

Poison Hemlock

Kelby Fite, PhD, Research Scientist

Poison hemlock (*Conium maculatum*) is a nuisance plant that grows throughout the United States and Canada. This plant is particularly concerning because of the health hazards it presents when ingested or even contacted. Treat with great caution if observed, and take steps to manage it as soon as possible to reduce the spread. Initially, it is difficult to recognize because it grows mixed with other vegetation along roadsides, in pastures and amongst other low maintenance areas. Poison hemlock prefers disturbed soils with moist, shaded habitats such as lowland areas, riparian zones and ditches.

Life Cycle

Poison hemlock is a biennial plant, which means it takes two years to complete its reproductive life cycle. Upon seed germination in late summer or early autumn, it produces only vegetative growth in the first growing season. This first-year growth, an inconspicuous, low-growing rosette, is often unrecognized (Figure 1).

After overwintering a second time, poison hemlock will bolt and rapidly produce upright foliage and flowers. The foliage is lacy in appearance, pinnately compound, and produced in an opposite arrangement on the stem. The smooth, hollow stems are green but have conspicuous purple spots (Figure 2), which differentiate poison hemlock from the harmless, closely related Queen Anne's lace or wild carrot (*Daucus carota*).

During the second growing season, these upright stems grow 8 to 10 feet tall, forming small, umbel-shaped, white to yellow flower clusters in summer. The seeds produced from these flowers germinate towards the end of the growing season to start another two-year life cycle. A single plant can produce tens of thousands of seeds, so spread can occur rapidly.

Figure 1: First-year poison hemlock growth

Photo credit: Wendell Smith, [Flickr](#)



Figure 2: Characteristic purple spots on stems

Photo credit: Wendell Smith, [Flickr](#)



Toxicity

All plant parts of poison hemlock are toxic and should be treated with great care. Humans and other animals can be poisoned by ingesting small amounts of plant tissues and sometimes this can be fatal. Touching any plant part can cause a severe skin reaction. Respiratory distress can also occur with contact or inhalation of plant debris. Plant parts can remain poisonous for up to 3 years after destruction.

Human toxicity symptoms typically include dilation of the pupils, dizziness, and trembling. This can progress to include slowing heartbeat, paralysis of nervous system and muscles, and respiratory failure. In animals, symptoms can include salivation, nervous trembling, pupil dilation, lack of coordination, respiratory distress, and coma. Rapid recognition and treatment are essential, so whenever poisoning is possible, contact emergency services immediately.

Avoid digging, cutting, burning or any other type of physical removal. Special attention should be given to clearing operations in low maintenance areas where poison hemlock could be mixed in with other innocuous plant material.

Management

Herbicide applications are critical in the management of poison hemlock due to the hazards involved with other control tactics. Targeted applications of herbicides formulated for the control of broadleaf perennial plants are necessary as the root system can be extensive and difficult to control. Herbicides are most successful when applied during the first growing season. Once vertical growth begins in the second season and/or flowering begins, herbicides can and should still be used, but they may be less effective. Once seed set has occurred, herbicide applications should not be made because the vegetative portion of the plant will die naturally.

In areas where seeds have fallen, consider using pre-emergent herbicides to reduce seed germination rates. Follow up in the following season with post-emergent herbicide applications to reduce the population early. Please contact your Bartlett Arborist Representative to learn about management strategies.



Founded in 1926, The Bartlett Tree Research Laboratories is the research wing of Bartlett Tree Experts. Scientists here develop guidelines for all of the Company's services. The Lab also houses a state-of-the-art plant diagnostic clinic and provides vital technical support to Bartlett arborists and field staff for the benefit of our clients.