

Rangeland Weed Management

STRATEGIES AND PRACTICES FOR WEED CONTROL

Greg Brown, Routt County Weed Program

gbrown@co.routt.co.us

Learn your landscape

- Evaluate the condition of the range
- Learn what grows where.
 - Become familiar with the grasses, forbs and shrubs of various sites.
- Note disturbances and bare soil.
- Learn what weeds are common in your area.
- Does a plant look unfamiliar?

If weed(s) are identified...

- Ask...
 - Is the infestation serious?
 - Are the weeds associated with a specific site?
 - How did the weeds get there?
 - Are management practices encouraging the infestation?

When weeds are identified what are the control options?

- 1. Mechanical: Pulling, cultivating, mowing
- 2. Cultural: Management, such as changing a use season or stocking rate
- 3. Herbicide: Use of chemicals
- 4. Biological: Use of natural tools, usually insects and or grazing, to control weeds.
- 5. Combine techniques for Integrated Weed Management (IWM)

Apply the control

- Can a shovel be the best tool?

If a biennial, or taprooted perennial is the problem weed, the shovel might be the best tool, depending on the size of the infestation.

Rhizomatous perennials usually don't respond well to mechanical controls.

Levels of Control: Suppression

- 1. Control can be mechanical, management (cultural), herbicide or biological.
- 2. Prevent weed from setting seed or maintaining vigor.
- 3. Reduce weed stand over time.

Levels of Control: Containment

- 1. Establish containment area.
- 2. Control all weeds in designated areas by suppression.
- 3. Eliminate any weeds found outside the designated areas by mechanical removal or herbicide use.
- 4. Monitor area for escapes

Levels of Control: Eradication

- 1. Eliminate all of a weed population
- 2. May be treated mechanically (cultivation, pulling, etc.)
- 3. Usually a reliance on herbicide to eliminate the weed.
- 4. All List A weeds in Colorado are targeted for eradication.
- 5. CDA selects some List B weeds.

Herbicide Use Guidelines

- 1. Target the chemical to the weed
- 2. **Always read and follow the label**
- 3. Wear appropriate Personal Protective Equipment (as per label)
- 4. Be patient. Some herbicides take time to work.
- 5. Monitor the application site.
- 6. Follow up in accordance to label

Herbicide Use Guidelines

- 1. Calculate the rate of application
- 2. Use an appropriate surfactant
- 3. Repair dripping nozzles
- 4. Record rate of dilution
- 5. Record rate of application
- 6. Record time and site of application

Herbicide Labels

- 1. Lists all active ingredients
- 2. Signal word (relative toxicity)
- 3. Personal Protective Equipment
 - Requirements
- 4. EPA registration number
- 5. First Aid
- 6. Application rates and sites
- 7. Disposal and storage requirements

Signal Words on Labels

CAUTION:

relatively non-toxic to slightly toxic

WARNING: moderately toxic

some skin or eye irritation possible

DANGER: very toxic

may cause serious skin or eye irritation

DANGER-POISON: extremely toxic

severe damage or death if swallowed , inhaled or absorbed

Herbicide Application

- 1. Apply to **actively growing weeds**
- 2. Avoid windy conditions
- 3. Avoid spraying near bodies of water unless label indicates OK
- 4. Spraying early in the day is often best (open stomata)
- 5. Avoid non target plants
- 6. Avoid walks, driveways, etc. to minimize runoff

Biological Controls: Insects for...

- 1. Leafy spurge
- 2. Knapweed, spotted and diffuse
- 3. Canada thistle
- 4. Toadflax, yellow and dalmatian
- 5. Musk thistle
- - Whitetop (under evaluation)
- - Houndstongue (under evaluation)

Biological Controls: Targeted grazing

- Use sheep or goats in combination with flea beetles to control leafy spurge.
- Reduce seed production on Canada thistle by turning horses, sheep or cattle into thistle patches just as flower buds open.
- Workshops are available to teach cattle to eat any weed in ten days.

- **Training Cows to Graze Weeds Reduces Costs and Increases Profits**
- Kathy Voth
- Livestock for Landscapes, LLC
- <http://www.livestockforlandscapes.com>
- kvoth@livestockforlandscapes.com
- (970)663-6569 (Home Office)
- (970)260-2185 (Cell)

Cultural weed control...

- Possibly the best way to integrate good range management with effective weed control.
 - Adjusting use season
 - Adjusting stocking rate
 - Managing animal movement and import
 - Using a drop pasture, before going to the range or allotment
 - Will more readily allow ID and treatment of weeds

Summary

- 1. Identify the target weed
- 2. Understand the weed's traits
- 3. Identify the land use goal
- 4. Evaluate the control options
- 5. Choose among the controls
- **6. Take a close look at livestock management as the primary tool for effective weed management.**
- 7. Apply the control(s)
- 8. Monitor the control efforts, assess and adapt
- 9. Continue to apply controls over years to achieve desired goal