

Colorado Agricultural College EXTENSION SERVICE

Fort Collins, Colorado

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WATER HEMLOCK, A POISONOUS PLANT

By W. W. ROBBINS



Fig. 1.—Leaves and flowering heads of water hemlock. Note the compound leaves each of a number of sharply and finely toothed leaflets.

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Water hemlock (*Cicuta occidentalis*) is known by many popular names such as: "Cowbane", "parsnip", "wild parsnip", "water parsnip", "musquash root", "spotted cowbane", "beaver poison", "musk-rat-weed", "death-of-man", "children's bane".

The water hemlock is one of the most poisonous plants native to Colorado. A few people, more often children, are poisoned every year from eating the roots of this plant. It is probably mistaken for wild garden parsnip. Only recently a score of children in Denver were poisoned, two fatally, from eating the roots of water hemlock which they dug from a ditch bank.

This circular is being sent to every school teacher, urban and rural, in Colorado. It aims to familiarize the teachers with the water hemlock in order that they may give proper warning to their pupils. *School children should be warned of the danger of eating any wild plants, and steps should be taken to eradicate water hemlock from ditch banks near school grounds and wherever children congregate to play.*



Fig. 2.—Section of root and stem of water hemlock. Observe the transverse chambers in the root. These are very characteristic, and enable one to positively identify the water hemlock.

This circular is also being sent to farmers and stockmen. The water hemlock is poisonous to stock. The root of a single plant has been known to kill a horse in a little less than an hour. Poisoning usually results from eating the roots, but there are instances in which fatal poisoning followed from eating the tops of young plants, and there is strong suspicion that the dried plants in hay may at times be eaten in sufficient quantities to cause poisoning. There is evidence that the plant is most poisonous in the spring. The roots become accessible by plowing, or, as frequently happens, the earth is washed away from around the roots on ditch banks.

DESCRIPTION OF PLANT

Water hemlock is a stout perennial, 3 to 7 feet tall. It has somewhat the general appearance of the garden parsnip. The stem is hol-

low, smooth, and green. The large leaves are divided into a number of leaflets, each of which is sharply and finely toothed (Fig. 1). The flowers are small and white. The fruits resemble those of parsley. The plant has a very characteristic bunch of thick spindle-shaped roots which contain yellow, gummy secretion (Fig. 3). The roots are further characterized by being divided into chambers, internally, by cross partitions, as shown in Fig. 2.

As has been indicated, the water hemlock is readily mistaken for the common garden parsnip that has gone wild, and popularly known as "wild parsnip". The wild parsnip, however, has a *single* thick, fleshy root and not a *cluster* of roots, as has the water hemlock.

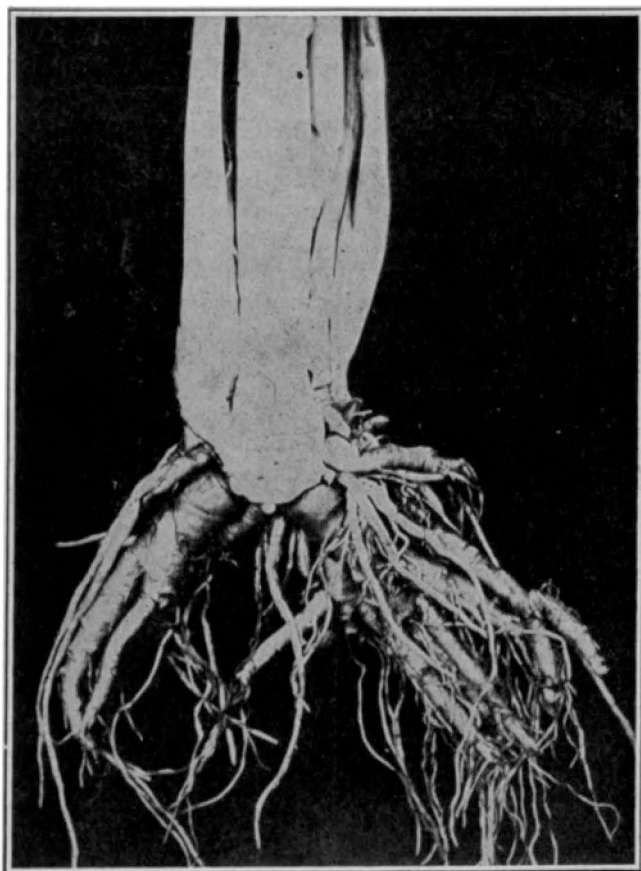


Fig. 3.—Roots of water hemlock. Note that the spindle-shaped roots are clustered

DISTRIBUTION AND HABITAT

Water hemlock is found throughout the Rocky Mountain section from 4,000 to 8,000 feet elevation. It grows in wet or swampy situations, by streams and ditch banks.

ERADICATION

Water hemlock is not so abundant but that it may easily be eradicated. In the spring when the ground is soft it may easily be pulled by hand.

It can be grubbed out any time during the growing season. The grubbed or pulled plants should not be allowed to lie about on ditch banks but should be destroyed. It will be necessary to make several trips of eradication during the season, and these should be repeated a number of successive years.

SYMPTOMS OF POISONING IN HUMANS

There is at first nausea, pain, and then violent convulsions, which may last a varying length of time. The pupils of the eyes become dilated, breathing is irregularly labored, the pulse is weak, rapid and intermittent, and sometimes there is "frothing at the mouth".

SYMPTOMS OF POISONING IN ANIMALS

Dr. George H. Glover says: "The first pronounced symptom is akin to acute spasmodic colic without intermissions from pain. Frequent attempts at micturation and defecation are accompanied by spasmodic contractions of the muscles of the abdomen. The animal is in great agony, and, when prostrate, beats its head violently upon the ground. There is 'frothing at the mouth' and in cases that last for several hours, blood may appear in the feces and urine. The spasms rapidly become more and more severe as the brain excitement increases, and the animal finally becomes unconscious and dies in the most violent convulsions".

FIRST-AID TREATMENT—HUMAN POISONING

Of course, in case of poisoning, a physician should be summoned immediately. An emetic should be promptly administered. A tablespoonful of mustard in a bowl of luke-warm water is efficient. Warm, salty water, or tickling the throat with a feather will sometimes serve the same purpose: Syrup of ipecac is another very common emetic. No specific antidote for the poison is known.

Heat should be applied to the stomach as soon as the emetic has worked. Coffee and other stimulants can be cautiously administered.

Death may occur within a few hours unless proper aid and treatment are given.

TREATMENT—STOCK POISONING

Dr. George H. Glover says: "In very acute cases animals may die in fifteen minutes; in such, treatment is out of the question. If potassium permanganate can be administered early, it probably will be effective. Melted lard and raw linseed oil are indicated. To relieve the pain, morphine may be given in doses as follows: For sheep, $1\frac{1}{2}$ grains; for cattle and horses, 3 to 5 grains. For horses or cattle, 2 drams of chloroform or 1 ounce of chloral hydrate may be given, highly diluted, by the mouth. If the permanganate has already been given, other drugs should not be given by the mouth".

For sheep, 3 to 6 grains, according to the size and age of the animal, of potassium permanganate and an equal weight of aluminum sulphate are dissolved in at least a pint of water and given at one dose by drench. Twenty grains of each dissolved in a quart of water constitute a dose for an average-sized horse, and 30 to 50 for cattle.