

LEAFY SPURGE

Euphorbia esula



CONTROL

Hand Pulling

Hand pulling is not an effective method of control for leafy spurge because of its extensive root system. Even seedlings that are a few weeks old have vegetative buds capable of producing new shoots when disturbed by pulling.

Mowing

Mowing is not an effective method of control for leafy spurge.

Biological control

Twelve insects have been released as biocontrols for leafy spurge in the U.S. Of those insects, *Aphthona* flea beetles have had the most success in establishing and suppressing leafy spurge. The different species do better or worse depending on site conditions of the infestation (e.g. sun, soil type and moisture), so care should be taken to choose the appropriate species for your site. Contact the Missoula County Weed District for additional information and for assistance with monitoring or additional releases.

Grazing

Grazing with sheep or goats that have been trained to eat leafy spurge can be an effective method of control. Persistent grazing over the long term can reduce stand density, reduce seed production and weaken the infestation making herbicide and biocontrol more effective. Grazing can be utilized at any time during the growing season as long as plants are green.

Ideal Timing for Treatment Options

Spring	Summer	Fall
Grazing		
	Biological Control	
Foliar		Foliar

Herbicide

There are a number of herbicides that are effective on newly established or small infestations of leafy spurge. Due to the extensive root system and the need for repeated treatments over a period of many years, management of large infestations of leafy spurge through the use of herbicides alone may be uneconomical and have an overall negative effect on your site. The herbicide chart on the back lists approved controls for leafy spurge. Always consult product labels and read them carefully to ensure correct species/land management usage and chemical application. Spring applied herbicides are most effective on plants with a true flower rather than undeveloped flowers (but developed bracts).



Leafy Spurge Life Cycle

Life Cycle	Root	Leaves	Stems	Flower	Seed/Fruit	Toxic
Perennial	Brownish rhizomes with pink buds	Alternate, narrow, 1 to 4 inches long. Stems and leaves contain a milky sap.	Up to 3 feet tall.	7 to 10 yellowish-green flowers in small clusters. The inconspicuous flower is surrounded by showy, heart-shaped yellow bracts.	Oblong, grayish to purple, and borne in a three-celled fruit.	Horses, cattle, humans

Herbicides for Leafy Spurge, *Euphorbia esula*

Active Ingredient	Rate	Efficacy	Comments
Aminocyclopyrachlor + chlorosulfuron	4.5-8 oz/acre	Postemergence in spring up to flowering, in fall rosette stage	Broad-spectrum control of broadleaf species. Generally safe to grasses, may suppress or injure certain annual and perennial grass species. Avoid root zone. Use adjuvant.
2,4-D	1-6 qt /acre	Postemergence spring, or fall rosette stage.	Broadleaf selective and has no soil activity, can prevent seed formation but doesn't provide complete kill and will require multiple treatments
Dicamba + 2,4-D amine	1qt. + 1qt. /acre	Postemergence in spring at flower emergence and/or to fall regrowth	Add non-ionic surfactant at 0.25%. do not apply when outside temps will exceed 80 degrees F
Dicamba	1-2 qt./acre	Postemergence in spring to early summer	Broadleaf selective herbicide often combined with other active ingredients. May require multiple years.
Fluoxypyr	22 oz produce/acre (7.7 oz a.e./acre)	Postemergence when weeds are small and rapidly growing	This rate provides only suppression of leafy spurge.
Picloram	1-2 qt /acre	Postemergence at true flower or in fall.	Do not apply to shallow groundwater areas. Avoid desirable broadleaf plants.
Picloram + 2,4-D	1 pt/acre + 2 pt/acre	Postemergence in spring, at true flowering	See Picloram, and 2,4-D
Glyphosate	1pt/acre (3x per year) or 2pt/acre (2x per year)	Apply to growing thistle after the bud growth stage.	Glyphosate is nonselective and will kill any vegetation it comes in contact with. Spray for uniform coverage, not for runoff.
Imazapic	8-12 oz/acre	Preemergence or early postemergence in fall when plants begin to grow but before a hard freeze	Mixed selectivity and some soil residual activity. Tends to favor members of Asteraceae. Use methylated seed oil surfactant.
Imazapyr	1-1.5 pt/acre	Postemergence at flowering	Nonselective. Long residual activity and leaves more bare ground than other treatments even a year after application.

Information on diagnostic identifying characteristics adapted from "Montana's Noxious Weeds" by Pokorny and Mangold, Montana State University Extension Bulletin EB0159.