

# Poisonous Plants: The Hemlocks

Lynn F. James

Water hemlock, *Cicuta* spp, and poison hemlock, *Conium maculatum*, are both members of the family Umbelliferae (carrot family). These 2 groups of plants are often confused especially because of their common names. These plants are easily distinguished by shape of leaves and by the different habitat where they grow.

## *Cicuta* spp.

The *Cicuta* spp. are known by several common names: cowbane, wild parsnip, spotted hemlock, poison hemlock, wild carrot, spotted parsley, water hemlock, and others.

### Description

A cluster of leaves first appears at ground level in early spring. The leaves are large and may reach a length of 2-3 feet at maturity. The leaves are pinnately compound. In most species the primary vein branches are directed toward the notches of the serrations rather than the points. The primary stem of the plant is produced just before flowering. It is hollow except at the joints where the leaves are attached, attains a height of 5-10 feet, and terminates in several globose clusters of small umbellate inflorescences of tiny white or greenish flowers. The lower inch or more of the stem is thickened and subtended by one to several roots which are greatly thickened in the upper portion. The thickened underground portion when cut lengthwise displays an area of compressed internodes that form a series of compressed chambers. The cut surface exudes droplets of a yellowish oily liquid with a pungent raw parsnip odor. This chambered root and distinctive odor are also characteristic.

*Cicuta* propagates from seeds and lateral shoots. The plant flowers in the summer at which time the food reserves in the tuberous root are exhausted. But before the thickened root system disappears it produces a lateral shoot that overwinters and initiates a new plant the next year. The plant appears to be a perennial but is, in reality, an annual.

The *cicuta* species can be found growing along ditches and in seeps, swamps, and other wet areas throughout the United States and southern Canada.

### Toxic Principle

Species of the genus *Cicuta* are some of the most violently poisonous plants in North America. They are toxic to all species of livestock and also to man.

The toxic principle is a highly unsaturated higher alcohol



Water hemlock, *Cicuta* spp.



Poison hemlock, *Conium maculatum*.

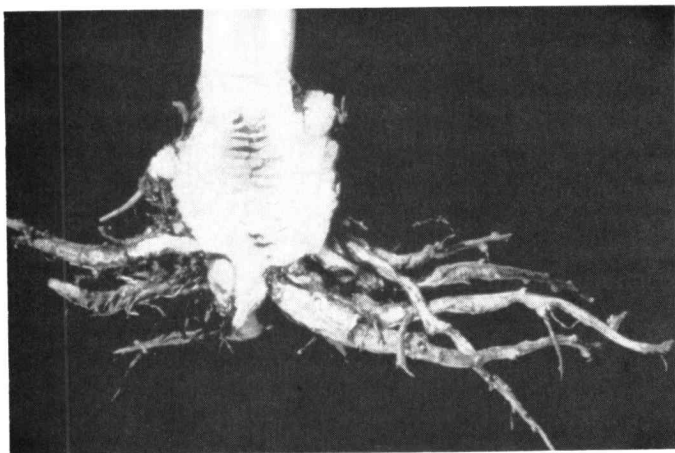
called cicutoxin.

### Toxicity

Signs of poisoning may occur 15 minutes to an hour after the plant is consumed. The signs of poisoning include salivation, tremors, grinding of the teeth, abdominal pain, dilated pupils, and elevated body temperature. Death may occur quickly or within about 8 hours. There are no specific post-mortem lesions.

### Conditions of Poisoning

The roots of cicuta are toxic at all stages of growth. Dead roots and rootstocks are also toxic. The new spring growth is toxic but the plant becomes less toxic with maturity; however, animals have been intoxicated by grazing mature



Water hemlock, *Cicuta* spp.

plants. Most livestock losses associated with this plant are in the spring.

### Prevention

Poisoning of livestock by water hemlock can be prevented by control and eradication of these plants from the areas where they can be grazed. These plants can be controlled by

grubbing and by applying 2,4-D at the rate of 2 pounds acid equivalent during active growth.

## Poison Hemlock

### Description

*Conium maculatum*, poison hemlock, or hemlock is also known as spotted hemlock because of the purple spots on the lower portion of the stem. It is a tall (4–8 ft) coarse, erect plant that spreads by seeds. The stems are stout, rigid, glabrous, and hollow except at the nodes. The leaves are large, glabrous, much dissected, and triangular in outline. The dissected leaves give the plant a lacy fernlike appearance. The flowers are small, white, and in umbellate clusters. It is a biennial that sometimes acts as a perennial.

Poison hemlock grows throughout the United States and southern Canada. It often grows in luxuriant stands along roadsides, ditch banks, and edges of cultivated fields. It was introduced into the United States from Europe and has spread throughout most of the country.

### Toxic Principle

Poison hemlock contains at least 5 closely related alkaloids: coniine, N-methyl coniine, conhydrine, coniceine, and pseudoconhydrine. Toxicity decreases as the plant matures.

### Toxicity

All classes of livestock are susceptible to *Conium* poisoning. Signs of poisoning include nervousness, trembling, ataxia, dilation of pupils, weak and slow heartbeat, coma, and death.

### Conditions of Poisoning

Conium is unpalatable and is rarely grazed by livestock. Utilization usually occurs in early spring when the poison hemlock is growing but the more desirable forages are not yet available.

### Prevention

Prevention lies in maintaining good weed free pastures and grazing them the proper time and rate. ●

MOVING? Please try to give us four weeks notice. Send your present address label and this form to Society for Range Management  
2760 W. 5th Ave.  
Denver, Colo. 80204

Name .....  
New Address .....  
City .....  
State ..... Zip .....

ATTACH OLD  
ADDRESS LABEL  
HERE