Be Aware Of Poison Hemlock

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April 24, 2012 – While driving around parts of Kentucky during the past several weeks the evidence of poison hemlock *(Conium maculatum)* is widespread. Although this plant is often seen along roadways, abandoned lots, fencerows, and other non-cropland sites, in more recent years, it has expanded out into grazed pasture lands and hay fields. The concern not only stems from its invasive nature, but the fact that it is one of the most toxic plants in the world. Throughout history, the toxicity of poison hemlock is well known for accidental deaths of humans and other animals.

Description– Poison hemlock is classified as a biennial that reproduces only by seed. It is capable, however, of completing its lifecycle as a winter annual in Kentucky if it germinates during the fall months. Flowers and new seed are typically produced in late May and June. Plants emerge as a cluster of leaves that form a rosette. Poison hemlock is most noticeable at this stage of growth in late fall through early spring with its parsley-like leaves which are highly dissected or fern-like (Figure 3). The individual leaves are shiny green and triangular in appearance.

As the plant begins to send up flower stalks, the leaves are alternately arranged on the main stem. Each individual leaf is pinnately compound with several pairs of leaflets that appear along opposite sides of the main petiole. As the plant matures, poison hemlock can grow upwards to about 6 to 8 feet tall (Figure 4). At maturity the plant is erect,often with multi-branched stems, and forming a deep taproot. Poison hemlock has hollow stems which are smooth with purple spots randomly seen along the lower stem that help distinguish it from other plants similar in appearance. The flowers, when mature, are white and form a series of compound umbels (an umbrella-shaped cluster of small flowers) at the end of each terminal stalk. Although poison hemlock is often associated with areas that have moist soil conditions, it can also survive in dry sites.

Toxicity– All classes of livestock are known to be affected by poison hemlock. Cattle, horses, and goats are considered to be the most susceptible domestic animals although other animals can be affected as well. Symptoms of poisoning can occur rapidly anywhere within 30 minutes to 2 hours depending on the animal, quantity consumed, and other factors. Initial symptoms can include nervousness, trembling, muscular weakness and loss of coordination, dilation of pupils, coma, and eventually death from respiratory paralysis. Lethal doses for cattle are considered to be in the range of 0.2 to 0.5 percent of the animal's body weight. Poison hemlock is also known to cause fetal deformation when pregnant animals consume the plant.

Fortunately most animals tend to avoid grazing poison hemlock if other forage is readily available. However, animals may be more prone to consume green plants during the late winter and early spring when other forage species are more limited. All parts of the plant, including the seeds, are considered to contain the toxic principles (coniine and coniceine). Toxicity may be somewhat reduced in dried plants, but the potential for toxicity still exists, particularly when a sufficient quantity is consumed in dried hay. Therefore, extreme caution should be considered before feeding animals hay known to contain poison hemlock.

Control–The principle strategy for poison hemlock control is to prevent seed production which can be a challenge since a fully mature plant is capable of producing 35,000 – 40,000 new seeds. It is too late to utilize herbicide control methods after plants have produced flowers. Therefore, mechanical control efforts (if feasible) such as mowing or cutting down individual plants should be initiated just before peak flower production to avoid or reduce the amount of new seed being produced.

Make note of areas heavily infested with poison hemlock this spring and begin to look for emergence of new plants in the fall. During the late fall (November) or early spring (March) is the best time of year for herbicide treatment. In grass pastures and hayfields herbicide products containing 2,4-D can be effective when applied to young, actively growing plants that are in the rosette stage of growth. Spot treatments with products containing 2,4-D, triclopyr, or glyphosate can also be used depending on the location. Δ

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Figure 3. Poison hemlock rosette.

Figure 4. Mature poison hemlock plants growing in hayfield.