



Western Water Hemlock *Cicuta douglasii*

Life Cycle: Perennial/Biennial

Origin: Native

Habitat: Wet areas; sloughs, streams/rivers, irrigation ditches

Bloom: June & July

Plant Height: 2 to 8 feet tall

Warning: Extremely Poisonous



Identification

A native herbaceous forb that is in the Apiaceae family (carrot), classified as a perennial, however it does not produce seed until its second year of growth so is more correctly classified as a biennial

Stem: Hollow, smooth and pale green

Roots: Taproot or clusters of tuberous roots around the stem base—chambers that contain the extremely toxic brownish/yellow oil called Cicutoxin.

Leaves: Arranged like a feather, dividing 1-3 times into narrow-toothed and lance-shaped leaflets that are about 1-4 inches long. The veins run from midrib to the notches along the leaf edges which then branch to the teeth-like tips.

Flowers: Small white flowers in a double umbrella shape. There can be 15 –20 flower clusters on a single plant. Borne on branches at or near the top of the plant.

Seed/Fruit: Egg shaped, 2-4 mm long. Smooth, glabrous, corky-thickened; ribs not equal with a narrow raised border on the edge of dark intervals

Reproduction: Reproduces by seed and vegetatively by overwintering its root structures. Seeds can remain viable in the soil for up to 3 years.



Distribution

Throughout the Pacific Northwest, Western US and Canada. Noticing large amounts of infestations throughout the Thompson region.

Toxicity

Cicutoxin is an unsaturated alcohol with a pungent parsnip-like odor. Its toxic compounds attacks the nervous system when ingested. The roots are the most toxic part of the plant, however the entire plant is toxic. Death in livestock most often happens in the early spring because it is among the first plants to emerge and the soft ground makes it easier for animals to pull up the entire plant and ingest the roots. However, there are cases of cattle dying in the fall due to lack of other forages available and it being the only green plant around.

Symptoms of poisoning—Toxic effects are rapid and severe

- Excessive salivation
- Loss of muscular control
- Stiff movement or swaying
- Frothing and quivering of mouth and nose
- Violent convulsions
- Clamping of jaw and grating of teeth
- Rapid kicking, often followed by stiffing of legs
- Weak and rapid pulse
- Laboured or irregular breathing

Convulsions will be intermittent and increase in violence in fatal cases. Death usually occurs due to suffocation during a seizure. Livestock can die within 15 minutes after ingestion, however it most often occurs within 3-4 hours. Even ingestion of small amounts of the plant can lead to death. Poisoning can occur from plants that have been removed from the ground for as long as 3 years.



Prevention of Poisoning

If possible fence off areas that contain the plant however if this is not feasible then you can look at other options such as;

- Avoid putting cattle in pastures that contain the plant with an empty belly
- Ensure proper pasture management; over grazed pastures will often lure cattle to any available green plants such as Western Water Hemlock



The bulb of a Western Water Hemlock plant

Control Methods

Mechanical Control: Hand pulling can be an effective method to control the plant however, you must ensure you pull up the entire root system. If you do choose to pull up the plant be sure to wear the proper protective gear; rubber gloves, boots, long-sleeved shirt and goggles/safety glasses, and dispose of gloves once finished removing the plants. Dispose of plants by incinerating to avoid livestock consumption. Continuous mowing is another effective method of suppressing the plants if it is possible to do so.

Chemical Control: 2-4 D and MCPA have been known to control Western Water Hemlock when applied in the bud to early bloom stage. Animals must be kept away after spraying because the herbicide application will increase the palatability of the plant. However, chemical control is often not possible due to the plant being located within a water source.

Bio Control: There is currently none available

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