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.

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

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 for this guide are thanks to the following sources:

- US Department of Agriculture: [http://plants.usda.gov/java/factSheet](http://plants.usda.gov/java/factSheet)
- CO Dept. of Ag. - Noxious Weed Management Program: [https://www.colorado.gov/pacific/agriculture/noxiousweeds](https://www.colorado.gov/pacific/agriculture/noxiousweeds)

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It takes consistent persistence to win the war on weeds!

Weed Control Methods

**Preventive**: Prevention is the first and, perhaps, the most important step in 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.

Fact Sheet: [Sprayer Calibration Fundamentals](https://extension.colostate.edu/topic-areas/agriculture/sprayer-calibration-fundamentals-5-003/)

Always add a nonionic surfactant @ 0.32 oz/gal (1qt/100 gal) unless noted.
### 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 feets in length
- Roots: Shallow 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, Tyta luctuosa

<table>
<thead>
<tr>
<th>HERBICIDE</th>
<th>RATE</th>
<th>TIMING</th>
</tr>
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<tbody>
<tr>
<td>Aminopyralid</td>
<td>0.5 oz./acre</td>
<td>Apply at rosette stage.</td>
</tr>
<tr>
<td>Tordon 22K</td>
<td>0.5 oz./acre</td>
<td>Apply at rosette stage.</td>
</tr>
<tr>
<td>Glyphosate</td>
<td>5-10 lb./acre</td>
<td>Apply at rosette stage.</td>
</tr>
</tbody>
</table>

### Common Mullein
**Verbascum thapsus**

**Keys to Id**
- Leaves - felt-like, bluish green in color.
- 5-10ft. tall flower spike.

**Identification**
- Lifecycle: Biennial
- Growth form: Forb
- Flower: 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, 2-4 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.

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### Hoary Cress
**Cassia tora**

**Keys to Id**
- White flowers.
- Grows erect 10-24" in height
- Leaf is 3/4-4" long with blunt 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.

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<td>Chlorsulfuron</td>
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<td>Apply at rosette stage.</td>
</tr>
<tr>
<td>Imazapic</td>
<td>0.5 oz./acre</td>
<td>Apply at rosette stage.</td>
</tr>
<tr>
<td>Mecloziner</td>
<td>0.5 oz./acre</td>
<td>Apply at rosette stage.</td>
</tr>
</tbody>
</table>

### Hoary Cress (Whitetop)
**Cardaria draba**

**Keys to Id**
- White flowers.

**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.

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<td>Mecloziner</td>
<td>0.5 oz./acre</td>
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**Keys to Id**
- Flower: Broader urn-shaped, 0.6-0.8 in tall, terminal solitary or in clusters of 2-3. Floral bracts are yellowish with a brownish margin, fringed on the sides, and terminating in a slender bristle or spine. The heads contain two types of flowers, ray flowers (white, rose-purple, to lavender) around the edges surrounding tubular disk flowers. June-Aug.
- Seed/Fruit: Fruits are egg-shaped capsules. Seeds are short, black, and have a semi-woody heart.
- Seeds: Seeds are light brown to black. Seed capsules are 1.5 in. tall, with 25 vertical, narrow, hairy segments. Stem leaves are smaller, thinner, stiffer, branched, and when young are covered with soft, short, gray hair.
- Leaves: Roots are dark brown and look grayish along the edges with presence of small scale leaves. The roots are woody at the base and smooth to the touch.

**Control**
- Mech: hand pulling, for many years after 1st detection, is recommended for eradication.
- Bio: Calophasia lunula, a predatory noctuid moth, Eteobates intermediella, a root boring moth and Mecinus janthinus, a stem boring weevil are currently available in Colorado.

**Identification**
- Growth form: Perennial
- Flower: Heads are urn-shaped, solitary, and composed of disk flowers. The heads 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 and yellowish filaments at the tip when young.
- Leaves: Alternate. Lower 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.

**Control**
- Mech: Mowing repeatedly before the plants bolt during the summer, then herbicide in the fall.
- Bio: gall midge (Jaapellis iravanikovi) is available in some areas.

**HERBICIDE**
- Aminopyralid (Milestone)
  - RATE: 5-7 oz/acre
  - TIMING: Spring at rosette to early bolt stage and/or in the fall to rosettes.
- 2,4-D Amine (temp must be below 60°F)
  - RATE: 1 qt/acre
  - TIMING: Spring/fall rosettes - before flowering stalk length.
- Clopyralid + Triclopyr (Redeem R&P)
  - RATE: 1.5-2 pints/acre, 0.75 oz/gal
  - TIMING: Rosette to early bolt stage of growth and/or in the fall to rosettes.
- Picloram (Tordon 22K)
  - RATE: 1.5 qts/acre
  - TIMING: Apply at mid-blooming to late fall
- Chlorsulfuron (Telor)
  - RATE: 1.25 oz/acre
  - TIMING: Added to Tordon and Apply at mid-blooming to late fall (Aug thru Sept)
- Picloram (Tordon 22K)
  - RATE: 1 oz/gal water
  - TIMING: Restricted
- Chlorsulfuron (Telor)
  - RATE: 2.3 oz/acre
  - TIMING: Apply at spring flowering or in fall
- 2,4-D + Dicamba (Rangestar)
  - RATE: 2.75 oz/acre
  - TIMING: Apply at spring flowering or in fall

**Yellow toadflax**
*Linaria vulgaris P. Miller*

**Keys to Id**
- Yellow flowers that are similar to snapdragons with deep orange centers.
- Stems that are woody at 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 1-2 feet tall with 1-25 smooth erect floral stems covered with cottony hairs
- Roots: Deep taproot, long horizontal roots that can develop adventitious buds.
- Other: Closely related to Dalmatian toadflax (who leaves are shorter, wider, and clasp the stem.)

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

**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
- 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 and yellowish filaments at the tip when young.
- Leaves: Alternate. Lower 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.

**Control**
- Mech: Mowing repeatedly before the plants bolt during the summer, then herbicide in the fall.
- Bio: livestock, seedhead weevil (Larnus minutus), and the root weevil fly (Cyphocleonus achates)

**HERBICIDE**
- Aminopyralid (Milestone)
  - RATE: 4-6 ounces/acre
  - TIMING: Bud and flowering stage and to dominant plants in the fall.
- Picloram (Tordon 22K) *Restricted Use*
  - RATE: 1 qt/acre
  - TIMING: Apply in spring to mid-blooming stage and to fall rosettes.
- Chlorsulfuron (Telor)
  - RATE: 1-3 oz/acre
  - TIMING: 2/3 gr./gal water
- Picloram (Tordon 22K) *Restricted*
  - RATE: 1.0 oz/gal water
  - TIMING: Apply at mid-blooming to late fall
- Chlorsulfuron (Telor)
  - RATE: 2.4 oz/acre
  - TIMING: Apply at mid-blooming to late fall
- 2,4-D + Dicamba (Rangestar)
  - RATE: 2.75 oz/acre
  - TIMING: Apply at spring flowering or in fall
**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 encased 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.
- 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 2 to 4 weeks during the growing season.
- Bio: Both sheep and goats can be effective grazers. Flea beetles (Aphthona spp.), are effective especially when combined with grazing and/or herbicides.

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**Spotted knapweed**

*Centaurea maculosa* L.

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

**Identification**
- Lifecycle: Biennial or short-lived perennial
- Growth form: Forb
- Flower: Flowering heads are solitary at the ends of branches. The floral bracts are stiff and tipped with a dark comb-like fringe. The flowers are pinkish-purple or rarely cream colored.
- Seeds: Have a tuft of persistent bristles.
- Leaves: Alternate rosette leaves are up to 6 in long, and deeply lobed. The principal stem leaves are pinnately divided, have smooth margins, and become smaller toward the top of the shoot.
- Stems: Mature plants are 1-3 ft tall, single stemmed.
- Roots: Spotted knapweed has a stout taproot.
- Seedling: Rosettes of spotted and diffuse knapweed are nearly indistinguishable. Leaves are narrower and 1-2 times pinnately divided.

**Control**
- Mech: Mowing reduces seed production, repeat every 2 to 4 weeks during the growing season.
- Bio: Head Weevil and the crown Weevil are effective on large infestations.

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**Musk thistle**

*Carduus nutans* L.

**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 solitary or with several stems from one base, and is highly branched above.
- Roots: Fleshy taproot

**Control**
- Mech: Sever the root below the soil surface. Mowing is most effective when plants are at full-bloom.
- Bio: Seed head weevil and the crown weevil are effective on large infestations.

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**HERBICIDE**

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</tr>
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<tbody>
<tr>
<td>Picloram (Tordon 22K &quot;Restricted Use&quot;)</td>
<td>1 qt/acre</td>
<td>1 oz/gal water</td>
</tr>
<tr>
<td>Imazapic (Plateau)</td>
<td>12 oz/acre</td>
<td>0.4 oz/gal water</td>
</tr>
<tr>
<td>2,4-D Amine</td>
<td>2-3 qts/acre</td>
<td>2-3 oz/gal water</td>
</tr>
<tr>
<td>Aminopyralid (Milestone)</td>
<td>5-7 ounces/acre</td>
<td>1 l/acre</td>
</tr>
<tr>
<td>Clopyralid (Transline, Stinger)</td>
<td>2/3 - 1 pint/acre</td>
<td>Apply to spring/fall rosettes - before flowering stalk lengths.</td>
</tr>
<tr>
<td>Clopyralid + 2,4-D (Curtil)</td>
<td>2-3 qts/acre</td>
<td>Apply in spring and fall to rosettes.</td>
</tr>
<tr>
<td>Aminopyralid + Chlorsulfuron</td>
<td>1 oz/acre</td>
<td>1.0 oz</td>
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<tr>
<td>Metsulfuron (Escort XP)</td>
<td>1 oz. product/acre</td>
<td>Spring from rosette through very early flower stage.</td>
</tr>
<tr>
<td>Chlorsulfuron (Tela)</td>
<td>1 oz. product/acre</td>
<td>Spring from rosette through early flower stage.</td>
</tr>
</tbody>
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**Common teasel**

*Dipsacus fullonum* L.

**Keys to Id**
- Commonly found in wetter areas such as irrigation ditches and disturbed areas. Plant is prickly on stem, leaves and flower head.
- Leaves are fused to the stem at the base to collect water.

**Identification**
- Lifecycle: Biennial
- Growth form: Forb, a rosette the first year of growth.
- Flower: Dense purple flowers on heads, prickly head.
- Leaves: Deep veined with prickles.

**Control**
- Mech: Mowing repeatedly before the plants bolt during the summer, then herbicide in the fall.
- Teasel rosettes are not dormant during the winter, and could be treated during spells of above freezing weather. Therefore the ‘spring’ window is quite wide – anytime up to bolting. However, treating early provides the potential advantage of reducing injury to desirable forbs.
- Using the combination of 2,4-D amine and ‘Garlon 3A’ can be thought of as an aquatic-labeled form of ‘Crossbow’, a commonly used 2,4-D plus triclopyr product for use in pasture and non-crop areas.

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<td>2,4-D</td>
<td>1.0 ae/ac</td>
<td>0.5 + 1.0 oz</td>
</tr>
<tr>
<td>Dicamba (Banvel, Vanquish, or Clarifl)</td>
<td>1.5 to 2.0</td>
<td>1.0 + 0.5 oz</td>
</tr>
<tr>
<td>2,4-D or 2,4-D + Dicamba (Rangestar)</td>
<td>1.0 + 0.5</td>
<td></td>
</tr>
</tbody>
</table>
**Bull thistle**
*Cirsium vulgare (Savi) Tenore*

**Keys to ID**
- Leaves: prickly-hairy above and cottony below.
- Heads: cobwebby-pubescent.
- Flowers: composite and purple.

**Identification**
- Lifecycle: Biennial.
- Growth form: Forb/herb.
- Flower: Flowers are 1.5-2 in wide and clustered at the ends of branches. The flower bracts are somewhat tapered and covered with spines (Whiston et al. 1996).
- Seeds/fruit: Seeds are capped with a circle of waxy layer. Seeds are kidney-shaped to oval, brownish-gray to black, and pitted.
- Leaves: Alternate, Lance-shaped, may be toothed, bright-green to gray-green, basal leaves are larger than the upper leaves.
- Stems: Mature plants are 1-3 ft tall.
- Roots: Deep-seated roots.
- Other: The leaves and stem are covered with a waxy layer.

**Control**
- Cultural: Maintain healthy riparian vegetation.
- Mech: Brush mowing and removal of cut material and combine with chemical treatments.
- Bio: Tubercularia canker girdles tree over time.

**D + dicamba HERBICIDE used to help control this thistle.**

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<tr>
<td>Aminopyralid</td>
<td>5.7 oz/acre</td>
<td>Apply to rosettes in spring or fall.</td>
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<tr>
<td>Dicamba</td>
<td>1 qt./acre</td>
<td>Apply to rosettes in spring or fall.</td>
</tr>
<tr>
<td>2,4-D or 2,4-D + dicamba</td>
<td>1 qt./acre</td>
<td>Apply from bolting to bud stages in spring.</td>
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**Russian Olive**
*Laelia angustifolia L.*

**Keys to ID**
- A tall shrub or small tree.
- Many yellowish olive-shaped fruits.
- Leaves: light green above and silvery beneath.

**Identification**
- Lifecycle: Perennial.
- Growth: deciduous, small tree.
- Flower: Small, light yellow clusters, bisexual.
- Leaves: Simple, alternate, narrow 2-3 inches long, and are untoothed. Upper surface is light green, the lower surface is silvery white with dense scales.
- Stems: Has 1-2 inch thorns on trunk and branches.
- Roots: Can produce root suckers. Shade tolerant.

**Control**
- Cultural: Maintain healthy riparian vegetation.
- Mech: Brush mowing and removal of cut material and combine with chemical treatments.
- Bio: None currently available in Colorado.

**HERBICIDE**
- Triclopyr (Garlon 4) **approved aquatic label**
- Cut-stump: 100%
- Cut-stump: Apply to the cambial layer immediately after the cut-stump treatment.
- Imazapyr (Arsenal) or (Habitat) **aquatic label**
- Collar: 4-6 pts./acre
- Broadcast spray individual trees; low or high volume spray.
- Imazapyr (Arsenal) or (Habitat) **aquatic label**
- Cut-stump: Dlute: 8-12 oz/gal water
- Cut-stump: Apply to the cambial layer immediately after the cut-stump treatment.

**Perennial Pepperweed**
*Lepidium latifolium*

**Keys to ID**
- Dense clusters of white flowers.
- Leaves and stem - covered with waxy layer.

**Identification**
- Lifecycle: Perennial, member of the mustard family.
- Growth form: Forb.
- Flower: White, packed in dense clusters near the ends of branches. May-Aug.
- Fruit: Nearly round, very small and sparsely hairy.
- Leaves: Alternate, Lance-shaped, may be toothed, bright-green to grey-green, basal leaves are larger than the upper leaves.
- Stems: Mature plants are 1-3 ft tall.
- Roots: Deep-seated roots.
- Other: The leaves and stem are covered with a waxy layer.
- Exotics: Do not have clasping bases, unlike Hoary cress leaves with clasping bases.

**Control**
- Mech: Hand pull/dig is not effective. Instead, mow in spring before seed-set and combine with chemical treatments.
- Bio: None currently available in Colorado.

**HERBICIDE**
- Chlorosulfuron (Telar) + 2 pt/ac seed oil
  - 1 oz / acre
  - Bolting to early flowering. (Early Spring to Early Summer)
- Metsulfuron (Escort XP) + 1% sol. seed oil
  - 0.5 gr./gal water
  - Bolting growth stage. (Spring)
- Imazapyr (Plateau)
  - 12 fl oz / acre + 2 pt/ac seed oil
  - 2 tsp/gal water +1% sol. seed oil
  - Bolting to late flower growth stages. (Summer)

**Black Hen-**
*Artemisia campestris*

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

**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.
- 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**
- Metsulfuron (Escort XP) + 2 pt/ac seed oil
  - 1 oz / acre
  - Late bolt to early flowering. Surfac tant is essential.
- Picloram (Tordon 22K) *Restricted Use*
  - 1 qt / acre
  - When actively growing.
- Dicamba (Barvel, Clarify, or Vanquish)
  - 8-32 oz / acre
  - Rosette to bolting stages.
**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.

**Control**
- Hand pull 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.

**Identification**
- Lifecycle: Annual, biennial or short-lived perennial.
- Growth form: Forb
- Flower: White. ½ inch daisy like flowers that are solitary on each stem.
- Seed: Continuously 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.

**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.

**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**
- Hand pull or dig when soil is moist and infestations are small, be sure to pull up all roots.
- Goats or sheep can be effective. There are no insect biological controls currently available.

**Bio:** Goats or sheep can be effective. There are no insect biological controls currently available.

**Houndstongue**

*Cynoglossum officinale*

**Keys to Id**
- Panicled of reddish-purple 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 axis.
- 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**
- Cut or pull, and remove entire root crown when rosette to early bud growth stage. Mow or cut flowering stems before seed nutlets develop.
- Bio: none currently available in Colorado.

**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!

**Some Additional Resources:**
- **CSU Ext. Yard and Garden Publications**
  - [http://extension.colostate.edu/docs/pubs/garden/07615.pdf](http://extension.colostate.edu/docs/pubs/garden/07615.pdf)
- [http://cmg.colostate.edu/Gardennotes/351.pdf](http://cmg.colostate.edu/Gardennotes/351.pdf)

**Utah State University Extension**
- [http://extension.usu.edu/yardandgarden/](http://extension.usu.edu/yardandgarden/)
- [http://extension.colostate.edu/docs/pubs/natres/03106.pdf](http://extension.colostate.edu/docs/pubs/natres/03106.pdf)

**Colorado State University Extension**
- [http://extension.colostate.edu/docs/pubs/natres/03106.pdf](http://extension.colostate.edu/docs/pubs/natres/03106.pdf)

**Chaffee County Noxious Weed Program**
- [Kayla Malone](kmalone@chaffeecounty.org)
- [http://extension.usu.edu/yardandgarden/](http://extension.usu.edu/yardandgarden/)
- [http://chaffeecounty.org](http://chaffeecounty.org)
- [Chaffee County Extension](kurtjones@chaffeecounty.org)

**Grasses**

- **Chrysanthemum leucanthemum** (Oxeye daisy)
  - Uses: Control
  - **Control**
    - Hand pull or dig when soil is moist and infestations are small, be sure to pull up all roots.
    - Goats or sheep can be effective. There are no insect biological controls currently available.
    - Bio: Goats or sheep can be effective. There are no insect biological controls currently available.

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<thead>
<tr>
<th>HEBRUCIDE</th>
<th>RATE</th>
<th>TIMING</th>
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<tbody>
<tr>
<td>Metsulfuron</td>
<td>0.33 oz/ac</td>
<td>Apply when plant is in rosette to bolting growth stage.</td>
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<tr>
<td>Chlorsulfuron</td>
<td>0.33 oz/ac</td>
<td>Apply when plant is in rosette or bolting growth stage.</td>
</tr>
<tr>
<td>Aminopyralid</td>
<td>7 oz/ac</td>
<td>Apply when plant is in rosette growth stage.</td>
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<td>Metsulfuron</td>
<td>1 oz/acre</td>
<td>Surfactant is absolutely necessary. Apply at flowering growth stage. (Summer)</td>
</tr>
<tr>
<td>Chlorsulfuron</td>
<td>1 oz/acre</td>
<td>Surfactant is absolutely necessary. Apply at flowering growth stage. (Summer)</td>
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<tr>
<td>Metsulfuron Me-</td>
<td>2.0 oz / 1 acre</td>
<td>Apply in spring rosette to early bud growth stag-es.</td>
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<tr>
<td>thyl + Chlor-</td>
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<tr>
<td>sufuron</td>
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<td>(Grazon P+D)</td>
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<tr>
<td><em>Restricted Use</em></td>
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