Printed References

BOOKS

Invasive Plants of the Upper Midwest: An Illustrated Guide to Their Identification and Control, by Elizabeth J. Czarapata, University of Wisconsin Press, 2005

Websites

Invasive Plants Association of Wisconsin (IPAW)
Www.ipaw.org

Univ. of Wisc. Extension — Wild parsnip factsheet
www.uwex.edu/ces/wihort/gardenfacts/x1083.pdf

Wisconsin DNR __ Wild parsnip factsheet
dnr.wi.gov/invasives/fact/parsnip.htm

Wisconsin DNR — Invasive plants photo gallery
dnr.wi.gov/invasives/photos

Wisc. Natural Resources magazine — Wild Parsnip
www.wnrmag.com/stories/1999/jun99/parsnip.htm
www.wnrmag.com/stories/2000/jun00/parsnip.htm

Wisc. State Herbarium — Vascular plants search
www.botany.wisc.edu/wisflora/search.asp

Illinois Nat. Hist. Survey - Wild Parsnip Management
www.inhs.uiuc.edu/chf/outreach/VMG/parsnip.html

Minnesota DNR — Wild parsnip factsheet
www.dnr.state.mn.us/invasives/terrestrialplants/herbaceous/wildparsnip.html

The Nature Conservancy Wild parsnip management
http://tncweeds.ucdavis.edu/esadocs/pastsati.html

NOTE: Use pesticides wisely. Always read the product label carefully. Follow all mixing and application instructions. Wear all recommended protective gear and clothing. Follow directions exactly to protect the environment and people from pesticide exposure. Failure to do so violates the law. References to pesticides and other products are for your convenience and are not an endorsement or criticism of one product over similar products.

UW-Extension County Offices

Adams: 608-339-4237
Ashland: 715-682-7017
Barron: 715-537-6250
Bayfield: 715-373-6104
Brown: 920-391-4610
Buffalo: 608-685-6256
Burnett: 715-349-2151
Calumet: 920-849-1450
Chippewa: 715-726-7950
Clark: 715-743-5121
Columbia: 608-742-9680
Crawford: 608-326-0223
Dane: 608-224-3700
Dodge: 920-386-3790
Door: 920-746-2260
Douglas: 715-395-1363
Dunn: 715-232-1636
Eau Claire: 715-839-4712
Florence: 715-528-4480
Fond du Lac: 920-929-3170
Forest: 715-478-7797
Grant: 608-723-2125
Green: 608-328-9440
Green Lake: 920-294-4032
Iowa: 608-935-0391
Iron: 715-561-2695
Jackson: 715-284-4257
Jefferson: 920-674-7295
Juneau: 608-847-9329
Kenosha: 262-857-1945
Kewaunee: 920-388-7141
La Crosse: 608-785-9593
Lafayette: 608-776-4820
Langlade: 715-627-6236
Lincoln: 715-536-0304
Manitowoc: 920-683-4168
Marathon: 715-261-1230
Marinette: 715-732-7510
Marquette: 608-297-9153
Menominee: 715-799-4654
Milwaukee: 414-290-2400
Monroe: 608-269-8722
Oconto: 920-834-6845
Oneida: 715-365-2750
Outagamie: 920-832-5121
Ozaukee: 262-238-8288
Pepin: 715-672-5214
Pierce: 715-273-3531
Polk: 715-485-8600
Portage: 715-346-1316
Price: 715-339-2555
Racine: 262-886-8460
Richland: 608-647-6148
Rock: 608-757-5696
Rusk: 715-532-2151
St. Croix: 715-684-3301
Sauk: 608-355-3250
Sawyer: 715-634-4839
Shawano: 715-526-6136
Sheboygan: 920-467-5740
Taylor: 715-748-3327
Trempealeau: 715-538-2311
Vernon: 608-637-5276
Vilas: 715-479-3648
Walworth: 262-741-4951
Washburn: 715-635-4444
Washington: 262-335-4480
Waukesha: 262-548-7770
Waupaca: 715-258-6230
Waushara: 920-787-0416
Winnebago: 920-232-1970
Wood: 715-421-8440

© 2007 by the Board of Regents of the University of Wisconsin System doing business as the division of Cooperative Extension of the University of Wisconsin Extension.

An EEO/Affirmative Action employer, University of Wisconsin Extension provides equal opportunities in employment and programming, including Title IX and ADA requirements.

This brochure was produced by Lisa Johnson, Dane County UW-Extension Horticulture Educator and David J. Eagan, UW-Madison. This brochure was produced under the auspices of the Environmental Working Group of the UW-Extension Urban Horticulture Team.

Copies are available from your county Extension office and the Wisconsin DNR.

Reviewed by: Kelly Kearns, Wisconsin DNR; Dr. John Stier, UW-Horticulture

Wild Parsnip (*Pastinaca sativa*)

A Major Threat to Wisconsin's Prairies, Fields and Roadsides

HT 2007 (UWEX Horticulture Team)
PUB-ER-647 2007 (WI DNR)

Threats

Wild parsnip

- Displaces native vegetation
- Decreases biodiversity
- Can cause painful blisters

History

Wild parsnip was brought to the United States by settlers who valued its edible taproot. Wild parsnip is the same species as cultivated parsnip, but it escaped from the garden long ago. Now wide-spread, wild parsnip is often found where people hike, work, garden and play, making encounters more frequent.

Range & Habitat

Wild parsnip grows in sunny areas: fence rows, roadsides, uncultivated fields, meadows, woods edges, pastures, prairies and restorations. It is found nationwide, except for a few southeastern states. Wild parsnip prefers rich alkaline soils, but adapts to almost any open upland habitat.

Warning! Skin Irritant

Be cautious around wild parsnip. Keep away from juices from cut or broken leaves, stems or flower heads. Furocoumarins in the plant juice cause skin to become hypersensitized to sunlight, leading to a painful sun-induced burn-like reaction called phyto-photo-dermatitis. Wild parsnip can be touched safely as long as the stems are not broken, and don't release the sap. Wild parsnip sap is harmless when dry.

Unlike poison ivy, (which causes an allergic reaction) you don't need a previous exposure to be sensitized. People vary in the intensity of their reaction to parsnip, depending on skin color and other factors. Moist, sweaty skin can intensify the reaction. Animals with bare light-colored skin or thin fur may also be affected. Covering exposed skin immediately will prevent the reaction, but the area will remain sensitized for about eight hours.

The 'burn' reaction usually appears a day or two after exposure, and only in places touched by the sap and exposed to the sun. In mild cases, affected skin turns red and feels like a sunburn. In more typical cases, skin reddens, often hurts and forms large blisters. Unlike blisters caused by poison ivy, wild parsnip blisters do not spread.

If blisters develop, cover them with a cool, wet cloth to help relieve pain. Avoid rupturing the blisters for as long as possible, allowing the skin beneath to heal. You can also cover the affected areas with bandages. Keep blistered skin out of the sun to avoid further pain and redness. When blisters rupture, keep the area clean, and if desired, apply an antibiotic cream to prevent infection. If blistering is severe, see a physician. A topical or systemic cortisone steroid may relieve discomfort. As blisters heal, a reddish-brown discoloration will mark the site. These telltale marks can persist for months to several years.

Wild parsnip blisters. Photo by David J. Eagan

Blisters acquired while using a weed whip. Note the lack of blisters where skin was protected by socks. Photo by Steven Zoromski

Identification

Forms. Wild parsnip has two growth stages: non-flowering leafy rosettes at ground level and four- to five-foot-tall flowering plants.

Non-flowering rosettes. Germinating seeds produce low-growing non-flowering rosettes of leaves the first year. Each rosette is a cluster of spindly, compound leaves that resemble celery leaves.

Rosette of leaves. Photo by David J. Eagan

One compound leaf. Photo by Lisa Johnson

Compound leaves consist of a central stem bearing several pairs of toothed leaflets. A mature rosette has five to 15 leaves, and each leaf is six to 12 inches long. During the first year, the plant develops a large taproot. It may take two to three years for the root to store enough energy to produce a flowering stalk.

Flowering plants. A tall, branched flowering stalk appears in the second or third year.

Flowers. The flowers are tiny, five-petaled and yellow-green, borne in umbels (flat clusters) atop four- to five-foot-tall leafy stems. Stems are stout, grooved and hollow. Most flowering occurs from early June to mid-July. Umbels are two to six inches across. Primary umbels, the largest, bloom first atop the main stem, followed by secondary and tertiary umbels, blooming 10-14 days later on side branches. With different bloom times, plants can produce seed for a longer period than if all the flowers matured at once. This gives plants a competitive advantage. When flowering ends, plants start to wither and die.

Primary and secondary umbels. Photo by Lisa Johnson

Umbel. Photo by David J. Eagan

Seeds. Wild parsnip seeds are oval, one-quarter-inch long and smooth on one side with four horizontal curved "ribs" on the other. They mature in about three weeks, changing from yellow-green to tan in color. Most seeds fall by October in southern Wisconsin. About 1,000 seeds are produced per plant. They require a cold period to germinate, so most sprout in spring. Seeds are viable for about four years.

Wild parsnip seeds. Photo by David J. Eagan

Spread

Wild parsnip reproduces only by seed. It is spreading in Wisconsin for several reasons. Delaying the regular mowing of roadsides or fields (to accommodate the nesting cycles of grassland birds) allows seeds to mature before mowing occurs. Seeds are also spread inadvertently to new locations on mowers, trucks and other machinery, and in soil used for landscaping and construction and in hay.

Wild parsnip prefers weedy, sunny, disturbed areas. Dense, well-established prairies are less likely to be invaded. However, wild parsnip can infest prairie edges or disturbance areas within prairies. Control methods such as burning and mowing can actually favor the spread of wild parsnip, depending on the treatment and timing. Apply these methods carefully.

Control Methods

The best way to control wild parsnip is by early detection and eradication. Removing a small or new infestation early will prevent a much larger problem from developing. Regardless of the method used, the goal is to prevent the plants from seeding.

Management practices should be based on the quality of the area, the degree of infestation, and use by people or livestock. In high quality natural areas, eradicate wild parsnip promptly to help preserve the native plant community. Long-term monitoring is a crucial part of any control method used, as seeds in the 'seed bank' will continue to germinate for several years.

Caution. To avoid getting plant juice on bare skin, wear gloves, long sleeves, long pants, safety glasses and other protective clothing. If contact occurs, immediately wash or cover the area. Working at sundown may be the safest option.

Hand-digging and pulling. This method will kill the plant, but is not practical for large infestations. Flowering plants have stout stems and may be pulled, especially when soil is moist after a rain. If seeds are ripening, remove pulled plants from the area to avoid spreading the seeds; they may still ripen even after the plant is uprooted! To dig out wild parsnip, use a narrow shovel, spade or trowel to loosen and uproot them. You may also slice the taproot with a sharp shovel an inch below the root crown and pull up the top of the plant. It should not resprout.

Digging parsnip roots. Photo by Sam Thayer.

Prescribed burns Burning will not kill established plants; they will resprout from their taproots. However, fire often kills newly sprouted seedlings. A spring burn clears the ground and encourages early and vigorous rosette growth as well as seed germination. This allows wild parsnip to be easily spotted, as they are among the first plants to reappear after a fire. Follow all state, county and local ordinances when using fire.

Mowing. Mowing flowering plants must be properly timed, or it may lead to a worse infestation. Mowing tends to favor plants in the rosette stage by allowing more sunlight to reach them. It also reduces the density and reproduction of other species that compete with wild parsnip. To control flowering plants, mow after the first umbels flower (usually late June to early July), but before seeds enlarge. At this time, plants have used up most of their energy and often die when cut. Some plants will resprout or flower late, so follow-up mowing or spot-cutting is necessary. Continue mowing for at least five years to exhaust the seed bank. Be especially careful when using mowers, weed whips, mechanical string trimmers and other such devices. They tend to spray users with juice and bits of the plants, leading to redness and sometimes hundreds of blisters on exposed skin. Wear goggles and protective clothing when mowing.

Chemical controls. Apply a broadleaf herbicide product to the rosettes, such as one containing triclopyr or 2,4-D. Add a surfactant, if one is not already present, to improve herbicide adherence. Ideally, spray in fall on a warm day after the first frost. This reduces the possibility of harming desirable species. Spray each year until all missed plants and newly germinated plants are eliminated. Always follow herbicide label directions. Use proper personal protective equipment, and keep people and animals out of treated areas as directed.