



Leafy Spurge *Euphorbia esula* L.

Common Names: leafy spurge, wolf's milk

Native Origin: Caucasus region of western Asia; it is believed to have entered North America as a seed impurity in 1827.

Description: Leafy spurge is an erect, branching, perennial herb in the Spurge family (*Euphorbiaceae*) growing 2 to 3½ feet tall, with smooth stems and showy yellow flower bracts. Stems frequently occur in clusters from a vertical root that can extend many feet underground. Milky white, sticky sap seeps from plant when cut. The leaves are small, oval to lance-shaped, somewhat frosted and slightly wavy along the margin. The flowers are very small and are borne in greenish yellow structures surrounded by yellow bracts. Gray-brown oblong seeds are produced in three-celled capsules. Seed capsules open explosively, dispersing seed up to 15 feet from the parent plant and may be carried further by water and wildlife. The complex root system forms tough woody networks can reach 15 or more feet into the ground, and may have numerous buds. Leafy spurge also spreads by seed and vegetatively at a rate of several feet per year.



Habitat: Leafy spurge tolerates moist to dry soil conditions but is most aggressive under dry conditions where competition from native plants is reduced. It is capable of invading disturbed sites, including prairies, savannas, pastures, abandoned fields and roadside areas.

Distribution: This species is reported from states shaded on Plants Database map. It is reported invasive in CA, CO, CT, IA, ID, MI, MN, MT, NC, ND, NE, NJ, OR, SD, UT, VA, WA, WI, and WY.

Ecological Impacts: Leafy spurge displaces native vegetation in prairie habitats and fields through shading and by usurping available water and nutrients and through plant toxins that prevent the growth of other plants underneath it. Leafy spurge is an aggressive invader that can completely overtake large areas of open land.



Control and Management:

- **Manual-** Manual eradication is difficult because of its persistent nature and ability to regenerate from small pieces of root. Hand-pulling, digging, and tilling succeed only if the entire root system is removed.
- **Chemical-** It can be effectively controlled using any of several readily available general use herbicides such as glyphosate; apply in June, when the flowers and seeds are developing, or in early to mid-September, when the plants are moving nutrients downward into the roots. Follow label and state requirements. Prescribed burning, in conjunction with herbicides, may also be effective.
- **Biological control-** The U.S. Department of Agriculture has shown success using six natural enemies of leafy spurge imported from Europe. These include a stem and root - boring beetle (*Oberea erythrocephala*), four root-mining flea beetles (*Aphthona* spp.) and a shoot-tip gall midge (*Spurgia esulae*). Large scale field-rearing and release programs are carried out cooperatively by federal and State officials in many

northern states. The results are not as immediate as when herbicides are used but, if pesticide use is kept to a minimum, large numbers of these agents build up within a few years and have shown impressive results.

References: www.forestimages.org, <http://plants.usda.gov>, www.nps.gov/plants/alien, www.nappo.org/PRA-sheets/Euphorbiaesula.pdf, Czarapata, Elizabeth J. Invasive Plants of the Upper Midwest, an Illustrated Guide to their Identification and Control, 2005, p. 61-64