Perennial

Leafy spurge

Euphorbiaceae

Euphorbia esula

Leafy spurge has adapted to a wide variety of habitats and is very competitive. In rangeland, pasture, and riparian sites it crowds out all other vegetation. It has poor nutritive value by itself.

Origin: Europe and Asia

Description: 1 to 3 feet tall. One of the earliest plants to emerge in spring. Reproduces by seeds and roots

Color: Pale green stems and leaves with translucent yellowish-green flowers

Roots: Brown with pink buds extending up to 30 feet into the soil and extremely wide spreading

Stems: Smooth, pale green and thickly clustered

Leaves: Alternate, narrow, linear, and 1 to 4 inches long

Flowers: Small, yellowish-green enclosed by very visible yellowish-green heart-shaped bracts. Flower clusters develop 1 to 2 weeks after stem emergence which is from mid-April to late May

Seeds: Up to 130,000 seeds per plant. Three-sided seed capsules explode when ripe and project seeds up to 15 feet away

Viability: Up to 8 years

Toxicity: Every part of the plant exudes white, milky sap when broken that can be damaging to eyes and sensitive skin

Lookalikes: Cypress spurge (*Euphorbia cyparissias*)

The competitive, rapidly growing, and extensive root system makes leafy spurge very difficult to manage. Develop a management plan that uses several control methods that are compatible with your site.

The most effective control is to prevent establishment through proper land management. Maintain healthy pastures and rangeland and continually monitor for new infestations which are much more easily controlled than established infestations.

On the backside of this sheet are leafy spurge management recommendations.

Recommended range and pasture management methods:

Cultural

Seeding and maintaining aggressive grasses will compete with leafy spurge and slow its spread.

Contact your local Extension office or Natural Resources Conservation Service office for seed mix recommendations.

Proper grazing management will stimulate grass growth and keep pastures healthy. Healthy pastures may be more resistant to leafy spurge invasion. Bare spots caused by overgrazing are prime habitat for weed infestations.

Mechanical

Due to the extensive root system, hand-pulling this plant is not a viable option.

Mowing will reduce seed production if repeated every 2 to 4 weeks during the growing season, but will provide little long-term control.

Biological

Both sheep and goats have been found to be effective grazers of leafy spurge. Grazing sheep can commence after spring regrowth reaches 2 to 6 inches tall, but before the flowering bract stage. Goats can graze spurge at any time. Do not overgraze. If leafy spurge has set seed, quarantine animals in a corral for 7 days before releasing them into a non-infested pasture.

There are a variety of insects available for release on leafy spurge infestations. The flea beetles, *Apthona nigriscutis, A. lacertosa,* and *A. cyparissiae*, have been found to be effective on large infestations and when used in combination with grazing and/or herbicides. Go to https://ag.colorado.gov/conservation/palisade-insectary for more information.

Herbicides

The following recommendations can be applied to range and pasturelands.

Herbicide	Rate	Application Timing	Comments
Clarity (dicamba) + 2,4-D Amine	1 qt/acre each OR 1 oz/gal water each product	Spring- following appearance of true flowers and/or fall regrowth.	Must treat 2x/year for 1-4 years. DO NOT apply when outside temperatures will exceed 85 degrees. Add non-ionic surfactant @ 0.32 oz/gal water or 1 qt/100 gal water.
Plateau (Imazapic)	12 oz/acre OR 0.4 oz/gal water	Fall only treatment prior to hard freeze.	Add a methylated seed oil surfactant (MSO) @ 0.32 oz/gal water or 1 qt/100 gal water.
2,4-D Amine	2-3 qts/acre OR 2-3 oz/gal water	Early spring and fall.	Prevents seed formation only. Retreatment will be necessary. DO NOT apply when outside temperatures will exceed 85 degrees. Add non-ionic surfactant @ 0.32oz/gal water or 1 qt/100 gal water.
Tordon 22K (picloram) Restricted Use Pesticide	1 qt/acre OR 1 oz/gal water	Spring- following appearance of true flowers and/or fall regrowth.	Must repeat annually for 3-4 years. DO NOT apply near or under trees or where soils have rapid permeability or where water level is high. Add a non-ionic surfactant @ 0.32oz/gal water or 1 qt/100 gal water.

ALWAYS READ, UNDERSTAND, AND FOLLOW HERBICIDE LABEL DIRECTIONS

The herbicide label is the LAW