems & small white or pink flowers in umbrella-like clusters.

Identification

- Lifecycle: Biennial (perennial)
- Growth form: Forb
- Flower: small, white or pinkish, and occur in terminal or lateral loose clusters.
- Seeds: narrow, oblong, brown, and have five distinct tan, linear, ribs.
- Leaves: Alternate; Shoot leaves normally oblong or oval in shape. Stem leaves resemble those of carrots in shape, but are more droopy.
- Stems: Mature plants are 1-3 ft tall, slender, hollow.
- Roots: Taproot.
- Other: Smell like caraway.

Control

- *Mech:* Hand pull when in bolting stage. Mowing is not effective. Reduce spread of seed by bagging, removal, and proper disposal to reduce spread.
- *Bio:* None currently available in Colorado.

HERBICIDE	RATE	TIMING
Metsulfuron (Escort XP)	1 oz / acre	At bolting to bud growth stages. (Spring to early summer).
2,4-D	2 qt./acre	At rosette to bud growth stages (Spring or Fall on rosettes).

Yellow toadflax

Linaria vulgaris P. Miller

Keys to Id

- Yellow flowers that are like snapdragons with deep orange centers.
- Stems that are woody at the base and smooth to the top.

Identification

- Lifecycle: Perennial
- Growth form: Forb
- Flower: Bright yellow and resemble snapdragons, singly on ends of branches, sharp thorns below.
- Seeds: Capsules are round-ovate, and two-celled. Seeds are brown or black, circular, and surrounded by a notched wing.
- Leaves: Soft, lance-shaped, and pale green. Mainly alternate; lower leaves appear to be opposite.
- Stems: Mature plants are 1-3 feet tall with 1-25 smooth erect floral stems covered with cottony hairs
- Roots: Deep taproot, long horizontal roots that can develop adventitious bud sprouts.
- Other: Closely related to Dalmatian toadflax (whos leaves are shorter, wider, and clasp the stem.)

Control

- *Mech:* Long term, persistent hand pulling, or digging, can reduce occurance in lieu of herbicide use.
- *Bio: Calophasia lunula,* a predatory noctuid moth, *Eteobalea intermediella,* a root boring moth and *Mecinus janthinus,* a stem boring weevil are currently available in Colorado.

HERBICIDE	RATE	TIMING
Picloram (Tordon 22K*) *Restricted	1.5 qts/acre 1 oz/gal	Apply at mid-flowering to late fall
Chlorsulfuron (Telar)	1.25 oz/acre added to Tordon	Apply at mid-flowering to late fall (Aug thru Sept)

Absinth wormwood

Artemisia absinthium

Keys to Id

- Small yellow flowers.
- Silver-grey leaves.
- Well branched, can reach 3 ft in height.
- Sage like odor.

Identification

- Lifecycle: Perennial
- Growth form: Forb
- Flower: Small, yellow, inconspicuous, numerous ⅛ in wide. July - August.
- Seeds: One seeded fruit, 1/16 in long, smooth, flat and light gray-brown in color.
- Leaves: Divided into deeply lobed leaflets, light green to olive green color, 2-5 in long.
- Stems: 20 or more stems grow from woody crown. Covered with fine silky hairs.
- Roots: Taproot to 2 in diameter with shallow lateral branches up to 6 ft long.
- Other: Strong sage-like odor.

Control

- *Mech:* Hand pull or dig, remove all parts of plant. Repeated short mowing can stress plant.
- *Bio:* None currently available in Colorado.

HERBICIDE	RATE	TIMING
Aminopyralid (Milestone)	6-7 oz. / acre	Apply at spring, after reaches 12", before flowering.
2,4-D + Clopyralid (Curtail)	2 qts / acre	Apply at spring, after reaches 12", before flowering.
Dicamba (Banvel, Clarity, or Vanquish)	1 qt / acre	Apply at spring, after reaches 12", before flowering.

Leafy spurge

Euphorbia esula L.

Keys to Id

- Flowers are yellowish-green and have a pair of heart shape yellow-green bracts below each inconspicuous flower.
- The entire plant contains white, milky latex.

Identification

- Lifecycle: Perennial
- Growth form: Forb
- Flower: Numerous small clusters of small yellowish-green enclosed by paired heart-shaped yellow-green bracts. May-July.
- Seeds: Oblong, grayish to purple, in a capsule.
- Leaves: Alternate, narrow (1/4" wide), 1-2.5" long.
- Stems: Erect and unbranched (except at flower), thickly clustered, can reach 3 ft tall
- Roots: Extensive lateral root system.
- Seedling: Seed leaves (cotyledons) are linear to lanceolate, with entire margins.
- Other: The entire plant contains white, milky latex. Foliage of the plant is smooth and hairless.

Control

- *Mech:* Mowing will reduce seed production, repeat every often, combine with other treatments.
- *Bio:* Both sheep and goats can be effective grazers. Flea beetles (*Aphthona* spp.), are effective especially when combined with grazing and/or herbicide.

HERBICIDE	RATE	TIMING
Picloram (Tordon 22K *Restricted Use*)	1 qt./acre 1 oz/gal water	Spring, just after full-bloom and/or fall.
Imazapic (Plateau)	12 oz/acre 0.4 oz/gal water	Fall only treatment prior to hard freeze.
2,4-D Amine	2-3 qts/acre 2-3 oz/gal water	Early spring and fall. Prevents seed formation

Hoary Cress (Whitetop)

Cardaria draba

Keys to Id

- White flowers.
- Grows erect 10-24" in height
- Leaf is 3/4-4" long with blunt end and fine white hairs.

Identification

- Lifecycle: Perennial
- Growth form: Forb
- Flower: Numerous white flowers with four petals, plant has white, flat-topped appearance. May-June.
- Seeds/Fruit: Seed capsules are heart shaped, and contain two reddish-brown seeds.
- Leaves: Alternate, blue green, and lance-shaped. Lower leaves are stalked, while the upper leaves have two lobes clasping the stem.
- Stems: Mature plants reach 2 ft tall with erect stems
- Roots: Rhizomatous; 29-32 inches deep

Control

- *Mech:* Mowing several times before the plants bolt stresses it and allows for better chemical efficacy. Hand pull small infestation, removal ALL roots.
- *Bio:* none currently available in Colorado.

HERBICIDE	RATE	TIMING
Metsulfuron (Escort XP)	1 oz/acre	Apply at the early bud growth stage; i.e. "broccoli" growth stage. (Early Spring to Early Summer)
Chlorsulfuron (Telar)	1 oz/acre	Apply at the early bud growth stage; (Early Spring to Early Summer)
Imazapic (Plateau)	12 fl. oz./acre + 2 pints/acre methylated seed oil or crop oil concentrate	Apply at late flower to post-flower growth stage. (Late Spring to Mid Summer)

Houndstongue

Cynoglossum officinale

Keys to Id

- Panicles of reddish-purple with 5 petals and 5 soft, hairy sepals.
- Velcro-like seeds with 4 nutlets.

Identification

- Lifecycle: Biennial
- Growth form: Forb
- Flower: Flowers are reddish-purple, with five petals, arranged in panicles in the upper leaf axils.
- Seeds/Fruit: The fruit is composed of four prickly nutlets each about 1/3 inch long
- Leaves: Alternate, 1-12 inches long, 1-3 inches wide, rough, hairy, and lacking teeth or lobes. Basal leaves are elliptical and tapered at the base.
- Stems: Produces a single flowering stem. Stem is erect, stout, heavy, 1.5-3 ft tall, branched above.
- Roots: Thick, black, woody taproot.
- Seedling: Forms a rosette in the first year.

Control

- *Mech:* Cut or pull, and remove entire root crown when in the rosette stage. Remove the accumulated dense litter layer to stimulate germination of desired plants. Mow or cut flowering stems before seed nutlets develop .
- *Bio:* none currently available in Colorado.

HERBICIDE	RATE	TIMING
Metsulfuron Methyl + Chlorsulfuron (Cimarron X-tra)	2.0 oz. / acre	Apply in spring rosette to early bud growth stages.
Picloram + 2,4-D (Grazon P+D) *Restricted Use	4 pints / acre	Apply in spring rosette stage.

Oxeye daisy

Chrysanthemum leucanthemum L.

Keys to Id

- Creeping perennial; Daisy-like; grows 10 inches to 2 feet tall.
- White ray flower on yellow disk; 2" diameter.
- Flower pedals are wider than native daisy flowers.

Identification

- Lifecycle: Perennial, short-lived
- Growth form: Forb
- Flower: Heads are solitary at the ends of branches. Heads are white ray flowers & yellow disk flowers.
- Seeds/Fruit: Fruits have about 10 ribs.
- Leaves: Alternately arranged leaves become progressively smaller upward along the stem. The upper leaves become stalk-less and toothed. Basal and lower stem leaves are 2-5"long, spoon-shaped. Stems: Mature plants are 10-24 in tall with erect, smooth to sparsely hairy stems.
- Roots: Shallow, branched rhizomes.
- Other: Oxeye daisy is easily confused with the ornamental Shasta daisy which has a root ball and is a more robust plant with larger flowers.

Control

- *Mech:* Hand pull or dig when soil is moist and infestations are small, be sure to pull up all roots. Mowing is not effective, stop seed spread by removal.
- *Bio:* Goats or sheep can be effective. There are no insect biological controls currently available.

HERBICIDE	RATE	TIMING
Metsulfuron (Escort XP)	1 oz/acre	Surfactant is absolutely necessary. Apply at flowering growth stage. (Summer)
Chlorsulfuron (Telar)	1 oz/acre	Surfactant is absolutely necessary. Apply at flowering growth stage. (Summer)

Scentless Chamomile

Matricaria perforate

Keys to Id

- Flowers have a yellow center disk, with white petals around.
- Odorless when crushed.
- Leaves are alternate, finely divided.

Identification

- Lifecycle: Annual, biennial or short-lived perennial.
- Growth form: Forb
- Flower: White, ¾ inch daisy like flowers that are solitary on each stem.
- Seed: Continually produces flowers and seed all season. One flower head can produce 300 seeds.
- Leaves: Alternate, finely divided and fernlike.
- Stems: 6 in. to 3 feet tall; numerous branches.
- Roots: Large and fibrous.
- Seedling: Seedlings emerging in spring can produce a dense mat, out competing other species.

Control

- *Mech:* Hand pulling small populations; frequent, shallow tillage in non-native areas. Mowing is not effective. Prevent seed production. Combine efforts with chemical options for effective control.
- *Bio:* Nothing available in Colorado.

HERBICIDE	RATE	TIMING
Metsulfuron (Escort XP)	0.33 oz/ac	Apply when plant is in rosette to bolting growth stage.
Chlorsulfuron (Telar)	0.33 oz /ac	Apply when plant is in rosette or bolting growth stage.
Aminopyralid (Milestone)	7 fl oz/ac	Apply when plant is in rosette growth stage.

Common Mullein

Verbascum thapsus

Keys to Id

- Leaves - felt-like, bluish green in color.
- 5-10ft. tall flower spike.
- Biennial, rosette year 1, tall flowering stem year 2.

Identification

- Lifecycle: Biennial
- Growth form: Forb
- Flower: 5 lobed sulfur to pale yellow color, developing as the flower spike extends.
- Seeds: Numerous tiny, angular, brownish seeds in 2-chambered capsules.
- Leaves: Year 1: rosette leaves are felt-like soft, and bluish-green in color; Year 2; large fuzzy alternate overlapping leaves on stem.
- Stems: Produces a single flowering stem. Stem is erect, 2-8 ft tall; dried stalks stand through winter.
- Roots: Shallow taproot.
- Seedling: Forms a rosette in the first year

Control

- *Mech:* Dig or pull, and remove entire root when in the rosette stage. Will not tolerate tillage. Mowing is not as effective, repeated mowing is necessary.
- *Bio:* none currently available in Colorado
- *Chemical:* must apply with surfactant to aid in the penetration of chemical through the hairs on leaves.

HERBICIDE	RATE	TIMING
Metsulfuron = Methyl + Chlorsulfuron (Cimarron X-tra)	0.5 oz. / ac	Apply at rosette stage.
Glyphosate	12-16 oz. / ac	Apply in spring rosette stage.

Downy brome (Cheatgrass)

Bromus tectorum

Keys to Id

- Drooping seedhead
- Densely hairy leaves
- Green-up in early spring
- Changes to purple/tan in early summer

Identification

- Lifecycle: Summer/Winter Annual.
- Growth form: Grass
- Flower: panicles (loose, irregularly compound flowering part of plant with flowers borne on individual stalks).
- Seeds: Spikelets including awns are 0.8-2"long, nodding, with 2-8 florets.
- Leaves: Light-green and hairy. Lower sheaths are conspicuously hairy, upper sheaths are smooth.
- Stems: Erect, slender, glabrous, or slightly hairy.
- Roots: Fibrous root system.

Control

- *Cultural*: Maintain healthy stand of natives/desired perennials, carefully manage grazing to ensure protection of desired plant species.
- *Mech:* Cutting or mowing has a negligible effect, repeated hand pulling or grazing before seed set.

HERBICIDE	RATE	TIMING
Glyphosate	6 - 12 oz / acre	Apply early spring prior to seed set
Imazapic (Plateau)	2 - 12 oz / acre	Late summer to early fall before emergence

Field Bindweed

Convolvulus arvensis

Keys to Id

- Flowers are funnel-shaped, white to pink, and have two small bracts one inch below the flower base.
- Leaves are shaped like arrowheads.

Identification

- Lifecycle: Perennial
- Growth form: Forb
- Flower: bell or trumpet-shaped, white to pink in color, and are about 1 inch long, small bracts below.
- Seeds/Fruit: Seeds can remain viable for 40 years.
- Leaves: Alternate, arrowhead shaped.
- Stems: Prostrate, many feet in length.
- Roots: Rhizomatous with deep taproot.

Control

- *Mech:* Cutting, mowing, or pulling has a negligible effect unless the plants are cut below the surface in the early seedling stage.
- *Bio:* The bindweed gall mite, *Aceria mahlerbae, and bindweed moth, Tyta luctuosa* are effective in Colo.

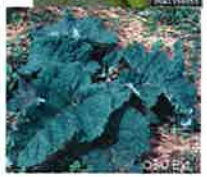
HERBICIDE	RATE	TIMING
Clarity + 2,4-D Amine (temp must be below 85°)	1 qt/acre 1 oz/gal water	Just after full-bloom and/or fall. DO NOT apply near or under trees/ shrubs or where soils have rapid permeability.
Tordon 22K* *Restricted Use	1 qt/acre 1 oz/gal water	Just after full-bloom and/or fall. DO NOT apply near or under trees/ shrubs or where soils have rapid permeability.
Roundup Ultra* *non-selective herbicide	4-5 qts/acre 4-5 oz/gal	Apply at full-bloom and/or in fall.

Common Burdock

Arctium minus

Keys to Id

- Large heart shaped leaf.
- Burs with hooked bristle.
- Biennial, rosette year 1, tall flowering stem year 2.



Identification

- Lifecycle: Biennial.
- Growth form: Forb
- Flower: Each head is bristles with hooked tips that form a round bur under a closely packed cluster of many individual, tube-shaped, reddish-purple flowers. Alone or grouped on short stalks attached to the end of main branches.
- Seed: 1/4"-long, brown, oblong, angular with a short, stiff bristle at one end.
- Leaves: Alternate, large rosette leaves attached to the stem by way of hollow petioles that may be purple-tinged. Upper leaf surface is dark green, underside is pale gray-green and wooly.
- Stems: Year 1, stem is close to the soil surface. Year 2, the stem elongates reaches 2-6 feet tall.
- Roots: thick, fleshy taproot, brown, corky, shredded.

Control

- *Mech:* Hand pull dig when flowering. Mowing or top cutting is effective. Intolerant of cultivation.
- *Bio:* Nothing available in Colorado.

HERBICIDE	RATE	TIMING
2,4-D, or dicamba, or picloram	1 lb. ai / ac	Year 1 rosette application is most effective.
Glyphosate	1.5 lb. ai / ac	Prior to bud formation.

Backyard Weed Control Tips

Weeds (or undesirable vegetation) are a concern anytime they compete with the desired vegetation of your landscape or garden area. Weeds are opportunistic and will occupy any space that they can readily invade. Know that tolerating a few weeds can allow a healthy, functioning, attractive sustainable system.

Proper management, whether it be healthy turfgrass, adequate native plantings, or adequate mulch depth, can help to severely limit the impact that invasive and weed plants have.

The best weed control is prevention!

An integrated management approach to weed prevention will allow for the best results to reduce any weed concerns on your property. This takes time and attention over the long term to achieve successful results.

Additional Resources:

Gunnison County Extension Office
(970) 641-1260
eric.mcphail@colostate.edu

Gunnison County Weed District
(970) 641-4393
JMugglestone@gunnisoncounty.org

Gunnison County CSU Extension
www.gunnison.colostate.edu

Gunnison County Weed District
http://gunnisoncounty.org/public_works_weed_district.html

Preparation of small spray quantities of pesticides
www.ext.colostate.edu/pubs/garden/07615.pdf

CSU Ext, Weed Management for small rural acreages
www.ext.colostate.edu/pubs/natres/03106.pdf

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