

Management of
Cynoglossum officinale
(houndstongue)



Lewis and Clark County Noxious
Weed Control District
3402 Cooney Dr Helena | MT 59602

Montana Priority 2B Noxious Weed

Plant Description

Cynoglossum officinale, houndstongue, is a short-lived monocarpic (flowers and produces seeds only once during lifetime) perennial or biennial. The first year plant is vegetative only. In the second year, the plant bolts and produces velvety, reddish-purple flowers with 5 fused petals. The burr-like seeds are flattened and teardrop-shaped, covered with hooked prickles, aiding in distribution. The seeds can remain viable for 2-3 years. Stems reach 30-100 cm tall.

Mechanical Control

Hand removal, excavation, or cutting houndstongue can provide effective control if the root crown is severed. Plant material should be bagged and disposed of when plants are in the pre-bloom or flower stage. Mowing may not provide control but may reduce seed production and requires monitoring and removal of new plants. Tillage can provide effective control if the taproot is severed and treatments are repeated.

Biological Control

Releases of the root-mining flea beetle, *Longitarsus quadriguttatus*, were initiated in 1988 but it is not commercially available. The Houndstongue root-mining weevil, *Mogulones cruciger*, is not approved for releases in the United States, but has naturally migrated here after being released in Canada in the 1990's. It is illegal to aid in its movement; the weevil has impacts on endangered Boraginaceae plants and their associated critical habitats. Grazing is not recommended due to the plants high toxicity.

Cultural Control

Revegetation is an important step in managing houndstongue. Introducing desirable species is highly recommended, especially in areas with disturbance. Planting competing vegetation can help prevent invasions of new and existing unwanted vegetation.



Recommended Treatment Timeline

Control Type	Spring	Summer	Fall
Mechanical	Hand pull, bag and dispose Till, Mow	Hand pull, bag and dispose, Repeated mowing	Hand pull, bag and dispose, Till, Repeated mowing
Biological	None available		
Cultural	Revegetation		Revegetation
Chemical	Foliar spray		Foliar spray

Chemical Control

Follow the directions on herbicide labels, the label is the law. Calibrate equipment for accurate application. Commonly used herbicides are listed below, order of listing is not reflective of efficacy or recommendation.

Personal protective equipment must be worn when applying herbicides. Only apply herbicides in appropriate weather conditions.^a

Use appropriate surfactants as listed in the product label.^a

^aRead and follow all instructions in the label of the herbicide.

Chemical Control Table

Use Site	Herbicide (Active Ingredient - Trademark)	Pre-emergent or Soil Residual Activity	Post-emergent (Foliar Applied)	Large Sprayer Rate per Acre	Spot Treatment Rate for Every 1 Gallon of Water	Restricted Entry Interval (Hours)	Application Notes and Environmental Advisories*
Turfgrass, Non-cropland, Rangeland	2, 4-D Amine-Gordon's 2,4-D Amine ^b	no	yes	2 qt (1.9 lb a.e./A)	1 fl oz per 1,000 sq ft for turfgrass (Gordons 2,4-D Amine). Consult product label for other trade names	48	Apply on rosette stage only. Toxic to fish and aquatic invertebrates. Groundwater and surface water advisories.
Rangeland, Permanent Grass Pasture, CRP, Natural Areas	Aminopyralid + metsulfuron methyl - Chaparral ^b	no	yes	2.5 - 3.3 oz	0.7 - 1 gram	48	Rosette to mid-bolt when plants are actively growing. Non-target organism advisory. Windblown soil particle advisory.
Rangeland, Non-cropland, ROW	Aminopyralid + metsulfuron - Opensight ^b	no	yes	2.5 - 3.3 oz	0.7 - 1 gram	48	Rosette to mid-bolt when plants are actively growing. Non-target organism advisory. Windblown soil particle advisory.
Non-cropland, ROW	Metsulfuron methyl - Escort XP ^b	no	yes	1 - 2 oz	1 gram	4	Early post-emergence, spring applications most effective. Groundwater and surface water advisories. Non-target organism advisory. Windblown soil particle advisory.
	Chlorsulfuron - Telar XP ^b	yes	yes	1 - 2.5 oz	0.6 - 1.6 gram	4	Spring applications most effective. Groundwater and surface water advisories. Non-target organism advisory.
Ornamentals	Glyphosate - Roundup ProMax ^b	no	yes	1 - 2 pt (Roundup ProMax ^b)	1.5 - 2% v/v solution (Roundup ProMax ^b)	4	Apply when plants are growing. Surface water advisory.

^bLewis and Clark County Noxious Weed Control Division does not endorse any trademarks or commercial names listed above.

This table summarizes selected registered use sites and is not intended to represent all approved uses. Pesticide applicability, use sites, and restrictions vary by product and formulation. Applicators must consult and follow the most current product label, which takes precedence over this document.

References

- Bayer Cropscience. (2020). *Roundup ProMax*. U.S. Environmental Protection Agency Registration No. 524-579.
- Common Hound's-tongue — *Cynoglossum officinale*. Montana Field Guide. Montana Natural Heritage Program. <https://FieldGuide.mt.gov/speciesDetail.aspx?elcode=PDBOR0B070>
- Corteva Agriscience. (2023). *Chaparral*. U.S. Environmental Protection Agency Registration No. 62719-597.
- Corteva Agriscience. (2023). *Opensight*. U.S. Environmental Protection Agency Registration No. 62719-597.
- Ditomaso, J. M., Kyser, G. B., Oneto, S. R., Wilson, R. G., Orloff, S. B., Anderson, L. W., Wright, S. D., Roncoroni, J. A., Miller, T. L., Prather, T. S., Ransom, C. V., Kenneth George Beck, Duncan, C. A., Wilson, K. A., J Jeremiah Mann, Department, Davis., & Weed, Davis. (2013). *Weed control in natural areas in the Western United States*. University Of California Weed Research And Information Center.
- Envu. *Escort XP*. U.S. Environmental Protection Agency Registration No. 101563-167.
- Envu. *Telar XP*. U.S. Environmental Protection Agency Registration No. 101563-176.
- Jacobs, J., Sing S. (2007). *Ecology and Management of Houndstongue (Cynoglossum officinale L.)*. United States Department of Agriculture.
- PBI Gordon Corporation. *Gordon's Amine 400 2,4-D Weed Killer*. U.S. Environmental Protection Agency Registration No. 2217-2.

