



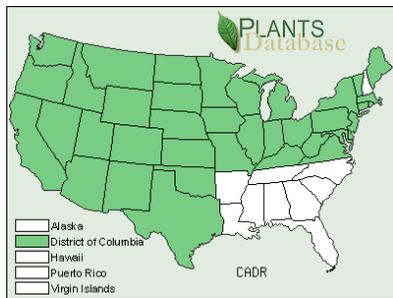
Whitetop *Cardaria draba* (L.) Desv.

Synonyms: *Lepidium draba* L. and *Lepidium draba* L. ssp. *draba* L.

Common Names: whitetop, hoary cress, whiteweed, peppergrass, heart-podded hoarycress, hoary cardaria

Native Origin: Central Europe and Western Asia

Description: A stout, erect perennial in the mustard family (*Brassicaceae*) that can grow up to 2 feet tall. The plant is leafy below and branching above with grayish stems. The arrowhead shaped leaves are grayish-green in color, covered with fine hairs and feel soft to the touch. Basal leaves form a rosette in early spring, tend to be more slender but larger than stem leaves, and narrow into a short petiole. Upper leaves clasp the stem. Flower pedicels (stalks) diverge slightly from the stem and are white with four petals about 0.1 inches long, clumped at the top of the stem and flat-looking in appearance. The seedpods are heart shaped and contain one or two oval, reddish-brown seeds. The root system consist of deeply penetrating vertical and lateral roots with thick, corky bark, large food reserves, and numerous underground buds from which rhizomes and aboveground shoots arise. Reproduction occurs from seeds or from buds on underground rhizomes.



Habitat: It prefers soils with neutral to alkaline pH and disturbed sites, including excessively grazed areas. It can be found in a variety of non-shaded habitats such as fields, meadows, pastures, open grasslands, waste areas, roadsides, gardens, feed lots, watercourses, along irrigation ditches, and at the edge of riparian habitats.

Distribution: This species is reported from states shaded on Plants Database map. It is reported invasive in AZ, CA, CO, ID, OR, MT, WA, and WY. It is also a prohibited noxious weed in Michigan.

Ecological Impacts: The plants can spread rapidly. A single plant can eventually form a large colony, producing a dense monoculture that can crowd out native species. In the absence of a competitor, a single plant can spread over an area 12 feet in diameter in one year. Types of disturbance which promote colonization and spread include grazing, irrigation, and cultivation. The species also contains compounds of glucosinolates, which can be toxic to some animals.

Control and Management:

- **Manual-** pulling and grubbing should be done within 10 days of plant emergence and before flowering and seed set; till and repeat tilling to remove root systems; clean all equipment before moving from the infested site; flooding can be used because seeds lose viability after being in wet soil for one month; mowing can help control infestation by reducing seed production in existing plants but will not eradicate existing populations.
- **Chemical-** Successful control usually requires repeated applications with foliar herbicides. It can be effectively controlled using any of several readily available general use herbicides. Metsulfuron can be used on rosettes but it is ineffective after the plants start to bloom. 2,4-D is effective on mature plants. Chemicals provide the most control when applied at the rosette state or flowering stage when carbohydrates are moving from above to below ground and herbicides are more likely to be transported to the roots. Follow label and state requirements.



References: www.forestimages.org, <http://plants.usda.gov>, www.nps.gov/plants/alien/list/a.htm, www.invasivespeciesinfo.gov/plants/whitetop.shtml, www.usgs.nau.edu/swepic/factsheets/cadrsf_info.pdf, www.fs.fed.us/database/feis/plants/forb/carspp/botanical_and_ecological_characteristics.html, http://tncweeds.ucdavis.edu/esadocs/documnts/card_sp.pdf