

Poison Hemlock

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Poison Hemlock *Conium maculatum* L.

Classification and Description

Poison hemlock, also called deadly hemlock, poison parsley, spotted hemlock, and California fern, is a highly poisonous biennial weed that is a member of the family Apiaceae, which is also referred to as the carrot family. It was originally introduced as a garden plant because of its attractive flowers. Other members of this family include wild carrot (*Daucus carota* L.), wild chervil (*Anthriscus sylvestris* (L.) Hoffm.), and a close relative to poison hemlock, water hemlock (*Cicuta maculata* L.). This native of Eurasia is found throughout Tennessee where it usually occurs in patches in cool-season grass pastures, roadsides, drainage ditches and stream banks. The cotyledons or seed leaves of seedlings are oblong-lanceolate, and the first true leaf is pinnately compound and glabrous. Flowers are small and white in large, compound umbels 1.5 to 2.4 inches wide (Fig. 1). The hollow stems of this plant are ridged, glabrous, and purple-spotted (Fig. 2). Leaves form a basal rosette; they are alternate upward, petioled, approximately 8 to 16 inches long, broadly triangular-ovate, and compound. Leaflets are lanceolate to ovate-oblong, finely cut, less than 0.5 inch long. Crushed leaves have a mouse-like odor. Mature plants can be 3 to 4 feet tall (Fig. 3) with fibrous roots branching from a turnip-like taproot (Fig. 4).



Fig. 1. Poison hemlock flowers in compound umbels.



Fig. 2. Pinnately compound leaf and hollow stem.



Fig. 3. Mature plant in flower.



Fig. 4. Fibrous roots from taproot.

Problems in Pastures and Hay Fields

Poison hemlock is one of the most toxic plants in North America. It is highly poisonous to animals and humans. Cases have been documented where children have been fatally poisoned by making whistles or pea shooters from the hollow stems. Other human deaths have occurred where the plant is mistaken for wild parsnips or parsley. Toxicity of this plant is due to the presence of coniine and related pyridine type alkaloids. All parts of the plant are toxic. Leaves are particularly poisonous in the spring, up until flowering. Fortunately the leaves are not very palatable, hence livestock seldom eat it if other feed is available. However, cattle consuming under a pound of plant material can be poisoned. Symptoms of poisoning include nervous trembling, excessive salivation, dilation of pupils and a rapid, weak pulse. Progression from initial symptoms to respiratory paralysis, coma and death is rapid.

Management in Pastures and Hay Fields

As is the case with most other weeds, prevention is an essential component of an overall management plan. Scouting of pastures and knowing how to recognize poison hemlock by sight allows for physical removal and disposal of initial introductions of this weed. Fortunately, most pasture infestations of this weed are very localized rather than being scattered across the entire pasture. This allows for spot sprays of herbicides, and also for exclusion of livestock from infested areas with temporary fencing. Remember that poison hemlock and most other toxic plants are low in palatability. However, as they begin to wilt following treatment with a herbicide, palatability increases and often animals will begin to graze the plants resulting in poisoning. Livestock should be excluded from infested areas prior to applying a herbicide. They should continue to be excluded until the plants have died and the carcasses are brown and dry.

Two times of the year, either in November or March to April, are best for treatment. With thorough coverage that is achievable with spot sprays, 2,4-D, dicamba (Banvel, Clarity, Oracle, others) 2,4-D + dicamba (Brash, Weedmaster, Range Star) and aminopyralid + 2,4-D (GrazonNext HL) are effective. Prior to application of any herbicide, be sure to thoroughly read and understand the herbicide label, and follow all directions and precautions. Also, remember that practicing good herbicide stewardship is everyone's responsibility. For more information on herbicide stewardship, please visit our website: herbicidestewardship.utk.edu.

References

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- Chan, A., D. Downs, C. Tsai, B. Begley, and J. Triplett. 2002. Poisonous plants - poison hemlock - *Conium maculatum*. University of Pennsylvania. <http://cal.vet.upenn.edu/projects/poison/plants/pppoiso.htm>.

Picture Credits

Fig. 1. Poison hemlock flowers. Digital image. Accessed 24 Oct. 2014. <http://www.eddmaps.org/distribution/point.cfm?id=1713528>

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This publication contains pesticide recommendations that are subject to change at any time. The recommendations in this publication are provided only as a guide. It is always the pesticide applicator's responsibility, by law, to read and follow all current label directions for the specific pesticide being used. The label always takes precedence over the recommendations found in this publication.

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