

# Invasive Plant Series

FACT SHEETS

**\* Warning:** All parts of this plant are poisonous to both animals and humans. Use caution when managing this plant.

## Poison Hemlock

*Conium maculatum* L.

**Other Common Names:** Deadly hemlock, poison parsley

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EXPERT  
REVIEWED



**Figure 1.** First-year rosette  
Ron Rathfon, Extension forester, Purdue University



**Figure 2a.** Purple spotting on stems  
Jan Samanek, State Phytosanitary Administration, Bugwood.org

**Description:** A native of Europe, poison hemlock was introduced to North America as a garden/ornamental plant. Poison hemlock is a member of the Apiaceae (parsley) family. It has a biennial growth pattern, being a low-lying rosette (Fig. 1) the first year and bolting to 3-10 feet the second year. The stems are stout, smooth, with distinctive purple spotting (Fig. 2a and 2b). Flowers are small, white and found in umbrella-shaped clusters (Fig. 3) in early summer (June/July). The fern-like leaves are pinnately compound and arranged alternately on the stem (Fig. 4). The plant reproduces prolifically via seeds that are flattened and ribbed. Seeds mature in August/September and are easily spread via mowing/agriculture equipment. It may be confused with wild carrot (Queen Anne's lace Fig. 6) or wild cow parsnip (Fig. 7), both of which have white umbrella-shape flower clusters. Wild carrot has a hairy stem, while cow parsnip has a ribbed stem. Neither have purple spotting.

**Impact/ Distribution:** Poison hemlock contains highly poisonous alkaloid compounds that can be fatal to humans and livestock. Poison hemlock easily invades disturbed/early successional sites and is typically found along roads, streams, trails, ditches, forest edges and waste areas (Fig. 5).

**Management:** Poison hemlock spreads via seed, so effective management must prevent new seed production, prevent spread of existing seed, and exhaust the existing seed supply in the soil seed bank.

**Prevention:** Poison hemlock seed often is inadvertently spread by mowing, road maintenance or agricultural equipment. Mow infested areas along roadsides, ditch banks and field edges before seed



Poison Hemlock is well established and widely distributed throughout Indiana. Counties highlighted in green have established populations of poison hemlock.





**Figure 2b.** Base of first-year rosette stem showing purple spotting  
Ron Rathfon, Extension forester, Purdue University



**Figure 3.** Umbrella-shaped flower clusters  
Pedro Tenorio-Lezama, Bugwood.org

matures. Poison hemlock seed maturation may vary from year-to-year depending on weather patterns. In southern Indiana, mowing should occur from April through early to mid-July. Avoid working, recreating in or walking or driving through infested areas during seed dispersal periods. Also, clean clothing, shoes, ATVs or vehicles following activity in infested areas.

**Control:** The most effective control may be mowing to prevent seed production, followed with herbicide applications to rosettes and resprouts.

- Manual - Can be effective for single plants or very small infestations. Pull or dig up all plants, place in trash bag and dispose of with regular trash. Always wear protective clothing, including gloves and eye protection, to prevent the plant from contacting skin.
- Mechanical - Mowing or cutting may be effective control but must be repeated often because the taproot can send up new shoots after a single mowing. Tilling or grubbing can kill hemlock and prevent seed production but is generally not recommended because of soil disturbance.



**Figure 4.** Pinnately compound leaves  
Pedro Tenorio-Lezama, Bugwood.org



**Figure 5.** Poison hemlock invading a disturbed roadside  
Richard Old, XID Services, Inc., Bugwood.org

- Chemical - Effective for large infestations and for spot spray applications to individuals and clumps. Herbicide application should be performed while the plant is actively growing and before flowering. First-year basal rosettes may be sprayed from midsummer through fall. Second-year plants begin bolting flower stalks in April and begin flowering in mid-May. Follow-up treatments will be required, as seeds already present in the soil sprout. Follow label directions and use a surfactant to increase effectiveness.
  - Glyphosate: Use herbicides containing at least a 41 percent concentration of glyphosate and follow label directions to mix a 2 percent spray solution. Thoroughly wet all surfaces of the plant but not to the point of runoff.  
*Use caution:* Glyphosate is nonselective and will damage or kill any plant it contacts.
  - 2,4-D or Triclopyr: Broadleaf-specific herbicides that will not harm grasses. Most effective on first-year rosettes or very small second-year plants.

**Look-a-likes:**



**Figure 6.** Wild carrot (Queen Anne's lace), *Daucus carota* L.  
Wendy VanDyk Evans, Bugwood.org

**For vegetation management professionals:**

Aminopyralid, chlorsulfuron, clopyralid, dicamba, imazapic, imazapyr, metsulfuron-methyl, sulfometuron-methyl plus metsulfuron-methyl, and 2,4-D plus picloram may prove effective alone or in combination with other listed herbicides for plant control and pre-emergence control.

**Additional Information**

- iMap Invasives Element Stewardship Abstract:  
<http://www.imapinvasives.org/GIST/ESA/esapages/conimacu.html>
- Indiana Cooperative Agricultural Pest Survey  
<http://extension.entm.purdue.edu/CAPS/>
- Invasive.org:  
<http://www.invasive.org/browse/subinfo.cfm?sub=4365>
- Midwest Invasive Plant Network (MIPN) Invasive Plant Control Database:  
<http://mipncontroldatabase.wisc.edu/Default.aspx>
- Purdue University Weed Science Department:  
<http://www.btny.purdue.edu/weedscience/2003/articles/PHemlock03.pdf>
- What's Invasive! Android or iPhone app:  
<http://whatsinvasive.com/>



**Figure 7.** Cow parsnip, *Heracleum maximum* Bartr  
Dave Powell, USDA Forest Service, Bugwood.org

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