

wild parsnip

Pastinaca sativa



Native Range: Europe & Asia

DESCRIPTION: Wild parsnip is a monocarpic perennial herbaceous plant (plant spends one or more years in rosette stage, blooms under favorable conditions, and then dies) of the parsley family. Wild parsnip commonly grows 6 inches high in the rosette stage, and 3-6 feet in the flowering stage. Flowers are flat topped umbels 3-6 inches wide with numerous five-petaled yellow flowers. The plant typically blooms from mid-June to early-August. Leaves are alternate and made up of 5-15 oval-shaped, sharply toothed leaflets along both sides of the stalk. It has a long, thick carrot like (edible) taproot. The plant produces ¼ inch round, flat seeds that can be viable in the soil for up to 4 years.

WARNING – Care should be taken to avoid getting sap from the plant on your skin. The sap of wild parsnip, when on the skin and in the presence of sunlight, can cause a severe rash with blistering and discoloration that may result in scarring. This chemical reaction is referred to as phytophotodermatitis.



Rosette Leaves



Bolting Stage



Flower Head



Seeds



Skin Rash

BACKGROUND: It is believed that wild parsnip was brought into the country to be cultivated as a food source. Records for Wisconsin indicate that it was present in the state as far back as 1894. Its spread across the country is most likely a result of seeds being dispersed by mowing practices and vehicles.

ECOLOGICAL THREAT: Wild parsnip poses a severe threat to native plants and humans. This plant readily moves into disturbed habitats and along road edges. Once populations build, they can spread rapidly and quickly displace native vegetation. During July, wild parsnip is one of the dominant yellow-flowered weeds along many roadsides and other right-of-ways. From roadsides it can spread into woodland openings, prairies, and drainages. The ability for this plant to encroach on a wide range of habitats can have profound impacts on sensitive areas.

DISTRIBUTION AND HABITAT TYPES IN THE UNITED STATES/MONROE COUNTY: Found in open places along roadsides, pasture lands, disturbed sites, and in waste places throughout the United States and Canada, from British Columbia to California and Vermont south to Florida. This plant is very common and found throughout Monroe County. It endures a wide range of edaphic conditions, usually dry to mesic soils, but occasionally will be found in wet meadows. Plants grow best on calcareous, alkaline soils and do not tolerate shade well.

METHODS OF REPRODUCTION & DISPERSAL: In order for a rosette-stage plant to bolt into a mature flowering plant it must be subjected to a cold period (winter). This process is known as vernalization. Not all plants flower after their first vernal period. Most plants flower in the second, third, or fourth season after germination. Seeds ripen in late summer and disperse throughout the fall. Cattle will not eat wild parsnip, but deer may feed on the plant. Birds and small mammals may consume the seeds. Seed dispersal from mowing and off-road driving also contributes to its spread.

CURRENT MANAGEMENT APPROACHES:

Mechanical: Wild parsnip can become abundant along irregularly mowed roadsides as inconsistent mowing seems to facilitate seed dispersal. A single mowing late into the growing season (mid July thru August) will result in high seed dispersal as seeds have matured and are transported by mowing equipment. Because of this, mowing should be done prior to seed formation (June) with follow-up mowing throughout the summer to avoid flowering and seeding out (timely mowing). Mowing can however also stress other plant species that have the potential to be good competitors against parsnip.

Manual: Hand-pulling of rosettes and small plants can be an effective means of removal, depending on soil types and moisture. For larger patches, weeding with a shovel is an effective control measure. Flowering plants should be severed 1-2 inches below ground level before seed drop. Since the plants do not all flower at once, the area should be checked several weeks after the first cut for late bolting plants. The area should be revisited the following year to remove any new flowering plants. All removed plants should be placed in bags and disposed of in a landfill (check local regulations) or burned. Remember to avoid contact with plant tissues and sap. It is best to wear long sleeve shirt, pants, and gloves.

Fire: Burning alone has proven not to be a very effective means of controlling wild parsnip. Burning a site removes the litter layer and provides readily available nutrients to parsnip plants, resulting in taller plants and greater stem density. Treating newly sprouted parsnip rosettes with herbicide after a fire can be a very effective strategy, because parsnip is one of the first plants to re-sprout after a fire. In higher quality sites fire may be an effective tool to invigorate native plants to out-compete the invasive parsnip and reduce the seed bank.

Chemical: If herbicide treatments are the preferred method of control or sites are too large for manual removal, applications of 2,4-D, Escort[®] or glyphosate have proven to be effective. Timing of application will determine overall effectiveness of herbicide treatments. Adult plants should be spot treated in mid-May to mid-June (time of plant bolting until flowering) or in the fall, targeting rosette plants. Application of herbicide in the fall minimizes the impact to non-target species. Sites may need to be re-treated for several years until the seed bank has been exhausted. It is recommended that herbicide treatments of wild parsnip be done sparingly in higher quality habitats.

Biological: The parsnip webworm (*Depressaria pastinacella*) is the most recognized insect known to feed on wild parsnip. The adult webworm deposits eggs on unopened flower heads (umbels) between May and June. Hatched larvae then construct a web around the umbel and feed on the flowers and seeds. Once larvae have matured they travel to the base of the stem and bore into the plant and over-winter in a pupated state. Adults then emerge the following summer. While the webworm may intensively damage some plants and prevent seed dispersal, they rarely take over a large patch of wild parsnip. As a result, parsnip webworm is not likely to be an effective biocontrol agent.

This bulletin is produced and distributed by the Monroe County Invasive Species Working Group, an inter-agency group formed "to educate the public and private interests in Monroe County on the impacts of invasive plant species, and to conduct/promote the control and eradication of invasive plant species through interagency cooperation and action."

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credits: Wisconsin Manual of Control Recommendations for Ecologically Invasive Plants. WBER. May 1997.
Integrated Pest Management Methods for Control of Invasive Exotic Plants Species at Midewin National Tallgrass Prairie. Caroll and White. 1997.