

Leafy Spurge



Euphorbia esula L.

Alternate Names

wolf's-milk, euphorbia, spurge, faitours-grass

Description

Leafy spurge is a long-lived, deep-rooted perennial plant that reproduces by vigorous rhizomes and seed. Stems are hairless and pale green and grow 16–32 inches high in dense patches. Leaves are alternate, narrow, and 1–4 inches long. Flowers are yellowish-green, small, arranged in numerous small clusters, and subtended by paired, heart-shaped, yellow-green bracts. Seeds are oblong, grayish to purple, and contained in a 3-celled capsule, each cell containing a single seed.



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Similar Species

There are no native *Euphorbia* species in Alaska. Leafy spurge is closely related to cypress spurge (*E. cypris* L.), which is distinguished from leafy spurge by the presence of fewer, pale green leaves. Cushion spurge (*E. epithymoides* L.) is an exotic species of gardens and greenhouses in Alaska and can be distinguished from leafy spurge by its smaller stature (10–18 inches high) and bright yellow flowers.

Ecological Impact

Outside of Alaska, leafy spurge is a highly competitive plant that displaces native vegetation, forming large monospecific stands. As of 1997, it infested nearly 3 million acres in the United States and Canada. It is allelopathic, preventing the growth of other species nearby. A significant reduction in the 5 most common native species was recorded in native mixed grass prairie infested with leafy spurge (Belcher and Wilson 1989). In addition to loss of plant diversity, loss of wildlife forage and habitat are significant

impacts of this species. Areas dominated by leafy spurge received much less use by native ungulates when compared to similar uninfested areas (MWCA 2005). Leafy spurge reduces the carrying capacity of infested rangeland for cattle to near zero (Hanson and Rudd 1933).

Biology and Invasive Potential

Each flowering stem of leafy spurge produces an average of 140 seeds, and seed production of a stand ranges from 25 to 4,000 pounds per acre (Best et al. 1980). The seeds of leafy spurge float on water, resulting in dispersal and establishment of plants along rivers and in areas receiving periodic or seasonal flooding. Seeds are also spread in mud on equipment, on vehicles, or on the feet or hair of animals. Crop seed, feed grain, and hay containing leafy spurge seed can spread this weed over long distances. Seeds may remain viable in the soil for up to 8 years and an extensive root system with large nutrient reserves makes control of this species extremely difficult. Large numbers of buds are found on each root to depths of 10 feet or more and each bud is capable of producing a new, independent plant. Leafy spurge has been declared noxious by 6 Canadian provinces and 20 of the United States, including Alaska (Alaska Administrative Code 1987).

Distribution and Abundance

Leafy spurge is native to Eurasia and was brought into the United States as a contaminant of seed around 1827. It is a serious problem in North America, mostly in southern Canada and the north-central United States. It is found primarily in pastures, rangelands, waste areas, and abandoned cropland, along roadsides, and in areas associated with ongoing human development, and it can invade a variety of natural habitats from meadows to woodlands. Leafy spurge has



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An infestation of leafy spurge.

not yet been found in Alaska but has been documented in the Yukon Territory of Canada; its impacts elsewhere suggest that it would be a serious problem should it be introduced to Alaska.

Management

Because of its persistent nature and ability to regenerate from small pieces of root, leafy spurge is extremely difficult to eradicate. Cultivation can be used to control leafy spurge on cropland where few options are available. Timing of cultivation is important, with the most successful efforts begun in the spring, 2 to 4 weeks before plant emergence. Mowing and burning are ineffective, but burning prior to herbicide application can increase visibility of the weed, improving spray coverage by eliminating old stems and ground cover (Winter 1992, Wolters et al. 1994). Annual applications of herbicides can prove effective. Biological control offers a highly promising management tactic for leafy spurge. So far, six natural predators have been imported from Europe.

Notes

Leafy spurge is in the same family as the holiday favorite, poinsettia. First recorded from Massachusetts in 1827, leafy spurge quickly spread westward and reached North Dakota within 80 years.



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