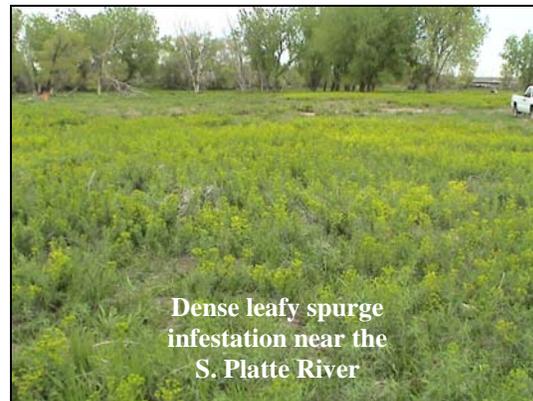
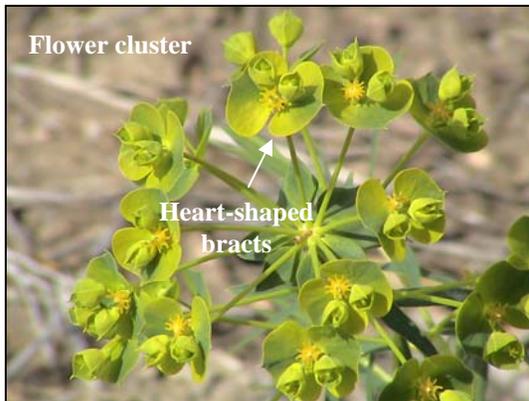


## Rangeland-Pasture Recommendations

### Leafy spurge Identification and Management

Leafy spurge (*Euphorbia esula*) is a non-native deep-rooted perennial that spreads by seeds and extensive, creeping roots. The roots can extend as deep as 30 feet into the soil and are extremely wide-spreading. The roots are brown and contain numerous pink buds that generally produce new shoots or roots. Leafy spurge can grow from 1 to 3 feet in height. The stems are smooth, pale green, and thickly clustered. Leaves are alternate, narrow, linear, and 1 to 4 inches long. The flowers are very small and yellowish-green. They are enclosed by very visible yellowish-green, heart-shaped bracts. The entire plant contains white, milky sap that exudes readily upon stem or leaf breakage. This sap can be damaging to eyes and sensitive skin.

Leafy spurge is one of the earliest plants to emerge in the spring. Flower clusters develop 1 to 2 weeks after stem emergence which is from mid-April to late May. One large leafy spurge plant can produce up to 130,000 seeds. Three-sided seed capsules explode when ripe and project the seeds up to 15 feet away from the parent plant.



Leafy spurge has adapted to a wide variety of habitats in the state and is very competitive with other plant species. Where it becomes established in rangeland, pasture, and riparian sites, it crowds out all other vegetation. 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 method of control for leafy spurge is to prevent its establishment through proper land management. Maintain healthy pastures and rangeland and continually monitor your property for new infestations. New infestations are much more easily controlled than established infestations.

On the backside of this sheet are leafy spurge management recommendations. If you have any questions, please contact the Weld County Public Works Dept., Weed Division at (970) 304-6496 ext. 3770. Please visit our website [www.weldweeds.org](http://www.weldweeds.org).

**Recommended management methods:**

**Cultural** – Seeding and maintaining aggressive grasses will help in competing with leafy spurge and slow its spread. Contact your local CSU 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.

**Herbicides** – The following are recommendations for herbicides that can be applied to range and pasturelands. Always read, understand, and follow herbicide label directions. The herbicide label is the LAW!

Herbicide	Rate	Application Timing/Comments
Clarity + 2,4-D Amine	1 qt./acre for each product or 1 oz/gal water for 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	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 *this is a Restricted Use Pesticide*	1 qt./acre or 1.0 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.

