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## Hoary Cress

Noxious weeds are a growing concern in wildland areas, agricultural fields, along roadsides, and even in urban landscapes. A noxious weed is a weed specified by law or regulation to be particularly undesirable, destructive, and difficult to control. Like many noxious weeds, hoary cress can dramatically reduce biodiversity (the variety of living organisms in a habitat) by displacing native plant communities.

Hoary cress, also known as heart-podded whitetop, is a member of the mustard family (Brassicaceae). It is native to the Middle East and has been introduced onto every continent in the world. It is thought that it arrived in North America in contaminated alfalfa seed and was first collected in Long Island, New York in 1862. Today, it is found in all 15 of the contiguous western states and covers over 32,000 acres in Montana.

Hoary cress prefers to grow in open, unshaded areas that have experienced significant soil disturbance. It requires 12 to 16 inches of annual precipitation and is well adapted to alkaline soils. Sites most susceptible to invasion are sub-irrigated pastures, rangeland, ditch banks, roadsides, and cropland. The preceding three sentences describe many sites in our local area.

Hoary cress is a long-lived perennial plant that spreads both by seeds and horizontal root stocks. Seeds germinate in fall with and seedlings overwinter as rosettes (short plants with a central bud). Leaves are grayish green and are covered with soft, white hairs. The base of each leaf clasps around the stem where it is attached.

In spring, the plants bolt upward to a height of 10 to 24 inches. The plants flower in April or May. Individual white flowers (1/8 to 1/4 inch) are borne on slender stalks that are about 2 inch long. A blooming stand of hoary cress resembles a late melting snowfield.

Hoary cress seed pods are heart-shaped, broad, and flat. The pods are reddish brown, 2 inches long, and tipped with a beak. Each pod contains two to four seeds. A single plant can produce from 1,200 to 4,800 seeds each year.

Established stands of hoary cress form dense monocultures (areas of only one plant species). The plants also contain glucosinolates which can be toxic to cattle.

Seeds are dispersed by wind, along waterways and irrigation systems, on vehicles and machinery, and in hay and crop seed. A single plant's root system can spread to cover a 12 foot diameter area in its first year of growth. This creates underground rhizomes (horizontal roots) that are capable of producing aboveground shoots. As the plant root system expands, it also produces new vertical roots which reach greater depths than the original parent plant. The roots also have adventitious buds that also develop into rhizomes and shoots. These characteristics make hoary cress very difficult to control once established.

Prevention is the best strategy to manage hoary cress. To minimize its spread, do not drive vehicles or machinery through infested areas when seeds are present. Livestock that have grazed hoary cress should be kept in a holding area for 10 to 14 days to allow them to digest and excrete weed seeds. Roots should not be cultivated to minimize spreading throughout the field. Recreationists can also spread the seeds on their equipment or animals.

Diligent digging can provide some control of small infestations. However, hand pulling is entirely ineffective. There is no known biological control agent for hoary cress. The only effective way to control large infestations of hoary cress is a well-timed herbicide application. The most effective herbicide is metsulfuron when applied at the rosette stage or to regrowth in fall before the first killing frost. As always, follow the label directions when applying any pesticide.



Hoary cress. Photo: Gordon Scott

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