

## Weed focus: Poison hemlock

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Poison hemlock (*Conium maculatum*) is one of the more deadly plants found in pastures. All parts of the plant are toxic and they are toxic to humans as well as livestock. Poison hemlock is a biennial native to Europe and Africa. It can grow to be 5 to 8 feet tall. Its stem is hollow and usually streaked with purple or red towards the base of the plant. It looks similar to wild carrot (Queen Ann's Lace); however, where wild carrot is hairy, poison hemlock is smooth and wild carrot lacks purple blotches on its stem. The wild hemlock flowers are small, white, loosely clustered, and each has 5 petals. The similarity of appearance between wild carrot and poison hemlock is thought to be the cause of ingestion by livestock, which often munch on wild carrots.



Photo courtesy of Matt Poore



Image from <https://sargentsgardens.com/poison-hemlock-alert/>



Photo courtesy of Matt Poore

As its name implies, this plant is toxic, although animals tend to avoid it when adequate other forage is available. Poisoning is most common when the plant is accidentally mixed into chopped forage or hay. The alkaloids, coniine and

γ-coniceine, are two of several contained in the plant and if consumed in large enough quantities, they are dangerous to both people and animals. These alkaloids act on the central nervous system and can lead to respiratory failure and death. Other symptoms include tremors, nervousness, inability to walk, dilation of pupils, decreased heart rate, and coma. As little as 0.25 to 0.5% of an animal's body weight ingested as fresh plant can result in death when consumed. Coniine is less toxic and is present in more mature plants. γ-coniceine is about 10 times as toxic and is present in young vegetation. If animals survive the initial

ingestion of the plant, they may return and eat repeatedly, leading to a chronic toxicity that can cause birth defects in offspring. While humans can be impacted by ingestion of this plant, indirect poisoning through food products because the alkaloids do not pass into meat or milk of livestock that consume it.

Poison hemlock is adaptable. While it prefers rich moist soil, it can also grow in pastures, along road banks, and in ditches. It is often associated with soil disturbance. It is considered invasive in some states; however, it is not listed as such in North Carolina. As a biennial, it has a 2-year life cycle. During its first year, it develops into a large rosette of glossy, green leaves. During spring of the second year, it develops the branching, erect stem with the characteristic purple blotches. Flowers develop in late spring and the plant blooms through summer. Once seed is set, the plant dies. The dead stems can remain in place through winter and they retain their toxicity. If climatic conditions are favorable, 85% of the seeds are non-dormant and can sprout when they make soil contact and moisture is adequate. The remaining 15% of seeds are dormant and require cold winter temperatures followed by summer heat before they can germinate. Once established, poison hemlock can crowd out more desirable species of plants.

Controlling poison hemlock in pastures: Hand removal is preferred for small outbreaks of this plant. Be sure to wear gloves when handling this plant because the toxin can be absorbed through the skin. If cultivation isn't possible to prevent the germination of new plants from seeds, repeated mowing can be effective by preventing flowering and seed production. It also minimized the amount of leaf material available for grazing.

Herbicide control of poison hemlock is possible; however, they must be applied while the plant is in the rosette stage. Once the central stem that will eventually support flowers has begun to form, chemical controls become less effective. Products that contain 2, 4-D, dicamba, or 2, 4-D with triclopyr can reduce poison hemlock populations with less harm to beneficial plants. Glyphosate can also be effective; however, it will also kill grasses and other desirable plants. Applications should be made when air temperatures are above 50° F and plants are actively growing.

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