Rangeland-Pasture Recommendations

Perennial Pepperweed Identification and Management

Perennial pepperweed (*Lepidium latifolium*) is a non-native perennial plant that spreads by seeds and creeping underground roots that vigorously produce new plants. Seed production is prolific in heavily infested areas, estimated at 6 billion seeds per acre. The first basal leaves emerge to form a rosette. The leaves have long stems, are gray-green and can be 4 to 11 inches long and 1 to 3 inches wide. The rosettes produce plants of multiple, erect, semi-woody stems with smaller leaves that taper toward the base and have a prominent whitish mid-vein. The leaves become progressively smaller toward the top of the stems. Flowers are white with 4 spoon-shaped petals borne in dense clusters near the stem tips.

Perennial pepperweed is a member of the Mustard family. Although an enormous amount of seed is produced, most new plants are shoots from the underground root mass. The roots enlarge at the soil line forming woody crowns. Each crown produces numerous erect stems that grow 2 to 4 feet tall; 6 feet can be achieved under optimal conditions. Root fragments as small as 2 inches can produce a new plant. Perennial pepperweed roots can remain dormant in the soil for several years. Flowering occurs from early summer to fall. The combination of seed production and root shoots enables perennial pepperweed to develop into dense monocultures that displace native plants and wildlife.

A field of perennial pepperweed.

Perennial pepperweed can be found in riparian areas and wetlands, adapts to disturbed areas, roadsides and ditches, hay meadows and cropland. Perennial pepperweed is often confused with hoary cress. Hoary cress stems are less than 3 feet tall and have stem leaves with lobed ears that clasp the stem. Perennial pepperweed has smaller leaves that taper toward the base and have a prominent whitish mid-vein.

Management programs must include prevention, monitoring, and treatment of small satellite populations before plants develop extensive roots. Focus on containment of large infestations to prevent spread.

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 at www.weldweeds.org.

Recommended management methods:

Cultural – Establishment of selected, aggressive grasses can be an effective cultural control of perennial pepperweed. Contact your local CSU Extension office or Natural Resources Conservation Service office for seed mix recommendations. Good grazing management will stimulate grass growth and keep pastures healthy. Healthy pastures may be more resistant to perennial pepperweed 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. Mechanical control options are typically ineffective. With the exception of flooding, no non-chemical treatments have been proven effective.

Biological No known biological control agents available at this time. Development of biological controls has been hampered by a number of closely related native plants, some on the rare and endangered species list.

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

Herbicide	Rate	Application Timing/Comments
2,4-D Amine	3 qt./acre or 2 oz/gal water for each product	Spring- bolting to early bud stage and fall rosette stage. 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.
Escort	1 oz/acre or 1.3 grams to 3 gallons of water	Apply from bud to early bloom stage or at fall rosette. Add one teaspoon of household ammonia to 3 gallons of water plus the non-ionic surfactant @ 0.32oz/gal water or 1 qt/100 gal water.
Telar	1 oz/acre or ¾ of a gram to 3 gallons water	Apply at prebloom to bloom or at fall rosette stage. Add a non-ionic surfactant @ 0.32oz/gal water or 1 qt/100 gal water.
Round-Up	4 qts/acre or 2.5 oz/gal water	Spring- at early bud stage and /or fall rosette stage. Add a non-ionic surfactant @ 0.32oz/gal water or 1 qt/100 gal water.
Plateau	8 oz./acre or 0.25 oz/gal water	Spring apply to rosette stage or at flowering or at fall rosette. Add a methylated seed oil surfactant (MSO) @ 0.32 oz/gal water or 1 qt/100 gal water.

Photo of perennial pepperweed flowers courtesy of WA State Noxious Weed Control Board