Image: Perennial Pepperweed in *Summit County Utah*

Management of *Lepidium latifolium* (perennial pepperweed)

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

Montana Priority 2B Noxious Weed

Plant Description

Lepidium latifolium, perennial pepperweed, is a perennial forb with stiff, branched stems that reach 40-100 cm tall. Perennial Pepperweed leaves come in two forms: basal leaves have a petiole, are oval-shaped with serrated margins and wither by flowering time, stem leaves have entire to serrate margins and do not clasp around the stem. The flowers are clustered in branched racemes with four white petals. Mature seed pods will not have a notched tip and have a style of 0.1 mm long or less, are two-chambered, and each have a single seed. Perennial pepperweed reproduces through seeds, creeping roots, and root fragments.

Mechanical Control

Hand removal can provide effective control on seedlings if the entire root system is removed; root fragments as small as one inch can produce new shoots. Bag and dispose of all plant material. Mowing can stimulate perennial pepperweed growth and is best used in combination with chemical control.

Image: Perennial pepperweed in *Washington State Noxious Weed Control Board*

Biological Control

No current biological control agent available. Research is being performed on *Lasionosa deviata* (stem mining fly).

Image: Researcher amongst Pepperweed. In *Center for Watershed Sciences.*

Cultural Control

Controlled burns can reduce vegetation, but will not stop root growth. Re-establishment of plant communities provides competition, which will reduce and prevent perennial pepperweed spread. Cattle, sheep, and goats will graze, but seeds can remain viable after passing through their digestive tracts.

Recommended Treatment Timeline				
Control Type	Winter	Spring	Summer	Fall
Mechanical		Hand pull, bag and dispose	Hand pull, bag and dispose	Hand pull, bag and dispose
Biological	None available			
Cultural	Controlled burn	Graze, Controlled burn, Revegetate	Graze	Graze, Revegetate
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]

[a]Read 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	Most effective application at flower bud or flowering stage. Toxic to fish and aquatic invertebrates. Groundwater and surface water advisory.
Non-Cropland, Non-Agricultural, ROW	Metsulfuron methyl -Escort XP[b]	no	yes	1 - 2 oz	1 gram	4	Apply on rosette to bud stages. Groundwater and surface water advisory. Non-target organism advisory. Windblown soil particles advisory.
	Chlorsulfuron - Telar XP[b]	yes	yes	1 - 2.6 oz	0.6 – 1.6 grams	4	Apply on rosette to bud stages. Groundwater and surface water advisory. Non-target organism advisory.
Ornamentals	Glyphosate - Roundup ProMax[b]	no	yes	2 - 4 qt (Roundup ProMax[b])	2% v/v solution (Roundup ProMax[b])	4	Apply on seedling to bloom stage, most effective at flower bud to flowering stage. Groundwater and surface water advisory.

[b]Lewis 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 LP. (2020). *Roundup ProMax.* Environmental Protection Agency Registration No. 524-579.

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.* Environmental Protection Agency Registration No. 101563-176

Jacobs, J., & Mangold, J. (2007). Ecology and Management of Perennial Pepperweed . *United States Department of Agriculture*.

PBI/Gordon Corporation. *Gordon's Amine 400 2,4-D Weed Killer.* Environmental Protection Agency Registration No. 2217-2.

Perennial Pepperweed — Lepidium latifolium. Montana Field Guide. Montana Natural Heritage Program. https://FieldGuide.mt.gov/speciesDetail.aspx?elcode=PDBRA1M0J0

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