Common Mullein Control

Common mullein (*Verbascim thapsus*) is a weed species that's increasing in northeast Nebraska's rangeland, woodland, and pastures. It is a biennial plant that reproduces only by seeds, but it is a prolific seed producer. The taproot of this species can access soil moisture from a deeper profile at a much better rate than fibrous roots of pasture grasses, giving it a competitive advantage, especially in dry years.

The Lincoln Logan McPherson Extension Office was going to have a demonstration project on controlling common mullein, but due to the COVID 19 virus we are unable to have this demonstration project this year. Below are some tips for controlling common mullein.

You may also find more information at the following link https://cropwatch.unl.edu/2018/common-mullein-invasive-weed-nebraska%E2%80%99s-horizon

Prevention is the best and cheapest management option. Having well-established grasses and forbs on a maintained pasture or rangeland with proper grazing and rotational grazing techniques can go a long way to prevent its establishment. Detecting infestations early through scouting, monitoring, and proper identification are key management factors given how quickly it infests and spreads.

To manage common mullein and promote your desired plant community create an Integrated Pest Management plan (IPM) combining multiple control strategies.

- **Mechanical Control.** Pulling or cultivating small common mullein plants can be an effective control method, as long as the plants are young (before they go to seed). Mowing can be effective to reduce seed production but must be repeated throughout the season.
- **Biological Control. C**onsider using biological control insects, such as the curculionid weevil (Gymnetron tetrum) and the mullein moth (Cucullia verbasci). The weevil larvae feed on the seed in the seed capsule and can destroy up to 50% of the seed. The moth larvae feed on the foliage. Biological control methods should be entered into only after full consideration of potential non-target species impacts. Other management methods must be used in combination to reduce and control the infestation.

- **Chemical Control.** Consider the site, overall weed complex, forbs, shrubs, and trees when selecting a herbicide. Consult the specific herbicide label for recommendations or requirements on the timing of application, amount of water carrier, and herbicide rate and carefully follow all label directions.
  The dense hairy leaves of common mullein can affect herbicide coverage and uptake and cause erratic control. When the herbicide label allows, use of a crop oil concentrate (COC), methylated seed oil (MSO), or other oil-based adjuvant may improve herbicide penetration through the hairy leaf surface, although grass injury may occur. Generally, treatment should occur during the spring rosette to early bud/bolt stage. Retreatment of areas infested with common mullein may be needed due to the long life of the seeds.

Table 1. Some herbicides labeled for control of common mullein.

Herbicide (Active Ingredient)	Rate	Mode of Action Group
Chaparral (aminopyralid + metsulfuron methyl)	1-2 dry ounces/acre	Groups 2 and 4
Milestone (aminopyralid)	7 fluid ounces/acre	Group 4
Escort XP (metsulfuron methyl)	1-2 dry ounces/acre	Group 2
Telar XP (chlorsulfuron)	1-2.6 dry ounces/acre	Group 2
Graslan L (picloram + 2,4-D)	3-4 pints/acre	Group 4

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Herbicide (Active Ingredient)	Rate	Mode of Action Group
Glyphosate (Accord, Cornerstone, Roundup)	3-5 quarts per acre, depending on formulation	Group 9
Cimarron Plus (chlorsulfuron + metsulfuron methyl)	0.625-1.25 dry ounces per acre	Group 2
GrazonNext HL (aminopyralid + 2,4-D)	24-34 fluid ounces per acre	Group 4

Mention of a specific herbicide product does not constitute an endorsement of any specific brand.

Herbicide Recommendations and Disclaimers

Herbicide group numbers refer to the product's mode of action in the plant. Using different modes of action can help reduce the chance of herbicide resistance evolving in the target weed species. (For more information, see the Take Action Herbicide Classification chart.)

Be sure to select a product labeled for the site. Read, understand and follow all label instructions when using any pesticide Pesticide labels and safety data sheets (SDS) can be found at https://www.cdms.net/.

References

"Common Mullein and Moth Mullein Identification and Management", Weld County Public Works Department, Weed Division, Greely, Colorado

Klein, Helen, "Common Mullein", Alaska Natural Heritage Program, University of Alaska, 2011

Common Mullein Fact Sheet, Plant Conservation Alliance's Alien Plant Working Group, National Park Service