

The Parsley Family Identification Guide

Mark Loux, Professor, Food, Agriculture, and Environmental Sciences, The Ohio State University

Alyssa Essman, Research Associate, Food, Agriculture, and Environmental Sciences, The Ohio State University.

Several weed species in the *Apiaceae* or parsley family are commonly found in Ohio. These weeds can be similar in appearance and difficult to differentiate from one another. It is important to be able to distinguish among weed species in this family. They present a varying degree of concern economically, and some can be harmful to pets, livestock, and humans. Shown here are photos and key characteristics for five of the most common weeds: wild carrot (*Daucus carota*), poison hemlock (*Conium maculatum*), wild parsnip (*Pastinaca sativa*), cow parsnip (*Heracleum sphondylium*), and giant hogweed (*Heracleum mantegazzianum*). These weeds inhabit both disturbed and undisturbed sites such as forest edges, roadsides, ditches, wastelands, pastures, fence lines, landscapes, and no-till crop fields.

Seedlings

Plants in the parsley family can be distinguished from one another as seedlings if both the cotyledons and first true leaves are present. The cotyledons of wild carrot tend to be longer

and slimmer than the cotyledons of poison hemlock, while cotyledons of wild parsnip, cow parsnip, and giant hogweed appear very similar. The first true leaves of wild carrot are more finely divided than those of poison hemlock. The first true leaves of giant hogweed tend to be larger and rounder than those of wild or cow parsnip.

Vegetative Stage

The leaves of wild carrot tend to be lacier and more finely divided than those of poison hemlock, for which it is often confused. Wild parsnip and cow parsnip both have large, deeply lobed leaves. Wild parsnip leaves consist of a main stem and up to fifteen toothed leaflets, while cow parsnip has three sets of deeply lobed leaflets. Giant hogweed is the largest of the parsley family species in this guide and has extremely large, deeply incised leaves. From a distance, many of these weeds are similar in appearance. An up-close inspection using several key identifiers, especially the stem of the plant, is often necessary to distinguish these look-alike species.



Wild carrot



Poison hemlock



Wild parsnip



Cow parsnip



Giant hogweed



Figures 1–5 (top left to right): Seedlings of commonly confused parsley family weeds. Photo credits: Figures 1–3. Ohio State University Weed Science; 4. Skyline Gardens Alliance, skylinegardens.org; 5. Gerald A. Mulligan, Agriculture and Agri-Food Canada, weedscanada.ca.

Figures 6–10 (bottom left to right): Vegetation of commonly confused parsley family weeds. Photo credits: 6. Chris Evans, Illinois Wildlife Action Plan, Bugwood.org; 7. Robert Vidéki, Doronicum Kft., Bugwood.org; 8. OSU Weed Science; 9–10. Maine Department of Agriculture, Conservation, & Forestry, maine.gov.



KEY IDENTIFIERS

Wild carrot

- Very finely divided leaves
- Solid, green stem
- Hair on leaves and stem
- Carrot odor

Poison hemlock

- Finely divided, fernlike leaves
- Hollow stem
- Purple spots on hairless stem
- Musty odor

Wild parsnip

- Deeply lobed leaves with up to 15 toothed leaflets
- Hairless leaves
- Hairless, grooved stem
- Yellow flowers

Cow parsnip

- Coarse hairy leaves
- Leaves with three, deeply lobed leaflets
- Grooved, hairy, green stem

Giant hogweed

- Deeply lobed leaves up to five-feet wide
- Hollow, rigid stem
- Purple blotches on hairy stem



Wild carrot



Poison hemlock



Wild parsnip



Cow parsnip



Giant hogweed



Figures 11–15 (top left to right): Stems of each of the described parsley family species. Photo credits: Figures 11–12. Ohio State University Weed Science; 13. NY Department of Environmental Conservation, dec.ny.gov; 14. Naja Kraus, NY Department of Transportation, dot.ny.gov; 15. Rob Routledge, Sault College, Bugwood.org.

Figures 16–20 (bottom left to right): Reproductive structures of the five parsley family weeds. Photo credits: 16, 18. Ohio State University Weed Science; 17. John Cardina, The Ohio State University, Bugwood.org; 19. Mary Ellen (Mel) Harte, Bugwood.org; 20. Terry English, USDA APHIS PPQ, Bugwood.org.

Reproductive Stage and Life Cycle

These species most often exist as biennials, meaning their life cycle takes place over two years. They emerge from seed the first year and develop into a rosette in a vegetative state, which overwinters. In the second year (the reproductive phase), plants bolt, then flower to produce a seed head, and finally finish their life cycle via seed production. Cow parsnip and giant hogweed can also be perennials, where they survive as a rosette for more than one year. All of these species die after flowering and reproduce exclusively by seed.

Potential Hazard

Several of these species can pose a serious threat to livestock and humans. Wild carrot is generally safe but can cause skin irritation on occasion. All parts of the poison hemlock plant are highly toxic, but only when ingested. Irritation of the skin and eyes is possible upon contact with

this plant. Livestock tend to avoid eating poison hemlock due to its foul smell and unpalatable taste. Contact with the sap of wild parsnip can cause adverse skin reactions to sunlight, and lead to severe rashes and blisters. Cow parsnip sap can also make skin more sensitive to the sun following exposure and lead to severe sunburns. Giant hogweed sap is the most injurious of the parsley family species. Like wild and cow parsnip, giant hogweed is also phototoxic, causing adverse skin reactions following sun exposure. Injury caused by contact with giant hogweed sap and subsequent sun exposure can lead to severe burns, blisters, and permanent scarring. Contact with the eyes is potentially even more serious and can lead to permanent blindness.

Control

These species can be susceptible to chemical control by applications of glyphosate, triclopyr, and 2,4-D. Other options exist and may vary by species. Control with herbicides is always more

effective when plants are in the rosette stage. Large plants and areas where seeds are regularly germinating in great numbers may require repeated herbicide applications. See the *Weed Control Guide for Ohio, Indiana, and Illinois* or contact local Ohio State University extension personnel for more control recommendations.

References

Maine Department of Agriculture, Conservation & Forestry. 2021. "Giant Hogweed Lookalikes." Giant Hogweed, *Heracleum mantegazzianum*. <https://www.maine.gov/dacf/php/horticulture/hogweedlookalikes.shtml>.

O'Neill Jr., Charles R. 2009. "Giant Hogweed (*Heracleum mantegazzianum*) – Poisonous Invader of the Northeast. NYSG Invasive Species Factsheet Series: 07-1. New York Sea Grant SUNY College at Brockport. Published February 2007; revised August 2009. PDF. <https://seagrant.sunysb.edu/ais/pdfs/GiantHogweedFactsheet.pdf>.