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Poison-Hemlock (*Conium maculatum*)

Family:

Parsley Family (Apiaceae)

Other Names:

California fern, deadly hemlock, Nebraska fern, poison parsley, poison stinkweed, snake-weed, spotted hemlock, wode whistle.

Origin and Distribution:

Poison-hemlock is native to Eurasia. It was introduced into North America as an ornamental but escaped cultivation and became naturalized throughout much of the United States and adjacent areas in Canada. Currently, it can be found all over Ohio and is especially prevalent in counties located in the central, south central, and southwestern portions of the state. Poison-hemlock typically grows in pastures, roadsides, ditches, waste areas, marshy areas, stream banks, and it has begun to appear as a weed in no-tillage fields. The species prefers rich soils and frequently grows in low or poorly drained areas.

Plant Description:

Poison-hemlock is a biennial that produces leaves in a basal rosette during its first year and forms an upright flower stalk when it bolts during the second year of growth. Poison-hemlock has dissected leaves, which resemble those of parsley, and umbrella-shaped clusters of small white flowers that are similar to flower clusters produced by many other species in this family. However, the stems and leaf stalks (petioles) of poison-hemlock differ from other family members in that they are hairless and have distinctive purple spots or blotches. Also, if bruised, the plant emits a disagreeable mouse-like odor. Poison-hemlock reproduces by seeds.

Root System:

Poison-hemlock produces a long white taproot and fibrous secondary roots.

Seedlings and Shoots:

Two linear seed leaves (cotyledons) emerge first. The first true leaves are compound with 3 main divisions and often purple at the base. Then, highly dissected leaves are formed that grow as a basal rosette during the first year. Stems of young plants are purple-tinged.

Stems:

The stem is compressed during the rosette stage and elongates during the second year to form an upright flower stalk that is 2 to 8 feet tall, rigid, branched, hollow except at the nodes, grooved, and hairless. Stems are light green with distinctive purplish blotches.

Leaves:

Leaves are 1 to 16 inches long, alternate (1 leaf per node), compound, finely dissected, and fern-like in appearance. Leaflets are minute, lance shaped, glossy green, darker on the upper side, and have serrated edges. Leaves attach to stems by way of leaf stalks (petioles) marked with purplish spots or blotches. Petioles broaden at their base and encircle the stem at each node. Leaves have a parsnip-like taste and a mouse-like odor.

Flowers:

Flowers are small (1/12 to 1/6 inch across) and have 5 white petals. They form in terminal, umbrella-shaped clusters that are between 1 to 3 inches in diameter.

Fruits and Seeds:

The pale-brown seeds are between 1/12 to 1/8 inch long, oval, flattened on one side, and have conspicuous wavy ribs.

Similar Species:

[Wild carrot \(\*Daucus carota\*\)](#) looks similar to poison-hemlock except its stems and petioles are hairy while those of poison-hemlock are hairless and have purple mottling. Wild carrot has a carrot-like taste and smell while poison-hemlock tastes somewhat like parsnip and has a mouse-like smell. [Wild parsnip \(\*Pastinaca sativa\*\)](#) lacks purple mottling on its stems and petioles, although it is otherwise very similar in appearance to poison-hemlock. Water hemlock (*Cicuta maculata*) shares many characteristics with poison-hemlock including hairless stems that have purple mottling and compound leaves. Unlike poison-hemlock, water hemlock usually has a cluster of fleshy taproots at its base. Also, habitat may help to distinguish the two as water hemlock grows in marshes and other very wet sites and is generally confined to the central plains and mountainous areas of North America. Giant hogweed (*Heracleum mantegazzianum*) is generally taller and has leaves as long as 3 feet and large white flower clusters, although its stems are also purple-spotted.

Biology:

Flowers appear in June and continue to form through August. A single plant may produce over 38,000 seeds. However, few of these seeds will remain viable after 5 years of storage in the soil seed bank. Poison-hemlock is easily controlled with herbicides.

Toxicity:

All parts of the plant contain toxic substances that cause respiratory failure in humans and other animals if ingested. Seeds and roots are more toxic than foliage; also, toxins are present in greater amounts in plants grown under sunny compared with moist conditions. The taste of leaves and seeds of poison-hemlock is reported to be unpleasant, so toxic quantities are seldom consumed. Still, poison-hemlock leaves are easy to confuse with those of parsley, seeds resemble those of anise, and roots look similar to parsnip roots.

Animals may be induced to eat this disagreeable plant because it is often one of few plants remaining green in winter and among the first to resume growth in the spring. According to the USDA, cattle can be poisoned from eating as little as 300-500 grams and may die within a few hours after consumption. Toxicity changes little if plants are fermented with silage or dried in hay.

Facts and Folklore:

- The poisonous juice of this plant was used in ancient Greece as a means of executing criminals and other state prisoners including Socrates.
- This weed hosts many common diseases of alfalfa, celery, and carrot.



[The Ohio State University](#)

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Ohio Agricultural Research and Development Center

131 Research Services Building

Wooster, Ohio 44691

Phone: [330-263-3700](tel:330-263-3700)

Contact: [Webmaster](#) | Page maintained by [CFAES IT](#)