Lotus corniculatus L.

Birdsfoot trefoil

Family: Fabaceae
Range: Throughout the United States, including nearly all western states.
Habitat: Turf, pastures, roadsides, crop fields, ditches, orchards, vineyards, managed forests, disturbed grassland, wetland and riparian sites; often found notably in swales inland of coastal dunes. Grows year-round in warm-climate areas, winter-dormant in cold winter regions. Tolerates drought and infertile, dry, wet, saline, acidic, or limestone-based soils.
Origin: Native to Eurasia. Cultivars of birdsfoot trefoil are used for pasture forage and hay, especially on poorly drained, low-fertility soils, and to control erosion in some areas. It generally provides excellent green forage for livestock and wildlife, but has escaped cultivation on numerous occasions.
Impacts: Can form dense mats and choke out native vegetation. On rare occasions, birdsfoot trefoil has been implicated with cyanide poisoning of livestock in other areas of the world.

Birdsfoot trefoil is a trailing, mat-forming perennial with stems about 3 ft long and yellow flowers in head-like umbels. Foliage of mature plants is a distinct blue-green color, glabrous to sparsely hairy. Leaves have 5 leaflets, 3 at the tip of the leaf axis and 2 as 'wings' toward the base. The leaflets are narrow, with a dented tip. The foliage dies back in fall. Birdsfoot trefoil has a well-developed, woody taproot to ~3 ft deep, with fibrous lateral roots that form a mat near the soil surface. New shoots can grow from the roots in spring or when the crown is damaged. Roots usually develop nitrogen-fixing nodules.

In spring to summer, birdsfoot trefoil develops bright yellow pea-like flowers in umbels of 3 to 8 flowers on long stalks. These develop into clusters of small pods that twist into spirals at maturity, ejecting the seeds. Seeds may disperse with water and soil, animals, human activities, or as a seed and feed contaminant. Seeds germinate primarily in spring, but some germination can occur in fall. Some seeds are hard-coated and survive for several years under field conditions. Seeds may also survive ingestion by animals. Seedlings grow slowly and compete poorly with other vegetation. Birdsfoot trefoil also can reproduce vegetatively from roots and stems. Under favorable conditions, root fragments can develop into new plants, and mature stems can root at the nodes.

NON-CHEMICAL CONTROL

Mechanical (pulling, cutting, disking)	Hand pulling can be used on small infestations or isolated plants. It is critical to remove all of the below-ground tissues to prevent resprouting. Repeated clipping or mowing near the ground can prevent seed production and weaken the root system, but plants can survive and even thrive under mowing. Tillage is probably ineffective unless conducted repeatedly and over several years.
Cultural	Prescribed burns can facilitate seed germination and establishment, ultimately increasing the population. Close grazing that takes all stem growth reduces regrowth and stand life. Delay spring grazing until plants are at least 8 inches tall.
Biological	There are no biological control agents available.

CHEMICAL CONTROL

The following specific use information is based on reports by researchers and land managers. Other trade names may be available, and other compounds also are labeled for this weed. Directions for use may vary

between brands; see label before use. Herbicides are listed by mode of action and then alphabetically. The order of herbicide listing is not reflective of the order of efficacy or preference.

GROWTH REGULATORS	
Aminopyralid *Milestone*	**Rate:** 7 oz product/acre (1.75 oz a.e./acre) **Timing:** Postemergence in spring before flowering. **Remarks:** Aminopyralid selectivity is similar to clopyralid, but has shown greater activity than clopyralid on other species tested. It is safe on grasses. Aminopyralid has longer soil residual activity than clopyralid.
Clopyralid *Transline*	**Rate:** 0.25 to 1.33 pt/acre (1.5 to 8 oz a.e./acre) **Timing:** Postemergence in spring before flowering. **Remarks:** Clopyralid selectively controls certain broadleaf species, particularly members of the Asteraceae and Fabaceae. It is safe on grasses. Clopyralid has some soil residual activity, but not as long as aminopyralid. Repeat treatments will be necessary until seedbank is depleted, possibly several years.
Dicamba *Banvel, Clarity*	**Rate:** 4 to 6 pt/acre (2 to 3 lb a.e./acre) **Timing:** Postemergence in early spring when plants are growing rapidly. **Remarks:** Dicamba is broadleaf-selective and has no soil activity. Do not apply when outside temperatures exceed 80°F.
Triclopyr *Garlon 3A, Garlon 4 Ultra*	**Rate:** 1 to 1.5 pt *Garlon 4 Ultra* /acre (0.375 to 0.75 lb a.e./acre) or 1.5 to 2 pt *Garlon 3A* (0.56 to 0.75 a.e./acre) **Timing:** Postemergence to rapidly growing plants. **Remarks:** Triclopyr is a growth regulator herbicide with little or no soil residual activity. It is broadleaf-selective and typically does not harm grasses. *Garlon 4 Ultra* is formulated as a low volatile ester. However, in warm temperatures, spraying onto hard surfaces such as rocks or pavement can increase the risk of volatilization and off-target damage.
AROMATIC AMINO ACID INHIBITORS	
Glyphosate *Roundup, Accord XRT II*, and others	**Rate:** 3 to 5 qt product (*Roundup ProMax*)/acre (3.375 to 5.625 lb a.e./acre) **Timing:** Postemergence in spring before flowering. **Remarks:** Glyphosate has no soil activity and is a nonselective herbicide.

RECOMMENDED CITATION: DiTomaso, J.M., G.B. Kyser et al. 2013. *Weed Control in Natural Areas in the Western United States*. Weed Research and Information Center, University of California. 544 pp.