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Invasive plants can thrive and aggressively spread beyond their natural range, disrupting ecosystems. The *Management of Invasive Plants in Wisconsin* series explains how to identify invasive plants and provides common management options. Management methods recommend specific timings for treatment, as well as expected effectiveness. For more information, go to: fyi.uwex.edu/weedsci/category/invasive-plants-of-wisconsin.

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Wild parsnip

(*Pastinaca sativa*)

Wild parsnip is an herbaceous plant that establishes as a rosette with upright leaves persisting for at least one year. Plants flower in subsequent years (typically 2nd or 3rd year), but after plants flower, they die (monocarpic perennial). Flowering stems are stout, hollow, grooved, and up to 5' tall.

Caution: Sap contact with skin in the presence of sunlight can cause a rash that often leads to blisters and discoloration of the skin (phytophotodermatitis). Wear gloves, long sleeves, and pants when handling.

Legal classification in Wisconsin: Restricted. The garden parsnip vegetable is the same species as the invasive form. The garden form is not restricted.

Leaves: Rosette leaves are pinnately compound with 5–15 broad, ovate to oblong leaflets. Stem leaves are alternate, with 2–5 pairs of opposite, sharply toothed leaflets. Petioles wrap around the stem. Upper stem leaves are reduced to narrow bracts.

Flowers: Late spring to midsummer. Numerous, small, five-petaled, yellow flowers in flat umbels 2–6" wide at the tops of stems and branches.

Fruits and seeds: Seeds are approximately 0.25" in diameter, flat, round, yellowish, and slightly ribbed.

Roots: Deep taproot

Similar species: Wild parsnip is distinguished from other species in the parsley family by its yellow flowers and pinnately compound leaves, which are divided once into more than five leaflets. Golden alexander (*Zizia aurea*; native) can be distinguished from parsnip by its earlier flowering time, shorter stature, less open appearance, and 2–3 pairs of leaflets. Prairie parsley (*Polytaenia nuttallii*; native) can be distinguished from parsnip by its oblong leaflets with few teeth and rounded umbels.

Ecological threat:

- Invades prairies, oak savannas, fens, old fields, pastures, and roadsides.
- Thrives in disturbed habitats and along edges of many habitat types.
- Can invade undisturbed grasslands.
- Seeds are readily transported by water.



Non-chemical control

Removal

Effectiveness in season: 90–100%
Season after treatment: 70–90%

Pulling or cutting the root from the stem are effective individual plant control techniques. Pull if soil conditions allow for the removal of the taproot. Alternately, cut the entire taproot with a sharp shovel or spade 1–2" below the surface. If flowers are present, bag material and dispose of it in a landfill to avoid potential for seed spread.

Mowing

Effectiveness in season: 90–100%
Season after treatment: 50–70%

Mowing can be effective if timed after the emergence of flower heads, but before seeds enlarge. Plants may resprout and still flower, but rarely produce viable seed. Monitor populations and repeat mowing if concerned about seed production. Care must be taken not to mow when mature seeds could be present as this will spread the seed. Parsnip populations may increase after the initial mowing, but repeating annually at the recommended timing for 3–5 years will reduce populations.

Prescribed burning

Effectiveness in season: 50–70%
Season after treatment: < 50%

Spring burns can kill germinating seedlings and can suppress above-ground growth of established plants depending on fire intensity. After the fire, established plants will quickly resprout and reinvade areas; this management method is not recommended unless integrated with other techniques. Fire may benefit other species well-adapted to this management (e.g., prairie grasses), resulting in improved competition with parsnip. Burns also allow for increased visibility of rosettes for follow-up treatment since they are often one of the first plants to green up after a burn. A handheld propane torch can be effective for treating seedlings.

Grazing

Effectiveness in season: 50–70%
Season after treatment: < 50%

Readily grazed by a variety of animals, especially during midseason. While effective, if parsnip constitutes too great a percentage of animals' diets they can also develop phytophotodermatitis. If grazing animals on parsnip, ensure that other forages are included in sufficient amounts to prevent injury.

Manipulation of the environment

Effectiveness in season: 0%
Season after treatment: < 50%

Establishment and maintenance of vigorous species (e.g., *Solidago*) may effectively compete with established populations as well as reduce the establishment of parsnip at a site.

Chemical control

Foliar

Apply directly to individual plants or broadcast across an infested area. Broadcasted foliar applications are typically the most cost-effective treatment in dense infestations. Use lower rates on smaller plants and less dense populations and higher rates on larger plants and denser populations. Use lower rates in the fall since plants are more susceptible at this timing. Spring applications require higher rates, but if applied after seedlings emerge, they will control both seedlings and adult plants.



2,4-D*

Effectiveness in season: 90–100%
Season after treatment: 70–90%

Common name: Many

Rate:

broadcast: 0.95–1.9 lb a.e./A
spot: For a 3.8 lb a.e./gal product:
 1% (0.038 lb a.e./gal)

Timing: Apply to rosettes in fall or spring, bolting, or flowering plants.

Caution: Use aquatically labeled product if potential exists for solution to contact surface water. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Overspray or drift to desirable plants should be avoided, as even minute quantities of the spray may cause severe injury to plants.

aminocyclopyrachlor + chlorsulfuron*

Effectiveness in season: 90–100%
Season after treatment: 90–100%

Common name: Perspective

Rate:

broadcast: 3.0–4.5 oz/A
 aminocyclopyrachlor: 1.2–1.8 oz a.i./A +
 chlorsulfuron: 0.5–0.7 oz a.i./A
spot: 0.12–0.2 oz/gal
 (aminocyclopyrachlor: 0.05–0.08 oz a.i./
 gal + chlorsulfuron: 0.02–0.03 oz a.i./gal)

Timing: Apply to rosettes in fall or spring, bolting, or flowering plants.

Caution: Do not apply directly to water or to areas where surface water is present. Avoid using in areas where soils are permeable, particularly where the water table is shallow, as groundwater contamination may result. Perspective remains in the soil for months depending on application rate and has the potential to contaminate surface runoff water, especially on poorly draining soils or areas with shallow groundwater. Maintenance of a vegetative buffer strip is recommended between the areas perspective is applied and surface water features.

Overspray or drift to desirable plants should be avoided, as even minute quantities of the spray may cause severe injury to plants. Do not compost treated plants as herbicide can persist through composting process.

chlorsulfuron*

Effectiveness in season: 90–100%
Season after treatment: 70–90%

Common name: Telar

Rate:

broadcast: 0.5–1.0 oz/A (0.40–0.75 oz
 a.i./A)
spot: 0.04 oz/gal (0.03 oz a.i./gal)

Timing: Apply to rosettes in fall or spring, bolting, or flowering plants.

Caution: Do not apply directly to water or to areas where surface water is present. Can remain in the soil for months depending on application rate. Overspray or drift to desirable plants should be avoided, as even minute quantities of the spray may cause severe injury to plants.

dicamba + 2,4-D*

Effectiveness in season: 90–100%
Season after treatment: 90–100%

Common name: Weedmaster

Rate:

broadcast: 16–32 fl oz/A
 (dicamba: 0.14–0.27 lb a.e./A + 2,4-D:
 0.18–0.36 lb a.e./A)
spot: 0.8% (dicamba: 0.009 lb a.e./gal +
 2,4-D: 0.011 lb a.e./gal)

Timing: Apply to rosettes in fall or spring, bolting, or flowering plants.

Caution: Do not apply directly to water or to areas where surface water is present. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Overspray or drift to desirable plants should be avoided, as even minute quantities of the spray may cause severe injury to plants. Rates > 16oz/A (0.5 lb a.e./A) may cause stunting and discoloration of sensitive grasses, such as smooth brome.

glyphosate*

Effectiveness in season: 90–100%
Season after treatment: 70–90%

Common product name: Roundup

Rate:

broadcast: 0.5–1.0 lb a.e./A
spot: For a 3 lb a.e./gal product: 1–2%
 (0.03–0.06 lb a.e./gal)

Timing: Apply to rosettes in fall or spring, bolting, or flowering plants.

Caution: Use product labeled for aquatic use if potential exists for solution to contact surface waters. Applications can result in bare ground as glyphosate is not selective. Overspray or drift to desirable plants should be avoided, as even minute quantities of the spray may cause severe injury to plants..

metsulfuron*

Effectiveness in season: 90–100%
Season after treatment: 90–100%

Common name: Escort

Rate:

broadcast: 0.3–1.0 oz/A
 (0.2–0.6 oz a.i./A)
spot: 0.04 oz/gal (0.02 oz a.i./gal)

Timing: Apply to rosettes in fall or spring, bolting, or flowering plants.

Caution: Do not apply directly to water or to areas where surface water is present. Remains in the soil for months depending on application rate. Overspray or drift to desirable plants should be avoided as even minute quantities of the spray may cause severe injury to plants.

Herbicide information is based on label rates and reports by researchers and land managers. Products known to provide effective control or in common use are included. Those that do not provide sufficient control or lack information for effectiveness on target species have been omitted.

References to pesticide products in this publication are for your convenience and not an endorsement of one product instead of a similar product. You are responsible for using pesticides in accordance with the label directions. *Read the label before any application.*

*Active ingredient (a.i.)



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