
**VEGETATION MANAGEMENT
GUIDELINE: Wild parsnip (*Pastinaca
sativa* L.)**

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Wild parsnip (*Pastinaca sativa* L.) has become a serious problem in some mesic prairies. Well-established prairies are not likely to be invaded by parsnip, but it can become quite abundant on prairie edges and in disturbed patches within otherwise high-quality prairies. Once established at the edges, parsnip can spread into adjacent high-quality areas.

Although this Eurasian native thrives in rich, alkaline, moist soils, it can survive under almost any conditions. Wild parsnip commonly can be found along roadsides, in pastures, and in fields.

Wild parsnip exists as a basal rosette for at least one year and then flowers and dies. Wild parsnip produces a rosette of large, grooved, upright leaves and stores reserves in a large, fleshy taproot during the first year. A hollow flowering stem is sent up from the center of the rosette the following growing season. Wild parsnip often flowers and sets seed during its second year, although it may not flower until subsequent years.

Many people are sensitive to the touch of the leaves and soon develop a rash if their skin contacts the leaves or plant sap in the presence of sunlight. A very painful rash can develop, which in some people leaves scars that persist for several months or longer. Wild parsnip is most irritating at the time of flowering. When undertaking control measures, care should be taken to avoid skin contact with the toxic sap of the plant tissues by wearing gloves, sleeves, and long pants.

Although eradication of this exotic is desirable from an ecological as well as human safety standpoint, in some situations one control measure is to do nothing. In high-quality prairies, aggressive growth by oth-

er species can sometimes eventually displace the parsnip.

The best control is achieved mainly through hand-pulling. Plants should be pulled and removed so that seeds do not develop and plants do not resprout. Wild parsnip is easiest to pull right after rain or during a drought, when the root shrinks. Another effective practice involves cutting the plant below the root crown before seed set during spring of the second year. It is best to do this as soon as flowers appear but have not matured. Since the plants do not all flower at once, the area should be rechecked several weeks after the first cutting and the following two or three years for newly flowering plants. After a spring burn, wild parsnip rosettes are among the first plants to emerge and may be detected easily and dug out to control their abundance along prairie edges. Seeds do not remain viable if dormant in the ground more than four years, so the species can be controlled if there is no outside seed source. Although the practices of hand-pulling, cutting, and digging have been successful in small areas with scattered plants, these practices can become difficult and time-consuming if patches containing hundreds of plants have been allowed to spread unchecked.

Mowing or cutting the base of the stem with a scythe can be effective if it takes place after flowering when the plant is mature and blooming, but before seed set. Parsnip must be removed or recut often and checked later for small flowering shoots near the ground. Poorly timed mowing, as is likely along roadsides, may increase both number of seedlings and percentage surviving to maturity. Mowing probably favors parsnip maturation by allowing more sunlight to reach immature parsnip plants, which are too low to be damaged by the mower. Mowing also reduces the density, height, and flowering of other species that are potentially good competitors against parsnip, such as common goldenrod.

If mechanical methods have failed to control wild parsnip or are not feasible, a 2% spot application of the herbicide Roundup (glyphosate) to basal rosettes is a recommended treatment. Roundup should be applied to individual plants with a hand sprayer

in late fall after most native vegetation is dormant. Late fall application minimizes the potential harm to nontarget species. It may be necessary to treat the same area again annually until missed plants and plants originating from the seed bank are eliminated. Roundup is a nonselective herbicide and should not be used in high-quality natural communities during the growing season because of the possibility of harming nontarget plants.

The herbicide 2,4-D (available under a variety of trade names), mixed according to label directions and applied to individual parsnip basal rosettes between March and May or between August and October, is effective. This herbicide should only be used on buffer or severely disturbed sites, and not in high-quality natural communities if it is applied during the growing season. Repeated early spring applications of this chemical before the flower stalk begins to elongate will reduce infestation of wild parsnip.

Care should be used to avoid contacting nontarget plants when applying either herbicide. Do not spray so heavily that herbicide drips off the target species. Native nontarget species will be important in recolonizing the site once the parsnip dies. The herbicide should be applied while backing away from the treated area to avoid contact with herbicide. By law, herbicides must be applied according to label directions and by licensed herbicide applicators or operators when working on public properties.

Burning does not successfully control parsnip because it removes litter and taller plants, providing favorable conditions for parsnip rosettes to develop. However, periodic burning maintains the vigor of native plants, allowing them to compete with parsnip.

The parsnip webworm damages some individual plants severely, but is not known to eradicate whole patches and is not likely to be useful as a biocontrol agent.

GENERAL REFERENCES

Eckardt, N. 1987. Element stewardship abstract for *Pastinaca sativa* — wild parsnip. The Nature Conservancy, Arlington, Virginia. 4 p.

Kline, V.M. 1981. Mowing to control wild parsnip (Wisconsin). Restoration and Management Notes 1(1):33.

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