A3832

Invasive plants of Wisconsin

Perennial pepperweed

MARK RENZ

Perennial pepperweed (*Lepidium latifolium* L.) is an invasive creeping herbaceous perennial weed first found in Wisconsin in 2007. This plant is a member of the mustard family and is capable of invading pastures, alfalfa fields, roadsides and many other upland sites, as well as riparian areas, drainage ditches, floodplains, and wetlands. Plants emerge early in the spring, forming a rosette that persists for several weeks. By late spring, plants bolt and produce flowering shoots. Following seed production, flowering shoots die back, although in moist soils new rosettes can emerge in the fall.

Originally from Europe and Asia, perennial pepperweed can be commonly found throughout many western states, but plants have recently been found invading several eastern and midwestern states. Concern for large-scale spread is high as perennial pepperweed has the potential to invade natural and managed areas. The Wisconsin infestation was found in Green Bay along a disturbed roadside near a large transportation hub for a shipping company. This suggests that seed is being imported from long-distance sources. Rapid response and eradication of existing infestations is critical to prevent the spread of this invasive weed.

Identification

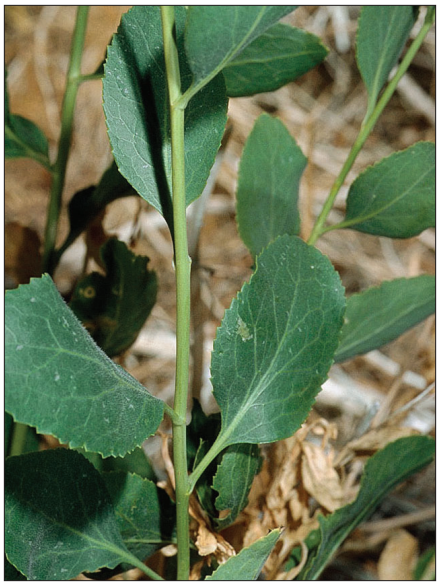
Stems: Numerous green, semi-woody stems range in height from 2 feet to over 4 feet tall. Stems die back by late summer.

Leaves: Leaves are smooth and green to gray-green in color. Rosette leaves are 4 to 11 inches long and 1 to 3 inches wide with long petioles. Leaves on stems are smaller than rosette leaves and have a shorter petiole.

Flowers & fruit: Tiny white flowers are four-petaled and form dense clusters throughout the top third of the stems. Fruit are small (1/16-inch long) and round with two-chambered pods.

Roots: White roots have a distinct horseradish smell. Roots can vary in size, but are often creeping. Older plants form semi-woody crowns near the soil surface.

Similar species: Perennial pepperweed is often confused with hoary cress (*Cardaria draba*), another nonnative invasive weed. However, hoary cress stems are less than 3 feet tall and have leaves that clasp the stem and lack an obvious petiole.



Perennial pepperweed emerges as a rosette in spring, then bolts, flowers, and dies back by late summer.

Reproduction and spread

Perennial pepperweed can spread either by seeds or roots.

Seeds: Infestations can produce many seeds, but few seedlings are observed in the field. Long distance dispersal is likely primarily from seeds.

Roots: Plants primarily reproduce from perennial roots which are capable of generating new shoots. Populations can spread more than 10 feet from the parent plant each year; however, if roots are fragmented by tillage, spread can increase dramatically.

Management

Preventive management is the best strategy for controlling perennial pepperweed since large, dense stands are difficult to control. Monitor fields frequently to locate new plants before they become established. If new infestations are found, plants should be intensively managed to prevent further spread and eradicate populations.

While physical, mechanical, and biological control methods can suppress populations, rarely do they eradicate them. If a population is found, herbicide treatments are recommended in conjunction with planting competitive perennial species such as perennial grasses or alfalfa. Herbicides are most effective when applied during the flower bud to early flowering stages. If plants are beyond this stage of growth, mow first and treat resprouting shoots. See the table for a summary of effective herbicides available for use in alfalfa fields, pastures, and noncrop/natural areas.

Herbicides that control perennial pepperweed

Common name (trade)	Alfalfa	Pasture	Noncrop
Chlorsulfuron (Telar)			■[a]
Glyphosate (many)	■[b,c]	■[b]	■[b]
Imazamox (Raptor)	■		
Imazapyr (Arsenal, Habitat)			■[a,c]
Imazethapyr (Pursuit)	■		
Metsulfuron (Escort, Cimarron)		■[a]	■[a]
2,4-D (many)		■	

[a] *Provides excellent control 1 year after treatment.*
[b] *Nonselective herbicide.*
[c] *Will damage crop unless used with Roundup Ready alfalfa.*

References to pesticide products in this publication are for your convenience and are not an endorsement of one product over other similar products. You are responsible for using pesticides according to the manufacturer's current label directions. Follow directions exactly to protect the environment and people from pesticide exposure. Failure to do so violates the law.

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