



Poison Hemlock

Conium maculatum L. (aka Poison parsley)



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Overview:

Poison hemlock is a tall biennial or short-lived perennial of the carrot/parsley family and is native to west Asia and the Mediterranean region.² It was introduced to North America as an ornamental plant in the 1800s. All parts of the plant are extremely toxic to humans and animals - poisonings can be fatal. Poison hemlock contains at least 5 toxic alkaloids which paralyze muscles, eventually causing respiratory paralysis. The predominant alkaloid present in the plant changes with development, and the total amount of alkaloids varies with geographical area.¹

Poison hemlock is a tap-rooted plant which reproduces by seed only, growing a rosette of leaves in the first year, and then produces flowering stalks the second season. Seeds drop near the parent plant, resulting in dense stands.³ Seeds can germinate throughout the growing season, but established plants resume growth early in the spring. Poison hemlock seeds have high viability, but longevity is only about three years. The dried stems can persist through the winter.³

Powdery mildew and some viruses have been observed on poison hemlock; however they only result in some stunting of growth.¹

Poison hemlock can be confused with native cow parsnip (*Heracleum lanatum*) and water hemlock (*Cicuta douglasii*), a violently poisonous native plant. Cow parsnip has palmately compound leaves and water hemlock leaves are not pinnate and have serrated edges. Poison hemlock may also be confused with Queen Anne's Lace (*Daucus carota*), a non-native plant which is much shorter, and flowers later, and has hairy stems.

Habitat:

Poison hemlock prefers moist ground and full sun but is tolerant of drier sites and/or light shade.

Identification:

Stems: Are stout, erect, and extensively branched,³ growing 80-200(300)cm tall.² Stems are hollow, except at the nodes, and have purple blotches or streaking.¹

Leaves: Are alternate, 2-3 pinnately compound, 10-30 x 6-28 cm, bright green, and leaflets are finely divided. Basal leaves have long, 7-25 cm, petioles, the leaflets on short petioles. Leaf segments are oblong to lance-shaped. Leaves decrease in size upward on the plant.² Crushed leaves have a strong musty odour.³

Flowers: Are borne in umbels 4-7 cm across. Floret stalks are 2-7 cm. Floret number 10-20 with reflexed, white petals 1.5 x 1 mm. Bracts number 4-6, oval to lance-shaped, 2-5 mm with acuminate tips.² Flowering occurs July-August. Seeds are paired³ 2-4 x 1.5-2.5 mm,² light brown, barrel-shaped capsules with longitudinal ribs.³

Prevention:

Poison hemlock rapidly colonizes disturbed ground so it is important to repair disturbed sites susceptible to invasion. Seeds have no self-dispersing apparatus such as burs or pappus, so can only be spread via water, soil, or attached to vehicle/animal/human traffic. Refrain from moving vehicles through poison hemlock stands and any hand pulled plant material must be carefully handled to prevent

continued next page

Poison Hemlock (Continued)

seed dispersal. **IMPORTANT** - wear protective clothing when handling any parts of poison hemlock.

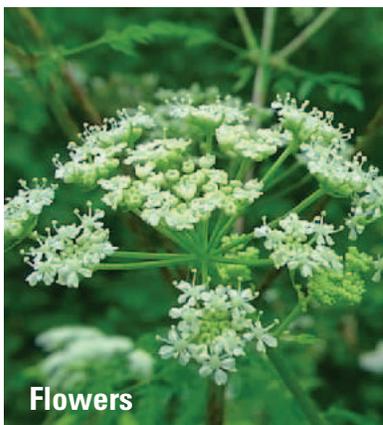
Control:

Grazing: Poisonous. Poison hemlock can inhabit moist hayfields and cured foliage retains its toxicity. Poison hemlock greens up before other vegetation early in the spring, increasing the potential for livestock poisonings. Invasive plants should never be considered as forage.

Mechanical: Repeated cultivation can prevent poison hemlock establishment, and mowing before flowering can prevent seed production. Young plants can be easily hand pulled, mature plants can be dug, taking care to not disperse any seed present. **IMPORTANT** - wear protective clothing when handling any parts of poison hemlock and dispose of in landfill-bound garbage.

Chemical: MCPA and 2,4-D Amine are registered for use on poison hemlock. Always check product labels to ensure the herbicide is registered for use on the target plant in Canada by the Pest Management Regulatory Agency. Consult your local Agricultural Fieldman or Certified Pesticide Dispenser for more information.

Biological: The European palearctic moth, or hemlock moth, *Agonopterix alstroemeriana* was accidentally introduced to the US and has become widely dispersed.³ Its larvae can severely defoliate a plant, and may result in desiccation and death of plants.⁴



Flowers

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Seeds

ipm.illinois.edu



Stem

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Eric Coombs, Oregon Department of Agriculture, Bugwood.org



Leaf

ipm.illinois.edu

REFERENCES

- 1 Pitcher, D. Element Stewardship Abstract for *Conium maculatum*. The Nature Conservancy.
- 2 *Conium maculatum*. Flora of China. efloras.org. Accessed January, 2015.
- 3 Pokorny, M, Sheley, R. Poison Hemlock from Montana State University Extension Service. www.co.yellowstone.mt.gov/extension/ag/pubs.mt200013.html. Accessed January, 2015.
- 4 Laboratory rearing of *Agonopterix alstroemeriana*, the defoliating poison hemlock moth (*Conium maculatum* L.), and the effects of piperidine alkaloids on preference and performance. www.cabi.org/isc. Accessed January, 2015.