

Poison hemlock (*Conium maculatum*)

History: Poison hemlock was first introduced to North America in the 1800's and has since become widely naturalized. This species is extremely toxic, and it has a disreputable history as a source of poison. For example, its extract was used to execute criminals (as well as a notable philosopher) in ancient Greece, and Native Americans used it to make poisoned arrows.

Identification: Poison hemlock is a member of the carrot or parsley (Apiaceae) family. It is a tall statured biennial or perennial species. In its first year, it produces a basal rosette (Fig. 1). In its second year, it is distinguished by its long white taproot, hollow stem with purple spots (Fig. 2), highly dissected carrot-like leaves, large white umbrella-like inflorescence, and a foul smell when crushed.

Impacts: Toxicity of this species is a concern for human and animal health. Humans are at risk partly because of its resemblance to edible plants in the Apiaceae family such as parsley and carrot. Children have been poisoned from using the hollow stem as a flute or pea shooter. It is toxic to cattle, sheep, horses, pigs, goats and poultry. Poisoning can cause death, offspring deformities, abortion, or decreased milk and meat production. Cattle have been fatally poisoned by eating as little as 0.5% of their body weight, but livestock do not generally eat the plant when green. However, they can be poisoned by eating hay or silage contaminated with poison hemlock.

Habitat: Disturbed, relatively moist areas like ditch, stream and river banks, pastures, meadows, cropland edges, and along roads and trails are the best habitats for poison hemlock. It has been considered a serious cropland weed in the past, but less so now that cultivation of these habitats is prevalent and is an effective means of control.

Spread: Poison hemlock reproduces only by seed. Most seeds fall near the parent plant resulting in dense stands (Fig. 3), but some are dispersed by water, birds, or rodents. Dispersal occurs over a relatively long time period from fall through early spring due to a persistent flowering stalk that remains upright through much of the winter. About 85% of seeds will germinate as soon as conditions are favorable, while the remaining seeds exhibit some dormancy and remain viable for up to three years. Seedling establishment is rapid on disturbed sites and increases with some shade.

Management Priorities: In Montana, poison hemlock is listed as a county noxious weed in several counties, and neighboring states have listed it. As with many taprooted species, hand pulling is effective for controlling small populations. Wearing gloves and long sleeves is recommended. The hemlock moth is a biocontrol agent that defoliates plants; its success has been variable. Chemical control options include products containing chlorsulfuron, metsulfuron, glyphosate, or 2,4-D applied prior to flowering. Poison hemlock can also be controlled by cultivation in croplands. Mowing will not kill poison hemlock, but it can be used to prevent seed production and remove growth that may otherwise be eaten by livestock. Multiple applications of any method may be necessary to deplete the seed bank, and establishing or encouraging desired vegetation is critical to reduce re-invasion potential.



Figure 1. First year rosettes resemble a carrot, and leaves are highly dissected.

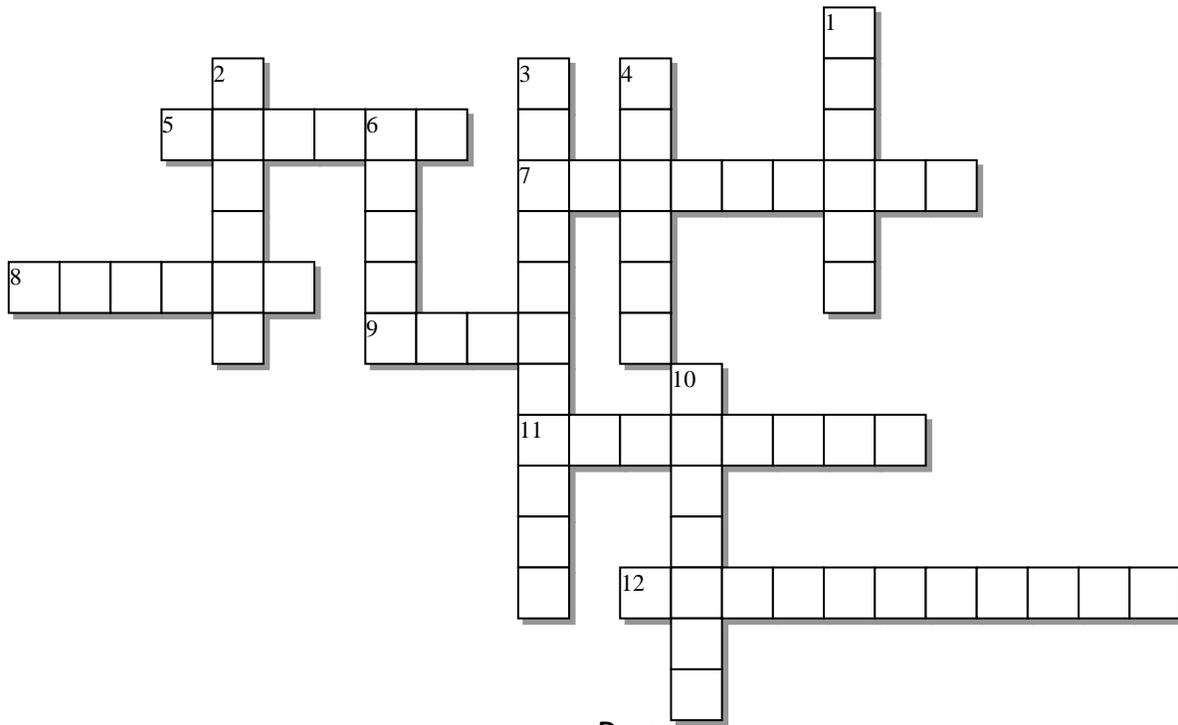


Figure 2. Purple-spotted stems are characteristic of poison hemlock.



Figure 3. Most seeds fall near the parent plant, forming dense stands.

Test your knowledge of poison hemlock



Across:

- 5 - Poison hemlock contaminated hay or _____ can be dangerous for livestock.
- 7 - Be careful of desired vegetation if you plan to use glyphosate on poison hemlock; it is non-_____.
- 8 - Do you think you might have poison hemlock? Look for _____ spots on the stems.
- 9 - Most seeds fall _____ the parent plant.
- 11 - A member of the _____ family, poison hemlock resembles parsley.
- 12 - Poison hemlock is not classified as a _____ by the state of Montana (two words).

Down:

- 1 - This management technique will not kill poison hemlock, but can be used to diminish root reserves and remove growth that may otherwise be browsed by livestock.
- 2 - Poison hemlock seeds remain _____ for up to three years.
- 3 - Preferred habitats of poison hemlock include stream banks and riparian areas that are moist and experience relatively frequent _____.
- 4 - While spit wad competitors may appreciate the _____ stem, suggest a stick of bamboo, or a plastic straw.
- 6 - Livestock usually avoid eating poison hemlock when it is _____.
- 10 - Poison hemlock has this kind of root.

Refer to Extension publication "Poison hemlock (*Conium maculatum*)" for more information:

http://store.msuextension.org/Products/Poison-Hemlock_MT200013AG.aspx

Solutions are posted to the MSU Extension Invasive Rangeland Weed website:

<http://www.msuextension.org/invasiveplantsMangold/extensionsub.html>

