

HOUNDSTONGUE: Options for control

Houndstongue (*Cynoglossum officinale* L.), a class **B non-designate** noxious weed in Franklin County, Washington. Houndstongue is a non-native biennial (*two year life cycle*) which grows 1 1/2 to 3 feet tall. This nasty weed of the borage family, is native to Europe. It forms a rosette the first year (leaves near the ground in a circle with no visible stem). The heavy, tongued shaped leaves alternate up the stem and are about 4 to 12 inches long. The leaves are hairy and rough and feel like a dog's tongue, which is how it acquired its name. The flowers are reddish purple and terminal. The seed pods are distinctive 1/3 of an inch across and covered with barbs that enable them to stick to hairs, clothing etc., which is how they spread. Houndstongue is commonly known as the "Velcro weed" because of this and is rapidly spread by people, pets, wildlife and vehicles. These nutlets or burrs, cause eye damage when they become imbedded in animals eyelids or eyelashes. The burrs also reduce the value of wool in sheep. It grows in many places such as pastures, roadsides and disturbed areas.

Houndstongue contains pyrrolizidine alkaloids.

Horses and cattle are most susceptible to **poisoning** from these alkaloids, while sheep for some reason are relatively

tolerant of the alkaloids. The alkaloids in Houndstongue has a cumulative effect on the liver and pretty much will

induce **fatal poisoning**, once 5 - 10 % of an animal's body weight in green plant has been consumed over a period. Death from Houndstongue poisoning is due to severe, irreversible **liver failure**. This poisoning often occurs in horse pastures when the plant is abundant or adequate forage is not available. It is potentially toxic when it is mixed with hay. Fatal liver disease in **horses** has occurred following two weeks of feeding hay with as little as **6%** Houndstongue.

Some signs of poisoning include weight loss, jaundice of the skin and mucous membranes, and photosensitivity of non pigmented skin. Additional signs of pyrrolizidine alkaloid poisoning may be rough hair coat, depression, diarrhea and abdominal discomfort due to the presence of large quantities of fluid in the abdomen. As the disease progresses some horses may develop signs of head pressing, excessive yawning, and constant aimless walking because of the accumulation and action of toxic metabolites on the brain caused by the liver's inability to detoxify these toxic compounds. You can not stop the effects of Houndstongue on the liver. There is no specific treatment for the disease. Once signs of liver failure and photosensitivity are apparent, the animal's chances for recovery are very unlikely.



Houndstongue rosette produced the first year, a flowering stem bolts and produces fruit the second year.



Pubescent leaves feel like a dogs tongue, hence the name.



The fruit is four prickly nutlets, which look and cling like Velcro to all that come into contact.

Key identifying traits

- **Leaves** are alternate, with distinctive veins, rough, hairy (resembling a hound dogs tongue) and 1 to 12 inches long.
- **Stems** are erect, stout, heavy, 1.5 to 3 ft tall, and usually branched above.
- **Flowers** are small, attractive, ranging in color from red to burgundy, and terminal on outwardly drooping stems.
- Plants can often **emit** a musty odor.



The hairs on the stems and leaves give the plant a silvery cast.



Flowers are reddish-purple with five petals, arranged in panicles.



Houndstongue is a poor competitor with native perennials.

Biology and ecology

- Houndstongue is a tap-rooted, self pollinating **biennial** that over winters as a rosette during the first year of growth.
- **Poisonous to cattle and especially horses**, due to the large amounts of alkaloids.
- **Reproduces solely by seed.** Mature plants can produce up to **2,000-6,000 seeds**, viable up to two years.
- Tolerates shade, is more **robust in full sun**, thrives in wetter grasslands.
- Deep tap **root**, enables the plant to be a strong competitor for soil resources.
- Found on roadsides, meadows and disturbed places.

CONTROL MEASURES:

FRANKLIN COUNTY NOXIOUS WEED CONTROL BOARD 509-545-3847

Prevention:

- Learn to identify plants, know your property. Be aware of seeds clinging to clothing or animals and hay and seed from outside your area. Early detection is vital to prevent invasion.

Biological:

- No approved biological control agent is currently available. However, research is being conducted on a few promising insects.

Cultural:

- Do not overgraze.
- Native perennials are good competition.
- Clipping during the second year flowering can greatly reduce seed production
- Reseed problem areas with fast growing grasses.

Mechanical:

- Will not withstand regular cultivation. Digging

and/or pulling are effective if done frequently; if done after flowering, plants need to be carefully bagged and removed from site and disposed of to prevent seed spread.

- Mowing is *ineffective*.

Chemical:

- Herbicides that are known to be effective on Houndstongue such as Chaparral (aminopyralid & metsulfuron), Tordon (picloram), Banvel (dicamba) or 2, 4-D. You want to apply herbicides during the pre-bud stage or in the rosette stage. Pre-bud occurs in the spring or early summer and the rosettes form in late summer and early fall.
- Use of a surfactant is a **must** because of the hairiness of the leaf.
- Read the label instructions before applying.



Shows the large tap root.



Houndstongue grows on ranges, pastures, and roadsides and is toxic to grazing animals, even in bailed hay. The weed contains alkaloids that cause liver cells to stop reproducing, ending in death. The clinging seeds help it spread, notice the cows below, and significantly reduce the value of wool.



Photos and references courtesy of: WSNWCB technical bulletin; Rich Old photo's, Colorado State University Extension; Whitman County Extension. A BIG THANK YOU to Lincoln County NWCB for the use of their brochure.

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